FOR.A
INNOVATIONS IN VIDEO and AUDIO TECHNOLOGY

OPERATION MANUAL

FA-9520 (FA-9520 Mode)
Frame Synchronizer

FA-95PS
FA-95DACBL
FA-95AIO
FA-95CO
FA-95D-D/DE-E
FA-95ALA
FA-95RU*
FA-10DCCRU*

3rd Edition - Rev.2
SOFT Ver. 2.03 – higher

FOR-A COMPANY LIMITED

Edition Revision History

Edit.	Rev.	Date	Description	Where
1		2013/03/15	First edition (V0100)	
2		2013/05/15	Added FA-95ALA, FA-95AIO, FA-95D-D/DE-E, FA-95CO options and Auto Video Optimizer feature.	6-10-6, etc.
3		2013/05/31	Added FA-95RU option	
3	1	2014/06/02	Corrected SNMP List	18
3	2	2014/07/08	Added FA-10DCCRU option.	7-3, 9-8-2, 24-1, etc

Software Versions and Supported Options

Version *1	Supported Feature/Option	Note
FPGA1: 1.00 or higher FPGA2: 1.00 or higher FPGA3: 1.00 or higher SOFT: 1.00 or higher	FA-95PS FA-95DACBL	First edition
FPGA1:1.10 or higher FPGA2:1.10 or higher FPGA3:1.00 or higher SOFT:1.10 or higher	FA-95ALA FA-95AIO (FA-95AVO) FA-95D-D FA-95DE-E FA-95CO	Supports FA-95ALA, FA-95AIO, FA-95DE/DE-E, FA-95CO options and Auto Video Optimizer feature. FA-95D-D and FA-95DE-E communication methods with the main unit modified to support FA-95ALA. Supported FA-95D-D/FA-95DE-E versions: FPGA1: 1.00 FPGA2: 2.00 (1.10 or lower is inoperative in this unit.)
FPGA1:1.10 or higher FPGA2:1.10 or higher FPGA3:1.00 or higher SOFT:2.00 or higher	FA-95RU	Modified FA-95RU to add FA-9520 support FA-95RU Ver. 6.00 or higher-compatible Added BY-PASS function to FA-95AIO GPI Added option slot change warning feature Enhanced FA-95ALA measurement accuracy FPGA1: 1.00 FPGA2: 1.10
FPGA1: 1.12 or higher FPGA2: 1.10 or higher FPGA3: 1.00 or higher SOFT: 8.03 or higher	FA-10DCCRU	Modified FA-10DCCRU to add FA-9520 support FA-10DCCRU SOFT Ver. 1.00, FPGA1/2 Ver 1.00 or higher-compatible

*1 Version information can be seen as described in section 7-8 “UNIT Ver.”.

Precautions

Important Safety Warnings

[Power]

 Caution	Operate unit **only** on the specified supply voltage.
	Disconnect power cord by connector only. **Do not** pull on cable portion.
 Stop	**Do not** place or drop heavy or sharp-edged objects on power cord. A damaged cord can cause fire or electrical shock hazards. Regularly check power cord for excessive wear or damage to avoid possible fire / electrical hazards.

[Grounding]

 Caution	**Ensure** unit is properly grounded at all times to prevent electrical shock hazard.
 Hazard	**Do not** ground the unit to gas lines, units, or fixtures of an explosive or dangerous nature.
 Caution	**Ensure** power cord is firmly plugged into AC outlet.

[Operation]

 Hazard	**Do not** operate unit in hazardous or potentially explosive atmospheres. Doing so could result in fire, explosion, or other dangerous results.
 Hazard	**Do not** allow liquids, metal pieces, or other foreign materials to enter the unit. Doing so could result in fire, other hazards, or unit malfunction.
	If foreign material does enter the unit, turn power off and disconnect power cord **immediately.** Remove material and contact authorized service representative if damage has occurred.

[Transportation]

 Caution	**Handle** with care to avoid shocks in transit. Shocks may cause malfunction. When you need to transport the unit, use the original packing materials or alternate adequate packing.

[Circuitry Access]

	**Do not** remove covers, panels, casing, or access circuitry with power applied to the unit! Turn power off and disconnect power cord prior to removal. Internal servicing / adjustment of unit should only be performed by qualified personnel.
 Stop	**Do not** touch any parts / circuitry with a high heat factor. Capacitors can retain enough electric charge to cause mild to serious shock, even after power is disconnected. Capacitors associated with the power supply are especially hazardous. Avoid contact with any capacitors.
 Hazard	Unit **should not** be operated or stored with cover, panels, and / or casing removed. Operating unit with circuitry exposed could result in electric shock / fire hazards or unit malfunction.

[Potential Hazards]

 Caution	If abnormal smells or noises are noticed coming from the unit, turn power off immediately and disconnect power cord to avoid potentially hazardous conditions. If problems similar to above occur, contact authorized service representative **before** attempting to again operate unit.

[Rack Mount Brackets, Ground Terminal, and Rubber Feet]

 Caution	To rack mount or ground the unit, or to install rubber feet, **do not** use screws or materials other than those supplied. Otherwise, it may cause damage to the internal circuits or components of the unit. If you remove the rubber feet attached on the unit, **do not** reinsert the screws securing the rubber feet.

[Consumables]

 Caution	The consumables used in unit must be replaced periodically. For further details on which parts are consumables and when they should be replaced, refer to the specifications at the end of the Operation Manual. Since the service life of the consumables varies greatly depending on the environment in which they are used, they should be replaced at an early date. For details on replacing the consumables, contact your dealer.

Upon Receipt

Unpacking

FA-9520 units and their accessories are fully inspected and adjusted prior to shipment. Operation can be performed immediately upon completing all required connections and operational settings.

Check your received items against the packing lists below.

FA-9520

ITEM	QTY	REMARKS
FA-9520	1	
AC Cord	1 set	(Incl. ladder strap/retaining clip assembly)
Rack Mount Brackets	1 set	EIA standard type (Including 4 screws.)
CD-ROM	1	FA-9520/FA-9500 User Manuals (PDF)
Quick Setup Guide	1	

Option

ITEM	QTY	REMARKS
FA-95RU	1	Remote Control Unit
FA-95PS	1 set	Redundant power supply unit (with AC cord and AC cord retaining clip)
FA-95DACBL *	1	Digital audio expansion cable (to expand digital audio I/O up to 8 inputs and 8 outputs.) Normally installed in slot B.
FA-95D-D *	1-2	Dolby E/Digital decoder
FA-95DE-E*	1-2	Dolby E encoder FA-95D-D option required for FA-95DE-E installation.
FA-95AIO *	1-2	Analog component I/O expansion card (with dedicated connection cable: PC-3307-1)
FA-95ALA *	1-2	Automatic Loudness Adjustment card
FA-10DCCRU	1	Remote Control Unit for color correction.

* In FA-9520 mode, FA-95D-D, FA-95DE-E, FA-95AIO and FA-95ALA option cards can be installed into either or both option slots A and B. In FA-9500 mode, only the card in slot A is effective, if 2 of the same option cards are installed into both slots. Also, only the card in slot A is effective, when FA-95D-D and FA-95DE-E are installed into both slots.
The FA-95DACBL option can be installed into either option slot A or B, however, not into both slots.

Software Option

ITEM	QTY	REMARKS
FA-95CO *	1	Changeover

* FA-95CO is effective only in FA-9500 mode.
Software installation can be verified in the “SOFT OPTION1” and “SOFT OPTION2” menus.

IMPORTANT
The FA-9520 has 2 operational modes; FA-9500 mode, in which the unit operates/functions almost the same as the former FA-9500, and FA-9520 mode with 2 independently operational frame synchronizers. After purchase, select an FA-9520 operational mode for the first time. Refer to section 7-1 “MU OPERATION” for details on the mode selection procedure. This operation manual describes the operation in FA-9520 mode. When operating in FA-9500 mode, refer to the separate FA-9520 operation manual (FA-9500 mode).

Check

Check to ensure no damage has occurred during shipment. If damage has occurred, or items are missing, inform your supplier immediately.

Trademark

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Dolby is a trademark of Dolby Laboratories.
All other trademarks are trademarks or registered trademarks of their respective owners.

Rack Mounting

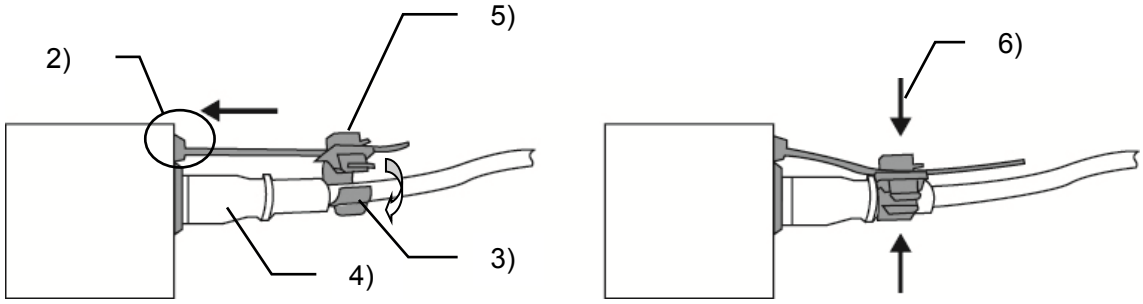
FA-9520/RPS can be mounted to EIA standard rack units. When rack mounting a unit, remove the rubber feet and use the accessory rack mount brackets (rack ears).

Installing the AC Cord Retaining Clip

Secure the AC cord with the supplied ladder strap/retaining clip assembly to prevent accidental removal from the FA-9520.

◆ **Installing the clip**

1) Wrap the retaining clip around the AC cord. (with the anchor of the ladder strap toward the unit.)
2) Insert the anchor into the hole next to the AC IN socket.
3) Lightly fasten the clip around the AC cord.
4) Plug in the power cord.
5) Slide the clip on the ladder strap toward the plug.
6) Fasten the clip tightly.
7) Gently pull on the AC cord to ensure it is secured.



◆ **Unpluging the AC cord**

1) Push the tab on the retaining up to unfasten the clip.
2) Push the tab on the ladder strap up and slide the clip back.
3) Unplug the AC cord.

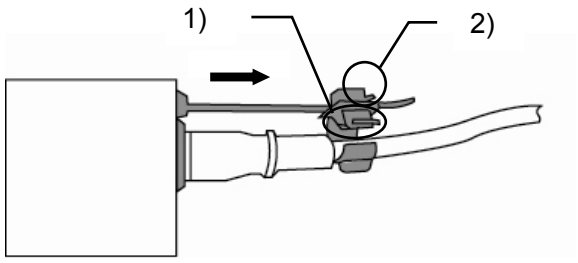


Table of Contents

1. Prior to Starting

1-1. Welcome

Congratulations! By purchasing FA-9520 Frame Synchronizer you have entered the world of FOR-A and its many innovative products. Thank you for your patronage and we hope you will turn to FOR-A products again and again to satisfy your video and audio needs.
FOR-A provides a wide range of products, from basic support units to complex system controllers, which have been increasingly joined by products for computer video based systems. Whatever your needs, talk to your FOR-A representative. We will do our best to be of continuing service to you.

1-2. Features

The FA-9520 is a multipurpose signal processor loaded with all the functions you need for video production.
3G-SDI, HD/SD-SDI, and analog composite I/O is supported in addition to its functionality as a frame synchronizer. The unit provides dual up/down/cross/aspect converters, color corrector, and automatic video optimizer (AVO) as standard features, allowing for the conversion of many types of video and audio signals. Numerous additional optional features include analog component I/O, logo generator, Dolby E encoder and Dolby E decoder. By combining these varied options, a single unit can provide optimal functionality for all your video production scene requirements, including transmission, live production, news reporting, video production, editing and distribution. As long as you have the FA-9520, you will never need another piece of peripheral video equipment!

Standard Features

- 3G-SDI/HD-SDI/SD-SDI/Analog Composite I/O
- Digital/Analog Audio I/O
- Main Converter (Up/Down/Cross/Aspect conversion)
- Second Converter (Up/Down/Cross/Aspect conversion)
- Color Corrector
- Auto Video Optimizer (AVO)
- Powerful Frame Synchronizer Performance
- Logo Generator
- Other Features
  - Video delay
  - 2D/3D comb filter for Y/C separator (composite)
  - Web browser-based monitoring and control possible
  - SNMP monitoring and partial control function

Additional Features

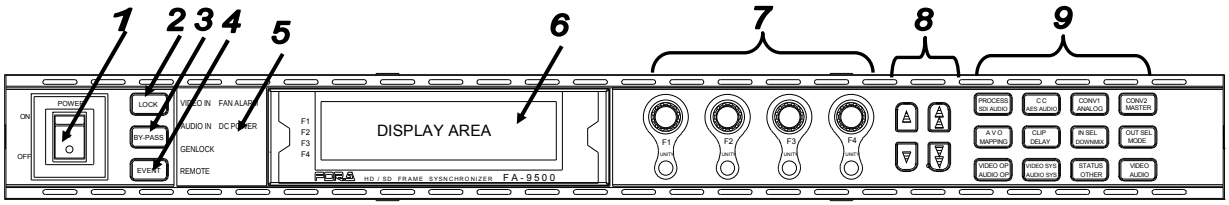
- Redundant power supply unit
- Digital audio expansion cable
- Changeover function (in FA-9500 mode only)
- Dolby E/Digital decoder and Dolby E encoder
- Analog component I/O
- Automatic Loudness Adjustment Function
- Remote control unit via Ethernet

1-3. FA-95LG GUI Download

The FA-9520 Logo generator function is designed to be used with logo management software, FA-95LG GUI, enabling logo data import to FA-9520 via Ethernet. The FA-95LG GUI can be downloaded from FOR-A's website: http://www.for-a.com/products/fa9500/fa95lg_gui.zip. The operation manual for the FA-95LG GUI will download automatically along with the software.

2. Panel Descriptions

2-1. Front Panel



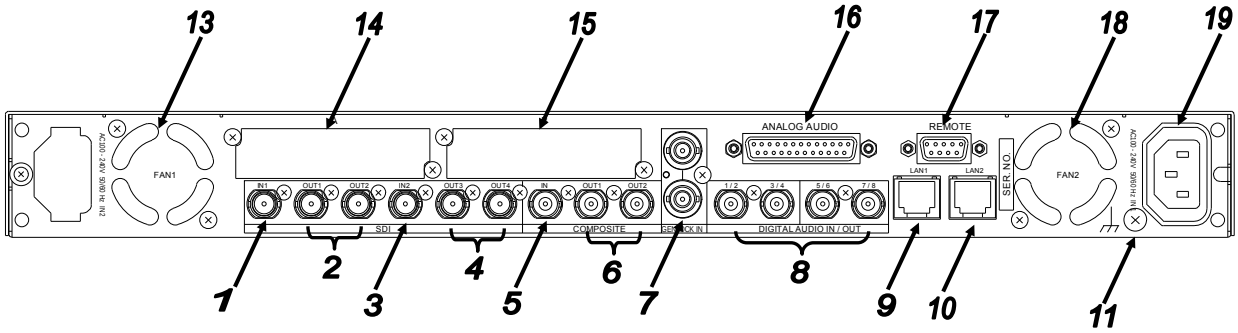
No	Name	Description			Ref.
1	POWER switch	Used to turn the unit ON / OFF. Pressing the "｜" side turns on the power.			4-1
2	LOCK button (FA-9500 mode) FS1/LOCK (FA-9520 mode)	In FA-9500 mode: Lit when pressed, and the buttons and controls on the front panel except this LOCK button are disabled. To enable the disabled buttons and controls, press and hold this button down for several seconds. In FA-9520 mode: Used to select FS1 or FS2. There are linked menus that can be changed simultaneously by pressing the FS1/LOCK and FS2/LOCK buttons simultaneously. See 4-2-8 “2-channel frame synchronizer switching” for details. Disables operation only for FS1 when pressed and held down. Press and hold this button down again to unlock operation. * Both FS1 and FS2 LOCKs can be set simultaneously to disable all other buttons except themselves.			
3	FS2/LOCK (FA-9520 mode)	In FA-9500 mode: Ineffective In FA-9520 mode: Used to select FS1 or FS2. There are linked menus that can be changed simultaneously by pressing FS1/LOCK and FS2/LOCK buttons simultaneously. See 4-2-8 “Switching Between 2-Channel Frame Synchronizers” for details. Disables operation only for FS2 when pressed and held down. Press and hold this button down again to unlock operation. * Both FS1 and FS2 LOCKs can be set simultaneously to disable all other buttons except themselves.			4-2-8
4	EVENT button	Used to save and load events.			8
5	Status indicator	VIDEO IN	Lit green	Input signal is present in FS1 or FS2.	5-6-1 5-10-2
			Unlit	No input signal is present in FS1 or FS2.	5-6-1 5-10-2
		AUDIO IN	Lit green	One or more assigned audio output signals (FS1, FS2 embedded, AES and/or analog audio) are present.	6-5
			Unlit	No assigned audio signal (FS1, FS2 embedded, AES and/or analog audio) is present.	6-5
		GENLOCK	Lit green	Genlock signal input is present.	5-10-2
			Unlit	No genlock signal input is present.	5-10-2
		REMOTE	Lit green	CONTROL SETTING is set to REMOTE.	7-3
			Unlit	CONTROL SETTING is set to LOCAL.	
		DC POWER *1	Lit red	A power failure has occurred. Turn the power of the unit OFF, and contact your supplier.	5-10-1
			Unlit	Power supply is normal.	5-10-1
		FAN ALARM	Lit red	One or more fans have failed. Turn the power of the unit OFF, and replace the failed fans if needed.	5-10-1
			Unlit	All fans are operating normally.	5-10-1
6	Menu display	Used to display menus and make operational settings			4-2

7	Controls (F1-F4) UNITY buttons	Used to change operational settings. Turn and select values. The Unity buttons return the settings to the default values.		4-2
8	Arrow buttons	Single-arrow buttons	Used to move between parameters. (Indicators light up to indicate the accessible direction.)	4-2
		Double-arrow buttons	Used to move between menus (same as the menu buttons). (Indicators light up to indicate the accessible direction.)	4-2
9	Menu buttons	Used to select menus.		4-2

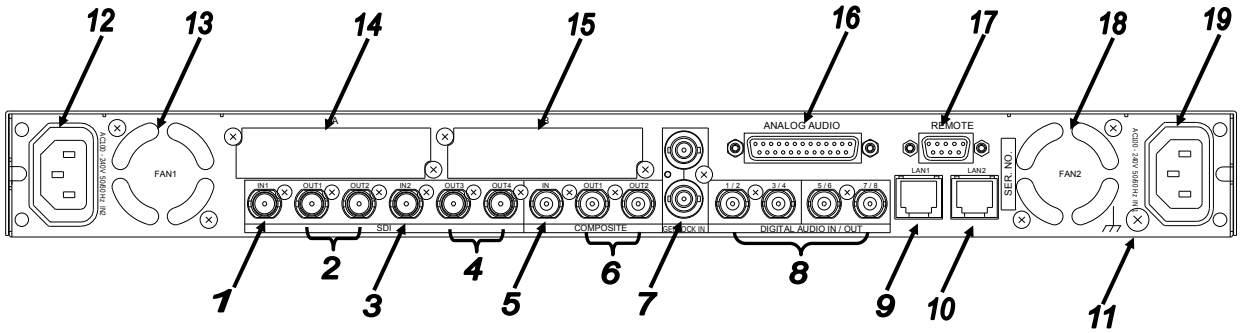
*1 The DC POWER indicator functions when the optional FA-95PS is installed.

2-2. Rear Panel

◆ **FA-9520**



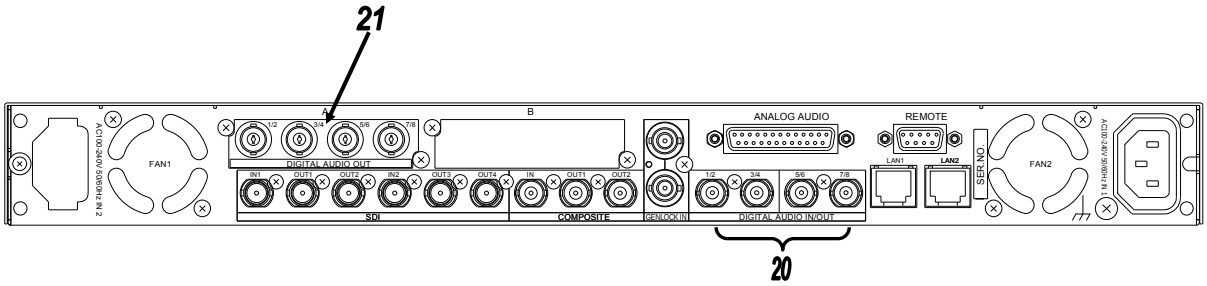
◆ **FA-9520 with the FA-95PS option installed**



No	Name	Description	Ref.
1	SDI IN 1	Used for HD/SD-SDI video input 1.	5-6
2	SDI OUT 1-2	Used for HD/SD-SDI video output 1. The input signal in SDI IN 1 is output from SDI OUT1 when BY-PASS is enabled or the unit is turned off.	5-10-4
3	SDI IN 2	Used for HD/SD-SDI video input 2.	5-6
4	SDI OUT 3-4	Used for HD/SD-SDI video output 2. The input signal in SDI IN 2 is output from SDI OUT3 when BY-PASS is enabled or the unit is turned off.	5-10-4
5	COMPOSITE IN	Used for analog composite video input.	5-6
6	COMPOSITE OUT 1-2	Used for analog composite video output. The input signal in COMPOSITE IN is output from COMPOSITE OUT1 when BY-PASS is enabled or the unit is turned off.	5-10-4
7	GENLOCK IN	Used for reference signal input (black burst or tri-level sync) to synchronize the system. The bottom connector is for a loop through. It must be terminated at 75 ohm when not in use.	5-10-2
8	DIGITAL AUDIO IO 1/2 - 7/8	Used for digital audio inputs and outputs. Select whether to use for input or output as in section 6-2-4 “AES I/O SETUP”.	6-2-4
9	LAN1	A 1000/100BASE-TX/10BASE-T Ethernet LAN port. Used to connect an external remote control unit or to transfer data to an external device. RJ-45	3-5
10	LAN2	A 1000/100BASE-TX/10BASE-T Ethernet LAN port. Used to connect an external remote control unit or to transfer data to an external device. RJ-45 (For future use)	
11	Ground Terminal	Used to ground the unit to protect operators against static electricity and electrical shock.	

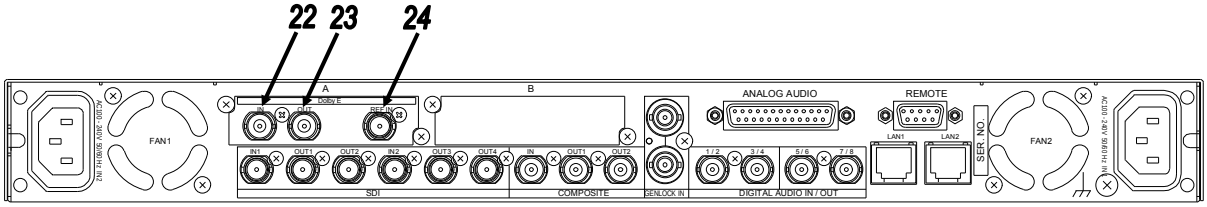
No	Name	Description	Ref.
12	AC IN 2	Used to connect the unit to an AC power source. (AC100V-240V 50/60Hz) Enabled only when the optional redundant power unit FA-95PS is installed. The operation status can be viewed from the DC POWER 2 menu as described in section 5-10-1 “UNIT ALARM”. (The menu is displayed if the optional FA-95PS is installed.)	
13	FAN1	Used to air-cool the unit to prevent overheating. Do not block the ventilation with other equipment or objects. The operation status can be viewed from the FAN1 menu as described in section 5-10-1 “UNIT ALARM”.	5-10-1
14	SLOT A	OPTION SLOT A for an optional expansion card.	15
15	SLOT B	OPTION SLOT B for an optional expansion card.	15
16	ANALOG AUDIO	Used for four-channel analog audio input and output. See section 12 “Analog Audio Connection” for details.	12
17	REMOTE	Used for remote control. Assign functions to each pin. See section 7-6 “GPI SETTING” for details on assigning functions. See section 14 “REMOTE” for connections.	7-6 14
18	FAN2	Used to air-cool the unit to prevent overheating. Do not block the ventilation with other equipment or objects. The operation status can be viewed from the FAN2 menu as described in section 5-10-1 “UNIT ALARM”.	5-10-1
19	AC IN1	Used to connect the unit to an AC power source. (AC100V-240V 50/60Hz) The operation status can be viewed from the DC POWER 1 menu as described in section 5-10-1 “UNIT ALARM”. (The menu is displayed if the optional FA-95PS is installed.)	5-10-1

◆ **FA-9520 with the FA-95DACBL option installed**



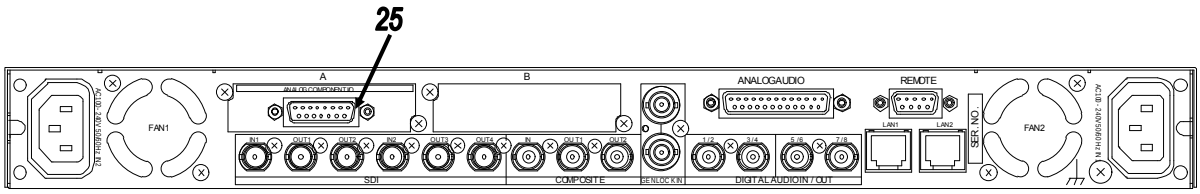
No	Name	Description	Ref.
20	DIGITAL AUDIO IO 1/2 - 7/8	Digital audio input and output connectors. Used only for inputs when the FA-95DACBL option is installed.	6-2-4
21	DIGITAL AUDIO OUT 1/2 - 7/8	Digital audio output connectors. (FA-95DACBL option) (The above figure of rear panel depicts an FA-95DACBL option installed in slot A. The option can also be installed in slot B.)	15

◆ **FA-9520 with the FA-95D-D/DE-E options installed**



No	Name	Description	Ref.
22	Dolby E IN (AUX IN)	Digital audio input connector on the FA-95D-D/DE-E option. Used to input Dolby E and/or digital signals to the Dolby decoder.	6-10-1-2
23	Dolby E OUT (AUX OUT)	Digital audio output connector on the FA-95D-D/DE-E option. Used to output signals output from the Dolby decoder and/or Dolby encoder.	6-10-1-1
24	REF IN	Reference signal input connector on the FA-95D-D/DE-E option. Used to input reference signal (B.B. or tri-level sync) for the Dolby decoder. 75 ohm terminated inside.	6-10-1-3

◆ **FA-9520 with the FA-95AIO option installed**



No	Name	Description	Ref.
25	ANALOG COMPONENT I/O	Analog component input/output connector on FA-95AIO option. Connect the supplied I/O cable.	16

2-3. Internal Settings

IMPORTANT
Note that internal switch settings should not be changed from factory defaults. If you have accidentally changed the settings, return them to the factory default settings as shown in this section. Be sure to have qualified technical personnel perform the settings and adjustments in the interior, or contact your dealer.

CAUTION
Do not access any internal cards while the unit is powered ON. Always power OFF all connected units / disconnect power cords prior to accessing the interior. To protect boards from electrostatic damage, do not touch the components on the boards.

2-3-1. Dipswitch Settings

The following settings can be made at the dipswitches on MAIN CARD inside the unit.

◆ **Dipswitch S1 Settings**

Pin No.	Default setting	Setting
1	OFF	Do not change.
2	OFF	Do not change.
3	OFF	Do not change.
4	OFF	Do not change.
5	OFF	Do not change.
6	OFF	Do not change.
7	OFF	Do not change.
8	OFF	Do not change.

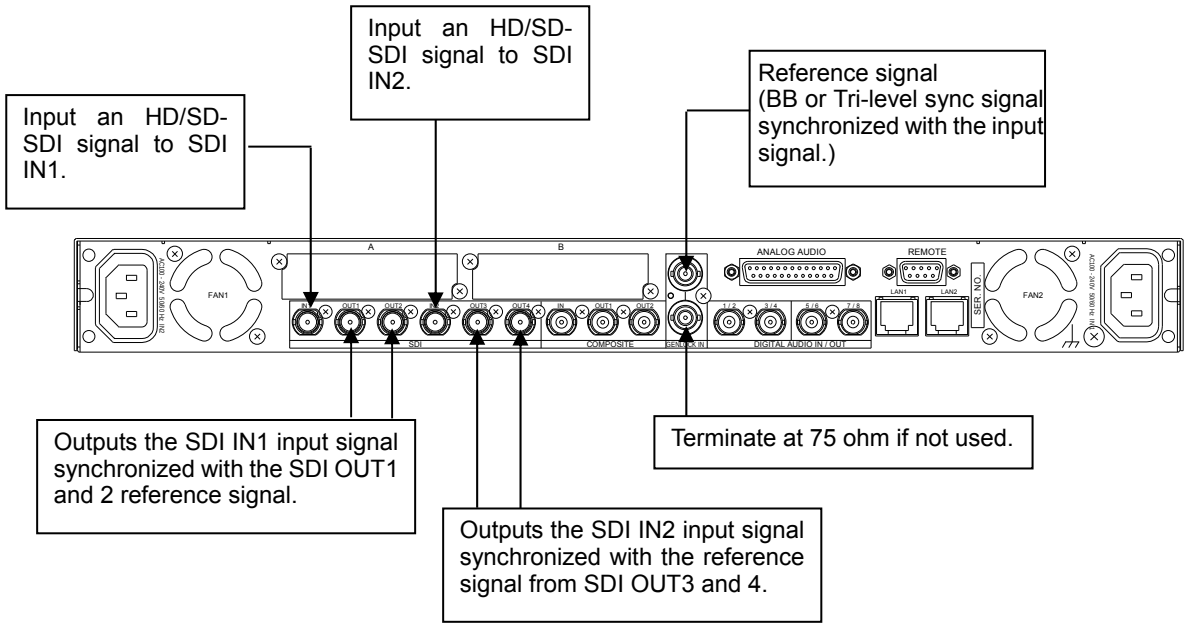
◆ **Dipswitch S2 Settings**

Pin No.	Default setting	Setting
1	OFF	Do not change.
2	OFF	Do not change.
3	OFF	Do not change.
4	OFF	Do not change.
5	OFF	If the FA-95DACBL is installed in SLOT A: OFF If the FA-95DACBL is installed in SLOT B: ON If the FA-95DACBL is not installed: OFF
6	OFF	Do not change.
7	OFF	Standard FA-9520: OFF (without FA-95PS) If the FA-95PS is installed: ON
8	OFF	Do not change.

3. Connections

This section describes the connections and settings for specific usages. The descriptions on the settings are based on the factory default. If you are not sure of your current settings, you can reset the unit to the default setting by selecting DEFAULT in the EVENT LOAD menu described in the section 8-1 “EVENT LOAD”.

3-1. For 2-Channel Frame Synchronizer Use

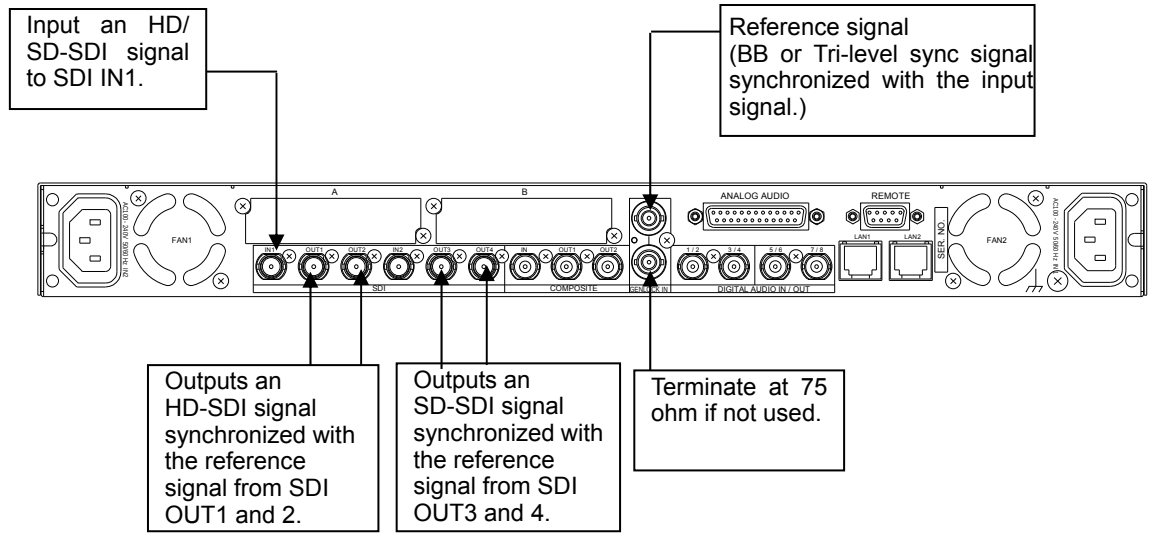


Settings that need to be checked:

- Set FS1 INSEL to SDI1 in the FS INPUT SELECT menu (see section 5-6-1).
- Set FS2 INSEL to SDI2 in theFS INPUT SELECT menu (see section 5-6-1).
- Set SDI1/2 to FS1 in the OUTPUT ASSIGN menu (see section 5-7-1).
- Set SDI3/4 to FS2 in the OUTPUT ASSIGN menu (see section 5-7-1).
- Adjust phase and position to match the reference signal in HD PHASE SET to VIDEO POSITION menus if necessary (see sections 5-9-2 to 5-9-4).

3-2. For HD/SD-SDI Simul Output

It is possible to always output HD-SDI signal from SDI OUT1/2, and SD-SDI signal from SDI OUT3/4 regardless of whether the input signal is HD or SD-SDI.



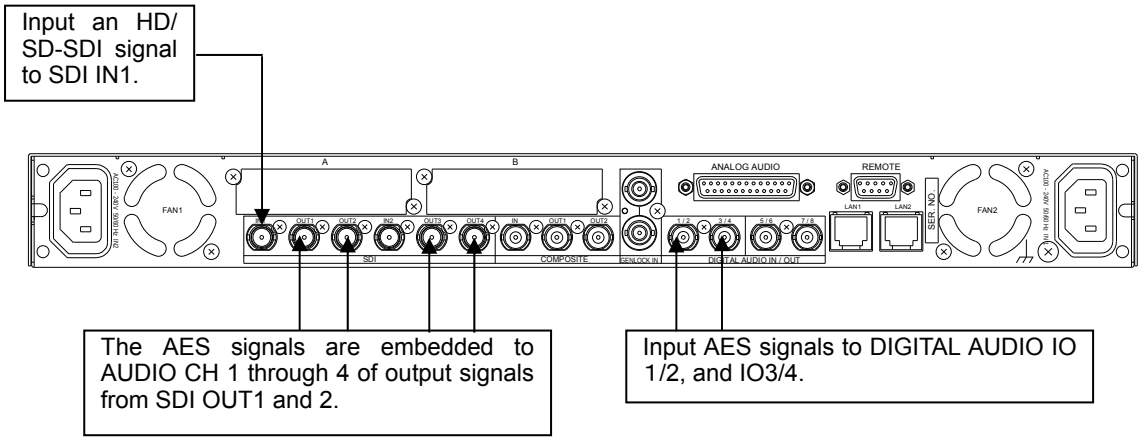
Settings that need to be checked:

- Set FS1 IN SEL to SDI1 in the FS INPUT SELECT menu (see section 5-6-1).
- Set FS2 IN SEL to SDI2 in theFS INPUT SELECT menu (see section 5-6-1).
- Set SDI1/2 to FS1 in the OUTPUT ASSIGN menu (see section 5-7-1).
- Set SDI3/4 to FS2 in theOUTPUT ASSIGN menu (see section 5-7-1).
- Set FS1 conversion mode (CONV) to 1080i or an HD format such as 720p in the CONV MODE menu (see section 5-3-1).
- Set FS1 ASPECT to 16:9 P 4:3 in the CONV MODE menu (see section 5-3-1).
- Set FS1 SD ASPECT to 4:3 in the VIDEO INPUT SET menu (see section 5-6-2).
- Set FS2 conversion mode (CONV) to SD in the CONV MODE menu (see section 5-3-1.)
- Set FS2 ASPECT to 4:3 F 4:3 in the CONV MODE menu (see section 5-3-1).

* Change ASPECT and/or SD ASPECT settings if necessary.

3-3. To Embed AES Input Signals on SDI Signals

The following describes how to embed 4 channel AES signals on SDI signals in SDI OUT 1 and 2 output signals



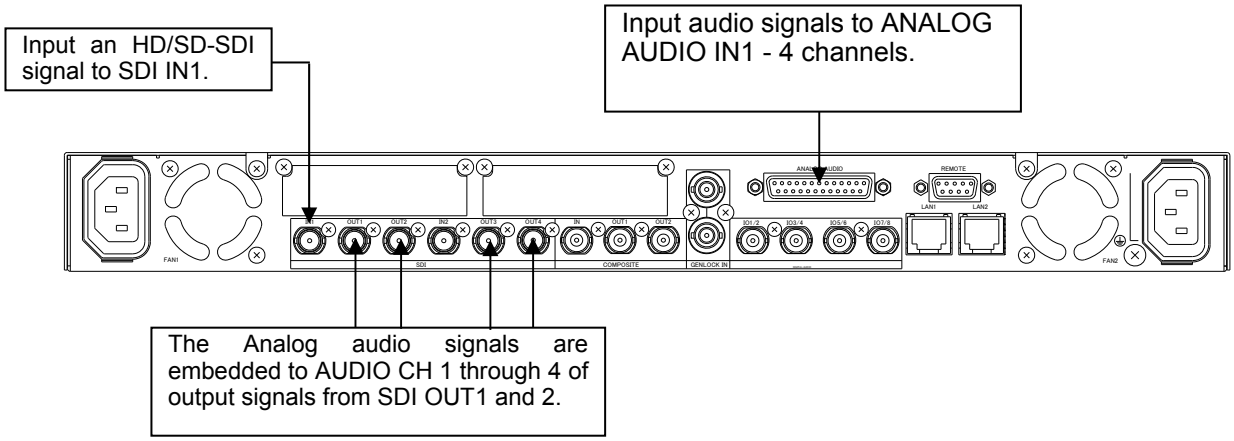
Settings that need to be checked:

- Set FS1 IN SEL to SDI1 in the FS INPUT SELECT menu (see section 5-6-1).
- Set SDI 1/2 to FS1 in the OUTPUT ASSIGN menu (see section 5-7-1).
- Set CH1 through CH4 to AES CH1 through CH4, respectively, in the EMB1 OUT REMAP menu (see section 6-5-1).

NOTE
Change, if necessary, audio settings in the AES AUDIO Settings (AES AUDIO) (section 6-2) and/or AUDIO DELAY Settings (section 6-6), and/ or the SRC mode setting in the EMB1 SRC MODE menu (section 6-9-1).

3-4. To Embed Analog Audio Signals on SDI Signals

The following describes how to embed a 4- channel analog audio signal on SDI OUT1 and 2 output signals.



Settings that need to be checked:

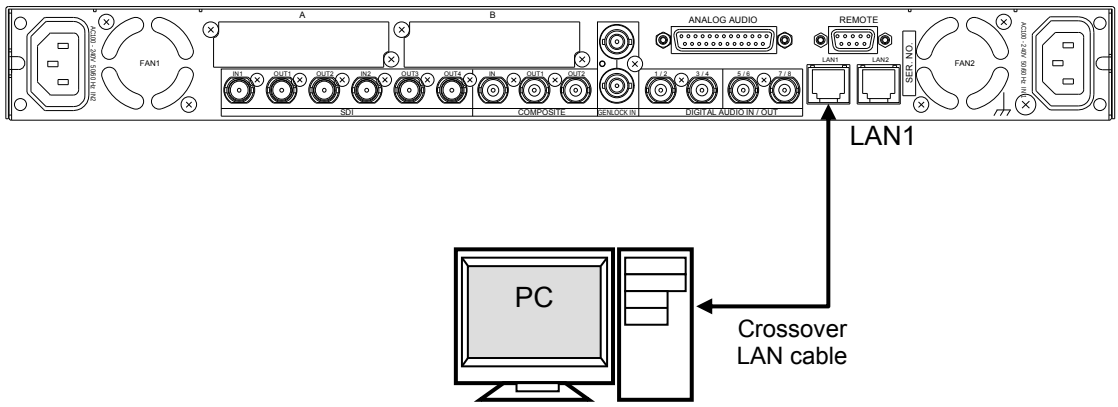
- Set FS1 IN SEL to SDI1 in the FS INPUT SELECT menu (see section 5-6-1).
- Set SDI 1/2 to FS1 in the OUTPUT ASSIGN menu (see section 5-7-1).
- Set CH1 through CH4 to ANALOG CH1 through CH4 respectively in the EMB1 OUT REMAP menu (see section 6-5-1).

NOTE
See section 12 "Analog Audio Connection" for the ANALOG AUDIO connector connection. Change audio settings, if necessary, in the ANALOG AUDIO Settings (ANALOG) menu (section 6-3).

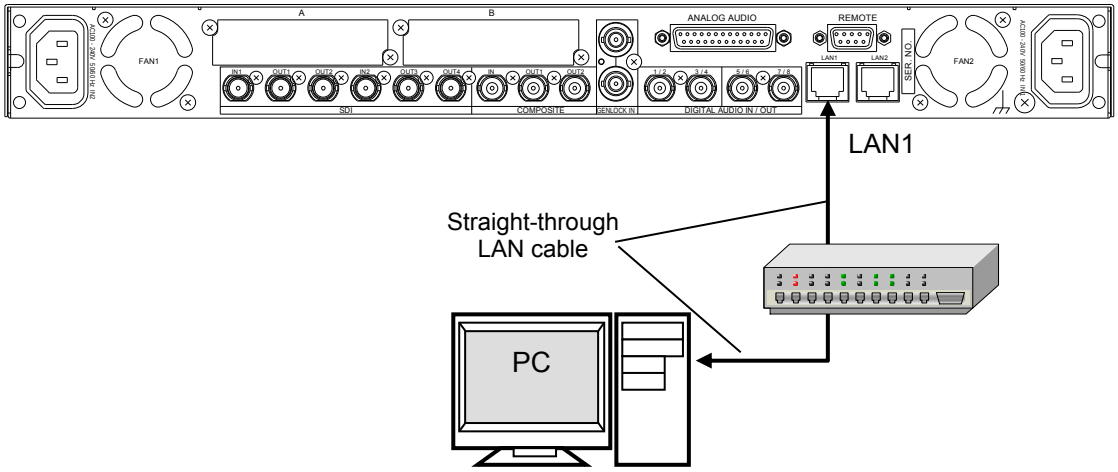
3-5. Connecting a Computer

The FA-9520 can be controlled from a computer through a Web browser.
Connect a computer to the FA-9520 as shown below.

◆ **Connection using a crossover LAN cable.**



◆ **Connection using a hub**



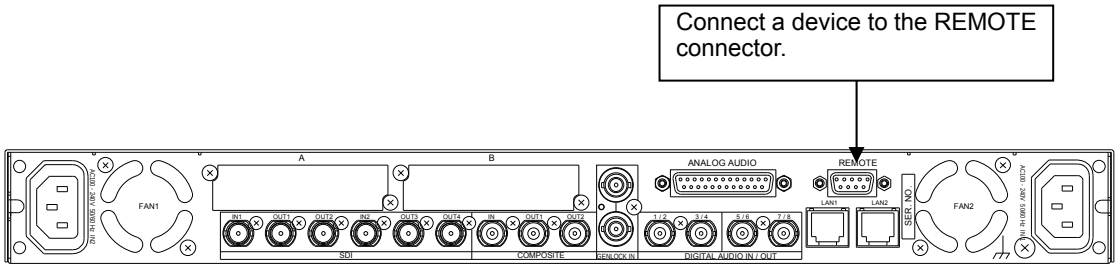
The FA-9520 network settings must be adjusted for your network after purchase.

- The FA-9520's LAN1 IP address is set to 192.168.0.10 at the factory.
- Set the IPaddress and subnet mask of the computer.
  IP address: 192.168.0.1 to 192.168.0.254 (except 192.168.0.10)
  Subnet mask: 255.255.255.0
  In Windows, open the **Local Area Connection Properties** dialog box, and open the **Internet Protocol (TCP/IP) Properties** window. The settings must be made in the window. See the user's manual of your computer for details.
- Start a web browser on your computer, and enter the address as http://192.168.0.10.
- Enter the default user name (fa9520), and the default password (foranetwork).
- The FA-9520 control window appears on the web browser window.
- See section 9-8 "Network Settings" for details on changing the FA-9520's IP address.
- See section 9 "Control via WEB Browser" for details on the FA-9520 web browser control window.

NOTE
The FA-9520's IP address can be checked on the front panel display. See section 7-7 "NETWORK INFO" for details.

3-6. Connecting to the REMOTE (GPI) Connector

Easy control over the FA-9520 from an external device is also possible by connecting the device to the REMOTE connector.
Seven ports are provided on the connector. Assign functions to the respective ports to control the FA-9520.



- See section 14 “REMOTE” for details on pin assignments and triggers.
- See section 7-6 “GPI SETTING” for details on function assignments for the ports.

4. Front Panel Operation

4-1. Powering ON

Turn the power ON after all system connections are complete. The indicators on the front panel light up during startup. When startup is complete, the indicators will go off and the VIDEO IN STATUS menu showing the current input video and reference signal formats will be displayed.

```
VIDEO IN STATUS          502
SDI1:1080/59i
SDI2:525/60
COMPOSITE:525/60
REFERENCE:525/60
```

If Logo data is stored:
A loading progress message is displayed in the menu display as shown below.
Logo data may take up to 2.5 minutes to load.

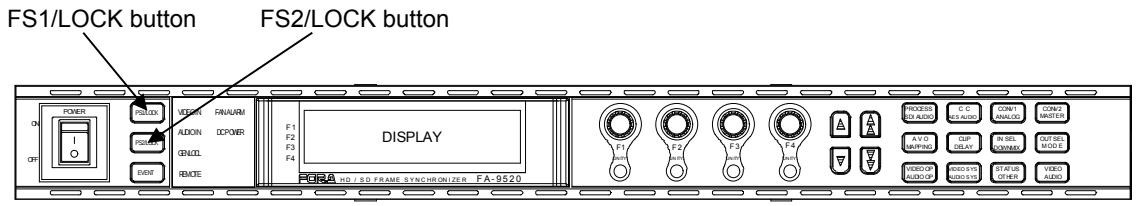
```
LOADING LOGO DATA...

        00% COMPLETE
```

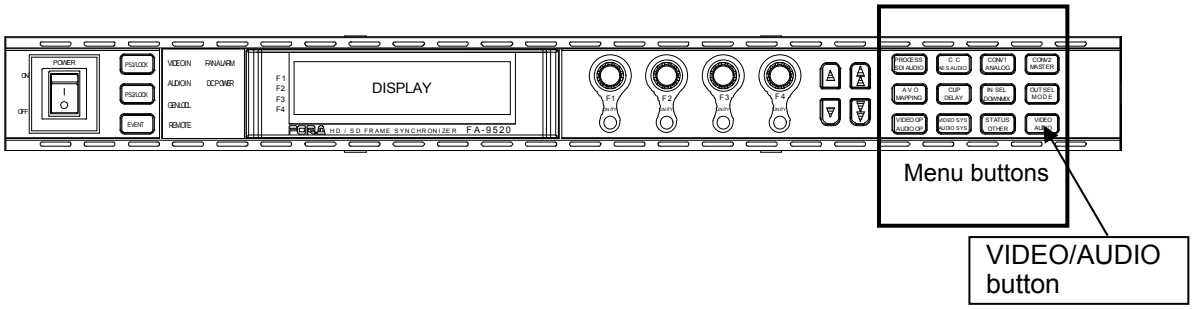
4-2. Basic Operation

This section explains how to select menus and parameters.
Most of the menus can be controlled by these basic operations. However, some menus work differently. See the descriptions given for each menu for details.
The FA-9520 has two modes for the menu operation: NORMAL mode, in which setting changes immediately take effect, and LIVE SAFE mode, in which some settings request confirmation before changes take effect. NORMAL and LIVE SAFE modes can be selected in the FRONT OPERATION menu (sec. 7-4). Factory default is NORMAL mode. Menus that request a setting confirmation are shown in the menu list in section 4-2-2. “Menu Buttons” with a black circle (●).

IMPORTANT
Make sure that the FS1/LOCK and FS2/LOCK button LEDs are lit green or unlit before starting an operation. If FS1/LOCK and/or FS2/LOCK button LED(s) are lit orange, all operations on the front panel for FS1 and/or FS2 except the LOCK button(s) are disabled. Press and hold the FS1/LOCK and/or FS2/LOCK button(s) that are lit orange to unlock the operations.

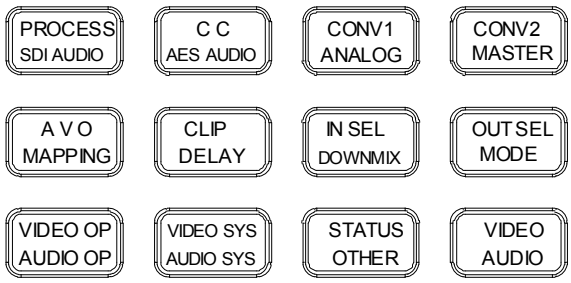


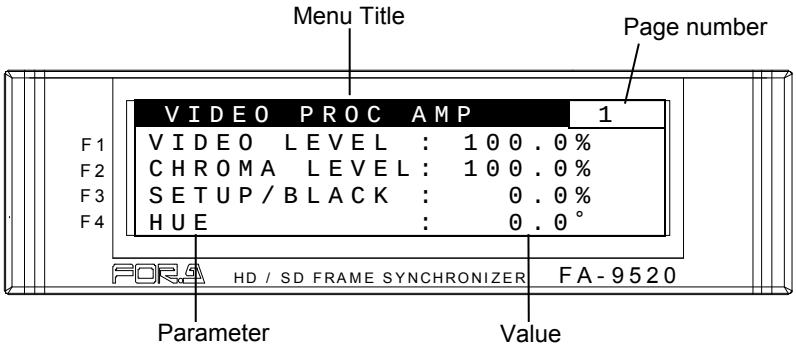
4-2-1. Accessing Menus



Every press of the VIDEO/AUDIO button alternates the menu button assignments between video menus and audio menus. The button indicators light up green when the buttons are accessible to video menus that are indicated on the top row of each menu button. They light up orange when they are accessible to audio menus that are indicated on the bottom row of each menu button.
Pressing a menu button displays the corresponding menu on the menu display. Menus are divided into categories. The single-arrow buttons allow you to move between menus if the selected menu button has multiple menu pages in the category. The single-arrow button lights up when there are more menus to be accessed in the direction. If the single-arrow button is unlit, the direction is not accessible.
The double-arrow buttons allow you to go to the first menu of the menu button.
The FS1/LOCK or FS2/LOCK button lights green as well as the selected VIDEO button for menus in which settings can be set for FS1 and FS2 separately. If the FS1/LOCK button is pressed and lit green, settings for FS1 are enabled. Settings for FS2 are enabled in the same manner. These menus are described in the menu list in section 4-2-2 “Menu Buttons”.

◆ **Menu Buttons**





In the example above, the PROCESS/SDI AUDIO button has been pressed, so that the VIDEO PROC AMP menu is displayed.

4-2-2. Menu Buttons

The VIDEO/AUDIO button at the bottom right switches between the video and audio-related menus. Pressing the button alternates the button to work as video menu buttons (lit green) and audio menu buttons (lit orange). The menus at the top of each button label are video menus (lit green), and the menus at the bottom are audio menus (lit orange). Menus that request a setting confirmation in LIVE SAFE mode are shown with a black circle (●) in the following list.

Menu Button	VIDEO menus (lit green)	AUDIO menus (lit orange)
PROCESS SDI AUDIO	◇◎VIDEO PROC AMP	◇EMB1 IN GAIN EMB1 OUT MONO ● EMB1 IN SET ● EMB1 OUT CLOCK ◇EMB2 IN GAIN EMB2 OUT MONO ● EMB2 IN SET ● EMB2 OUT CLOCK
CC AES AUDIO	◇◎WHITE LEVEL ◎BLACK LEVEL ◎GAMMA LEVEL ○COLOR CORRECT	◇AES IN GAIN AES HYSTERESIS AES OUT MONO ● AES I/O SETUP *3
CONV1 ANALOG	◇○● CONV MODE ○CONV SIZE/POS ○CONV CROPPING ○CONV IMPROVE ○CONV SIDE RGB	◇ANALOG IN LEVEL ANALOG IN GAIN ANALOG OUT LEVEL ANALOG OUT MONO ● ANALOG IN SYSTEM
CONV2 MASTER	Not functioning	◇MASTER OUT GAIN EMB1 OUT GAIN EMB2 OUT GAIN AES OUT GAIN ANALOG OUT GAIN
AVO MAPPING	◇○●AVO SETTING ○USER1-5 LEVEL SET ○USER1-2 AREA SET ○AVO SETUP *1	◇● EMB1 OUT REMAP ● EMB2 OUT REMAP ● AES OUT REMAP ● ANALOG OUT REMAP
CLIP DELAY	◇○YPbPr/RGB CLIP ○COMPOSITE CLIP	◇EMB1 OUT DELAY EMB2 OUT DELAY AES OUT DELAY ANALOG OUT DELAY
IN SEL DOWN MIX	◇○● FS INPUT SELECT ○ANC DETECT LINE ○ANC DETECT SEL ● AIO A IN MODE *1 ● AIO B IN MODE *2	◇● DOWN MIX1 SET ● DOWN MIX1 ASSIGN ◇● DOWN MIX2 SET ● DOWN MIX2 ASSIGN
OUT SEL MODE	◇● OUTPUT ASSIGN ● AIO A ASSIGN *1 ● AIO B ASSIGN *2 ANC DATA EMBED ANC EMBED LINE	◇● EMB1 SRC MODE ● EMB2 SRC MODE ● AES SRC MODE ◇● EMB1 POLARITY ● EMB2 POLARITY ● AES POLARITY ● ANALOG POLARITY
VIDEO OP AUDIO OP	◇○LOGO SELECT ○KEYER SET	◇● Dolby AUX OUT A *6*8 ● Dolby DEC IN A *6*8 ● Dolby DEC REF A *6*8 ● Dolby DOWNMIX A *6*8 Dolby DEC GAIN A *6*8 ◇● Dolby ENC INPUT A*8 ● Dolby ENC SET A*8 ● METADATA INPUT*8 ◇LOUD MEASURE 1A *4 LOUD CTRL ENA1A *4 LOUD CTRL SET1A *4 LOUD CH ASGN1A *4 ◇LOUD MEASURE 2A *4 LOUD CTRL ENA2A *4 LOUD CTRL SET2A *4 LOUD CH ASGN2A *4◇ ◇● Dolby AUX OUT B *7*9 ● Dolby DEC IN B *7*9 ● Dolby DEC REF B *7*9 ● Dolby DOWNMIX B *7*9

Menu Button	VIDEO menus (lit green)	AUDIO menus (lit orange)
VIDEO OP AUDIO OP	◇○LOGO SELECT ○KEYER SET	Dolby DEC GAIN B *7*9 ◇● Dolby ENC INPUT B*9 ● Dolby ENC SET B*9 ● METADATA INPUT B*9 ◇LOUD MEASURE 1B *5 LOUD CTRL ENA1B *5 LOUD CTRL SET1B *5 LOUD CH ASGN1B *5 ◇LOUD MEASURE 2B *5 LOUD CTRL ENA2B *5 LOUD CTRL SET2B *5 LOUD CH ASGN2B ◇LOUD STANDARD *4 *5
VIDEO SYS AUDIO SYS	◇○● FS MODE SET ○HD PHASE SET ○SD PHASE SET ○VIDEO POSITION ◇○FREEZE SET ◇○● ANC SET ○ANC LOSS SET ○WSS AFD ERROR ○AUDIO GRP ◇○TEST SIGNAL ◇● BY-PASS SETTING ◇○SD LINE MASK ◇COMPOSITE SET1 ● COMPOSITE SET2	◇● FADE IN/OUT ● DIGITAL AUDIO ● AUDIO ERR SENSE ● DIGITAL SILENCE
STATUS OTHER *5	◇UNIT ALARM ◇VIDEO IN STATUS VIDEO OP INPUT *1*2 ◇VIDEO OUT STATUS VIDEO OP OUTPUT *1*2 ◇AUDIO IN DETECT1 AUDIO IN DETECT2 ◇AUDIO OUTPUT1 AUDIO OUTPUT2 ◇EMB1 IN AUDIO CH1~16 ◇EMB2 IN AUDIO CH1~16 ◇AES IN AUDIO CH1~8 ◇ ANALOG IN AUDIO CH1~4 ◇SDI1/2 OUT AUDIO CH1~16 ◇SDI3/4 OUT AUDIO CH1~16 ◇AES OUT AUDIO CH1~8 ◇ ANALOG OUT AUDIO CH1~4 ◇Dolby OP A AUX *6*8 ◇Dolby OP B AUX *7*9 ◇○AFD IN STATUS ○ANC IN STATUS ○ANC IN STATUS1~2 ◇○ANC OUT ○S2016 OUT ○VI OUT ○WSS OUT ○ANC OUT1	◇FS1/FS2 COPY MU OPERATION ◇● CONTROL SETTING ◇FRONT OPERATION FRONT PANEL SET ◇GPI SETTING ◇NETWORK INFO UNIT Ver. OPTION A Ver. OPTION B Ver. OTHER OPTION SOFT OPTION1 SOFT OPTION2
VIDEO AUDIO	VIDEO menus	AUDIO menus

*1 Shown if the optional FA-95AIO is installed in option slot A.

*2 Shown if the optional FA-95AIO is installed in option slot B.

*3 Hidden if the optional FA-95DACBL is installed.

*4 Shown if the optional FA-95ALA is installed in option slot A.

*5 Shown if the optional FA-95ALA is installed in option slot B.

*6 Shown if the optional FA-95D-D is installed in option slot A.

*7 Shown if the optional FA-95D-D is installed in option slot B.

*8 Shown if the optional FA-95DE-E is installed in option slot A.

*9 Shown if the optional FA-95DE-E is installed in option slot B.

◇ Can be navigated to using double (up and down) arrow buttons. "◇ " is not shown in the menu display.

○◎ Settings for FS1 and FS2 can be selected or verified separately using the FS1 or FS2 button. ◎ Can change settings for FS1 and FS2 simultaneously in LINK mode. "○ " and "◎" are not shown in the menu display.

● When changed in LIVE SAFE mode, single (up and down) arrow buttons and the LED around the control knob of which setting is changed blink confirming the setting change. To set the FA-9520 to LIVE SAFE mode, change the mode setting referring to section 7-4. "FRONT OPERATION". "● " is not shown in the menu display.

4-2-3. Arrow Buttons

◆ **Double-arrow buttons (up and down)**
<NORMAL mode>
The double-arrow buttons allow you to go to the first menu of the video or audio menus that are assigned to the respective menu buttons or first menus of major setting menus (designated by "◇" in the above menu list).
<LIVE SAFE mode>
Button functions are the same as NORMAL mode, however, double-arrow buttons are inoperative while single-arrow buttons are blinking (indicating the FA-9520 is in the setting change confirming state, because a parameter in one of the menus requiring a setting change confirmation has been changed).

◆ **Single-arrow buttons (up and down)**
< NORMAL mode>
The single-arrow buttons allow you to move between menus within the menus that are assigned to respective menu buttons.
When it reaches the last menu, the light goes off.
< LIVE SAFE mode>
Single-arrow buttons blink when a parameter in one of the menus requiring a setting change confirmation is changed. To confirm the change, press the single down arrow button. Pressing the single up arrow button cancels the change, and the parameter before change will be displayed.
While single-arrow buttons are blinking, all buttons except single-arrow buttons are disabled until either single-arrow button is pressed.

Menus that request a setting confirmation are shown with a black circle (●) in the menu list in section 4-2-2. "Menu Buttons".

IMPORTANT
NORMAL and LIVE SAFE modes can be switched in the FRONT OPERATION menu (see section 7-4).

4-2-4. Consecutive Viewing of Settings

<NORMAL mode>
While a menu button is turned on, the menu display will be in consecutive display mode when both single (up and down) arrow buttons are pressed simultaneously. Both single arrow buttons blink when they are in consecutive display mode. To exit the mode, simultaneously press both arrow buttons again. Then arrow buttons will stop blinking.
The single down and up arrow buttons, while in consecutive display mode, can consecutively display all menus in which menu list settings can be changed, from the first to last or last to first menu item. Meanwhile, holding down the single down or up arrow button also allows you to consecutively view menus.

<LIVE SAFE mode>
Button functions are the same as NORMAL mode, however, consecutive display mode is inoperative while single-arrow buttons are blinking (indicating the FA-9520 is in the setting change confirming state, because a parameter in one of the menus requiring a setting change confirmation has been changed). Consecutive display mode will be canceled when a setting is changed.

Order of Consecutive Menu Display

◆ **VIDEO Menus (Lit green)**
The single down-arrow button consecutively displays menu pages from VIDEO PROC AMP of PROCESS to ANC OUT1 of STATUS in the menu list in section 4-2-2. On the other hand, the single up-arrow button consecutively displays menu pages from ANC OUT1 of STATUS to VIDEO PROC AMP of PROCESS in the menu list.

◆ **AUDIO Menus (Lit orange)**

The single down-arrow button consecutively displays menu pages from EMB1 IN GAIN of SDI AUDIO to SOFT OPTION2 of OTHER in the menu list in section 4-2-2. On the other hand, the single up-arrow button consecutively displays menu pages from SOFT OPTION2 of OTHER to EMB1 IN GAIN of SDI AUDIO in the menu list.

* The EVENT button-assigned menus cannot be consecutively viewed. The consecutive display mode is not suppported for EVENT menus.
* While the menu display is in consecutive display mode, pressing the EVENT button cancels the mode.

4-2-5. Page Jump Feature

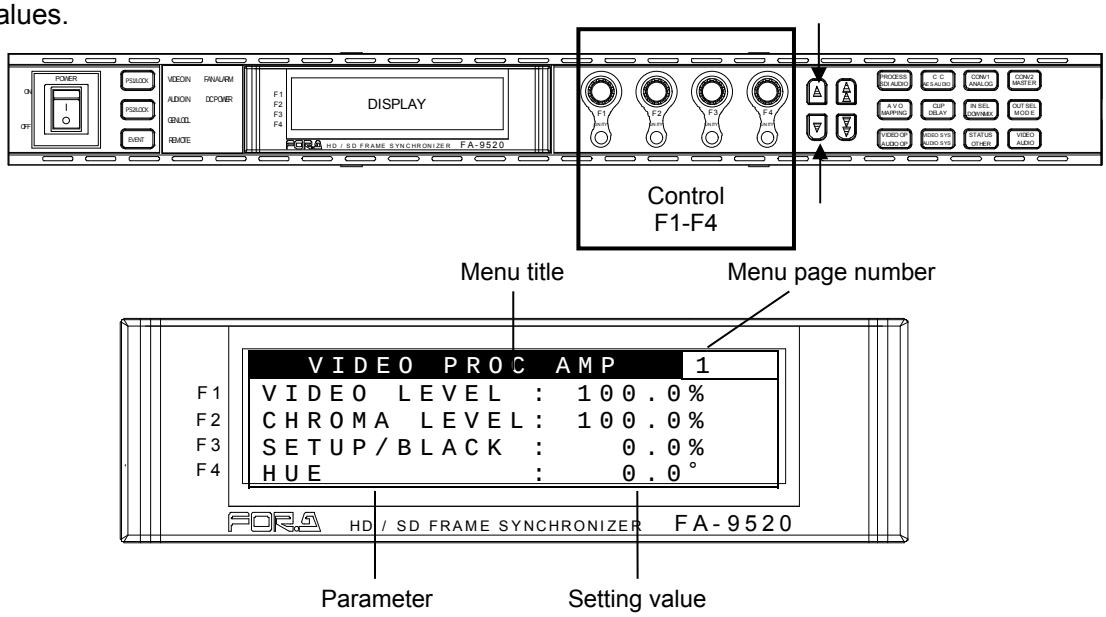
Some menu buttons allow you to directly go to specific menus when they are held down for at least 1 second. This feature helps you quickly check the state of specific settings.

VIDEO / AUDIO Button mode	Button	Destination	Reference
VIDEO	CONV1	ANC SET(66)	5-9-6
VIDEO	CONV2	AFD IN STATUS(601)	5-10-20
VIDEO	IN SEL	VIDEO IN STATUS (502)	5-10-2
VIDEO	OUT SEL	VIDEO OUT STATUS (511)	5-10-4
AUDIO	SDI AUDIO	EMB1 IN AUDIO (551)	5-10-10
AUDIO	AES AUDIO	AES IN AUDIO(559)	5-10-12
AUDIO	ANALOG	ANALOG IN AUDIO(561)	5-10-13
AUDIO	AUDIO OP *1	Dolby OP A AUX (591) *1 or Dolby OP B AUX (596) *1	5-10-18 5-10-19

*1 The Dolby OP A AUX (591) or B AUX (596) menu is available only if an FA-95D-D or FA-95DE-E option is installed in option slot A or B. The page jump feature is inoperative while the FA-9520 is in the setting change confirming state. It becomes operable once the change is confirmed. Refer to section 4-2-6. “Changing Setting Values” for details.

4-2-6. Changing Setting Values

Once the desired menu is displayed, use the control knobs (F1-F4) to change the setting values.

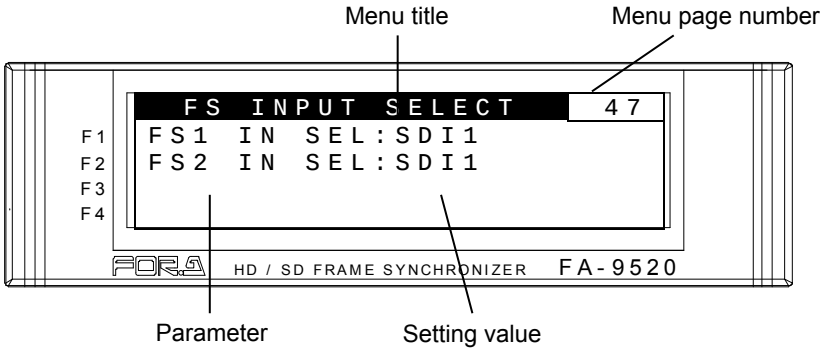


<NORMAL mode>

In the above example, the PROCESS/SDI AUDIO button has been pressed while the menu buttons are turned to video menus (lit green) by pressing the VIDEO/AUDIO, so that the VIDEO PROC AMP menu is displayed.

(If the LEDs around control F1 through 4 knobs are lit, the setting value corresponding to the lit control knob can be changed.)

If you want to change the VIDEO LEVEL setting value, turn F1. To change the CHROMA LEVEL setting value, turn F2. For SETUP/BLACK, turn F3, and for HUE turn F4. To go to other menus assigned to the menu button, press the single-arrow down button. To return to the previous menu, press the single-arrow up button.



<LIVE SAFE mode>

Menus that do not request a setting change confirmation (such as VIDEO PROC AMP) are used the same as in NORMAL mode.

Menus that request a setting change confirmation (such as VIDEO INPUT SET) will be in the setting change confirming state when the parameter is changed.

Example:

Pressing the IN SEL/DOWNMIX button while the button is in VIDEO menu selection mode (lit green) will display the VIDEO INPUT SET menu (above figure).

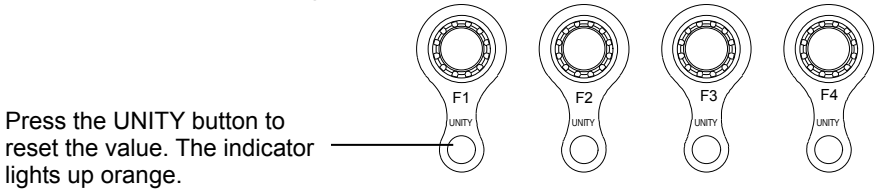
To change the FS1 input video signal, turn F1. Turn F2 to change the FS2 input video signal. If any setting is changed, single-arrow buttons and the control knob for the setting that has changed will blink in the setting change confirming state. Pressing the single down arrow button confirms the change and LEDs stop blinking, then light. Pressing the single up arrow button cancels the change, the setting returns to before the change, and LEDs stop blinking, then light.

While the FA-9520 is in a setting change confirming state, all buttons except single-arrow buttons, control knobs F1 to F4 and their Unity buttons are disabled. To go to other menus, press either single-arrow button to complete the confirmation.

4-2-7. Resetting to Default

<NORMAL mode>

The UNITY indicator light goes off when the setting value is changed from the default value. Pressing the UNITY button while the light is off returns the corresponding setting value to the default value. Then the light goes off. Pressing the button again returns the value to the previous value before resetting to the default value.



<LIVE SAFE mode>

The UNITY indicator light goes off when the setting value is changed from default. Pressing the UNITY button while the light is off returns the corresponding setting value to default.

When a setting value is changed, the single-down-arrow button and the LED around the control knob corresponding to the changed setting blinks in the setting change confirming state. Pressing the single-down-arrow button while blinking confirms the change, and the blinking arrow button and control knob lights turn on. Pressing the single-up-arrow button cancels the change, the setting returns to the value before it was changed, and the blinking arrow button and control knob lights turn on.

4-2-8. Switching Between 2-Channel Frame Synchronizers

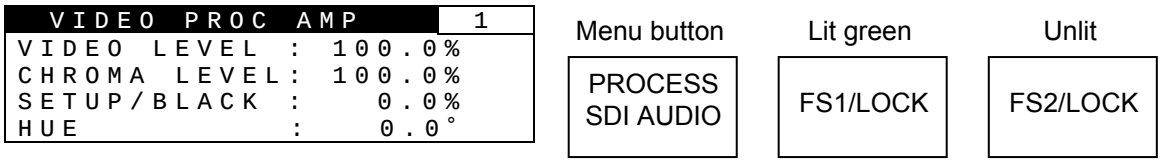
Independent 2-channel frame synchronizers FS1 and FS2 can be switched to one from another using the FS1/LOCK or FS2/LOCK button.

Menus that allow FS1 and FS2 setting selections are shown with ○ or ◎ in the menu list in section 4-2-2. “Menu Buttons”.

Either the FS1/LOCK or FS2/LOCK button lights green in a menu that can be set for FS1 and FS2 separately. The setting for the frame synchronizer corresponding to the lit button can be changed.

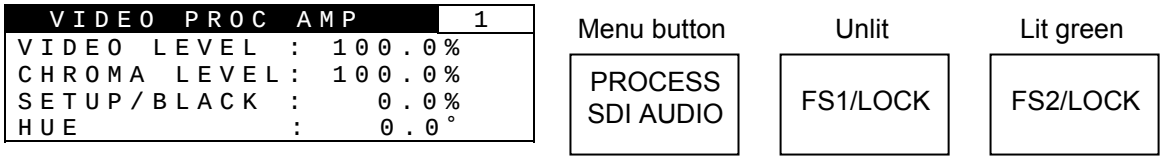
Pressing both the FS1/LOCK and FS2/LOCK buttons simultaneously, for LINK setting menus shown with ◎ in the menu list in section 4-2-2. “Menu Buttons”, makes one button turn on and light green, and the other blink. Changing settings for one frame synchronizer will also change settings for the other.

◆ Example 1: Setting VIDEO PROCESS AMP for FS1



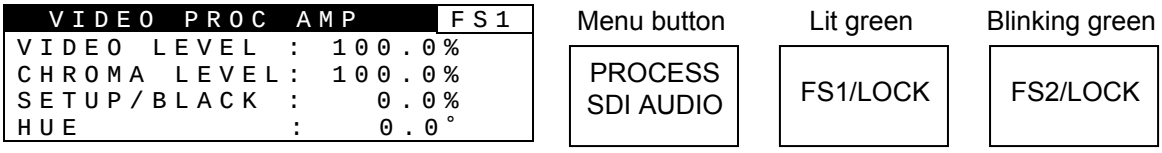
1. Press the PROCESS/SDI AUDIO button to open the VIDEO PROCESS AMP menu. Press the FS1/LOCK button for it to light green.
2. Turn F1 to F4 control knobs to change FS1 settings.

◆ Example 2: Setting VIDEO PROCESS AMP for FS2



1. Press the PROCESS/SDI AUDIO button to open the VIDEO PROCESS AMP menu. Press the FS2/LOCK button for it to light green.
2. Turn control knobs F1 to F4 to change FS2 settings.

◆ **Example 3: Setting VIDEO PROCESS AMP for FS1 and FS2 simultaneously**



1. Press the PROCESS/SDI AUDIO button to open the VIDEO PROCESS AMP menu. Press the FS2/LOCK button for it to light green.
2. Press the FS1/LOCK and FS2/LOCK buttons simultaneously. One button will blink and another will light green. Press the FS1/LOCK button for it to light green. In the VIDEO PROCESS AMP menu, FS1 setting values are displayed. ("FS1" or "FS2" will be displayed in the space a page number is usually displayed.) Pressing the FS2/LOCK button will light the button green, and display FS2 setting values in the menu.
3. Turn control knobs F1 to F4 to change setting values. The same amount of setting values are changed for FS1 and FS2 simultaneously.
4. To exit simultaneous setting mode, simultaneously press FS1/LOCK and FS2/LOCK buttons again. One button will go off and the other will light green allowing setting changes only for the corresponding FS.

IMPORTANT

FS1 and FS2 cannot be changed simultaneously by pressing FS1/LOCK and FS2/LOCK buttons at the same time in the following cases:

1. When the Color correction mode for either FS1 or FS2 is set to SEPIA. See section 5-2-4. "COLOR CORRECT (C.C.)" for details on Color correction mode.
2. When FS1 AVO mode is set to AUTO or HOLD. See section 5-4-1 "AVO SETTING" for details on AVO modes.

NOTE

In FS1/FS2 simultaneous setting mode, each control knob applies identical adjustment values to both FS1 and FS2.

Menus supported for simultaneous setting mode are shown with "◎" in the menu list in section 4-2-2. "Menu Buttons".

◆ **Example 4: Disabling FS1/FS2 settings or front panel buttons**

To prevent unexpected operation, settings for FS1 or FS2, or front panel buttons can be disabled.

Button light color		Inhibition of	Setting procedure	Cancelling procedure
FS1/LOCK	FS2/LOCK			
Orange	Green	FS1 settings	Hold down the FS1/LOCK button > 3 sec.	Hold down the FS1/LOCK button > 3 sec.
Green	Orange	FS2 settings	Hold down the FS2/LOCK button >t 3 sec.	Hold down the FS2/LOCK button > 3 sec.
Orange	Orange	Front panel buttons	Hold down both FS1/LOCK and FS2/LOCK buttons > 3 sec for them to light orange.	Hold down either the FS1/LOCK or FS2/LOCK button > 3 sec for either one to lock.

* When either FS setting is disabled, the menus will display settings of another non-disabled FS.

* When front panel buttons are disabled, the last displayed menu will remain displayed. All operations except unlocking FS1 or FS2 are disabled.

5. VIDEO Menus

Make the menu buttons light up green using the VIDEO/AUDIO button.
(Pressing the button while the buttons are lit orange turns the lights green.)
Then the menus displayed on the upper row on each menu button can be selected.

Menu button

VIDEO AUDIO

5-1. VIDEO PROC AMP (PROCESS)

```
VIDEO PROC AMP          1
VIDEO LEVEL  : 100.0%
CHROMA LEVEL: 100.0%
SETUP/BLACK  :   0.0%
HUE          :   0.0°
```

Menu button

PROCESS SDI AUDIO	FS1/LOCK	FS2/LOCK

Parameter	Default	Setting range (Steps)	Description
VIDEO LEVEL	100.0%	0.0 - 200.0% (0.1%)	Adjusts the video level.
CHROMA LEVEL	100.0%	0.0 - 200.0% (0.1%)	Adjusts the chrominance level.
SETUP/BLACK	0.0%	-20.0 - 100.0% (0.1%)	Adjusts the black level.
HUE	0.0°	-179.8 - 180.0° (0.2°)	Adjusts the color phase.

* Settings can be set for FS1 and FS2 separately.

5-2. COLOR CORRECTOR (C.C.)

Allows you to adjust the Color corrector settings.

5-2-1. WHITE LEVEL

```
WHITE LEVEL             2
RED   : 100.0%
GREEN: 100.0%
BLUE  : 100.0%
GROUP ADJUST
```

Menu button

CC AES AUDIO	FS1/LOCK	FS2/LOCK

Parameter	Default	Setting range (Steps)	Description
RED, GREEN, BLUE (RGB White Level)	100.0%	0.0 - 200.0% (0.5%)	Adjusts the white level of R, G, and B components separately.
GROUP ADJUST (Group Adjustment)	100.0%	0.0 - 200.0% (0.5%)	Adjusts the white level of R, G, and B components all together while retaining the proportion of the separately adjusted levels.

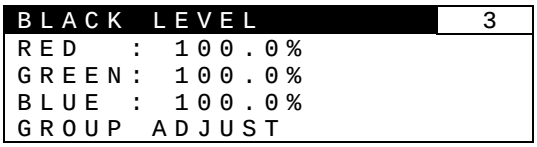
* Settings can be set for FS1 and FS2 separately.

If MODE is set to SEPIA in the COLOR CORRECT (C.C.) menu (5-2-4), the menu as shown below will be displayed.

```
WHITE LEVEL             2
RED   :NOT ADJUST
GREEN:NOT ADJUST
BLUE  :NOT ADJUST
C.C MODE IS SEPIA  *1
```

*1 If AVO is enabled, the message “AVO IS USING IT” will be displayed.

5-2-2. BLACK LEVEL



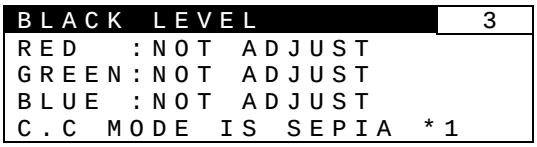
Menu button

CC AES AUDIO	FS1/LOCK	FS2/LOCK

Parameter	Default	Setting range (Steps)	Description
RED, GREEN, BLUE (RGB Black Level)	100.0%	0.0 - 200.0% (0.5%)	Adjusts the black level of R, G, and B components separately.
GROUP ADJUST (Group Adjustment)	100.0%	0.0 - 200.0% (0.5%)	Adjusts the black level of R, G, and B components all together while retaining the proportion of the separately adjusted levels.

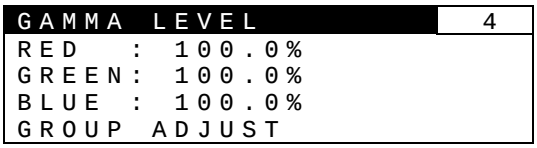
* Settings can be set for FS1 and FS2, separately.

If MODE is set to SEPIA in the COLOR CORRECT (C.C.) menu (5-2-4), the menu as shown below will be displayed.



*1 If AVO is enabled, the message “AVO IS USING IT” will be displayed.

5-2-3. GAMMA LEVEL



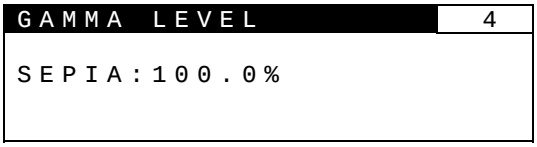
Menu button

CC AES AUDIO	FS1/LOCK	FS2/LOCK

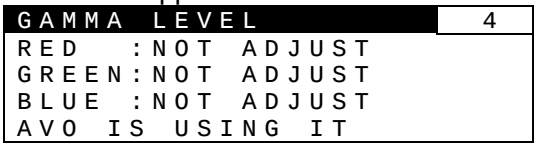
Parameter	Default	Setting range (Steps)	Description
RED, GREEN, BLUE (RGB Gamma level)	100.0%	0 - 200% (0.5%)	Adjusts the gamma level of R, G, and B components separately.
GROUP ADJUST (Group Adjustment)	100.0%	0 - 200% (0.5%)	Adjusts the gamma level of R, G, and B components all together while retaining the proportion of the separately adjusted levels.

* Settings can be set for FS1 and FS2, separately.

If MODE is set to SEPIA in the COLOR CORRECT (C.C.) menu (5-2-4), the menu as shown below will be displayed.
Only the value of GREEN can be changed.



The menu appears as shown below if AVO is enabled.



5-2-4. COLOR CORRECT (C.C.)

```
COLOR CORRECT          5
MODE  :BALANCE
CURVE:CENTER
```

Menu button

CC AES AUDIO	FS1/LOCK	FS2/LOCK

Parameter	Default	Setting range (Steps)	Description
MODE (Correcti on Mode)	BALANCE	BALANCE DIFFERENTIAL SEPIA *1	Selects a correction mode from BALANCE (RGB), DIFFERENTIAL (YPbPr), or SEPIA. **BALANCE:** RGB signal correction mode Allows you to adjust the white balance. Gray scale can be changed by adjusting R, G and B levels. **DIFFERENTIAL:** Color difference signal mode Allows you to adjust contrast without changing white balance. R, G and B levels can be changed without affecting gray scale. This adjustment is effective for images with different color saturation levels. **SEPIA:** Sepia mode Useful for creating black and white images.
CURVE (Gamma Curve)	CENTER	CENTER BLACK WHITE	Selects a gamma curve type.

* Settings can be set for FS1 and FS2, separately.

*1 SEPIA is unselectable when LINK setting mode is enabled in the FA-9520 or a connected FA-95RU. To select SEPIA, disable LINK setting mode. See section 4-2-8. “Switching Between 2-Channel Frame Synchronizers” for details on LINK settings.

If MODE is set to SEPIA, the menu as shown below will be displayed.

```
COLOR CORRECT          5
MODE  :SEPIA
CURVE:CENTER
SEPIA LEVEL:   25.0%
SEPIA COLOR:-160.0°
```

Parameter	Default	Setting range (Steps)	Description
SEPIA LEVEL	25.0%	0% - 100% (0.1%)	Adjusts the color level in the SEPIA mode.
SEPIA COLOR	-160.0°	-179.8° - 180.0° (0.2°)	Adjusts the color in the SEPIA mode.

If AVO is enabled, the menu as shown below will be displayed.

```
COLOR CORRECT          5
MODE  :NOT ADJUST
CURVE: NOT ADJUST
AVO IS USING IT
```

5-2-5. Color Corrector and AVO Modes

Auto Video Optimizer and Color Corrector use the same circuit. The color corrector settings are not fully changeable when AVO mode is set to Auto. (See section 5-4-1 “AVO SETTING”.)

Changeable Color Corrector menus according to AVO modes

AVO Modes			Color Corrector Menus
AUTO	HOLD	OFF	
-	✓	✓	WHITE LEVEL
-	✓	✓	BLACK LEVEL
-	✓	✓	GAMMA LEVEL
-	-	✓	CORRECTION MODE /CURVE

✓: Enabled setting
-: Disabled setting

IMPORTANT
DIFFERENTIAL and SEPIA mode settings under COLOR CORRECT will automatically change to BALANCE mode whenever AVO is enabled. While AVO is being used, the color corrector performs correction as if MODE is set to BALANCE and CURVE is set to BLACK in the COLOR CORRECT menu. Color correction enabled by setting AVO Control to HOLD is also performed in the above state.

5-3. CONV (UP/DOWN/CROSS CONVERTER)

Both FS1 and FS2 are supported in up/down/cross conversions, as well as aspect ratio conversion according to S2016, VI, or WSS AFD (Active Format Description) data.

Input signals that are assigned to FS1 and FS2 under IN SEL in the FS INPUT SELECT menu (section 5-6-1) will be synchronized and input to an FS1 or FS2 UP/DOWN/CROSS CONVERTER, respectively. The signals will then be processed in the respective converters, and output to output connectors according to the output assignments set in the VIDEO OUT SELECT (OUT SEL) menu (section 5-7).

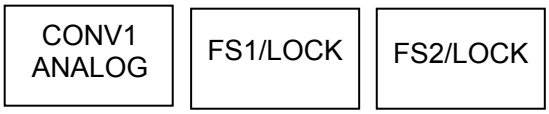
5-3-1. CONV MODE

Converts video signals according to the AFD (Active Format Description) data.

```
CONV MODE                    6
CONV   :BY-PASS
ASPECT:AFD(4:3)

1080/59i>>525/60
```

Menu button



Parameter	Default	Setting range	Description
CONV	BY-PASS	BY-PASS SD 1080i 720p 1080PsF 1080p(3G)	Selects a mode for UP/DOWN CONVERTER to convert the input signal in FS1 and FS2. **BY-PASS**: Outputs the signal without converting. **SD**: Converts signals to a standard definition format. **1080i**: Converts signals to a 1080i format. **720p**: Converts signals to a 720p format. **1080PsF**: Converts signals to a 1080PsF format. **1080P(3G)**: Converts signals to a 3G-SDI 1080p format.
ASPECT	AFD(4:3)	AFD(4:3) AFD-ALT(4:3) AFD(16:9) AFD-ALT(16:9) 4:3 L 16:9 T 4:3 L 14:9 T 4:3 L>16:9 4:3 F 4:3 4:3 L16:9PRTD 4:3 L 14:9 4:3 F ALT14:9 4:3 L ALT14:9 *1 4:3 L ALT 4:3 *1 16:9L >16:9 16:9 F 16:9 *1 16:9 P 4:3 16:9 F PRTD *1 16:9 P 14:9 *1 16:9P ALT 14:9 *1 16:9F ALT14:9 *1 16:9F ALT4:3 *1	Selectable aspect ratio settings when CONV is set to SD. AFD(4:3), AFD-ALT(4:3), AFD(16:9), AFD-ALT(16:9) automatically select an aspect ratio according to the AFD data in the input signal. If no AFD data is found in the input signal, the aspect ratio will be determined according to the setting made under **ANC LOSS SET** (Sec. 5-9-75-9-7). To output video signals in 4:3, select either ratio with (4:3). To output in 16:9, select either ratio with (16:9). Other options will output video signals in the specified aspect ratio. See section 20 “About AFD (Active Format Description)” for details. Options (4:3 L 16:9 T to 16:9 F ALT 4:3) other than the above four require the input signal aspect ratio to be specified in VIDEO INPUT SET (Sec. 5-6-2) if the input signal is an SD signal.
	AFD	AFD AFD-ALT 16:9 L>16:9 16:9 F 16:9 16:9 P 4:3 16:9 F PRTD 16:9 P 14:9 16:9P ALT14:9 16:9F ALT14:9 16:9F ALT4:3	Selectable aspect ratios when CONV is set to 1080i, 720p, 1080PsF, or 1080(3G). AFD and AFD-ALT automatically select an aspect ratio according to the AFD data in the input signal. If no AFD data is found in the input signal, the aspect ratio will be determined according to the setting made under ANC LOSS SET (Sec. 5-9-7). Options other than the above two are output in the specific aspect ratio. See section 20 “About AFD (Active Format Description)” for details on conversions according to AFD data.
-	-	-	The format of the input signal to CONV and the format the signal will be converted to in CONV of FS1 and FS2 are displayed on the 4th row.

*1 BT1119 WSS will be embedded according to the WSS AFD ERROR settings (Sec. 5-9-8) for the non-WSS aspect ratio conversions.

* Settings can be set for FS1 and FS2 respectively.

5-3-2. CONV Conversion Table

Possible Conversions in CONV for Input Signal Formats and Mode Selections
(Common for FS1 and FS2)

Input signal		CONVERTER mode selection				
		SD	1080i	720p	1080PsF	1080p(3G)
NTSC formats	525/60	525/60	1080/59i	720/59p	1080/23PsF	1080/59p
	1080/59i	525/60	1080/59i	720/59p	1080/59i (BY-PASS)	1080/59p
	720/59p	525/60	1080/59i	720/59p	720/59p (BY-PASS)	1080/59p
	1080/59p	525/60	1080/59i	720/59p	1080/59p (BY-PASS)	1080/59p
PAL formats	625/50	625/50	1080/50i	720/50p	1080/24PsF	1080/50p
	1080/50i	625/50	1080/50i	720/50p	1080/50i (BY-PASS)	1080/50p
	720/50p	625/50	1080/50i	720/50p	720/50p (BY-PASS)	1080/50p
	1080/50p	625/50	1080/50i	720/50p	1080/50p (BY-PASS)	1080/50p
Other formats	1080/23PsF	525/60	1080/23PsF (BY-PASS)	1080/23PsF (BY-PASS)	1080/23PsF	1080/23PsF (BY-PASS)
	1080/24PsF	625/50	1080/24PsF (BY-PASS)	1080/24PsF (BY-PASS)	1080/24PsF	1080/24PsF (BY-PASS)

In the conversions to the formats indicated as (BY-PASS), the CONV SIZE/POS, CONV CROPPING, CONV IMPROVE, and CONV SIDE RGB settings cannot be changed.

5-3-3. CONV SIZE/POS

```
CONV SIZE/POS                7
H SIZE:  100.0%
V SIZE:  100.0%
H POS:     0 PIXEL
V POS:     0 LINE
```

Menu button

CONV1 ANALOG | FS1/LOCK | FS2/LOCK

Parameter	Default	Setting range (Steps)	Description
H SIZE (Horizontal Size)	100.0%	50.0 - 150.0% (0.1%)	Adjusts the width of the video displayed on the monitor. *1
V SIZE (Vertical Size)	100.0%	50.0 - 150.0% (0.1%)	Adjusts the height of the video displayed on the monitor. *1
H POS (Horizontal Position)	0 Pixel	Variable *2 (2 Pixel)	Adjusts the horizontal position of the video displayed on the monitor.
V POS (Vertical Position)	0 Line	Variable *2 (1 Line)	Adjusts the vertical position of the video displayed on the monitor.

* Settings can be set for FS1 and FS2, respectively.

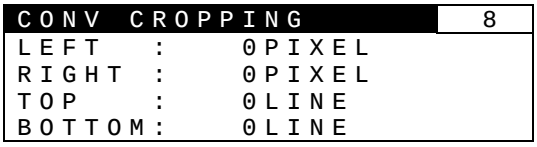
*1 If the size is made smaller than the original size, set the background color under CONV SIDE RGB (see section 5-3-6).

*2 The following parameters interact with each other. When you change one of their setting values, setting ranges of other parameters will also change.
SYNC FRMT Parameter in FS MODE SET (see section 5-9-1).
CONV parameter in CONV MODE (see section 5-3-1).

If the CONV mode is set to BY-PASS, the CONV SIZE/POS setting cannot be changed. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV Conversion Table (see section 5-3-2). In both cases, the menu as shown below will be displayed.

```
CONV SIZE/POS                7
H SIZE:NOT ADJUST
V SIZE:NOT ADJUST
H POS:NOT ADJUST
V POS:NOT ADJUST
```

5-3-4. CONV CROPPING



Menu button

CONV1 ANALOG	FS1/LOCK	FS2/LOCK

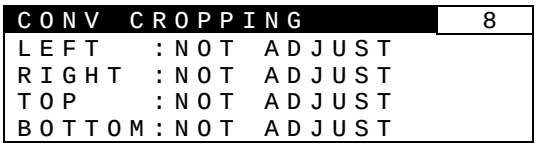
Parameter	Default	Setting range (Steps)	Description
LEFT	0 Pixel	Variable *1 (2 Pixel)	Crops the left side of the video.
RIGHT	0 Pixel	Variable *1 (2 Pixel)	Crops the right side of the video.
TOP	0 Line	Variable *1 (1 Line)	Crops the top of the video.
BOTTOM	0 Line	Variable *1 (1 Line)	Crops the bottom of the video.

* Settings can be set for FS1 and FS2, respectively.

These setting ranges vary depending on the input signal format. The LEFT and RIGHT settings, and the TOP and BOTTOM settings interact with each other. If the size cannot be adjusted as desired, try changing the setting of another parameter.

*1 The following parameters interact with each other. When you change one of their setting values, setting ranges of other parameters will also change.
Video format
SYNC FRMT Parameter in FS MODE SET (see section 5-9-1).

If the CONV mode is set to BY-PASS, the CONV CROPPING setting cannot be changed. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV Conversion Table (see section 5-3-2). In both cases, the menu as shown below will be displayed.



IMPORTANT

The cropping setting range resets itself if the video input changes. If the set value exceeds the setting range due to an input change, the set value will automatically reset itself to the default value. If the set value exceeds the horizontal range, the LEFT and RIGHT settings will reset to their default values. If the value exceeds the vertical range, the TOP and BOTTOM settings will also reset accordingly.

5-3-5. CONV IMPROVE

```
CONV IMPROVE                9
MOTION:ADAPTIVE
ANTIALIAS H:NORMAL
ANTIALIAS V:NORMAL
ENHANCE :LEVEL0
```

Menu button

CONV1 ANALOG	FS1/LOCK	FS2/LOCK

Parameter	Default	Setting range (Steps)	Description
MOTION	ADAPTIVE	FIELD ADAPTIVE FRM(ODD 1st) FRM(EVEN 1st)	**FIELD**: Generates a progressive scan image from one field of an interlaced scan image. The created image has no motion artifacts, but vertical resolution will be reduced. **ADAPTIVE**: Detects whether there is motion or no motion in the scene, and generate an optimal progressive scan image. **FRM(ODD 1st)**: Generates a progressive scan image from two fields (odd/even) of and interlaced scan image. Suitable for the progressive segment frame input of progressive scan signals. **FRM(EVEN 1st)**: Generates a progressive scan image from two fields (even/odd) of interlaced scan image.
ANTIALIAS H *1	NORMAL	WEAK 8-1 NORMAL STRONG1-8	Performs horizontal anti-aliasing for the output video image. **WEAK 8 to STRONG 8** (low to high) This setting cannot be changed if the conversion is set to the formats indicated as (BYPASS) in the CONV Conversion Table in section 5-3-2.
ANTIALIAS V *1	NORMAL	WEAK 8-1 NORMAL STRONG1-8	Performs vertrical anti-aliasing for the output video image. **WEAK 8 to STRONG 8** (low to high) This setting cannot be changed if the conversion is set to the formats indicated as (BYPASS) in the CONV Conversion Table in section 5-3-2.
ENHANCE *1	LEVEL 0	LEVEL 0-8	Sharpens the output video image. **LEVEL 0 to 8** (low to high)

* Settings can be set for FS1 and FS2, respectively.

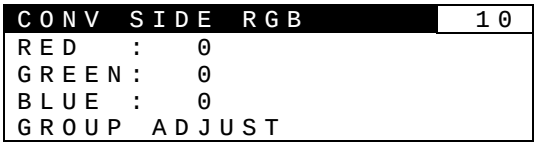
*1 ANTIALIAS and ENHANCE settings cannot be changed if CONV MODE is set to BY-PASS, or the conversion is set to the formats indicated as (BY-PASS) in the CONV Conversion Table (see section 5-3-2).
In both cases, the menu as shown below will be displayed.

```
CONV IMPROVE                9
MOTION:FIELD
ANTIALIAS H:NOT ADJ
ANTIALIAS V:NOT ADJ
ENHANCE :NOT ADJUST
```

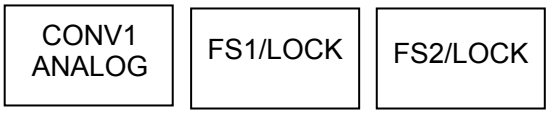
IMPORTANT

Setting MOTION to FRM (ODD 1st) or FRM (EVEN 1st) for input signals other than progressive segment frame inputs causes motion artifacts to appear. In such case, change the MOTION setting to FIELD or ADAPTIVE.

5-3-6. CONV SIDE RGB



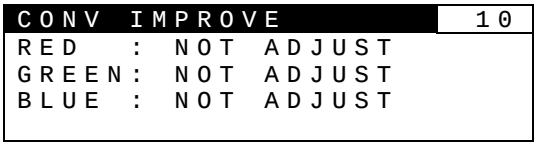
Menu button



Parameter	Default	Setting range	Description
RED, GREEN, BLUE (Background color)	0	0 - 255	Sets background color that will be visible if the converted image is set smaller than original in CONV SIZE/POS (5-3-3). R, G, and B components can be adjusted separately. F4 control knob allows you to adjust R, G, and B at the same time.
Group Adjust (Group Adjustment)	0	0 - 255	Adjusts the R, G, and B components separately, then turns this Group Adjust on. Changing any R, G, or B value will change the values of the three components accordingly while retaining the proportion.

* Settings can be set for FS1 and FS2, respectively.

If the CONV mode is set to BY-PASS, the CONV SIDE RGB setting cannot be changed. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV Conversion Table (see section 5-3-2). In both cases, the menu as shown below will be displayed.



5-4. Auto Video Optimizer (AVO)

AVO settings are effective for FS1 video signals.

5-4-1. AVO SETTING

```
AVO SETTING                16
MODE  :OFF
LEVEL:STANDARD
AREA  :FULL SCREEN
AREA DISPLAY:OFF
```

Menu button

AVO MAPPING

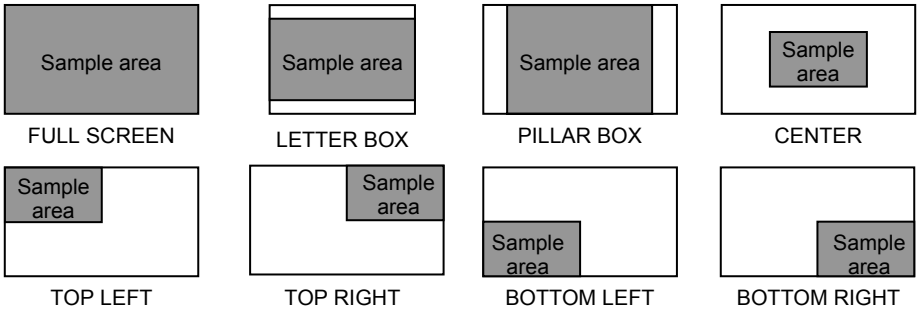
Parameter	Default	Setting range	Description
MODE (Auto level adjustment)	OFF	OFF AUTO *1 HOLD *1	**AUTO**: Enables automatic level adjustment. **HOLD**: Stops auto level adjustment. When MODE selection is changed from AUTO to HOLD, the signal levels stop and remain as they are. **OFF**: Disables automatic level adjustment. When MODE selection is changed from AUTO to OFF, the signal levels return to their state before auto level adjustment is applied. When set to OFF, the signal levels can be manually adjusted. See section 5-4-4-1 “Manual Level Adjustment” for details.
LEVEL (Adjustment level)	STANDARD	DARKER DARK STANDARD BRIGHT BRIGHTER USER1, USER2, USER3, USER4, USER5	Selects a type of signal level adjustment. 10 options are available: Five fixed options and five custom options. **Darker < Dark < Standard < Bright < Brighter** **User1 - User5:** Customizable Selecting one user settings from User1 through 5 opens the USER1 - 5 LEVE SET page. See section 5-4-3 “USER1 - 5 LEVEL SET” for details.
AREA (Sample area)	FULL SCREEN	FULL SCREEN, - BOTTOM RIGHT, USER AREA1, USER AREA2	Sets the sample area to calculate the adjustment. 10 options are available: Eight fixed areas and two custom areas. ● Fixed areas FULL SCREEN, LETTER BOX, PILLAR BOX, CENTER, TOP-LEFT, TOP-RIGHT, BOTTOM LEFT, BOTTOM RIGHT (See "Sample Area" in the next page.) ● Custom areas Selecting USER AREA1, or 2 opens the USER AREA SET page. See section 5-4-4 “USER1, 2 AREA SET” for details.
AREA DISPLAY (Marker display)	OFF	OFF, ON	Sets sample area display **ON/OFF**. If set to **ON**, the sample area appears as a semi-transparent white rectangle on all output videos. It is set to **OFF** at startup. Also, if MODE is set to **OFF**, AREA DISPLAY is automatically set to **OFF**.

*1 MODE cannot be set to AUTO or HOLD when LINK setting mode is enabled in the FA-9520 or a connected FA-95RU. To set to AUTO or HOLD, disable LINK setting mode. See sec. 4-2-8. “Switching Between 2-Channel Frame Synchronizers” for details on LINK settings.

IMPORTANT
The Auto Level Adjustment will provide optimal results in many cases, but it does not always yield optimal results. Sample Area determines the area where the data are sampled and the level adjustments are applied to whole images.

◆ **Sample Area (Fixed area)**

Eight available sample areas are as shown below. Data are continuously sampled within each area. (See section 5-4-4 “USER1, 2 AREA SET” for USERAREA 1, and 2.)



5-4-2. AVO SETUP

```
AVO SETUP                    19
RESPONSE    :LEVEL3
SCENE CUT   :OFF
GAMMA MODE:ON
```

Menu button

AVO MAPPING

Parameter	Default	Setting range	Description
RESPONSE (Filtering strength)	LEVEL 3	LEVEL 1 - 5	Sets the filtering strength for calculating the mean distances that are applied to histograms created using the sample data. The larger the value, the more gradually filtering is performed, with a more stable image but slower response. The smaller the value, the less stable the image, but with a faster response.
SCENE CUT *1 (Scene cut detection)	OFF	OFF, ON	When set to ON, the cut transitions are detected and images are properly adjusted even if there are sharp luminance changes.
GAMMA MODE (Gamma correction)	ON	OFF, ON	When set to ON, signal levels are adjusted using the GAMMA LEVEL settings. (See section 5-2-3 “GAMMA LEVEL”.

*1 The follwoing delay will be produced when performing scene cut detection depending on the input signal format.

Interlaced formats: 2 fields (1 frame) + some lines

Progressive and PsF formats: 2 frames + some lines

Scene cut detection images will be properly adjusted and output when enough frame delay is set. If the amount of frame delay is insufficient, Scene cut detection will not be properly processed.

To perform AVO scene cut detection properly, set enough delay using the FRAME DELAY function. The output delay varies depending on the SYNCRO MODE, input signal format, FRAME DELAY setting, and video signal H/V phase difference. FRAME DELAY settings are described on the next page.

5-4-2-1. About Scene Cut Detection and Frame Delay Settings

To properly perform AVO scene cut detection and adjustment, the FRAME DELAY must be set in the setting range according to the menu settings (5-9-1 “FS MODE SET” menu) as shown in the table below.

FRAME DELAY Setting Range Chart

*1 SYNCHRO	*2 Setting Rrange per Input Video Format	
	525/60i 625/50i 1080/59i 1080/50i	720/59p/50p 1080/59p,50p 1080/23PsF, 24PsF
FRAME	1 to 8 FRAME	2 to 8 FRAME
LINE/AVDL	Cannot be set	Cannot be set
INPUT	2 to 8 FRAME	3 to 8 FRAME

*1 FS mode settings under SYNCRO in section 5-9-1 “FS MODE SET”

*2 The current input video format can be verified in the VIDEO IN STATUS menu (Sec. 5-10-2) for each input selected in the FS INPUT SELECT menu (Sec. 5-6-1).

IMPORTANT

Adjust the audio delay as required in the AUDIO DELAY Settings menu (Sec. 6-6) to account for any additional video signal delay produced by changing FRAME DELAY.

5-4-3. USER1 - 5 LEVEL SET

Setting LEVEL of the AVO SETTING menu to one user settings from USER1 through 5 opens the USER1 - 5 LEVEL SET menu. This menu allows you to store five sets of level settings as USER1 – 5.

Menu button

AVO MAPPING

Each USER1 – 5 is composed of four level settings such as IN WHITE, IN BLACK, TARGET WHITE, and TARGET BLACK. The default settings of USERs 1 through 5 are the same as those for DARKER, DARK, STANDARD, BRIGHT, and BRIGHTER, respectively. The desirable level settings are easily obtained by adjusting values from the default values.

◆ **USER1 – 5 Default Settings**

Parameter	SELECT LEVEL (Adjustment level)				
(Custom levels)	USER1 Default	USER2 Default	USER3 Default	USER4 Default	USER 5 Default
(Fixed levels)	Darker	Dark	Standard	Bright	Brighter
IN WHITE	99.0%	98.0%	97.0%	95.0%	93.0%
IN BLACK	1.0%	2.0%	3.0%	5.0%	7.0%
TARGET WHITE	80.0%	88.0%	93.0%	95.0%	97.0%
TARGET BLACK	3.0%	5.0%	7.0%	12.0%	17.0%

IMPORTANT

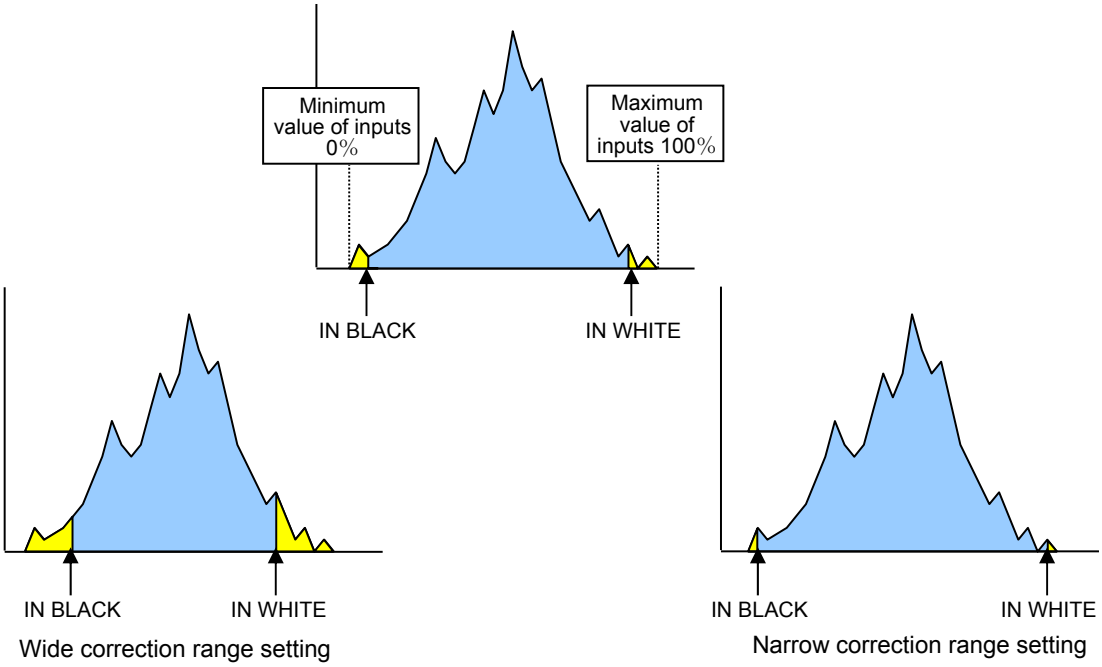
While the USER setting menu is open and the LEVEL is changed via web browser or the connected FA-95RU to other than USERs 1 through 5 in the AVO SETTING menu (5-4-1), the menu will change to display the AVO SETTING menu (5-4-1).

IN WHITE and IN BLACK

These two parameters determine the highest and lowest levels of luminance in the input signal.

Parameter	Setting range (step)	Description
IN WHITE	80.0% - 99.0% (0.5%)	The maximum value of luminance in the sample data is defined as 100%. Based on this reference value, this determines the highest level of luminance for level control. If the value is too large, some noise may be picked up and cause the results to become unstable. If the value is too small, it increases contrast, but it may cause the images to be overexposed.
IN BLACK	1.0% - 20.0% (0.5%)	The minimum value of luminance in the sample data is defined as 0%. Based on this reference value, this determines the lowest level of luminance for level control. If the value is too small, some noise may be picked up and cause the results to become unstable. If the value is too large, it increases contrast, but it may cause the images to be underexposed.

The figures below are luminance histograms of input.
(X-axis: Luminance level, Y-axis: Number of pixels)

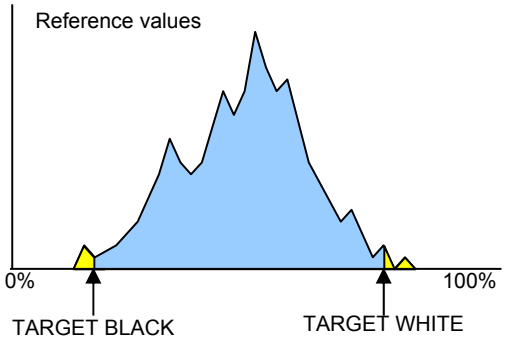


TARGET WHITE and TARGET BLACK

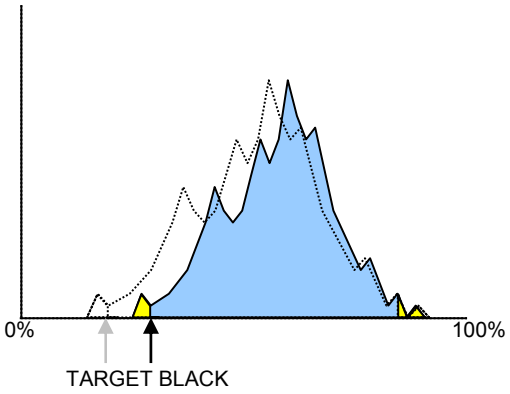
These two parameters determine the highest and lowest levels of luminance for target images (outputs). (See figures below and in the next page.)

Parameter	Setting range (step)	Description
TARGET WHITE	60.0 - 100.0% (0.5%)	Determines the maximum value of luminance for outputs. The maximum luminance value of the image after correction should approximate this value. The larger the value, the brighter the image, which may however cause the image to be overexposed. The smaller the value, tones of the bright part are kept. However, the overall obtained image may be dark.
TARGET BLACK	0 - 40.0% (0.5%)	Determines the minimum value of luminance for outputs. The minimum luminance value of the image after correction should approximate this value. The larger the value, the dark area in pictures will appear brighter, which may however lower the contrast and the noise will become apparent. The smaller the value, the higher the contrast, which may however cause the image to be underexposed.

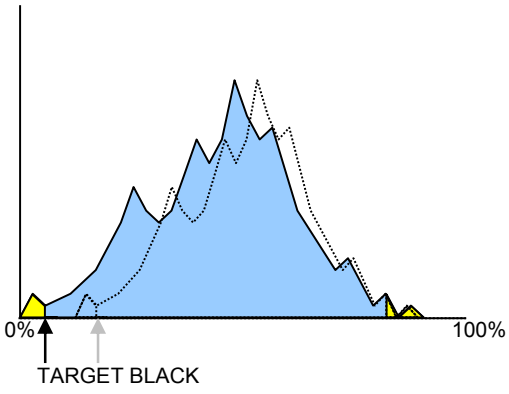
The figure below is a luminance histogram of output.
(X-axis: Luminance level, Y-axis: Number of pixels)



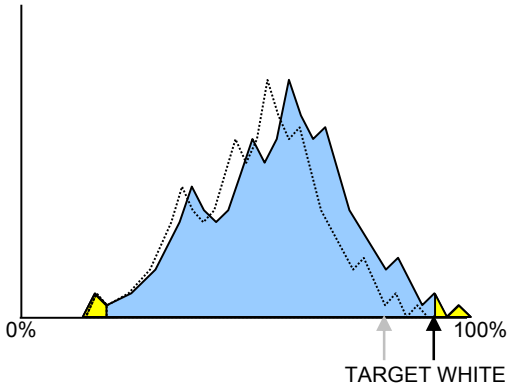
The figures below compare the reference values (dotted line) for output and the actual values after correction (full line).



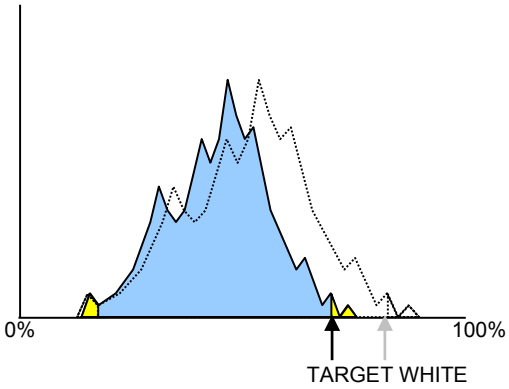
Large TARGET BLACK setting



Small TARGET BLACK setting

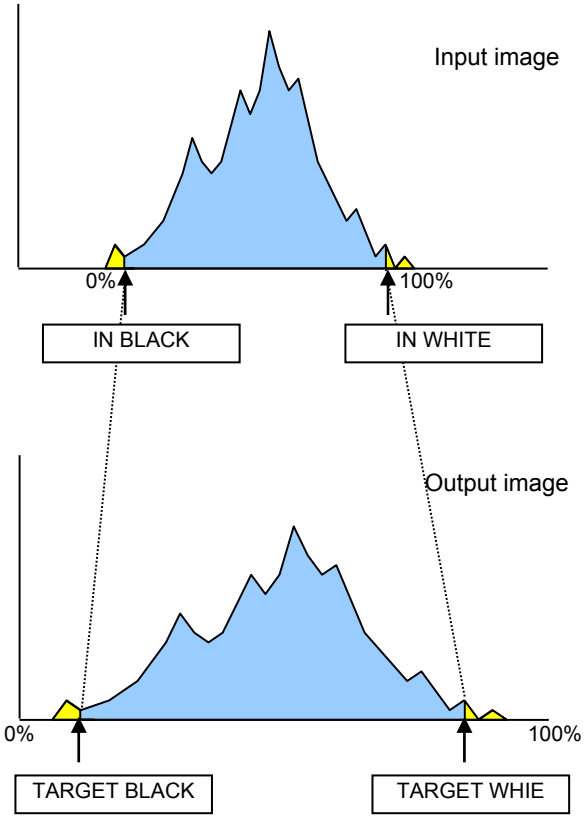


Large TARGET WHITE setting



Small TARGET WHITE setting

Relationship between IN BLACK, IN WHITE and TARGET BLACK, TARGET WHITE levels



5-4-4. USER1, 2 AREA SET

Selecting USER1 (or 2) AREA for AREA in the AVO SETTING menu opens the USER1, 2 AREA SET menus.

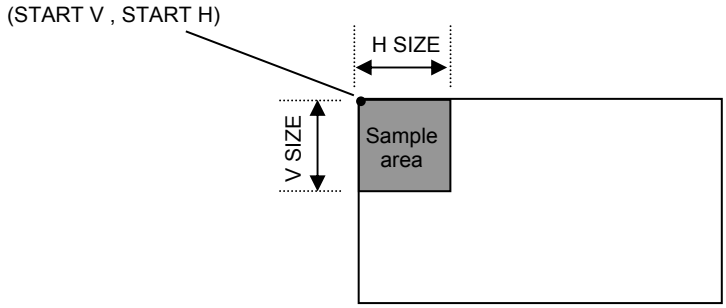
```
 USER1 AREA SET          18
START H :   0PIXEL
START V :   0LINE
H SIZE  : 360PIXEL
V SIZE  : 360LINE
```

Menu button

AVO MAPPING

To set the sample area, set the start point and the size.

Parameter	Default	Setting range	Description
START H	0 Pixel	Variable (2Pixel)	Specifies the horizontal start point.
START V	0 Line	Variable (2Line)	Specifies the vertical start point.
H SIZE	360	Variable (2Pixel)	Specifies the horizontal size (distance) from the start point.
V SIZE	360	Variable (2Line)	Specifies the vertical size (distance) from the start point.



Default setting of sample area in 1080/59.94i.

IMPORTANT

The sample area should be set within the effective lines and pixels. Otherwise, the sample area will automatically revert to their default values. Be particularly careful in the following cases.

- When the video format is changed to SDTV after the sample area has been set.
- When the sample area settings are changed by loading an event.

While the USER 1, 2 AREA SET setting menu is open and the AREA is changed via web browser or the connected FA-95RU to other than USER AREAs 1 and 2 in the AVO SETTING menu (5-4-1), the menu will change to display the AVO SETTING menu (5-4-1).

5-4-4-1. Manual Level Adjustment

The FA-9520 automatically adjusts the signal level if the MODE of the AVO SETTING menu is set to AUTO (see section 5-4-1). The signal level can also be manually adjusted if the MODE is set to HOLD or OFF.

◆ **To provide fine adjustment on the automatically adjusted level**

Changing the AVO MODE selection from AUTO to HOLD will enable fine adjustment of the adjusted signal levels that are provided by the automatic level adjustment. However, the change will not be retained after restarting the unit. The signal levels return to the values before the manual adjustment (the values provided by the automatic level adjustment).
While AVO is turned on, the COLOR CORRECT menu settings will automatically adjust. MODE will change to BALANCE, and CURVE to BLACK. The fine adjustment enabled in HOLD mode is enabled only for color correction BALANCE mode.

◆ **To manually adjust the signal levels**

Set AVO MODE to OFF to manually adjust the signal levels. If the AVO MODE selection is changed from AUTO to OFF, the signal levels return to their values before the automatic level adjustment.
The adjustable items in the Color Correction menus are as shown in the table below.

AVO MODE selection			Color Corrector Menu	Reference
AUTO	HOLD	OFF		
-	✓	✓	WHITE LEVEL	5-2-1 WHITE LEVEL
-	✓	✓	BLACK LEVEL	5-2-2 BLACK LEVEL
-	✓	✓	GAMMA LEVEL	5-2-3 GAMMA LEVEL
-	-	✓	CORRECTION MODE /CURVE	5-2-4 COLOR CORRECT

✓ : The setting is enabled.
- : The setting is disabled.
The message "NOT ADJUST" appears when the disabled menu is opened.

5-5. CLIP (VIDEO CLIP)

5-5-1. YPbPr/RGB CLIP

```
 YPbPr/RGB CLIP      25
CLIP MODE: OFF
```

Menu button

CLIP DELAY	FS1/LOCK	FS2/LOCK

Parameter	Default	Setting range	Description
CLIP MODE (Clip Mode)	OFF	OFF, YPbPr CLIP, RGB CLIP	Selects a mode whether to clip signals in the YPbPr color space or RGB color space.

* Settings can be set for FS1 and FS2, respectively.

◆ YPbPr CLIP

```
 YPbPr/RGB CLIP      25
MODE:YPbPr CLIP
Y WHITE:109.0%
Y BLACK: -7.5%
CHROMA :111.0%
```

Parameter	Default	Setting range (Steps)	Description
Y WHITE (Y White Clip)	109.0%	50.0 - 109.0% (0.5%)	Sets the Y signal upper threshold.
Y BLACK (Y Black Clip)	-7.5%	-7.5 - 50.0% (0.5%)	Sets the Y signal lower threshold.
CHROMA (YPbPr Chroma Clip)	111.0%	50.0 - 111.0% (0.5%)	Sets both the upper and lower thresholds of PbPr signals.

◆ RGB CLIP

```
 YPbPr/RGB CLIP      25
MODE:RGB CLIP
WHITE: 300.0%
BLACK:-200.0%
```

Parameter	Default	Setting range (Steps)	Description
WHITE (RGB White Clip)	300.0%	50 - 300% (0.5%)	Sets the upper threshold of RGB color space.
BLACK (RGB Black Clip)	-200.0%	-200 - 50% (0.5%)	Sets the lower threshold of RGB color space.

5-5-2. COMPOSITE CLIP

```
COMPOSITE CLIP          26
MODE:COMPOSITE CLIP
WHITE:  150.0%
BLACK:  -50.0%
```

Menu button

CLIP DELAY	FS1/LOCK	FS2/LOCK

Parameter	Default	Setting range (Steps)	Description
CLIP MODE (Clip Mode)	OFF	OFF, COMPOSITE CLIP	COMPOSITE CLIP enables clipping on the composite output signals.
WHITE (Composite White Clip)	150.0%	50 - 150% (0.5%)	Sets the upper threshold of analog composite color space.
BLACK (Composite Black Clip)	-50.0%	-50 - 50% (0.5%)	Sets the lower threshold of analog composite color space.

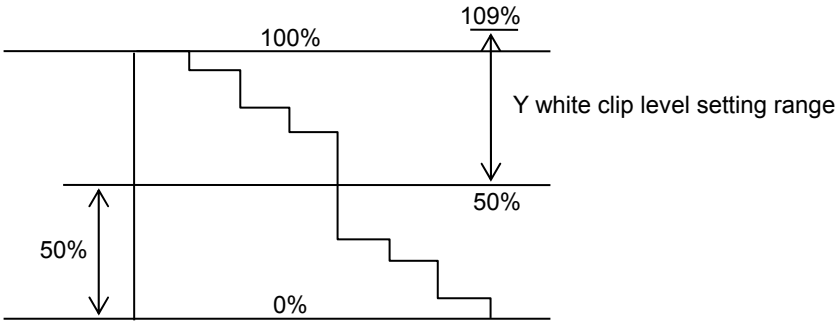
The COMPOSITE CLIP settings are effective only on the analog composite outputs.
The settings are not effective on the SDI1/2 and SDI3/4 outputs.
To enable the COMPOSITE CLIP menu, set YPbPr/RGB CLIP to OFF.

5-5-3. VIDEO CLIP Setting Ranges

◆ **YPbPr CLIP**

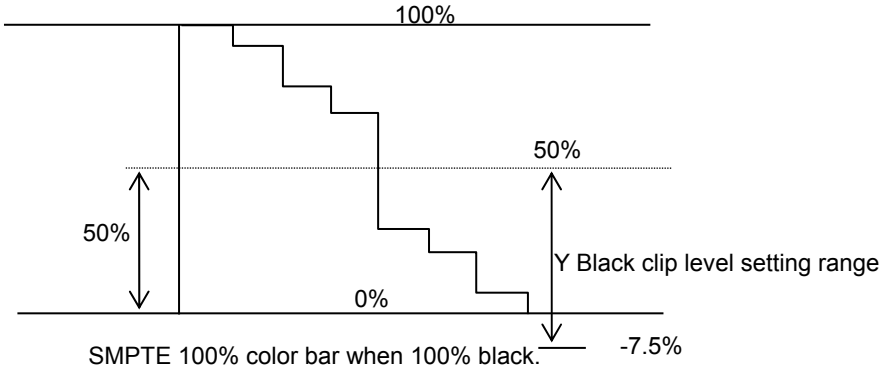
Y Signal Settings

① Y White Clip Level
Setting range 50 - 109% (Default: 109%)



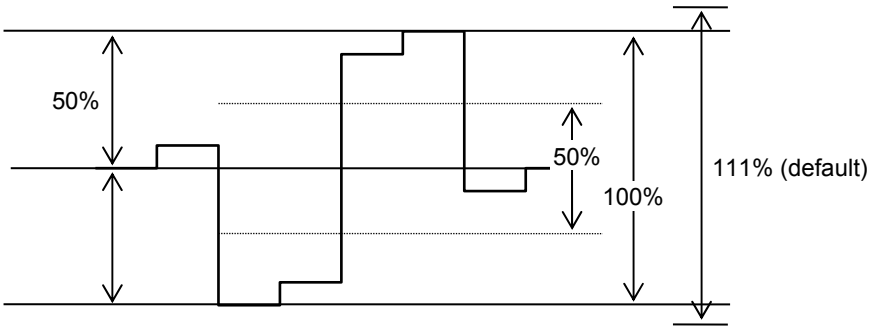
SMPTE 100% color bar when 100% white.

② Y Black Clip Level
Setting range -7.5 - 50% (Default: -7.5%)



SMPTE 100% color bar when 100% black.

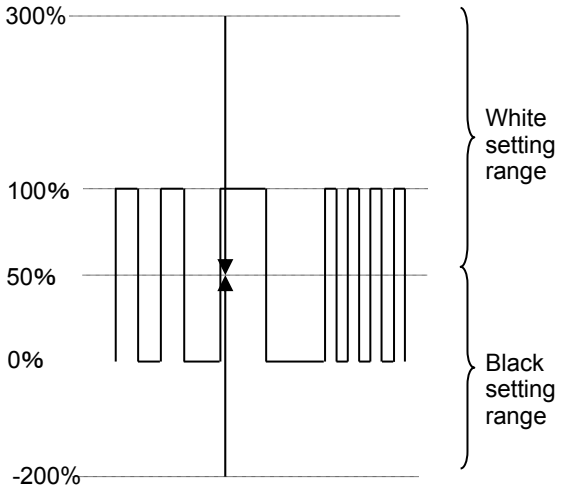
③ C White Clip Level
Setting range 50 - 111% (Default: 111%)



SMPTE 100% color bar when color 700mVp-p.

◆ **RGB CLIP**

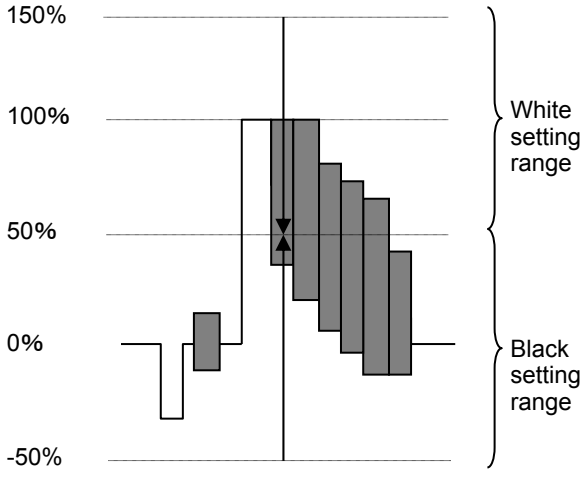
To adjust the RGB clipping, select the RGB CLIP under CLIP MODE, and then set RGB White Clip and RGB Black Clip.
Once the "RGB CLIP" is selected, the YPbPr input video signal is converted into an RGB signal in the unit. The converted RGB signal is processed so as not to exceed the RGB gamut range set under the RGB White Clip and RGB Black Clip parameters in the menu.
Then the processed RGB signal is converted again to YPbPr format. This correction is used to eliminate out-of RGB gamut problems.



RGB Clip Processing

◆ **COMPOSITE CLIP**

To adjust the COMPOSITE clip, set WHITE and BLACK.
Once the COMPOSITE CLIP mode is turned ON, YPbPr input video signal is converted to composite signal in the unit. The converted composite signal is processed so as not to exceed the composite gamut range set at WHITE and BLACK in the menu.
The processed composite signal is then reconverted to YPbPr format. This correction is used to eliminate out-of composite gamut problems.
This correction is applied to composite output signals.

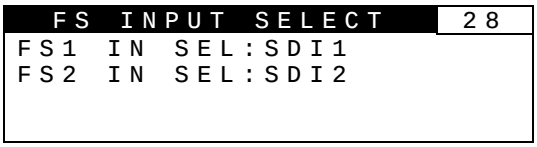


Composite Clip processing

5-6. VIDEO INPUT SELECT (IN SEL)

Allows you to select input video signals, and select the operation for when signal input is lost.

5-6-1. FS INPUT SELECT



Menu button

IN SEL
DOWNMIX

Parameter	Default	Setting range	Description
FS1 IN SEL	SDI1	SDI1 SDI2 COMPOSITE OPTION A *1 OPTION B *2	Selects an input video signal for FS1. OPTION A: Input signal from the FA-95AIO in option slot A. OPTION B: Input signal from the FA-95AIO in option slot B.
FS2 IN SEL	SDI2	SDI1 SDI2 COMPOSITE OPTION A *1 OPTION B *2	Selects an input video signal for FS2. OPTION A: Input signal from the FA-95AIO in option slot A. OPTION B: Input signal from the FA-95AIO in option slot B.

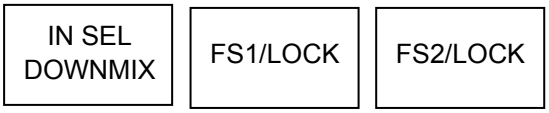
*1 Selectable only if the FA-95AIO option is installed in option slot A.
*2 Selectable only if the FA-95AIO option is installed in option slot B.

COMPOSITE, OPTION A, or OPTION B cannot be selected for both FS1 and FS2.
If you wish to select COMPOSITE, OPTION A, or OPTION B for either FS while the same signal is selected for the other FS, reset the current COMPOSITE, OPTION A, or OPTION B selection to SDI 1 or 2 first, then select a signal as you wish.
If COMPOSITE, OPTION A or OPTION B is selected for both FS1 IN SEL and FS2 IN SEL, the “CANNOT ASSIGN SIMUL COMPOSITE, FA-95AIO” alert message will appear.

5-6-2. VIDEO INPUT SET

```
  VIDEO INPUT SET   29
LOSS   :BACK COLOR
BACK COLOR:OFF
SD ASPECT:4:3
IN STATUS:
```

Menu button



Parameter	Default	Setting range	Description
LOSS	BACK COLOR	BACK COLOR AUTO FREEZE *1 COLOR BAR OUT DISABLE	Selects an operation for the time the signal input selected under FS INPUT SELECT is lost.
BACK COLOR	BLACK	OFF BLACK BLUE RED MAGENTA GREEN CYAN YELLOW	Select a background color.
SD ASPECT	4:3	4:3 16:9	Selects the aspect ratio for SD input signals. This setting is used for fixed aspect ratio conversions that are performed when ASPECT in the CONV menu is set to other than AFD (4:3), AFD-ALT (4:3), AFD (16:9), AFD-ALT (16:9), AFD, or AFD-ALT.
IN STATUS	-	SDI1 SDI2 OPTION A OPTION B	Displays the input video signal in FS1 or FS2. (Cannot be changed.)

* Settings can be set for FS1 and FS2, respectively.

*1 The selected AUTO FREEZE functions the same as BACK COLOR if SYNCHRO in section 5-9-1 “FS MODE SET” is set to LINE or AVDL. In such case, the menu is indicated as “＊AUTO FREEZE”.

◆ LOSS Operation

If the signal input that is selected under FS INPUT SELECT is lost, the FA-9520 operates in the selected LOSS mode as follows.

- In BACK COLOR mode
  Outputs a matte signal of the color selected under BACK COLOR.
- In AUTO FREEZE mode
  Freezes the last image before signal input is lost.
  Freezes the field.
  Freezes the frame if the lost input signal is of a progressive scan video format such as 720p.
- In COLOR BAR mode
  Outputs the SMPTE color bar.
- In OUT DISABLE mode
  Does not output any signal from SDI OUT1, 2, 3, 4, COMPOSITE OUT1 or 2.
- In AUTO FREEZE mode

Outputs a black screen if SYNCHRO is set to LINE or AVDL under FS MODE SET (section 5-9-1).

5-6-3. ANC DETECT LINE

Allows you to select a line to detect ancillary RP186 VI or BT1119-2 WSS data in input signals.

◆ **For RP186 VI**

```
ANC DETECT LINE      30
ANC     :RP186 VI
FORMAT  :525/60
FIELD1  : 14LINE
FIELD2  :277LINE
```

Menu button

IN SEL DOWNMIX	FS1/LOCK	FS2/LOCK

Parameter	Default	Setting range	Description
ANC	RP186 VI	RP186 VI BT1119 WSS	Selects an ancillary data standard.
FORMAT	525/60	525/60 625/50	Selects the input signal format.
FIELD1	14 LINE (525/60) 19 LINE (625/50)	12-19 LINE (525/60) 8-22 LINE (625/50)	Selects a line to detect ancillary data in field 1.
FIELD2	277 LINE (525/60) 324 LINE (625/50)	275-282 LINE (525/60) 321-335 LINE (625/50)	Selects a line to detect ancillary data in field 2.

◆ **For BT1119 WSS**

```
ANC DETECT LINE      30
ANC     :BT1119 WSS
FORMAT  :625/50
FIELD1  : 23LINE
```

Menu button

IN SEL DOWNMIX	FS1/LOCK	FS2/LOCK

Parameter	Default	Setting range	Description
ANC	RP186 VI	RP186 VI BT1119 WSS	Selects an ancillary data standard.
FORMAT	625/60	625/50	Selects the input video format.
FIELD1	23LINE	8-23 LINE	Selects a line to detect ancillary data in field 1.

5-6-4. ANC DETECT SEL

```
ANC DETECT SEL       31
CAPTION:CEA608 CC
AFD     :S2016-3AFD
```

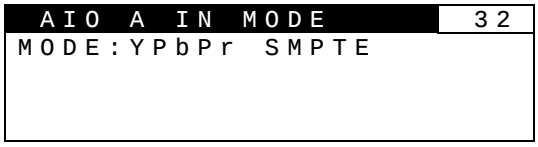
Menu button

IN SEL DOWNMIX	FS1/LOCK	FS2/LOCK

Parameter	Default	Setting range	Description
CAPTION *1	CEA608 CC	CEA608 CC S334-1 CC	Select CEA608 CC to process closed caption data in the luminance signal (Y) of 525/60 system. Select S334-1 CC to process closed caption data in ancillary data space of SDI signal.
AFD	S2016-3 AFD	S2016-3 AFD RP186 VI BT1119 WSS	Selects a type of AFD data to be detected for SD input signals.

*1 Be sure to set to CEA608 CC when processing closed caption data in 525/60 composite signals. Otherwise the caption data will not be detected.

5-6-5. AIO A IN MODE

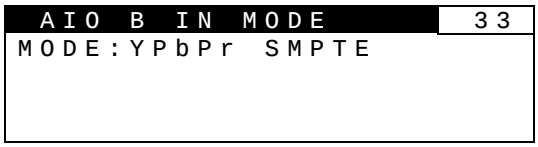


Menu button

IN SEL
DOWNMIX

Parameter	Default	Setting range	Description
MODE	YPbPr SMPTE	YPbPr SMPTE YPbPr BETACAM RGB Y/C	Selects the operation mode for input video signals in the FA-95AIO installed in slot A. This menu will not appear if no FA-95AIO is installed in slot A.

5-6-6. AIO B IN MODE



Menu button

IN SEL
DOWNMIX

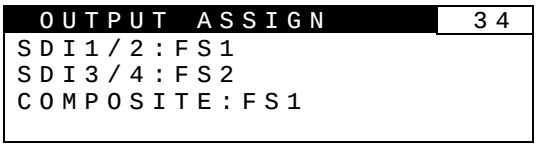
Parameter	Default	Setting range	Description
MODE	YPbPr SMPTE	YPbPr SMPTE YPbPr BETACAM RGB Y/C	Selects the operation mode for input video signals in the FA-95AIO installed in slot B. This menu will not appear if no FA-95AIO is installed in slot B.

5-7. VIDEO OUT SELECT (OUT SEL)

Allows you to select output modes and whether to output a signal from FS1 or FS2 for respective video output connectors.

5-7-1. OUTPUT ASSIGN

Allows you to assign video signals to output from video output connectors.



Menu button

OUT SEL MODE

Parameter	Default	Setting range	Description
SDI1/2	FS1	FS1 FS2	Selects either FS1 or FS2 signal to be output from SDI1 and 2 connectors.
SDI3/4	FS1	FS1 FS2	Selects either FS1 or FS2 signal to be output from SDI3 and 4 connectors.
COMPOSITE	FS1	FS1 FS2	Selects either FS1 or FS2 signal to be output from COMPOSITE connectors. Outputs a black signal for HD output signals.

Composite Output Format Table

FS1 and 2 output signals	Output signal from COMPOSITE connector
525/60	CONV signals in 525/60
625/50	CONV signals in 625/50
1080/59i	B.B. in 525/60
1080/50i	B.B. in 625/50
1080/24PsF	B.B. in 625/50
1080/23.98PsF	B.B. in 525/60
720/59p	B.B. in 525/60
720/50p	B.B. in 625/50
1080/59p	B.B. in 525/60
1080/50p	B.B. in 625/50

5-7-2. AIO A ASSIGN

Allows you to assign video signals to output from video output connectors on the FA-95AIO in slot A.

```
 AIO A ASSIGN          35
ASSIGN:FS1
MODE:YPbPr  SMPTE
```

Menu button

IN SEL
DOWNMIX

Parameter	Default	Setting range	Description
ASSIGN	FS1	FS1 FS2	Selects either FS1 or FS2 signal to be output from the video output connector on the FA-95AIO in slot A.
MODE	YPbPr SMPTE	YPbPr SMPTE YPbPr BETACAM RGB Y/C	Selects the operation mode for output video signals from the FA-95AIO installed in slot A.

* This menu does not appear if there is no FA-95AIO installed in slot A.

* The FA-95AIO connector outputs a black video if the output signal from the selected FS1 or FS2 is 1080p and MODE is set to YPbPr or RGB. See the below YPbPr/RGB Output Format table for details.

* The FA-95AIO connector outputs a black video if the output signal from the selected FS1 or FS2 is an HD signal and MODE is set to Y/C. See the below Y/C Output Format table for details.

YPbPr/RGB Output Format

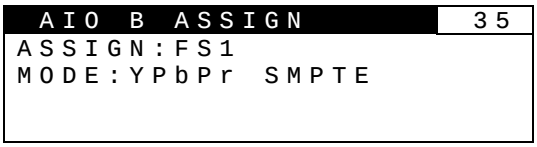
FS1 or 2 output signal	FA-95AIO YPbPr/RGB output signal
525/60	525/60 signal in FS 1 or 2
625/50	625/50 signal in FS 1 or 2
1080/59i	1080/59i signal in FS 1 or 2
1080/50i	1080/50i signal in FS 1 or 2
1080/24PsF	1080/24PsF signal in FS 1 or 2
1080/23.98PsF	1080/23.98PsF signal in FS 1 or 2
720/59p	720/59p signal in FS 1 or 2
720/50p	720/50p signal in FS 1 or 2
1080/59p	1080/59i black video
1080/50p	1080/50i black video

Y/C Output format

FS 1 or 2 output signal	Y/C output signal
525/60	525/60 signal in FS 1 or 2
625/50	625/50 signal in FS 1 or 2
1080/59i	525/60 BB signal
1080/50i	625/50 BB signal
1080/24PsF	625/50 BB signal
1080/23.98PsF	525/60 BB signal
720/59p	525/60 BB signal
720/50p	625/50 BB signal
1080/59p	525/60 BB signal
1080/50p	625/50 BB signal

5-7-3. AIO B ASSIGN

Allows you to assign video signals to output from video output connectors on the FA-95AIO in slot B.



Menu button

IN SEL
DOWNMIX

Parameter	Default	Setting range	Description
ASSIGN	FS1	FS1 FS2	Selects either FS1 or FS2 signal to be output from the video output connector on the FA-95AIO in slot B.
MODE	YPbPr SMPTE	YPbPr SMPTE YPbPr BETACAM RGB Y/C	Selects the operation mode for output video signals from the FA-95AIO installed in slot B.

* This menu does not appear if there is no FA-95AIO installed in slot B.

* The FA-95AIO connector outputs a black video if the output signal from the selected FS1 or FS2 is 1080p and MODE is set to YPbPr or RGB. See the below YPbPr/RGB Output Format table for details.

* The FA-95AIO connector outputs a black video if the output signal from the selected FS1 or FS2 is an HD signal and MODE is set to Y/C. See the below Y/C Output Format table for details.

YPbPr/RGB Output Format

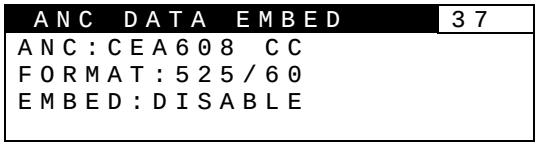
FS1 or 2 output signal	FA-95AIO YPbPr/RGB output signal
525/60	525/60 signal in FS 1 or 2
625/50	625/50 signal in FS 1 or 2
1080/59i	1080/59i signal in FS 1 or 2
1080/50i	1080/50i signal in FS 1 or 2
1080/24PsF	1080/24PsF signal in FS 1 or 2
1080/23.98PsF	1080/23.98PsF signal in FS 1 or 2
720/59p	720/59p signal in FS 1 or 2
720/50p	720/50p signal in FS 1 or 2
1080/59p	1080/59i black video
1080/50p	1080/50i black video

Y/C Output format

FS 1 or 2 output signal	Y/C output signal
525/60	525/60 signal in FS 1 or 2
625/50	625/50 signal in FS 1 or 2
1080/59i	525/60 BB signal
1080/50i	625/50 BB signal
1080/24PsF	625/50 BB signal
1080/23.98PsF	525/60 BB signal
720/59p	525/60 BB signal
720/50p	625/50 BB signal
1080/59p	525/60 BB signal
1080/50p	625/50 BB signal

5-7-4. ANC DATA EMBED

Allows you to set ancillary data insertion into SDI signal ancillary spaces.



Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
ANC	CEA608 CC	CEA608 CC S334-1 CC SD CEA708 CC HD S2016-3 AFD RP186 VI BT1119 WSS	Selects an ancillary data type to insert.
FORMAT	-	*	Selects a video format that supports the ancillary data selected under ANC. Only selectable format will be shown.
EMBED	DISABLE	DISABLE ENABLE	**DISABLE:** Does not insert ancillary data selected under ANC. **ENABLE:** Inserts ancillary data selected under ANC.

* Settings can be set for FS1 and FS2, respectively. See the “Ancillary Data Types” table below for details.

◆ **Ancillary Data Types**

Data type	Description
CEA608 CC	Closed caption data inserted as Y signals into line 21 of 525/60 analog and SDI signals.
S334-1 CC	Closed caption data inserted as data packets into the ancillary data space of 525/60 SDI signals.
CEA708 CC	Closed caption data inserted as data packets into the ancillary data space of HD-SDI signals (1080i/720p).
S2016-3 AFD	Aspect ratio data inserted as data packets into the ancillary data space of SD and HD-SDI signals (525/60, 625/50, 1080i/PsF, 720p, 1080p/(3G)).
RP186 VI	Aspect ratio data inserted into bit 3 of Chroma data in the SD-SDI (525/60, 625/50) V ANC data space.
BT1119 WSS	Aspect ratio data inserted as Y signals into line 23 of 625/50 analog or SDI signals.

5-7-5. ANC EMBED LINE

Allows you to select a line of SDI signal ancillary data space to insert closed caption data.

```
 ANC EMBED LINE        38
ANC:CEA608 CC
FORMAT:525/60
FIELD1:21(284)LINE
```

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
ANC	CEA608 CC	CEA608 CC S334-1 CC SD CEA708 CC HD S2016-3 AFD RP186 VI BT1119 WSS	Selects a type of ancillary data to insert.
FORMAT	-	*1	Selects a video format compatible with the ancillary data selected under ANC. Only compatible Video formats will be displayed.
LINE FIELD1	-	*1	Selects a line in ancillary data space into which ancillary data is inserted. A line can be selected for different ANC and FORMAT selections separately. If ANC is set to RP186 VI, this parameter allows you to select a line for FIELD 1. Lines can be selected for fields 1 and 2 respectively.
FIELD2	-	*1	If ANC is set to RP186 VI, this parameter allows you to select a line for FIELD 2. Lines can be selected for fields 1 and 2 respectively.

* Settings can be set for FS1 and FS2, respectively.

*1 The setting range varies according to the ancillary data type and video format.

Ancillary data type	FORMAT	LINE	Default
ANC:CEA 608 CC	525/60	FIELD1: 21(284) fixed *1	
ANC:S334-1 CC SD	525/60	FIELD1:12(275) to 19(282) *1	FIELD1:12(275) *1
ANC:CEA708 CC HD	1080i	LINE 9 to 20	LINE 9
	720p	LINE 9 to 25	LINE 9
ANC:S2016-3 AFD	525/60	FIELD1:12(275) to 19(282) *1	FIELD1:12(275) *1
	625/50	FIELD1:8(321) to 22(335) *1	FIELD1:8(321) *1
	1080i/PsF	LINE 9 to 20	LINE 9
	720p	LINE 9 to 25	LINE 9
	1080p/(3G)	LINE 9 to 41	LINE 9
ANC:RP186 VI	525/60	FIELD1: 12 to 19	FIELD1: 14
		FIELD2: 275 to 282	FIELD2: 277
	625/50	FIELD1: 8 to 22	FIELD1: 11
		FIELD2: 321 to 335	FIELD2: 324
ANC:BT1119 WSS	625/50	FIELD1: 8 to 23	FIELD1: 23

*1 Field2 line number displayed in parentheses.

NOTE

If CEA608 or S334-1 CC closed caption data is detected in the 525/60 input signal, and the CONV1 and/or CONV2 output format/s is/are 1080/59i and/or 720/59p, the detected closed caption data will not be converted to CEA708. The CEA708 closed caption data insertion will be automatically terminated.
Meanwhile, if CEA708 closed caption data is detected in the 1080/59i or 720/59p input signal, it will be converted to S334-1 CC or CEA608 CC for 525/60 output signals to output from CONV 1 and/or CONV 2.

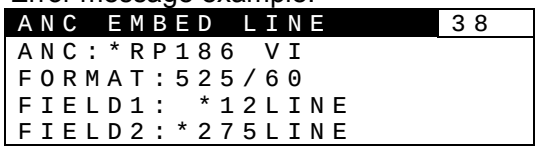
IMPORTANT
Closed caption data output will stop when data input is lost. S2016-3 AFD, RP186 VI, and BT1119 WSS ancillary data will be output according to the ANC LOSS SET settings when their data input is lost. See section 5-9-7 “ANC LOSS SET” for details.

- **Ancillary data combinations that cannot be simultaneously embedded to the same line.**

Video format	Ancillary data type	S334-1 CC	S2016-3 AFD	RP186 VI	BT1119 WSS
525/60	S334-1 CC		Can be set to same line	Unable to set to same line	
	S2016-3 AFD	Can be set to same line		Unable to set to same line	
	RP186 VI	Unable to set to same line	Unable to set to same line		
625/50	S2016-3 AFD			Unable to set to same line	Unable to set to same line
	RP186 VI		Unable to set to same line		Can be set to same line
	BT1119 WSS		Unable to set to same line	Can be set to same line	

If the same line is set for the ancillary data combination described as “Unable to set to same line”, and both ancillary data types are set to be embedded in the ANC DATA EMBED menu (see Sec. 5-7-4), an asterisk “*” will appear next to the selected data type as an error message. If the sign is displayed, ancillary data will not be properly embedded. The line settings must be properly set. Usually the default value will properly embed the ancillary data. Keep this in mind when changing the value to configure a system with other devices.

Error message example:



IMPORTANT
Ancillary data insersion line settings specified under the ANC DATA EMBED (sec. 5-7-4) and ANC EMBED LINE (sec. 5-7-5) menus take priority over the line settings specified under the SDI LINE MASK menu (sec. 5-9-13) and take effect.

5-8. VIDEO OPTION (VIDEO OP)

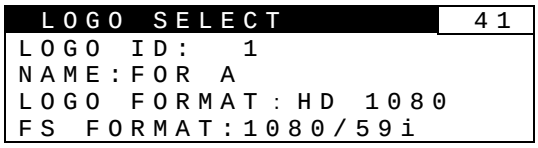
5-8-1. Logo Generator

The logo generator allows you to superimpose logos to FA-9520 outputs for each converter. Run the FA-95 LG GUI, which can be downloaded from FOR-A's website, on a PC to register logos to the FA-9520 via Ethernet. See the FA-95LG GUI Operation Manual (downloaded with the software) for details on logo management.
The VIDEO OP/AUDIO OP button LED flashes red while storing logo data to the FA-9520 from the FA-95LG GUI. Once the data is stored, it will be transmitted to the video memory. The VIDEO OP/AUDIO OP button LED flashes green during this transmission. Do not turn the power of the unit off while the button is flashing in order not to obstruct the data storage process.

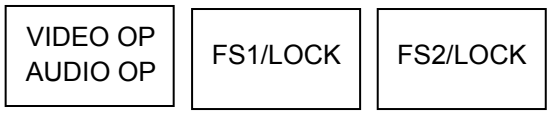
IMPORTANT
The FA-9520 front panel button/control operation, and web browser will be slowed down while storing logo data using FA-95LG GUI. Complete necessary settings before storing logo data.

5-8-1-1. LOGO SELECT

Allows you to select a logo function mode for FS1 and FS2.



Menu button



Parameter	Default	Setting range	Description
LOGO ID	1	1-256	Selects a logo to be output to FS1 or FS2 output signal.
NAME *1	-	-	Displays the registered name of the ID-selected logo. Displays "-----" if the logo is not registered.
LOGO FORMAT *1	-	-	Displays the format of the ID-selected logo. Logo formats: SD 525, SD 625, HD 1080, HD 720 Displays "-----" if the logo is not registered.
FS FORMAT *2	-	-	Displays the video format of the FS1 or FS2 output signal.

*1 NAME and LOGO FORMAT can be registered for each logo ID via FA-95LG GUI. See the separate FA-95LG GUI Operation Manual for details.

*2 The video format displayed under FS FORMAT and the logo format displayed under LOGO FORMAT must match. Otherwise no logo will be displayed even if KEYER in section 5-8-1-2 "KEYER SET" is turned On.

5-8-1-2. KEYER SET

Allows you to set a keyer for FS1 or FS2.

```
 KEYER SET                    42
KEYER:OFF
LEVEL:100%
H POS:      0PIXEL
V POS:      0LINE
```

Menu button

VIDEO OP AUDIO OP	FS1/LOCK	FS2/LOCK

Parameter	Default	Setting range (Steps)	Description
KEYER	OFF	OFF ON	Allows you to enable or disable the keyer for the FS1 or FS2 output signal. ON: Enables display of logos selected in the LOGO SELECT menu (5-8-1-1).
LEVEL *1	100%	0-100% (0.1%)	Allows you to set a key level for a logo to be output to the FS1 or FS2 output signal.
H POS *1	0	*2 (2 Pixel)	Allows you to set the horizontal positon for a logo to be output to the FS1 or FS2 output signal.
V POS *1	0	*2 (1 Line)	Allows you to set the vertical positon for a logo to be output to the FS1 or FS2 output signal.

*1 Key level and position settings are saved for each logo ID. Changing logo settings for FS1 will also change the logo settings of FS2 using the same logo.

*2 Actual logo position differs depending on the logo format selected when registering the logo. See section 5-8-1-3 “Logo Position Setting Range” for details.

LEVEL and H/V POS settings are disabled under the following conditions:

- No logo is assigned to the logo ID selected under LOGO ID in the 5-8-1-1 LOGO SELECT menu.
- Different formats are displayed for LOGO FORMAT and FS1 or FS2 in the 5-8-1-1 LOGO SELECT menu.

```
 KEYER SET                    42
KEYER:ON
LEVEL:NOT ADJ
H POS:NOT ADJ
V POS:NOT ADJ
```

5-8-1-3. Logo Position Setting Range

Positional settings will vary according to the logo formats as shown below.

Logo Format	H POS setting range	V POS setting range
SD 525	0 to 718	0 to 486
SD 625	0 to 718	0 to 575
HD 1080	0 to 1918	0 to 1079
HD 720	0 to 1278	0 to 719

The logo format selection is saved for each logo ID using FA-95LG GUI. See the separate FA-95LG GUI Operation Manual for details.

5-9. VIDEO SYSTEM (VIDEO SYS)

5-9-1. FS MODE SET

Allows you to set the FS (Frame Synchronizer) operation modes.

```
 FS MODE SET          61
SYNCHRO  :FRAME
SYNC FRMT:AUTO DET
FRAME DELAY  :OFF
FORCED FIELD:OFF
```

Menu button

VIDEO SYS
AUDIO SYS | FS1/LOCK | FS2/LOCK

Parameter	Default	Setting range	Description
SYNCHRO *1 *2 *3 *4 *5	FRAME	FRAME LINE AVDL*6	**FRAME**: Enables horizontal and vertical alignment of video signals to a genlock signal. Effective on both synchronous and asynchronous signals. **LINE**: Locks the video signal of within ±1/2H to a genlock signal. Output delay is 1H. Effective only when video signal is synchronous to the genlock signal. **AVDL**: Locks the video signal to a genlock signal with a 1H delay. Effective only when video signal is synchronous to the genlock signal. **INPUT**: Locks the system to an input video signal. The delay can be adjusted by System Phase and/or Frame Delay. However, the minimum delay is 520clk common in all formats. (HD: 74MHz, SD: 27MHz) Does not use a genlock signal.
SYNC FRMT	AUTO DET	AUTO DET 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23f 1080/24f 1080/59p *2 1080/50p *2	Sets a system format for the FA-9520. AUTO DET: Detects and sets the detected input video format to the system format. Other values make the system work in the format.
FRAME DELAY *1 *2	OFF	OFF 1 FRAME to 8 FRAME	Sets the amount of frame delay.
FORCED FIELD *1 *3	OFF	OFF ODD EVEN	Selects which field to be used twice to compose a frame. (Effective on composite signal inputs.)

* Settings can be set for FS1 and FS2, respectively.

*1 Selecting ODD/EVEN for FORCED FIELD, while IN SEL in section 5-6-1 “FS INPUT SELECT” is set to COMPOSITE, SYNCHRO to FRAME, and FRAME DELAY is set to OFF, FRAME DELAY will always reset to 1 frame. Set FRAME DELAY beween 1 and 8 frames.

*2 FRAME DELAY cannot be set if SYNCHRO is set to LINE or AVDL. In such case, the menu will be displayed as “FRAME FRAME DELAY: NOT ADJ”.

*3 FORCED FIELD cannot be set if SYNCHRO is set to LINE or AVDL. In such case, the menu will be displayed as “FORCED FIELD: NOT ADJ”.

*4 The FREEZE function via GPI input is disabled if SYNCHRO is set to LINE or AVDL. See section 7-6 “GPI SETTING” for details.

*5 Changing the SYNCHRO setting will reset V 1080 and V 720 settings in section 5-9-2 “HD PHASE SET” and the V PHASE setting in section 5-9-3 “SD PHASE SET” to their default values according to the set SYNCHRO mode.

*6 Switching input signals with a phase difference using a router or such device may cause shock noise to occur on video or audio signals if the phase difference (compared to the genlock signal) exceeds the range shown in the following table. If the difference is within range, shock noise will not occur.

Video format	Phase difference from genlock signal
SD	-1H (with line differences depending on video format) to +1/2H
HD	-5H (with line differences depending on video format) to +1/2H

Table of Reference signals and Input formats that can lock

	Reference signal							
Input signal	525/60	1080/59i	720/59p	625/50	1080/50i	720/50p	1080/23PsF	1080/24PsF
525/60	✓✓✓	✓✓✓	✓	-	-	-	✓	-
1080/59i	✓✓✓	✓✓✓	✓	-	-	-	✓	-
720/59p	✓✓✓	✓✓✓	✓✓✓	-	-	-	✓	-
1080/59p	✓✓✓	✓✓✓	✓✓✓	-	-	-	✓	-
625/50	-	-	-	✓✓✓	✓✓✓	✓	-	✓
1080/50i	-	-	-	✓✓✓	✓✓✓	✓	-	✓
720/50p	-	-	-	✓✓✓	✓✓✓	✓✓✓	-	✓
1080/50p	-	-	-	✓✓✓	✓✓✓	✓✓✓	-	✓
1080/23PsF	✓	✓	✓	-	-	-	✓✓✓	-
1080/24PsF	-	-	-	✓	✓	✓	-	✓✓✓

✓✓✓: SYNCHRO can be set to FRAME, LINE, or AVDL.
✓: SYNCHRO can only be set to FRAME.
-: Unable to synchronize.

5-9-2. HD PHASE SET

```
 HD PHASE SET          62
H 1080:        0CLK
V 1080:        0LINE
H 720 :        0CLK
V 720 :        0LINE
```

Menu button

VIDEO SYS
AUDIO SYS

FS1/LOCK

FS2/LOCK

Parameter	Default	Setting range(Steps)	Description
H 1080 *1 (Horizontal Phase)	0	-1375 - 1375 (CLK)	Adjusts the horizontal and vertical phases of the system referring to genlock signal. This setting is applied to 1080-format output signals.
V 1080 *1 (Vertical Phase)	0 *2 (FRAME) 1 *2 (LINE,AVDL)	-563 - 563 (LINE)	
H 720 *1 (Horizontal Phase)	0	-2063 - 2063 (CLK)	Adjusts the horizontal and vertical phases of the system referring to genlock signal. This setting is applied to 720-format output signals.
V 720 *1 (Vertical Phase)	0 *2 (FRAME) 1 *2 (LINE,AVDL)	-375 - 375 (LINE)	

*1 The settings are not available if there is no reference signal input. In such case, the menu as shown below will be displayed.

```
 HD PHASE SET          62
H 1080:NOT ADJUST
V 1080:NOT ADJUST
H 720 :NOT ADJUST
V 720 :NOT ADJUST
```

*2 The default value varies depending on the SYNCHRO setting in section 5-9-1 “FS MODE SET” and the setting in section 5-6-1 “FS INPUT SELECT” as shown in the below table. The set value will be reset to its relevant default value whenever the SYNCHRO setting is changed.

SYNCHRO	IN SEL	Default
FRAME	—	0
LINE	SDI1, 2	1
	COMPOSITE (525/60)	3
	COMPOSITE (625/50)	4
	COMPONENT (Y/C)	4
	COMPONENT (others)	1
AVDL	SDI1, 2	1
	COMPOSITE (525/60)	3
	COMPOSITE (625/50)	4
	COMPONENT (Y/C)	4
	COMPONENT (others)	1

5-9-3. SD PHASE SET

```
SD  PHASE  SET          63
H   PHASE:        0CLK
V   PHASE:        0LINE
```

Menu button

VIDEO SYS
AUDIO SYS

FS1/LOCK

FS2/LOCK

Parameter	Default	Setting range (Steps)	Description
H PHASE*1	0	-864 - 864 (CLK)	Adjusts the horizontal and vertical phases of the system referring to genlock signal. This setting is applied to SD output signals.
V PHASE *1	0 *2 (FRAME) 1 *2 (LINE, AVDL)	-313 - 313 (LINE)	

* Settings can be set for FS1 and FS2, respectively.

*1 The settings are not available if there is no reference signal input. In such case, the menu as shown below will be displayed.

```
SD  PHASE  SET          63
H   PHASE:NOT  ADJUST
V   PHASE:NOT  ADJUST
SC  PHASE:NOT  ADJUST
```

*2 The default value varies depending on the SYNCHRO setting in section 5-9-1 “FS MODE SET” and the IN SEL setting in section 5-6-1 “FS INPUT SELECT” as shown in the below table. The set value will be reset to its relevant default value whenever the SYNCHRO setting is changed.

SYNCHRO	IN SEL	Default
FRAME	—	0
LINE	SDI1, 2	1
	COMPOSITE (525/60)	3
	COMPOSITE (625/50)	4
	COMPONENT (Y/C)	4
	COMPONENT (others)	1
AVDL	SDI1, 2	1
	COMPOSITE (525/60)	3
	COMPOSITE (625/50)	4
	COMPONENT (Y/C)	4
	COMPONENT (others)	1

5-9-4. VIDEO POSITION

```
VIDEO POSITION          64
H POS:     0PIXEL
V POS:     0LINE
```

Menu button

VIDEO SYS / AUDIO SYS | FS1/LOCK | FS2/LOCK

Parameter	Default	Setting range (Steps)	Description
H POS	0	525/60 ±92 625/50 ±92 1080/59i ±240 1080/50i ±240 1080/23PsF ±240 1080/24PsF ±240 720/59p ±160 720/50p ±160 1080/59p ±240 1080/50p ±240 (PIXEL)	Adjusts the horizontal/vertical position of output videos.
V POS	0	525/60 ±30 625/50 ±36 1080/59i ±68 1080/50i ±68 1080/23PsF ±68 1080/24PsF ±68 720/59p ±90 720/50p ±90 1080/59p ±135 1080/50p ±135 (LINE)	

* Settings can be set for FS1 and FS2, respectively.

5-9-5. FREEZE SET

Allows you to set an operation mode for FREEZE.

```
FREEZE SET              65
FREEZE:OFF
MODE   :FRAME
STROBE : OFF
```

Menu button

VIDEO SYS / AUDIO SYS | FS1/LOCK | FS2/LOCK

Parameter	Default	Setting range	Description
FREEZE *1	OFF	OFF, ON	Turns FREEZE ON/OFF.
MODE *2	FRAME	FRAME ODD, EVEN	Selects an operation mode for FREEZE.
STROBE	OFF	OFF 1 - 255	Sets the interval to refresh the images by the number of fields for the field or frame freeze. OFF: Images are not refreshed.

* Settings can be set for FS1 and FS2, respectively.

*1 Changing the SYNCHRO setting in section 5-9-1 “FS MODE SET” while FREEZE is set to ON will turn FREEZE OFF. FREEZE cannot be set to ON if SYNCHRO is set to LINE. FREEZE is always set to OFF at startup. These settings are not stored in the event memory.

```
FREEZE SET              65
FREEZE:NOT ADJUST
MODE   :NOT ADJUST
STROBE:NOT ADJUST
FS MODE IS NOT FRAME
```

When FREEZE is ON: VIDEO SYS / AUDIO SYS button flashes.

*2 If the input signal is a PsF signal, MODE is automatically set to FRAME and the setting cannot be changed. See the following FREEZE MODE table for details.

FREEZE Mode Table

	Input signal									
SYNC FRMT setting	525/60	625/50	1080/59i	1080/50i	720/59p	720/50p	1080/23PsF	1080/24PsF	1080/59p	1080/50p
AUTO	OE	OE	OE	OE	F	F	F	F	F	F
525/60	OE	NOE	NOE	NOE	NOE	NOE	NOE	NOE	NOE	NOE
625/50	NOE	OE	NOE	NOE	NOE	NOE	NOE	NOE	NOE	NOE
1080/59i	NOE	NOE	OE	NOE	NOE	NOE	NOE	NOE	NOE	NOE
1080/50i	NOE	NOE	NOE	OE	NOE	NOE	NOE	NOE	NOE	NOE
720/59p	NF	NF	NF	NF	F	NF	NF	NF	NF	NF
720/50p	NF	NF	NF	NF	NF	F	NF	NF	NF	NF
1080/23PsF	NF	NF	NF	NF	NF	NF	F	NF	NF	NF
1080/24PsF	NF	NF	NF	NF	NF	NF	NF	F	NF	NF
1080/59p	NF	NF	NF	NF	NF	NF	NF	NF	F	NF
1080/50p	NF	NF	NF	NF	NF	NF	NF	NF	NF	F

OE: Can be set to FRAME, ODD, or EVEN.
F: Fixed to FRAME.
NOE: Can be set to FRAME, ODD, or EVEN, but the image does not appear properly.
NF: Fixed to FRAME, and the image does not appear properly.

See section 5-9-1 “FS MODE SET” for the SYNC FRMT.

5-9-6. ANC SET

```
 ANC SET                    66
ANC MODE:H/V ANC
H ANC:OVERWRITE
V ANC:BLANK
```

Menu button

VIDEO SYS
AUDIO SYS

FS1/LOCK

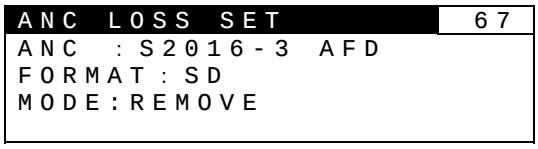
FS2/LOCK

Parameter	Default	Setting range	Description
ANC MODE	H/V ANC	H/V ANC DETAIL	Selects ancillary data processing mode for the FS1 or FS2 output signal. H ANC and V ANC menu settings will become available when H/V ANC is selected. **DETAIL**: Removes all H and V ancillary data, and embeds newly specified ancillary data (such as CC and AFD). Set to DETAIL to enable settings in 5-7-4. “ANC DATA EMBED” and 5-7-5. “ANC EMBED LINE”.
H ANC *	OVERWRITE	OVERWRITE IN DATA BLANK	Embeds audio signals into horizontal ancillary data of FS1 or FS2 output videos. **OVERWRITE**: Removes the embedded audio signal from the input SDI video signal, then embeds the processed audio data on the video signal. Whether to embed is determined by the AUDIO GROUP setting in section 5-10-10 “EMB 1 IN AUDIO”. The input SDI data will be embedded on the video signal after audio signals are embedded. **IN DATA**: Passes the input SDI horizontal ancillary data without processing. (Processed audio data cannot be embedded.) **BLANK**: Deletes all horizontal ancillary data, and embeds the processed audio data.
V ANC *	PASS	PASS BLANK	Embeds audio signals into vertical ancillary data of FS1 or FS2 output videos. **PASS**: Embeds the vertical ancillary data without processing. **BLANK**: Deletes all vertical ancillary data.

* Settings can be set for FS1 and FS2, respectively.
* H ANC and V ANC settings become available when ANC MODE is set to H/V ANC. H ANC and V ANC settings are effective if input and output formats are the same. If such formats are different, both H ANC and V ANC will be set to BLANK.

5-9-7. ANC LOSS SET

Allows you to select an operation mode when input AFD data is lost, or unsupported AFD code is input.



Menu button

VIDEO SYS
AUDIO SYS

FS1/LOCK

FS2/LOCK

Parameter	Default	Setting range	Description
ANC	S2016-3 AFD	S2016-3 AFD RP186 VI BT1119 WSS	Selects an ancillary data type to insert into the SDI signal.
FORMAT	SD	SD HD *1	Selects a video format compatible with the ancillary data selected under ANC. Only compatible Video formats will be displayed
MODE	REMOVE	If FORMAT is set to SD REMOVE *2 HOLD *2 4:3 L 16:9 T *2 4:3 L14:9 T *2 4:3 L>16:9 *2 4:3 F 4:3 *2 4:3 L16:9PRTD *2 4:3 L 14:9 *2 4:3 F ALT14:9 *2 4:3 L ALT14:9 4:3 L ALT 4:3 16:9 L>16:9 16:9 F FRM *2 16:9 P 4:3 16:9 F PRTD 16:9 P 14:9 16:9P ALT14:9 16:9F ALT14:9 16:9 F ALT4:3	MODE can be set for respective ANC and FORMAT selections. **REMOVE:** Does not embed the ancillary data to either FS1, or 2. **HOLD:** Retains the last ancillary data aspect ratio and outputs video signal in the aspect ratio. Other values operate according to the selected AFD as an input AFD. BT1119 WSS selected under ANC can only select AFD codes indicated by *2.
		If FORMAT is set to HD REMOVE HOLD 16:9 L>16:9 16:9 F 16:9 16:9 P 4:3 16:9 F PRTD 16:9 P 14:9 16:9P ALT14:9 16:9F ALT14:9 16:9F ALT4:3	

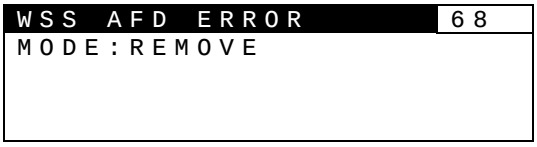
* Settings can be set for FS1 and FS2, respectively.

*1 HD is selectable only when ANC is set to S2016-3.

*2 BT1119 WSS selected under ANC can only select the AFD codes above indicated by *2

5-9-8. WSS AFD ERROR

Allows you to select the operation mode when the aspect ratio conversion result is not standarized by WSS, and embedding WSS AFD ancillary data to FS1 and/or 2 is enabled.



Menu button

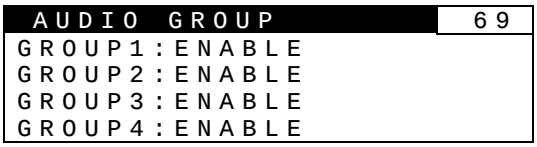
VIDEO SYS
AUDIO SYS | FS1/LOCK | FS2/LOCK

Parameter	Default	Setting range	Description
MODE	REMOVE	REMOVE F 4:3	**REMOVE:** Does not embed BT1119 WSS to FS1 and/or 2. **F 4:3:** Embeds BT1119 WSS F 4:3 (code 8) to FS1 and/or 2.

* Settings can be set for FS1 and FS2, respectively.

5-9-9. AUDIO GROUP

Allows you to set whether or not to embed audio signals as a group.



Menu button

VIDEO SYS
AUDIO SYS | FS1/LOCK | FS2/LOCK

Parameter	Default	Setting range	Description
GROUP1	ENABLE	DISABLE ENABLE *2	**DISABLE**: Does not insert the GROUP1 embedded audio. **ENABLE**: Inserts the GROUP1 embedded audio.
GROUP2	ENABLE	DISABLE ENABLE *2	**DISABLE**: Does not insert the GROUP2 embedded audio. **ENABLE**: Inserts the GROUP2 embedded audio.
GROUP3	ENABLE	DISABLE ENABLE *2	**DISABLE**: Does not insert the GROUP3 embedded audio. **ENABLE**: Inserts the GROUP3 embedded audio.
GROUP4*1	ENABLE	DISABLE ENABLE *2	**DISABLE**: Does not insert the GROUP4 embedded audio. **ENABLE**: Inserts the GROUP4 embedded audio.

* Settings can be set for FS1 and FS2, respectively.

*1 GROUP4 embedded audio cannot be inserted into SD-SDI output signals regardless of the GROUP4 setting.

*2 The setting is ineffective if the input and output formats are the same and H ANC is set to IN DATA in the 5-9-6 ANC SET menu.

5-9-10. TEST SIGNAL

Internal test signal settings.
Video and audio signal processing will stop and a test signal will be output from all output connectors.

```
 TEST SIGNAL                70
VIDEO:OFF
AUDIO:OFF
EXT AUDIO:OFF
```

Menu button

VIDEO SYS
AUDIO SYS

FS1/LOCK

FS2/LOCK

Parameter	Default	Setting range	Description
VIDEO	OFF	OFF FULL CB 75% CB SMPTE CB RAMP	Selects an internal video test signal.
AUDIO	OFF	OFF 1KHzTONE	Outputs an internal embedded audio test signal in FS1 or FS2, respectively.
EXT AUDIO	OFF	OFF 1KHzTONE	Outputs an audio test signal to AES and analog audio outputs.

* Settings can be set for FS1 and FS2, respectively.

If VIDEO, AUDIO and EXT AUDIO of the TEST SIGNAL menu are set to other than OFF:

VIDEO SYS
AUDIO SYS

button flashes.

5-9-11. BY-PASS SETTING

This setting is used to bypass through input signals.
Input signals will be output to output connectors without being internally processed.

```
BY-PASS SETTING            71
SDI1 IN-SDI1 OUT:OFF
SDI2 IN-SDI3 OUT:OFF
VBS IN -VBS OUT :OFF
```

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
SDI1 IN-SDI1 OUT	OFF	OFF ON	Setting to ON bypasses SDI1 input signals to SDI 1 output with a relay connection.
SDI2 IN-SDI3 OUT	OFF	OFF ON	Setting to ON bypasses SDI2 input signals to SDI 3 output with a relay connection.
VBS IN-VBS OUT	OFF	OFF ON	Setting to ON bypasses composite input signals to composite output with a relay connection.

If any by-pass setting is set to ON: VIDEO SYS AUDIO SYS button flashes.

◆ Conditions for by-passing SDI1 IN-SDI1 OUT circuit
The SDI1 IN to SDI1 OUT by-pass circuit is enabled, when the FS1 input signal is assigned to SDI1 and SDI 1/2 output is set to FS1, or, when the FS2 input signal is assigned to SDI1 and the SDI 1/2 output is set to FS2. If the BY-PASS setting cannot be turned ON, an “SDI1 BYPASS DISABLED” message will be displayed.

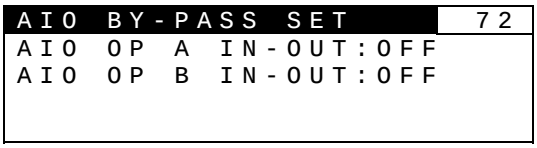
◆ Conditions for by-passing SDI2 IN-SDI3 OUT circuit
The SDI2 IN to SDI3 OUT by-pass circuit is enabled, when FS1 input signal is assigned to SDI2 and SDI 3/4 output is set to FS1, or, when FS2 input signal is assigned to SDI2 and SDI 3/4 output is set to FS2. If the BY-PASS setting cannot be turned ON, an “SDI2 BYPASS DISABLED” message will be displayed.

◆ Conditions for by-passing VBS IN-VBS OUT circuit
The VBS IN to VBS OUT by-pass circuit is enabled, when FS1 input signal is assigned to COMPOSITE and COMPOSITE output is set to FS1, or, when FS2 input signal is assigned to COMPOSITE and COMPOSITE output is set to FS2. If the BY-PASS setting cannot be turned ON, a “VBS BYPASS DISABLED” message will be displayed.

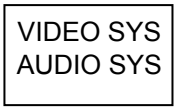
See section 5-6-1 “FS INPUT SELECT” for details on FS1 and FS2 input signal assignments, and 5-7-1 “OUTPUT ASSIGN” for details on output signal assignments.

5-9-12. AIO BY-PASS SET

This setting is used to bypass through FA-95AIO input signals.
Input signals will be output to output connectors without being internally processed.



Menu button



Parameter	Default	Setting range	Description
AIO OP A IN-OUT *1	OFF	OFF ON	Setting to ON bypasses the input signal in the FA-95AIO in option slot A to its output connector with a relay connection.
AIO OP B IN-OUT *2	OFF	OFF ON	Setting to ON bypasses the input signal in the FA-95AIO in option slot B to its output connector with a relay connection.

*1 Available only if the FA-95AIO is installed in option slot A.
*2 Available only if the FA-95AIO is installed in option slot B.
The AIO BY-PASS SET menu does not appear, if no FA-95AIO is installed in either option slot A or B.

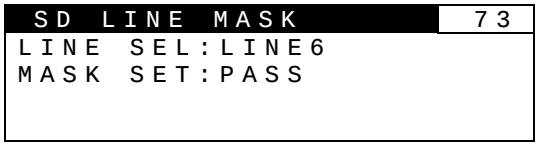
If any by-pass setting is set to ON: 

button flashes.

◆ Conditions for by-passing AIO OP A IN-OUT circuit
The AIO OPT A IN-OUT by-pass circuit is enabled when the FS1 input signal is assigned to OPTION A and AIO A ASSIGN output is set to FS1, or when the FS2 input signal is assigned to OPTION A and the AIO A ASSIGN output is set to FS2. If AIO BY-PASS SET cannot be set to ON, an “AIO OP A DISABLED” message will be displayed.

◆ Conditions for by-passing AIO OP B IN-OUT circuit
The AIO OPT B IN-OUT by-pass circuit is enabled when the FS1 input signal is assigned to OPTION B and AIO B ASSIGN output is set to FS1, or when the FS2 input signal is assigned to OPTION B and the AIO B ASSIGN output is set to FS2. If AIO BY-PASS SET cannot be set to ON, an “AIO OP B DISABLED” message will be displayed.

5-9-13. SD LINE MASK



Menu button

VIDEO SYS
AUDIO SYS

FS1/LOCK

FS2/LOCK

Parameter	Default	Setting range	Description
LINE SEL	LINE6	LINE6 - 23	Selects a line from lines 6 through 23 of an SD-SDI or COMPOSITE output signal.
MASK SET	PASS	PASS BLANK	Sets the line selected in LINE SEL to PASS or BLANK. **PASS:** Outputs a line of the composite, Y/C *1, SD-SDI input signal that is the same number as the selected output signal line to a composite, Y/C *1, SD-SDI output signal without processing. **BLANK:** Masks the selected composite, Y/C *1, SD-SDI output signal line.

* Settings can be set for FS1 and FS2, respectively.

*1 Selectable only if FA-95AIO option is installed.

IMPORTANT

Ancillary data insersion line settings specified under the ANC DATA EMBED (sec. 5-7-4) and ANC EMBED LINE (sec. 5-7-5) menus take priority over the line settings specified under the SDI LINE MASK menu and take effect.

5-9-14. COMPOSITE SET1

```
COMPOSITE SET1      74
SC PHASE:   0.0°
COMB FILTER:3D
NR LEVEL    :OFF
CROSS COLOR:OFF
```

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
SC PHASE *1	0.0°	-179.8° - 180°	Adjusts the subcarrier phase of comosite and Y/C output signals referring to the B.B. genlock signal. Not adjustable with the tri-level genlock signal. In such case, the menu will appear as “NOT ADJUST”.
COMB FILTER	2D	3D 2D TRAP	Selects a mode to separate the Y (luminance) and C (chrominance) of composite signals.
NR LEVEL	OFF	OFF LEVEL1 - 4	Sets the noise reduction level for the composite signal inputs.
CROSS COLOR	OFF	OFF LEVEL1 - 3	Sets the cross color (noise) reduction level.

*1 The setting is effective on Y/C and composite outputs on the FA-95AIO option installed in option slot A and/or B.

5-9-15. COMPOSITE SET2

```
COMPOSITE SET2      75
VITS     :OFF
NTSC SETUP:OFF
PAL-M MODE:DISABLE
```

Menu button

VIDEO SYS
AUDIO SYS

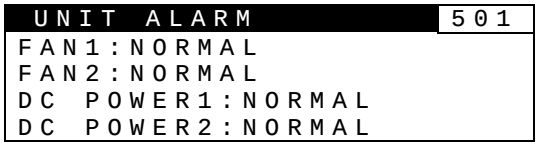
Parameter	Default	Setting range	Description
VITS	OFF	OFF ON	**ON**: Passes through VITS (V-ANC) lines 10 to 21 (NTSC), or 6 to 23 (PAL) of composite input signals. For SD-SDI output signals, inserts VITS lines into Y signals.
NTSC SETUP	OFF	OFF ON	Set to **OFF** for signals without 7.5 IRE setup. Set to **ON** for signals with 7.5 IRE setup.
PAL-M MODE	DISABLE	DISABLE ENABLE	**DISABLE**: Allows NTSC signals to be output. **ENABLE**: Allows PAL-M signals to be output. *2

*1 The setting is effective on Y/C and composite I/O on the FA-95AIO option installed in option slot A and/or B.

*2 This setting enables PAL-M output for COMPOSITE OUT and Y/C *1 outputs, however, NTSC signal output will be disabled.
To synchronize the PAL-M output, input a PAL-M BB or 59.94/29.97 Hz tri-level sync signal to the GENLOCK IN connector. (NTSC BB signals cannot synchronize PAL-M output signals.)
PAL signals can always be input and output regardless of this setting.

5-10. Various Signal Status Display (STATUS)

5-10-1. UNIT ALARM



Menu button

STATUS
OTHER

Parameter	Display	Description
FAN1	NORMAL STOPPED	Displays the status of FAN1. **NORMAL**: Operating normally. **STOPPED**: FAN1 has stopped. Turn the unit power OFF, and contact your dealer if the replacement is needed.
FAN2	NORMAL STOPPED	Displays the status of FAN2. **NORMAL**: Operating normally. **STOPPED**: FAN2 has stopped. Turn the unit power OFF, and contact your dealer if the replacement is needed.
DC POWER1 *1	NORMAL ABNORMAL	Displays the status of DC POWER1. **NORMAL**: The power supply is normal. **ABNORMAL**: DC POWER1 has failed. A power failure has occurred. Although the unit is working properly, It is recommended that the power supply unit be replaced. Contact your dealer if a replacement is necessary.
DC POWER2 *1	NORMAL ABNORMAL	Displays the status of DC POWER2. **NORMAL**: The power supply is normal. **ABNORMAL**: DC POWER2 has failed. A power failure has occurred. Although the unit is working properly, It is recommended that the power supply unit be replaced. Contact your dealer if a replacement is necessary.

*1 Displayed only if FA-95PS is installed.

5-10-2. VIDEO IN STATUS

```
VIDEO IN STATUS      502
FS1(SDI1) : 1080/59i
FS1(SDI2) : 525/60
COMPOSITE:525/60
REFERENCE:525/60
```

Menu button

STATUS
OTHER

Parameter	Display	Description
FS1(SDI1)	LOSS 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF 1080/59p 1080/50p BY-PASS UNKNOWN	Displays the video format of the SDI1 input signal. Displays "**LOSS**" if there is no input signal. Displays "**UNKNOWN**" if there is an unsupported input signal. Displays video format, LOSS, or UNKNOWN only if FS1 IN SEL or FS2 IN SEL is set to SDI1 in the FS INPUT SELECT menu (section 5-6-1). Otherwise, "**-----**" is displayed.
FS2(SDI2)	LOSS 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF 1080/59p 1080/50p BY-PASS UNKNOWN -----	Displays the video format of the SDI2 input signal. Displays "**LOSS**" if there is no input signal. Displays "**UNKNOWN**" if there is an unsupported input signal. Displays video format, LOSS, or UNKNOWN only if FS1 IN SEL or FS2 IN SEL is set to SDI2 in the FS INPUT SELECT menu (section 5-6-1). Otherwise, "**-----**" is displayed.
COMPOSITE	LOSS 525/60 625/50 BY-PASS	Displays the video format of the COMPOSITE input signal. Displays "**LOSS**" if there is no input signal.
REFERENCE	LOSS 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF PAL-M *1 UNKNOWN	Displays the video format of the genlock input signal. Displays "**LOSS**" if there is no input signal. Displays "**UNKNOWN**" if there is an unsupported input signal.

*1 Shown when PAL-M Mode in the 5-9-15 "COMPOSITE SET2" is set to ENABLE, and an input signal in GENLOCK IN connector is 525/60 or PAL-M signal.

5-10-3. VIDEO OPTION INPUT

This menu is accessible only if the FA-95AIO option is installed in slot A or B.

```
 VIDEO OPTION INPUT 503
OP A   :525/60
MODE A:YPbPr SMPTE
OP B   :525/60
MODE B:YPbPr SMPTE
```

Menu button

STATUS
OTHER

Parameter	Display	Description
OP A	LOSS 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF BY-PASS UNKNOWN	Displays the input video format of the FA-95AIO installed in slot A. Displays “**LOSS**” if there is no input signal. Displays “**UNKNOWN**” if there is an unsupported input signal.
MODE A	YPbPr SMPTE YPbPr BETACAM RGB Y/C -----	Displays the input signal format of the FA-95AIO installed in slot A.
OP B	Same as OP A	Displays the input video format of the FA-95AIO installed in slot B. Displays “**LOSS**” if there is no input signal. Displays “**UNKNOWN**” if there is an unsupported input signal.
MODE B	Same as MODE A	Displays the input signal format of the FA-95AIO installed in slot B.

5-10-4. VIDEO OUT STATUS

Displays the status of output video signals.

```
VIDEO OUT STATUS  511
SDI1/2 : 1080/59i
SDI3/4 : 1080/59i
COMPOSITE:525/60
```

Menu button

STATUS
OTHER

Parameter	Display	Description
SDI1/2	525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF 1080/59p 1080/50p BY-PASS DISABLE	Displays the video format of the SDI1/2 output signals. Displays “**DISABLE**” if there is no signal output.
SDI3/4	Same as above	Displays the video format of the SDI3/4 output signals. Displays “**DISABLE**” if there is no signal output.
COMPOSITE	525/60 625/50 BY-PASS DISABLE PAL-M	Displays the video format of the COMPOSITE output signal. Displays “**DISABLE**” if there is no signal output. Displays “**PAL-M**” if 5-9-15 “COMPOSITE SET2” is enabled, and the format of the output video signal from COMPOSITE OUT is 525/60.

5-10-5. VIDEO OPTION OUTPUT

This menu is accessible only if the FA-95AIO option is installed in slot A or B.

```
VIDEO OP OUTNPUT  512
OP A   :525/60
MODE A:YPbPr SMPTE
OP B   :525/60
MODE B:YPbPr SMPTE
```

Menu button

STATUS
OTHER

Parameter	Display	Description
OP A	525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF BY-PASS DISABLE	Displays the output video format of the FA-95AIO installed in slot A. Displays “**DISABLE**” if there is no signal output.
MODE A	YPbPr SMPTE YPbPr BETACAM RGB Y/C *1	Displays the output signal format of the FA-95AIO installed in slot A. See section 5-7-2 “AIO A ASSIGN” for details on signal format settings.
OP B	Same as OP A	Displays the output video format of the FA-95AIO installed in slot B. Displays “**DISABLE**” if there is no signal output.
MODE B	Same as MODE A	Displays the output signal format of the FA-95AIO installed in slot B. See section 5-7-2 “AIO A ASSIGN” for details on signal format settings.

*1 The output video format for Y/C mode is either 525/60,625/50, or PAL-M.

5-10-6. AUDIO IN DETECT1

```
AUDIO IN DETECT1   541
EMB1(SDI IN1) CH1-16
PPPP NNNN SSSS ----
EMB2(SDI IN2) CH1-16
PPPP NNNN SSSS ----
```

Menu button

STATUS
OTHER

Parameter	Display	Description
EMB1(SDI IN1) CH1-16 *1	P S N - *	Displays information on EMB1 audio input signals CH1 through 16 in 16 characters on the 2nd line from top. **P (PCM)**: Normal audio signal **S (Silence)**: Mute signal **N (NON-PCM)**: Compressed audio data such as AC3 **-:** No audio signal ***:** Detection is disabled due to the input setting. *2
EMB2(SDI IN2) CH1-16 *1	P S N - *	Displays information on EMB2 audio input signals CH1 through 16 in 16 characters on the 4th line from top. **P (PCM)**: Normal audio signal **S (Silence)**: Mute signal **N (NON-PCM)**: Compressed audio data such as AC3 **-:** No audio signal ***:** Detection is disabled due to the input setting. *2

*1 (SDI IN1) and (SDI IN2) indicate the detected SDI signal. If it is displayed as (***), SDI embedded audio signal detection is disabled due to the FS input video signal setting.

*2 Displayed when SDI embedded audio signal detection is disabled due to the FS input video signal setting. See section 5-6-1. “FS INPUT SELECT” for details on FS input video signal settings.

5-10-7. AUDIO IN DETECT2

```
AUDIO IN DETECT2   542
AES   CH1-8
PPSS  NN--
ANALOG  CH1-4
PP--
```

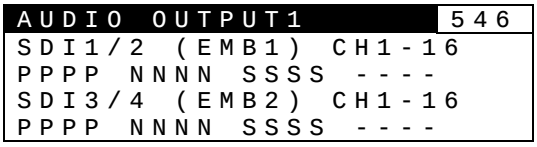
Menu button

STATUS
OTHER

Parameter	Display	Description
AES CH1-8	P S N O -	Displays information on AES input audio signals CH1 through 8 in 8 characters on the 2nd line from top. **P (PCM)**: Normal audio signal **S (Silence)**: Mute signal **N (NON-PCM)**: Compressed audio data such as AC3 **O (Output)**: AES connector is set to for output use. *1 **-:** No audio signal
ANALOG CH1-4	P -	Displays information on ANALOG input audio signals CH1 through 4 in 4 characters on the 4th line from top. **P (Present)**: An audio signal is present **-:** No audio signal

*1 See section 6-2-4. “AES I/O SETUP” for details on AES connector I/O settings.

5-10-8. AUDIO OUTPUT1



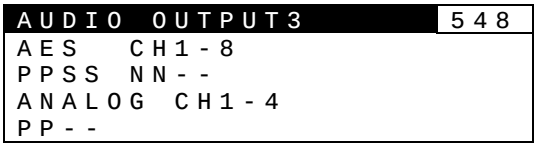
Menu button

STATUS
OTHER

Parameter	Display	Description
SDI 1/2 (EMB1) CH1-16	P S N - B	Displays information on SDI 1/2 output audio signals CH1 through 16 in 16 characters on the 2nd line from top. **P (PCM)**: Normal audio signal **S (Silence)**: Mute signal **N (NON-PCM)**: Compressed audio data such as AC3 **-:** No embedded audio **B (BY-PASS)**: Video signal is bypassed and output. *1
SDI 3/4 (EMB2) CH1-16	P S N - B	Displays information on SDI 3/4 output audio signals CH1 through 16 in 16 characters on the 4th line from top. **P (PCM)**: Normal audio signal **S (Silence)**: Mute signal **N (NON-PCM)**: Compressed audio data such as AC3 **-:** No embedded audio **B (BY-PASS)**: Video signal is bypassed and output. *1

*1 See section 5-3-1. “CONV MODE” for details on SDI output signal by-pass settings.

5-10-9. AUDIO OUTPUT3



Menu button

STATUS
OTHER

Parameter	Display	Description
AES CH1-8	P S N I	Displays information on AES output audio signals CH1 through 8 in 8 characters on the 2nd line from top. **P (PCM)**: Normal audio signal **S (Silence)**: Mute signal **N (NON-PCM)**: Compressed audio data such as AC3 **I (Input:** AES connector is set for input use. *1
ANALOG CH1-4	P -	Displays information on ANALOG output audio signals CH1 through 4 in 4 characters on the 4th line from top. **P (Present)**: An audio signal is present **-:** No embedded audio **S (Silence)**: Mute signal

*1 See section 6-2-4. “AES I/O SETUP” for details on DIGITAL AUDIO connector I/O settings.

5-10-10. EMB 1 IN AUDIO

```
 EMB1 IN AUDIO        551
CH  1:LOSS
CH  2:LOSS
CH  3:LOSS
CH  4:LOSS
```

Menu button

STATUS
OTHER

```
 EMB1 IN AUDIO        552
CH  5:LOSS
CH  6:LOSS
CH  7:LOSS
CH  8:LOSS
```

```
 EMB1 IN AUDIO        553
CH  9:LOSS
CH10:LOSS
CH11:LOSS
CH12:LOSS
```

```
 EMB1 IN AUDIO        554
CH13:LOSS
CH14:LOSS
CH15:LOSS
CH16:LOSS
```

Parameter	Display	Description
CH1-CH16	LOSS PCM SILENCE NON-PCM PCM(Async) SILENCE (Async) NON-PCM(Async) UNKNOWN	Displays the status of audio signals CH1 through CH16 embedded to the FS1 video signal. **LOSS:** No audio signals **PCM:** Normal audio signal (SDI input) **SILENCE:** Mute signal (SDI input) **NON-PCM:** Compressed audio data such as AC3 **PCM (Async) :** Normal audio signal (Asynchronous SDI input) **SILENCE (Async):** Mute signal (Asynchronous SDI input) **NON-PCM (Async):** Compressed audio data such as AC3 (Asynchronous SDI input) **UNKNOWN:** Unidentifiable

.

5-10-11. EMB 2 IN AUDIO

```
 EMB2 IN AUDIO        555
CH  1:LOSS
CH  2:LOSS
CH  3:LOSS
CH  4:LOSS
```

```
 EMB2 IN AUDIO        556
CH  5:LOSS
CH  6:LOSS
CH  7:LOSS
CH  8:LOSS
```

```
 EMB2 IN AUDIO        557
CH  9:LOSS
CH10:LOSS
CH11:LOSS
CH12:LOSS
```

```
 EMB2 IN AUDIO        558
CH13:LOSS
CH14:LOSS
CH15:LOSS
CH16:LOSS
```

Menu button

STATUS
OTHER

Parameter	Display	Description
CH1-CH16	LOSS PCM SILENCE NON-PCM PCM(Async) SILENCE (Async) NON-PCM(Async) UNKNOWN	Displays the status of audio signals CH1 through CH16 embedded to the FS2 video signal. **LOSS:** No audio signals **PCM:** Normal audio signal (SDI input) **SILENCE:** Mute signal (SDI input) **NON-PCM:** Compressed audio data such as AC3 **PCM (Async) :** Normal audio signal (Asynchronous SDI input) **SILENCE (Async):** Mute signal (Asynchronous SDI input) **NON-PCM (Async):** Compressed audio data such as AC3 (Asynchronous SDI input) **UNKNOWN:** Unidentifiable

.

5-10-12. AES IN AUDIO

```
AES IN AUDIO          559
CH 1:LOSS
CH 2:LOSS
CH 3:LOSS
CH 4:LOSS
```

```
AES IN AUDIO          560
CH 5:LOSS
CH 6:LOSS
CH 7:LOSS
CH 8:LOSS
```

Menu button

STATUS
OTHER

Parameter	Display	Description
CH1 - CH8	LOSS PCM 48kHz PCM 44.1kHz PCM 32kHz PCM Other SILENCE 48kHz SILENCE 44.1kHz SILENCE 32kHz SILENCE Other NON-PCM OUTPUT SETTING	Displays the status of the audio signal input to the DIGITAL AUDIO IO connectors. **LOSS:** No audio signals **PCM 48kHz:** Normal audio signal (approx. 48kHz) **PCM 44.1kHz:** Normal audio signal (approx. 44.1kHz) **PCM 32kHz:** Normal audio signal (approx. 32kHz) **PCM Other:** Normal audio signal (Non AES input) **SILENCE 48kHz:** Mute signal (approx. 48kHz) **SILENCE 44.1kHz:** Mute signal (approx. 44.1kHz) **SILENCE 32kHz:** Mute signal (approx. 32kHz) **SILENCE Other:** Mute signal (Non AES input) **NON-PCM:** Compressed audio data such as AC3 **OUTPUT SETTING:** Connector is set to output

5-10-13. ANALOG IN AUDIO

```
ANALOG IN AUDIO       561
CH 1:LOSS
CH 2:LOSS
CH 3:LOSS
CH 4:LOSS
```

Menu button

STATUS
OTHER

Parameter	Display	Description
CH1 - CH4	LOSS IN	Displays the status of the input audio signal in the ANALOG AUDIO connector. **LOSS:** No audio signal is present. **IN:** An audio signal is present.

5-10-14. SDI 1/2 OUT AUDIO

```
SDI1/2 OUT AUDIO   571
CH 1:PCM
CH 2:PCM
CH 3:PCM
CH 4:PCM
```

```
SDI1/2 OUT AUDIO   572
CH 5:PCM
CH 6:PCM
CH 7:PCM
CH 8:PCM
```

```
SDI1/2 OUT AUDIO   573
CH 9:PCM
CH10:PCM
CH11:PCM
CH12:PCM
```

```
SDI1/2 OUT AUDIO   574
CH13:PCM
CH14:PCM
CH15:PCM
CH16:PCM
```

Menu button

STATUS
OTHER

Parameter	Display	Description
CH1 - CH16	PCM SILENCE NON-PCM UNKNOWN BLANK BY-PASS	Displays the status of audio signal channels CH1 through CH16 of the SDI 1/2 output. **PCM:** Normal audio signal **SILENCE:** Mute signal **NON-PCM:** Compressed audio data such as AC3 **UNKNOWN:** Unidentifiable **BLANK:** No audio signal embedding **BY-PASS:** By-passed through

5-10-15. SDI 3/4 OUT AUDIO

```
SDI3/4 OUT AUDIO   575
CH 1:PCM
CH 2:PCM
CH 3:PCM
CH 4:PCM
```

```
SDI3/4 OUT AUDIO   576
CH 5:PCM
CH 6:PCM
CH 7:PCM
CH 8:PCM
```

```
SDI3/4 OUT AUDIO   577
CH 9:PCM
CH10:PCM
CH11:PCM
CH12:PCM
```

```
SDI3/4 OUT AUDIO   578
CH13:PCM
CH14:PCM
CH15:PCM
CH16:PCM
```

Menu button

STATUS
OTHER

Parameter	Display	Description
CH1 - CH16	PCM SILENCE NON-PCM UNKNOWN BLANK BY-PASS	Displays the status of audio signal channels CH1 through CH16 of the SDI 3/4 output. **PCM:** Normal audio signal **SILENCE:** Mute signal **NON-PCM:** Compressed audio data such as AC3 **UNKNOWN:** Unidentifiable **BLANK:** No audio signal embedding **BY-PASS:** By-passed through

5-10-16. AES OUT AUDIO

```
AES OUT AUDIO      587
CH 1:PCM
CH 2:PCM
CH 3:PCM
CH 4:PCM
```

```
AES OUT AUDIO      588
CH 5:PCM
CH 6:PCM
CH 7:PCM
CH 8:PCM
```

Menu button

STATUS
OTHER

Parameter	Display	Description
CH1 - CH8	PCM SILENCE NON-PCM UNKNOWN INPUT SETTING	Displays the status of the audio signal output from the DIGITAL AUDIO IO connectors. **PCM:** Normal audio signal **SILENCE:** Mute signal **NON-PCM:** Compressed audio data such as AC3 **UNKNOWN:** Unidentifiable **INPUT SETTING:** Connector is set to input

5-10-17. ANALOG OUT AUDIO

```
ANALOG OUT AUDIO  589
CH 1:SILENCE
CH 2:SILENCE
CH 3:SILENCE
CH 4:SILENCE
```

Menu button

STATUS
OTHER

Parameter	Display	Description
CH1 - CH4	SILENCE OUT	Displays the status of the output audio signal from the ANALOG AUDIO connector. **SILENCE:** Mute signal **OUT:** Output signal is present

5-10-18. Dolby OPA AUX

* This menu is displayed only if FA-95D-D option is installed in option slot A.

```
DolBy OPA AUX  591
INPUT A:LOSS
OUTPUT A:NONE
REFERENCE A:LOSS
```

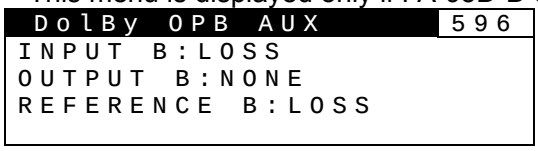
Menu button

STATUS
OTHER

Parameter	Display	Description
INPUT A	LOSS PCM NON-PCM UNKNOWN	Displays status or type of signal input to the optional Dolby input connector (Dolby IN) in slot A. **LOSS:** No audio signal **PCM:** Standard audio signal **NON-PCM:** Compressed audio data such as Dolby E encoded data **UNKNOWN:** Unknown signal.
OUTPUT A	PCM NON-PCM NONE	Displays status or type of signal output to the optional Dolby output connectors (Dolby OUT) in slot A. **PCM:** Standard audio signal **NON-PCM:** Compressed audio data such as Dolby E encoded data **NONE:** No signal
REFERENCE A	LOSS 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF UNKNOWN	Displays signal format of reference signal input to the optional Dolby REF IN connector in slot A. **LOSS:** No signal **UNKNOWN:** Unknown signal format

5-10-19. Dolby OPB AUX

* This menu is displayed only if FA-95D-D option is installed in option slot B.



Menu button

STATUS
OTHER

Parameter	Display	Description
INPUT B	LOSS PCM NON-PCM UNKNOWN	Displays status or type of signal input to the optional Dolby input connector (Dolby IN) in slot B. **LOSS:** No audio signal **PCM:** Standard audio signal **NON-PCM:** Compressed audio data such as Dolby E encoded data **UNKNOWN:** Unknown signal.
OUTPUT B	PCM NON-PCM NONE	Displays status or type of signal output to the optional Dolby output connectors (Dolby OUT) in slot B. **PCM:** Standard audio signal **NON-PCM:** Compressed audio data such as Dolby E encoded data **NONE:** No signal
REFERENCE B	LOSS 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF UNKNOWN	Displays signal format of reference signal input to the optional Dolby REF IN connector in slot B. **LOSS:** No signal **UNKNOWN:** Unknown signal format

5-10-20. AFD IN STATUS

Displays the state of FS1/FS2 AFD detection.

◆ When detecting AFD in input S2016-3

```
 AFD1 IN STATUS          601
DETECT:S2016-3
AFD:02  AR:0
4:3  L  16:9  T
D:10000000  00000000
```

Menu button

STATUS OTHER	FS1/LOCK	FS2/LOCK

AFD: Active Format Description is displayed in hexadecimal format.
AR: Aspect Ratio is displayed in binary format (0=4:3, 1=16:9)
The detected AFD type is shown on the third row.
D: Detected Data1-8 are displayed in hexadecimal format.

◆ When detecting AFD in input RP186 VI

```
 AFD1 IN STATUS          601
DETECT : RP186  VI
AFD : 02   SS : 00
4:3  L  16:9  T
D1 : 10  D2 : 00  D3 : 00
```

Displays the status of RP186 VI (Video Index) Class1.
AFD: Active Format Description is displayed in hexadecimal format.
SS: Scanning System is displayed in hexadecimal format.
The detected AFD type is shown on the third row.
D1-D3: Detected Data are displayed in hexadecimal format.

◆ When detecting AFD in input BT1119-2 WSS

```
 AFD1 IN STATUS          601
DETECT : BT1119  WSS
AFD:01
BOX  14:9  CENTER
BIT13-0:0000
```

Displays the status of BT1119-2 WSS (Wide Screen Signalling).
AFD: Active Format Description is displayed in hexadecimal format.
The detected AFD type is shown on the third row.
BIT13-0: Detected Bits 13 – 0 are displayed in hexadecimal format.

☞ See section 20-6“AFD Code Abbreviations” for details on AFD types.

5-10-21. ANC1 IN STATUS

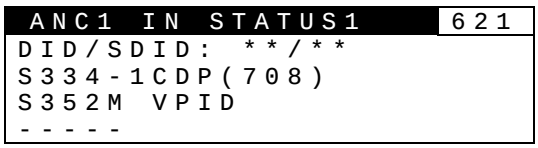
```
 ANC1 IN STATUS          611
CEA608:PRESENT      L:  21
WSS:ABSENT
VI:PRESENT        L:14/277
```

Menu button

STATUS OTHER

Displays the state of CEA608, WSS, and VI ancillary data in the FS1/FS2 input signal luminance component.
The line number in which the ancillary data is in is displayed.

5-10-22. ANC1 IN STATUS 1-2



Menu button

STATUS OTHER	FS1/LOCK	FS2/LOCK

Displays the status of ancillary data packets in an FS1/FS2 input SDI signals.
Displays the detected DID and SDID of the ancillary data in hexadecimal format, such as DID/SDID: 15/30, if they are different from that of supported formats.
Displays the ancillary data name, such as S334-1CDP(708), if the DID and SDID of the ancillary data match that of supported formats.
See section 19. “FA-9520 Ancillary Data Packet Name List” for details on ancillary data names, and DID and SDID of formats.
The status of up to 8 ancillary data can be displayed.

5-10-23. ANC OUT

Menu button

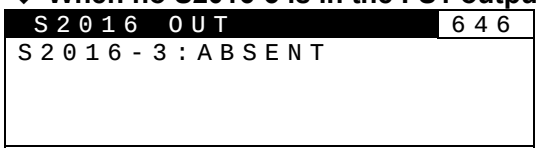
STATUS OTHER	FS1/LOCK	FS2/LOCK

Displays the status of CEA608, WSS, and VI ancillary data inserted into luminance signal of FS1/FS2 output.
The line number in which the ancillary data is in is displayed.
Displays PRESENT if ancillary data is inserted. Displays ABSENT if no anceillary data is inserted. If ANC MODE is set to H/V ANC, the state of the V ANC setting (PASS or BLANK) will be displayed. In such case, no line number will be displayed. (See section 5-9-6 ANC SET for details on ANC MODE and V ANC setting.)

5-10-24. S2016 OUT

Displays whether the S2016-3 ancillary data is inserted into FS1/FS2 output video signals.

◆ **When no S2016-3 is in the FS1 output video signal**

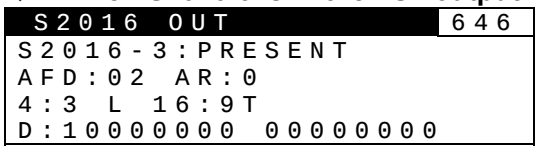


Menu button

STATUS OTHER	FS1/LOCK	FS2/LOCK

If ANC MODE in 5-9-6 ANC SET is set to H/V ANC, the state of the V ANC setting (PASS or BLANK) is displayed.

◆ **When S2016-3 is in the FS1 output video signal**



AFD: Active Format Description is displayed in hexadecimal format.
AR: Aspect Ratio is displayed in binary format (0=4:3, 1=16:9)
The detected AFD type is shown on the third row.
D: Detected Data1-8 are displayed in hexadecimal format.

☞ See section 20-6“AFD Code Abbreviations” for details on AFD types.

5-10-25. VI OUT

Displays whether the RP186 VI ancillary data is inserted into FS1/FS2 output video signals.

◆ When no RP186 VI is in the output video signal

```
 VI  OUT                    647
RP186  VI:ABSENT
```

Menu button

STATUS OTHER	FS1/LOCK	FS2/LOCK

If ANC MODE in 5-9-6 ANC SET is set to H/V ANC, the state of the V ANC setting (PASS or BLANK) is displayed.

◆ When RP186 VI is in the output video signal

```
 VI  OUT                    647
RP186  VI:PRESENT
AFD:02   SS:02
BOX  16:9  TOP
D1:12  D2:02  D3:02
```

Menu button

STATUS OTHER	FS1/LOCK	FS2/LOCK

Displays the status of RP186 VI (Video Index) Class1.
AFD: Active Format Description is displayed in hexadecimal format.
SS: Scanning System is displayed in hexadecimal format.
The detected AFD type is shown on the third row.
D1-D3: Detected Data are displayed in hexadecimal format.

☞ See section 20-6 “AFD Code Abbreviations” for details on AFD types.

5-10-26. WSS OUT

◆ When no BT1119-2 WSS is in the FS1/FS2 output video signals

```
 WSS  OUT                   648
BT1119  WSS:ABSENT
```

Menu button

STATUS OTHER	FS1/LOCK	FS2/LOCK

If ANC MODE in 5-9-6 ANC SET is set to H/V ANC, the state of the V ANC setting (PASS or BLANK) is displayed.

◆ When BT1119-2 WSS is in the FS1/FS2 output video signals

```
 WSS  OUT                   648
BT1119  WSS : PRESENT
AFD:04
BOX  16:9  TOP
BIT13-0:0004
```

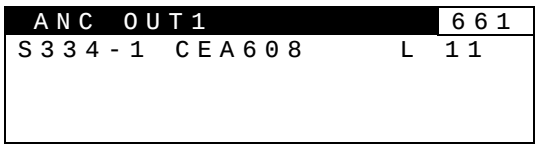
Menu button

STATUS OTHER	FS1/LOCK	FS2/LOCK

Displays the status of BT1119-2 WSS.
AFD: Active Format Description is displayed in hexadecimal format.
SS: Scanning System is displayed in hexadecimal format.
The detected AFD type is shown on the third row.
D1-D3: Detected Data are displayed in hexadecimal format.

☞ See section 20-6“AFD Code Abbreviations” for details on AFD types.

5-10-27. ANC OUT1



Menu button

STATUS OTHER	FS1/LOCK	FS2/LOCK

L indicates the line number into which ancillary data is inserted.
Displays the ancillary data packet name and line number for the inserted ancillary data in the FS1/FS2 output signals. The status of up to 4 ancillary data can be displayed.
See section 19. “FA-9520 Ancillary Data Packet Name List” for details on ancillary data names.

6. AUDIO Settings

Make the menu buttons light up orange using the VIDEO/AUDIO button.
(Pressing the button while the buttons are lit green turns the lights orange.)
Afterwards, the audio menus displayed on the lower row on each menu button can be selected.

Menu button

VIDEO
AUDIO

6-1. SDI AUDIO Settings (SDI AUDIO)

Allows you to set FS1/FS2 embedded audio signal settings.

6-1-1. EMB1 IN GAIN

```
  EMB1 IN GAIN        101
CH SEL   :CH1
GAIN SET:  0.0dB
MASTER   :  0.0dB
```

Menu button

PROCESS
SDI AUDIO

Parameter	Default	Setting range (Steps)	Description
CH SEL	CH1	CH1 - CH16	Selects an FS1 embedded audio channel for which to adjust the gain.
GAIN SET	0.0 dB	-20.0 - +20.0 dB (0.1 dB) *1	Sets the input gain for the SDI embedded audio channel that is selected under CH SEL.
MASTER	0.0 dB	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to the input gain for all channels CH1 to CH16 of SDI-embedded audio.

*1 The total value of GAIN SET and MASTER should not exceed the setting range. If the range is exceeded, the alert will be displayed as *20.0 dB or *-20.0 dB.

6-1-2. EMB1 OUT MONO

```
  EMB1 OUT MONO       102
CH SEL   :CH1/2
MONO SUM:DISABLE
```

Menu button

PROCESS
SDI AUDIO

Parameter	Default	Setting range	Description
CH SEL	CH1/2	CH1/2-15/16	Selects a stereo pair of FS1 embedded audio channels.
MONO SUM	DISABLE	DISABLE ENABLE	**ENABLE:** Outputs the stereo pair channels selected under CH SEL as a mono sum. (The signals of the selected pair channels are added and devided by two to output from each channel.)

6-1-3. EMB1 IN SET

```
 EMB1 IN SET          103
ALIGNMENT:DISABLE
HD-SDI ACLK:AUTO
```

Menu button

PROCESS
SDI AUDIO

Parameter	Default	Setting range	Description
ALIGNMENT *1	DISABLE	ENABLE DISABLE	Enables or disables automatic phase adjustment for FS1 input embedded audio channel groups. **ENABLE:** Automatic adjustment **DISABLE:** No adjustment (normal setting)
HD-SDI ACLK	AUTO	AUTO SYNC SDI AUD CLK	Selects audio clock signal to use for de-embedding and processing audio data in HD-SDI input signal. **AUTO**: De-embeds HD-SDI embedded audio data using the audio clock phase data in the embedded audio. Synchronous and asynchronous embedded audio signals from 4 audio groups can be de-embedded separately. *2 Audio data will be processed as synchronous data if the audio clock phase data is incorrect, or jitter is too great. **SYNC SDI**: All audio data in 4 audio groups are always processed as synchronous data without refering to the respective audio clock phase data. *3 **AUD CLK**: Always uses audio clock phase data in HD-SDI embedded audio data to de-embed the audio data. *4

*1 Embedded audio signal groups are automatically phase-adjusted when they are input to the FA-9520. If there is an abnormal audio signal in an audio group, whether the audio group is in use or not, audio streams may be obstructed by the auto phase adjustment. In such cases, audio stream obstruction can be avoided using this Alignment enable/disable function.

*2 Embedded audio signals in SD-SDI video inputs are always processed as synchronous signals.

*3 SYNC SDI should be selected only if audio data cannot pass through as AUTO or asynchronous audio data is never input.

*4 AUD CLK may be effective in the case audio data cannot properly pass through as AUTO or Sync SDI.

IMPORTANT

Use this Alignment enable/disable function only if the audio output has noise or is muted. Do not change the setting for normal audio output.

Note that the audio output will be temporally muted when ALIGNMENT is changed from DISABLE to ENABLE while audio signal phases are aligning.

6-1-4. EMB1 OUT CLOCK

```
EMB1 OUT CLOCK          104
GROUP1:REFERENCE
GROUP2:REFERENCE
GROUP3:REFERENCE
GROUP4:REFERENCE
```

Menu button

PROCESS
SDI AUDIO

Parameter	Default	Setting range	Description
GROUP 1	REFERENCE	AUTO REFERENCE INPUT CH 1/2 INPUT CH 3/4	Selects an audio clock signal per group for SDI embedded audio output from FS1. **AUTO:** Automatically selects audio clock input in the NON-PCM signal channel, if an input NON-PCM signal is in the selected SDI embedded audio group. Automatically selects audio clock signal in the smallest numbered channel, if all signals in the audio group are NON-PCM. Automatically selects audio clock signal synchronized to the output video signal, if all signals in the audio group are PCM. *2 **REFEFENCE:** Audio clock signal synchronized to the output video signal. (Used to synchronize audio with the video signals processed in the SRC.) **CH 1/2 to 15/16:** Audio clock input in SOURCE channels CH 1/2 to 15/16. *1 To output asynchronous audio signals, select one input channel pair for each group. *2 For SD-SDI outputs, REFERENCE is automatically selected regardless of the settings.
GROUP 2	REFERENCE	AUTO REFERENCE INPUT CH 5/6 INPUT CH 7/8	
GROUP 3	REFERENCE	AUTO REFERENCE INPUT CH 9/10 INPUT CH 11/12	
GROUP 4	REFERENCE	AUTO REFERENCE INPUT CH 13/14 INPUT CH 15/16	

*1 See section 6-5 “AUDIO MAPPING (MAPPING)” for details on SOURCE settings.

*2 Embedded audio signals are divided into 4 groups. Each group consists of 4 audio channels; Group 1 (CH 1 to 4), Group 2 (CH 5 to 8), Group 3 (CH 9 to 12), Group 4 (CH 13 to 16). The audio signals in the same group are transmitted together using the same audio clock (48kHz). PCM audio signals will be synchronized to a genlock signal in the SRC (sampling rate converter) so as to synchronize with the output video signal. Non-PCM audio signals (compressed audio data such as AC-3) do not go into SRC. If the NON-PCM audio input signal is asynchronous with the output video signal, the NON-PCM audio output signal will be asynchronous. The asynchronous NON-PCM audio signals can be embedded to SDI video signals by selecting an audio clock for each audio group. To do so, all 4 channels in the respective audio groups must be synchronous. Assign 4 synchronous audio signals to channels in a group. (See section 6-5-1. “EMB1 OUT REMAP” for details.) Then the asynchronous audio signal will be properly embedded to the video signal.

6-1-5. EMB2 IN GAIN

```
 EMB2 IN GAIN          105
CH SEL   :CH1
GAIN SET:  0.0dB
MASTER   :  0.0dB
```

Menu button

PROCESS
SDI AUDIO

Parameter	Default	Setting range (Steps)	Description
CH SEL	CH1	CH1 - CH16	Selects an FS2 embedded audio channel for which to adjust the gain.
GAIN SET	0.0 dB	-20.0 - +20.0 dB (0.1 dB) *1	Sets the input gain for the SDI embedded audio channel that is selected under CH SEL.
MASTER	0.0 dB	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to the input gain for all channels CH1 to CH16 of SDI-embedded audio.

*1 The total value of GAIN SET and MASTER should not exceed the setting range. If the range is exceeded, the alert will be displayed as *20.0 dB or *-20.0 dB.

6-1-6. EMB2 OUT MONO

```
 EMB2 OUT MONO         106
CH SEL   :CH1/2
MONO SUM:DISABLE
```

Menu button

PROCESS
SDI AUDIO

Parameter	Default	Setting range	Description
CH SEL	CH1/2	CH1/2-15/16	Selects a stereo pair of FS2 embedded audio channels.
MONO SUM	DISABLE	DISABLE ENABLE	**ENABLE:** Outputs the stereo pair channels selected under CH SEL as a mono sum. (The signals of the selected pair channels are added and devided by two to output from each channel.)

6-1-7. EMB2 IN SET

```
EMB2 IN SET          107
ALIGNMENT:DISABLE
HD-SDI ACLK:AUTO
```

Menu button

PROCESS
SDI AUDIO

Parameter	Default	Setting range	Description
ALIGNMENT *1	DISABLE	ENABLE DISABLE	Enables or disables automatic phase adjustment for FS2 input embedded audio channel groups. **ENABLE:** Automatic adjustment **DISABLE:** No adjustment (normal setting)
HD-SDI ACLK	AUTO	AUTO SYNC SDI AUD CLK	Selects audio clock signal to use for de-embedding and processing audio data in HD-SDI input signal. **AUTO**: De-embeds HD-SDI embedded audio data using the audio clock phase data in the embedded audio. Synchronous and asynchronous embedded audio signals from 4 audio groups can be de-embedded separately. *2 Audio data will be processed as synchronous data if the audio clock phase data is incorrect, or jitter is too great. **SYNC SDI**: All audio data in 4 audio groups are always processed as synchronous data without refering to the respective audio clock phase data. *3 **AUD CLK**: Always uses audio clock phase data in HD-SDI embedded audio data to de-embed the audio data. *4

*1 Embedded audio signal groups are automatically phase-adjusted when they are input to the FA-9520. If there is an abnormal audio signal in an audio group, whether the audio group is in use or not, audio streams may be obstructed by the auto phase adjustment. In such cases, audio stream obstruction can be avoided using this Alignment enable/disable function.

*2 Embedded audio signals in SD-SDI video inputs are always processed as synchronous signals.

*3 SYNC SDI should be selected only if audio data cannot pass through as AUTO or asynchronous audio data is never input.

*4 AUD CLK may be effective in the case audio data cannot properly pass through as AUTO or Sync SDI.

IMPORTANT

Use this Alignment enable/disable function only if the audio output has noise or is muted. Do not change the setting for normal audio output.

Note that the audio output will be temporally muted when ALIGNMENT is changed from DISABLE to ENABLE while audio signal phases are aligning.

6-1-8. EMB2 AUDIO CLOCK

```
EMB2 AUDIO CLOCK  108
GROUP1:REFERENCE
GROUP2:REFERENCE
GROUP3:REFERENCE
GROUP4:REFERENCE
```

Menu button

PROCESS
SDI AUDIO

Parameter	Default	Setting range	Description
GROUP 1	REFERENCE	AUTO REFERENCE INPUT CH 1/2 INPUT CH 3/4	Selects an audio clock signal per group for SDI embedded audio output from FS2. **AUTO:** Automatically selects audio clock input in the NON-PCM signal channel, if an input NON-PCM signal is in the selected SDI embedded audio group. Automatically selects audio clock signal in the smallest numbered channel, if all signals in the audio group are NON-PCM. Automatically selects audio clock signal synchronized to the output video signal, if all signals in the audio group are PCM. *2 **REFEFENCE:** Audio clock signal synchronized to the output video signal. (Used to synchronize audio with the video signals processed in the SRC.) **CH 1/2 to 15/16:** Audio clock input in SOURCE channels CH 1/2 to 15/16. *1 To output asynchronous audio signals, select one input channel pair for each group. *2 For SD-SDI outputs, REFERENCE is automatically selected regardless of the settings.
GROUP 2	REFERENCE	AUTO REFERENCE INPUT CH 5/6 INPUT CH 7/8	
GROUP 3	REFERENCE	AUTO REFERENCE INPUT CH 9/10 INPUT CH 11/12	
GROUP 4	REFERENCE	AUTO REFERENCE INPUT CH 13/14 INPUT CH 15/16	

*1 See section 6-5 “AUDIO MAPPING (MAPPING)” for details on SOURCE settings.

*2 Embedded audio signals are divided into 4 groups. Each group consists of 4 audio channels; Group 1 (CH 1 to 4), Group 2 (CH 5 to 8), Group 3 (CH 9 to 12), Group 4 (CH 13 to 16). The audio signals in the same group are transmitted together using the same audio clock (48kHz). PCM audio signals will be synchronized to a genlock signal in the SRC (sampling rate converter) so as to synchronize with the output video signal. Non-PCM audio signals (compressed audio data such as AC-3) do not go into SRC. If the NON-PCM audio input signal is asynchronous with the output video signal, the NON-PCM audio output signal will be asynchronous. The asynchronous NON-PCM audio signals can be embedded to SDI video signals by selecting an audio clock for each audio group. To do so, all 4 channels in the respective audio groups must be synchronous. Assign 4 synchronous audio signals to channels in a group. (See section 6-5-2. “EMB2 OUT REMAP” for details.) Then the asynchronous audio signal will be properly embedded to the video signal.

6-2. AES AUDIO Settings (AES AUDIO)

Allows you to set the DIGITAL AUDIO IN/OUT settings.

6-2-1. AES IN GAIN

```
AES IN GAIN          111
CH SEL   :CH1
GAIN SET:0.0dB
MASTER   :0.0dB
```

Menu button

C C
AES AUDIO

Parameter	Default	Setting range (Steps)	Description
CH SEL	CH1	CH1 - CH8	Selects an AES audio channel for which to adjust the gain from channels CH1 through 8.
GAIN SET	0.0 dB	-20.0 - +20.0 dB (0.1 dB) *1	Sets the input gain for the AES audio channel that is selected under CH SEL.
MASTER	0.0 dB	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to the input gain for all channels CH1 to 8 of AES inputs.

*1 The total value of GAIN SET and MASTER should not exceed the setting range. If the range is exceeded, the alert will be displayed as *20.0 dB or *-20.0 dB.

6-2-2. AES HYSTERESIS

```
AES HYSTERESIS       112
CH SEL  :CH1/2
HYS SET:OFF
```

Menu button

C C
AES AUDIO

Parameter	Default	Setting range (Steps)	Description
CH SEL	CH 1/2	CH 1/2 CH 3/4 CH 5/6 CH 7/8	Synchronizes the AES input signals in group A or B per group. These settings are effective when using AES audio signals to output multi-channel audio signals such as surround sound.
HYS SET	OFF	OFF GROUP A GROUP B	

The channel pair with the smallest channel numbers within a group is used as the reference pair and other channel pairs are synchronized to it. If there is no audio signal in the channel pair, the next channel pair will be the reference. Audio signals with a phase difference relative to the reference within ±0.25 of a sample period can be synchronized.

Setting Examples:

◆ **When setting all channel pairs CH 1/2 to 7/8 to GROUP A**

CH 1/2 will be the reference. Other channel pairs will be synchronized to the word clock of CH1/2.

◆ **When setting channels CH1/2 to 3/4 to GROUP A, and channels CH5/6 to 7/8 to GROUP B**

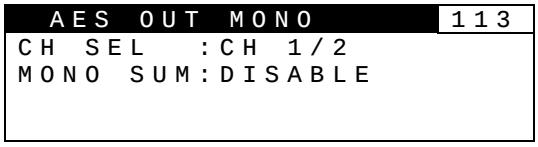
CH 1/2 will be the reference pair for GROUP A, and CH 5/6 the reference pair for GROUP B.

IMPORTANT

Channel pairs in an audio group must be synchronous and must have the same sampling rate. Changing the audio assignment of the reference channel pair may cause noise on other channel pairs in the same audio group.

Also, changing the assignment may affect the phase alignment of the reference and other channel pairs. If the alignment is turned off, set MASTER MUTE (see section 6-4-1 “MASTER OUT GAIN”) on and off, or turn the unit power off and on to regain the alignment.

6-2-3. AES OUT MONO



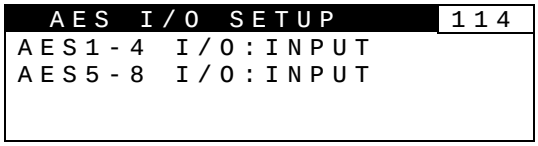
Menu button

C C
AES AUDIO

Parameter	Default	Setting range	Description
CH SEL	CH1/2	CH1/2 - 7/8	Selects a stereo pair of AES output audio channels.
MONO SUM	DISABLE	DISABLE ENABLE	**ENABLE:** Outputs the stereo pair channels that are selected under CH SEL as a mono sum. (The signals of the selected pair channels are added and devided by two to output from each channel.)

If the AES connector is set to be used for input, the menu display for the selected AES output audio channel appears as ＊CH1. See section 6-2-4 “AES I/O SETUP” and change the setting if necessary.

6-2-4. AES I/O SETUP



Menu button

C C
AES AUDIO

Parameter	Default	Setting range	Description
AES1 - 4	INPUT	INPUT OUTPUT	**INPUT:** AES1/2, and 3/4 connectors are set to be input connectors. **OUTPUT:** AES1/2, and 3/4 connectors are set to be output connectors.
AES5 - 8	INPUT	INPUT OUTPUT	**INPUT:** AES5/6, and 7/8 connectors are set to be input connectors. **OUTPUT:** AES5/6, and 7/8 connectors are set to be output connectors.

All connectors are set as input connectors and this menu is not displayed if the FA-95DACBL option is installed.

6-3. ANALOG AUDIO Settings (ANALOG)

6-3-1. ANALOG IN LEVEL

```
ANALOG IN LEVEL   121
CH SEL     :CH1
LEVEL SET:  +4dBm
```

Menu button

CONV1
ANALOG

Parameter	Default	Setting range	Description
CH SEL	CH1	CH1 - CH4	Selects an analog audio input channel for which to set the signal level from channels CH1 to CH4.
LEVEL SET	+4dBm	-10dBm 0dBm +4dBm +8dBm	Sets the signal level for the analog audio input signal that is selected under CH SEL.

6-3-2. ANALOG IN GAIN

```
ANALOG IN GAIN    122
CH SEL    :CH1
GAIN SET:0.0dB
MASTER    :0.0dB
```

Menu button

CONV1
ANALOG

Parameter	Default	Setting range (Steps)	Description
CH SEL	CH1	CH1 - CH4	Selects an analog audio input channel for which to set the input gain from channels CH1 to CH4.
GAIN SET	0.0dB	-20.0 - +20.0 dB (0.1 dB) *1	Sets the input gain for the analog audio input signal that is selected under CH SEL.
MASTER	0.0 dB	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to the input gain for all analog audio channels CH1 to CH4.

*1 The total value of GAIN SET and MASTER should not exceed the setting range. If the range is exceeded, the alert will be displayed as *20.0dB or *-20.0dB.

6-3-3. ANALOG OUT LEVEL

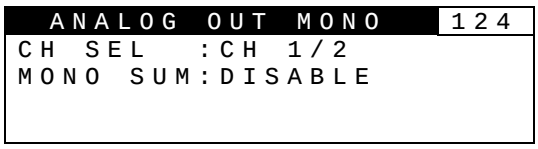
```
ANALOG OUT LEVEL  123
CH SEL     :CH1
LEVEL SET:  +4dBm
```

Menu button

CONV1
ANALOG

Parameter	Default	Setting range	Description
CH SEL	CH1	CH1 - CH4	Selects an analog audio output channel for which to set the signal level from channels CH1 to CH4.
LEVEL SET	+4dBm	-10dBm 0dBm +4dBm +8dBm	Sets the signal level for the analog audio output signal that is selected under CH SEL.

6-3-4. ANALOG OUT MONO

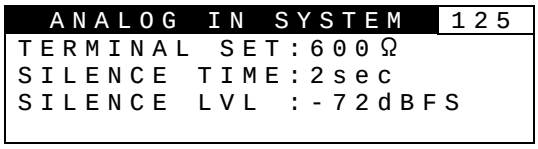


Menu button

CONV1
ANALOG

Parameter	Default	Setting range	Description
CH SEL	CH1/2	CH1/2-3/4	Selects a stereo pair of analog audio output channels.
MONO SUM	DISABLE	DISABLE ENABLE	**ENABLE:** Outputs the stereo pair channels that are selected under CH SEL as a mono sum. (The signals of the selected pair channels are added and devided by two to output from each channel.)

6-3-5. ANALOG IN SYSTEM



Menu button

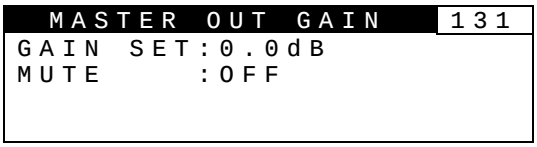
CONV1
ANALOG

Parameter	Default	Setting range (Steps)	Description
TERMINAL SET	600Ω	600Ω Hi-Z	Selects how to terminate the analog inputs 1/2 and 3/4. **600Ω**: 600Ω termination **Hi-Z**: High-impedance
SILENCE TIME	2sec	1 - 10sec	Sets the duration to determine whether the input analog audio is silent.
SILENCE LVL	-72dBFS	-72 - -48dBFS (6dBFS Step)	Sets the audio level to determine whether the input analog audio is silent.

6-4. OUTPUT GAIN CONTROL

Allows you to adjust audio signal output gain.

6-4-1. MASTER OUT GAIN

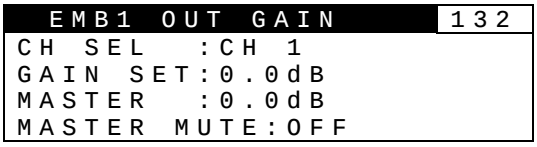


Menu button

CONV2
MASTER

Parameter	Default	Setting range (Steps)	Description
GAIN SET	0.0dB	-20.0 - +20.0 dB (0.1 dB)	Sets audio gain for the signal selected under CH SEL.
MUTE	OFF	OFF ON	**ON:** Mutes all audio channels.

6-4-2. EMB1 OUT GAIN



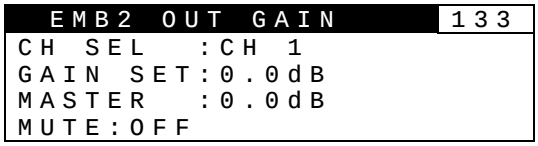
Menu button

CONV2
MASTER

Parameter	Default	Setting range (Steps)	Description
CH SEL	CH1	CH1 - 16	Selects an audio channel from among FS1 embedded audio channels CH1 through 16 for which to set audio gain.
GAIN SET	0.0dB	-20.0 - +20.0 dB (0.1 dB) *1	Sets audio output gain for the signal selected under CH SEL.
MASTER	—	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to audio output gain for all audio channels CH1 through 16 in FS1.
MUTE	OFF	OFF ON	**ON:** Mutes all embedded audio channels in FS1.

*1 The total value of GAIN SET and MASTER should not exceed the setting range. If the range is exceeded, the alert will be displayed as *20.0dB or *-20.0dB.

6-4-3. EMB2 OUT GAIN



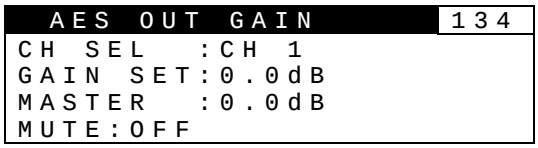
Menu button

CONV2
MASTER

Parameter	Default	Setting range (Steps)	Description
CH SEL	CH1	CH1 - 16	Selects an audio channel from among FS2 embedded audio channels CH1 through 16 for which to set audio gain.
GAIN SET	0.0dB	-20.0 - +20.0 dB (0.1 dB) *1	Sets audio output gain for the signal selected under CH SEL.
MASTER	—	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to audio output gain for all audio channels CH1 through 16 in FS2.
MUTE	OFF	OFF ON	**ON:** Mutes all embedded audio channels in FS2.

*1 The total value of GAIN SET and MASTER should not exceed the setting range. If the range is exceeded, the alert will be displayed as *20.0dB or *-20.0dB.

6-4-4. AES OUT GAIN



Menu button

CONV2
MASTER

Parameter	Default	Setting range (Steps)	Description
CH SEL	CH1	CH1 - 8	Selects an AES audio channel for which to set audio gain from channels CH1 to CH8.
GAIN SET	0.0dB	-20.0 - +20.0 dB (0.1 dB) *1	Sets audio output gain for the signal selected under CH SEL.
MASTER	—	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to audio output gain for all AES audio channels.
MUTE	OFF	OFF ON	**ON:** Mutes all AES audio channels.

*1 The total value of GAIN SET and MASTER should not exceed the setting range. If the range is exceeded, the alert will be displayed as *20.0dB or *-20.0dB.

6-4-5. ANALOG OUT GAIN

```
ANALOG OUT GAIN      135
CH SEL     :CH 1
GAIN SET   :0.0dB
MASTER     :0.0dB
MUTE:OFF
```

Menu button

CONV1
ANALOG

Parameter	Default	Setting range (Steps)	Description
CH SEL	CH1	CH1 - CH4	Selects an analog audio output channel for which to set the input gain from channels CH1 to CH4.
GAIN SET	0.0dB	-20.0 - +20.0 dB (0.1 dB)	Sets the output gain for the analog audio output signal that is selected under CH SEL.
MASTER	0.0 dB	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to the output gain for all analog audio channels CH1 to CH4.
MUTE	OFF	OFF ON	**ON:** Mutes all analog audio channels.

*1 The total value of GAIN SET and MASTER should not exceed the setting range. If the range is exceeded, the alert will be displayed as *20.0dB or *-20.0dB.

6-5. AUDIO MAPPING (MAPPING)

Allows you to assign embedded audio, AES audio, and analog audio signals to output channels..

6-5-1. EMB1 OUT REMAP

```
 EMB1 OUT REMAP      141
CH SEL:CH1
ASSIGN:EMB1 CH1
FROM  :SDI IN1
```

Menu button

PROCESS
SDI AUDIO

Parameter	Default	Setting range		Description
CH SEL	CH1	CH1 - CH16		Selects an FS1 audio channel to embed audio signal from CH1 through 16.
ASSIGN	EMB1 CH1-16	EMB1 CH1-16 EMB2 CH1-16 AES CH1-8 *1 ANALOG CH1-4 DOWN MIX1-L DOWN MIX1-R DOWN MIX2-L DOWN MIX2-R 500Hz TONE 1KHz TONE SILENCE Dolby DECA CH1-8 *2 Dolby DMA-L *2 Dolby DMA- R *2 Dolby ENCA CH1-2 *3 Dolby DECB CH1-8 *4 Dolby DMB-L *4 Dolby DMB- R *4 Dolby ENCB CH1-2 *5		Selects an audio signal to embed into the FS1 audio channel selected under CH SEL.
		LOUD1A *6 LOUD2A *6 LOUD1B *7 LOUD2B *7	L R C LFE Ls Rs	
FROM	-	SDI IN1 SDI IN2 -----		Displays the input signal from which the selected embedded audio signal is input, if ASSIGN is set to one among EMB1 CH1 through 16 and EMB2 CH1 through 16.

*1 If the AES connector is set to be used for input, the selected AES channel will be displayed with an "＊" as "＊AES CH1" and no audio signal will be output. To change AES I/O settings, see section 6-2-4. „AES I/O SETUP" for details.
*2 Not shown if the FA-95D-D or FA-95DE-E option is not installed in option slot A.
*3 Not shown if the FA-95DE-E option is not installed in option slot A.
*4 Not shown if the FA-95D-D or FA-95DE-E option is not installed in option slot B.
*5 Not shown if the FA-95DE-E option is not installed in option slot B.
*6 Not shown if the FA-95ALA option is not installed in option slot A.
*7 Not shown if the FA-95ALA option is not installed in option slot B.

◆ **Auto Channel Pairing for NON-PCM Audio Inputs**

The FA-9520 recognizes NON-PCM audio input signals in L/R channel pair units, and adjusts assignments according to the signal selected for the L channel.
Ex. L/R channel pairs in EMB1: CH1/CH2, CH3/CH4.....CH15/CH16.
The channel assignments that are changed by the adjustment will be shown with "＊" as "CH1:＊EMB1 CH1".

6-5-2. EMB2 OUT REMAP

```
 EMB2 OUT REMAP      142
CH SEL:CH1
ASSIGN:EMB2 CH1
FROM  :SDI IN2
```

Menu button

PROCESS
SDI AUDIO

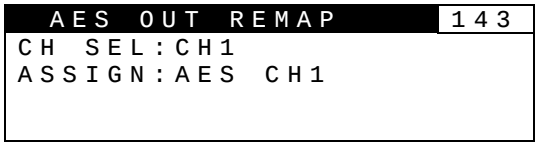
Parameter	Default	Setting range		Description
CH SEL	CH1	CH1 - CH16		Selects an FS2 audio channel to embed audio signal from CH1 through 16.
ASSIGN	EMB2 CH1-16	EMB1 CH1-16 EMB2 CH1-16 AES CH1-8 *1 ANALOG CH1-4 DOWN MIX1-L DOWN MIX1-R DOWN MIX2-L DOWN MIX2-R 500Hz TONE 1KHz TONE SILENCE Dolby DECA CH1-8 *2 Dolby DMA-L *2 Dolby DMA- R *2 Dolby ENCA CH1-2 *3 Dolby DECB CH1-8 *4 Dolby DMB-L *4 Dolby DMB- R *4 Dolby ENCB CH1-2 *5		Selects an audio signal to embed into the FS2 audio channel selected under CH SEL.
		LOUD1A *6 LOUD2A *6 LOUD1B *7 LOUD2B *7	L R C LFE Ls Rs	
FROM	-	SDI IN1 SDI IN2 -----		Displays the input signal from which the selected embedded audio signal is input, if ASSIGN is set to one among EMB1 CH1 through 16 and EMB2 CH1 through 16.

*1 If the AES connector is set to be used for input, the selected AES channel will be displayed with an "∗" as "∗AES CH1" and no audio signal will be output. To change AES I/O settings, see section 6-2-4. "AES I/O SETUP" for details.
*2 Not shown if the FA-95D-D or FA-95DE-E option is not installed in option slot A.
*3 Not shown if the FA-95DE-E option is not installed in option slot A.
*4 Not shown if the FA-95D-D or FA-95DE-E option is not installed in option slot B.
*5 Not shown if the FA-95DE-E option is not installed in option slot B.
*6 Not shown if the FA-95ALA option is not installed in option slot A.
*7 Not shown if the FA-95ALA option is not installed in option slot B.

◆ Auto Channel Pairing for NON-PCM Audio Inputs

The FA-9520 recognizes NON-PCM audio input signals in L/R channel pair units, and adjusts assignments according to the signal selected for the L channel.
L/R channel pairs are, such as CH1 and CH2, CH3 and CH4.....CH15 abd CH16 as an example in EMB1.
The channel assignments that are changed by the adjustment will be shown with "∗" as "CH1:∗EMB1 CH1".

6-5-3. AES OUT REMAP



Menu button

PROCESS
SDI AUDIO

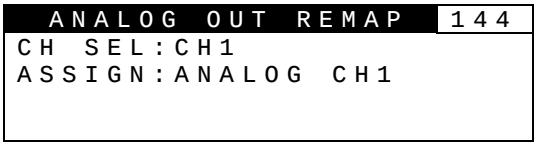
Parameter	Default	Setting range		Description
CH SEL	CH1	CH1 – CH8		Selects an AES audio channel to output audio signal from CH1 through 8.
ASSIGN	AES CH1-8	EMB1 CH1-16 EMB2 CH1-16 AES CH1-8 *1 ANALOG CH1-4 DOWN MIX1-L DOWN MIX1-R DOWN MIX2-L DOWN MIX2-R 500Hz TONE 1KHz TONE SILENCE Dolby DECA CH1-8 *2 Dolby DMA-L *2 Dolby DMA- R *2 Dolby ENCA CH1-2 *3 Dolby DECB CH1-8 *4 Dolby DMB-L *4 Dolby DMB- R *4 Dolby ENCB CH1-2 *5		Selects an audio signal to be output to the AES audio channel selected under CH SEL.
		LOUD1A *6 LOUD2A *6 LOUD1B *7 LOUD2B *7	L R C LFE Ls Rs	
FROM		SDI IN1 SDI IN2 -----		Displays the source signal input channel of the embedded audio signal for EMB1 CH1-CH16, or EMB2 CH1-CH16 selected under ASSIGN.

*1 If the AES connector is set to be used for input, the selected AES channel will be displayed with an "＊" as "＊AES CH1" and no audio signal will be output. To change AES I/O settings, see section 6-2-4. "AES I/O SETUP" for details.
*2 Not shown if the FA-95D-D or FA-95DE-E option is not installed in option slot A.
*3 Not shown if the FA-95DE-E option is not installed in option slot A.
*4 Not shown if the FA-95D-D or FA-95DE-E option is not installed in option slot B.
*5 Not shown if the FA-95DE-E option is not installed in option slot B.
*6 Not shown if the FA-95ALA option is not installed in option slot A.
*7 Not shown if the FA-95ALA option is not installed in option slot B.

◆ Auto Channel Pairing for NON-PCM Audio Inputs

The FA-9520 recognizes NON-PCM audio input signals in L/R channel pair units, and adjusts assignments according to the signal selected for the L channel.
L/R channel pairs are, such as CH1 and CH2, CH3 and CH4.....CH15 abd CH16 as an example in EMB1.
The channel assignments that are changed by the adjustment will be shown with "＊" as "CH1:＊EMB1 CH1".

6-5-4. ANALOG OUT REMAP



Menu button

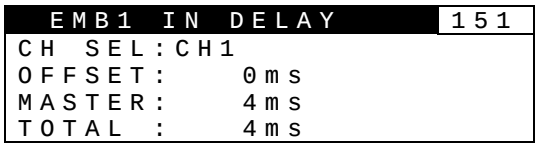
CONV1
ANALOG

Parameter	Default	Setting range		Description
CH SEL	CH1	CH1 - 8		Selects an audio output channel to output analog audio signal from CH1 through 8.
ASSIGN	ANALOG CH1 - 4	EMB1 CH1-16 EMB2 CH1-16 AES CH1-8 *1 ANALOG CH1-4 DOWN MIX1-L DOWN MIX1-R DOWN MIX2-L DOWN MIX2-R 500Hz TONE 1KHz TONE SILENCE Dolby DECA CH1-8 *2 Dolby DMA-L *2 Dolby DMA- R *2 Dolby DECB CH1-8 *3 Dolby DMB-L *3 Dolby DMB- R *3		Selects a signal to be output from the analog audio output channel that is selected under CH SEL.
		LOUD1A *4 LOUD2A *4 LOUD1B *5 LOUD2B *5	L R C LFE Ls Rs	
FROM		SDI IN1 SDI IN2 -----		Displays the source signal input channel of the embedded audio signal for EMB1 CH1-CH16, or EMB2 CH1-CH16 selected under ASSIGN.

*1 If the AES connector is set to be used for input, the selected AES channel will be displayed with an "∗" as "∗AES CH1" and no audio signal will be output. To change AES I/O settings, see section 6-2-4. "AES I/O SETUP" for details.
*2 Not shown if the FA-95D-D or FA-95DE-E option is not installed in option slot A.
*3 Not shown if the FA-95D-D or FA-95DE-E option is not installed in option slot B.
*4 Not shown if the FA-95ALA option is not installed in option slot A.
*5 Not shown if the FA-95ALA option is not installed in option slot B.

6-6. AUDIO DELAY Settings

6-6-1. EMB1 IN DELAY

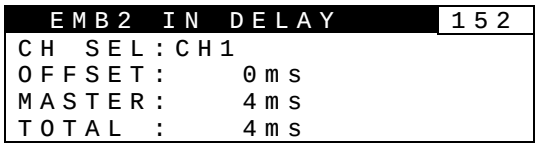


Menu button

CLIP
DELAY

Parameter	Default	Setting range	Description
CH SEL	CH 1	CH1 - CH16	Selects an embedded audio channel in FS1 for which to set delay.
OFFSET	0msec	-996ms - 996ms	Sets the delay for the audio channel that is selected under CH SEL.
MASTER	4msec	4ms - 1000ms	Sets the offset to the delay for all audio channels CH1 to 16.
TOTAL	-	-	Displays the total amount of delay set for the audio channel that is selected under CH SEL. (OFFSET + MASTER)

6-6-2. EMB2 IN DELAY

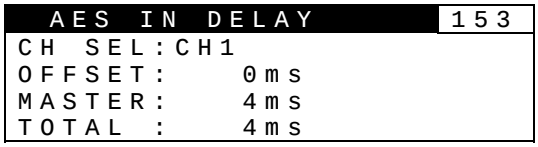


Menu button

CLIP
DELAY

Parameter	Default	Setting range	Description
CH SEL	CH 1	CH1 - CH16	Selects an embedded audio channel in FS2 for which to set delay.
OFFSET	0msec	-996ms - 996ms	Sets the delay for the audio channel that is selected under CH SEL.
MASTER	4msec	4ms - 1000ms	Sets the offset to the delay for all audio channels CH1 to 16.
TOTAL	-	-	Displays the total amount of delay set for the audio channel that is selected under CH SEL. (OFFSET + MASTER)

6-6-3. AES IN DELAY

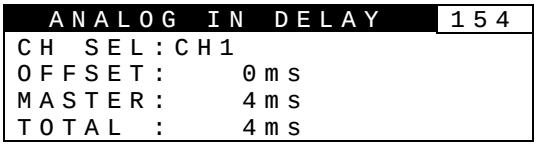


Menu button

CLIP
DELAY

Parameter	Default	Setting range	Description
CH SEL	CH 1	CH1 – CH8	Selects an AES audio channel for which to set delay.
OFFSET	0msec	-996ms - 996ms	Sets the delay for the audio channel that is selected under CH SEL.
MASTER	4msec	4ms - 1000ms	Sets the offset to the delay for all audio channels CH1 to 8.
TOTAL	-	-	Displays the total amount of delay set for the audio channel that is selected under CH SEL. (OFFSET + MASTER)

6-6-4. ANALOG IN DELAY



Menu button

CLIP
DELAY

Parameter	Default	Setting range	Description
CH SEL	CH 1	CH1 – CH4	Selects an analog audio channel for which to set delay.
OFFSET	0msec	-996ms - 996ms	Sets the delay for the audio channel that is selected under CH SEL.
MASTER	4msec	4ms - 1000ms	Sets the offset to the delay for all audio channels CH1 to 4.
TOTAL	-	-	Displays the total amount of delay set for the audio channel that is selected under CH SEL. (OFFSET + MASTER)

6-7. DOWN MIX1 SET

```
  DOWN MIX1 SET        161
MODE:STEREO
SURROUND MIX:  -3dB
CENTER MIX   :  -3dB
MASTER LVL   :  -3dB
```

Menu button

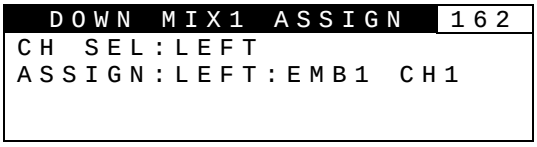
IN SEL
DOWN MIX

Parameter	Default	Setting range (Steps)	Description
MODE *1	STEREO	STEREO SURROUND MONAURAL	Selects a mode to downmix1 audio signals.
SURROUND MIX	-3dB	-3dB -6dB -9dB 0	Sets the Ls/Rs (surround channels) level. **0** : (-∞dB) Excludes surround channels from the downmix.
CENTER MIX	-3dB	-3dB -4.5 dB -6dB	Sets the C (center channel) level. **-3dB**: The output level after the downmix retains the original center channel level. **-4.5dB, -6dB:** Used to reduce the audio level in case it becomes too loud due to the center channel audio mixing to both the right and left channels.
MASTER LVL	-3dB	-3dB AUTO	Sets the level for the downmixed audio signals as a whole. If set to **AUTO**, Down MIX Master Level changes according to the Downmix Mode and Surround Mix level selections. *2

*1 See section 10. “Downmix Block Diagram” for details on downmix modes.
*2 If MASTER LVL is set to AUTO, Master Level changes as shown in the below table.

Down Mix Mode \ Surround Mix Level	-3dB	-6dB	-9dB	0 (-∞dB)
Stereo	approx.-7.7dB	approx.-6.9dB	approx.-6.3dB	approx.-4.6dB
Surround	approx.-9.9dB	approx.-8.7dB	approx.-7.7dB	approx.-4.6dB
Monaural	approx.-12.9dB	approx.-12.0dB	approx.-11.4dB	approx.-9.5dB

6-7-1. DOWN MIX1 ASSIGN



Menu button

IN SEL
DOWNMIX

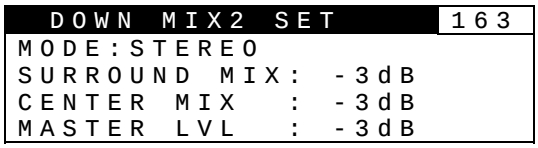
Parameter	Default	Setting range (Steps)	Description
CH SEL	LEFT	LEFT(L) RIGHT(R) CENTER(C) LEFT SRRND(LS) RIGHT SRRND(RS)	Selects a channel to be downmixed in downmix 2 for which to assign a source audio.
ASSIGN	LEFT:EMB1 CH1 RIGHT:EMB1 CH2 CENTER:EMB1 CH3 LEFT SRRND: EMB1 CH5 RIGHT SRRND: EMB1 CH6	EMB1 CH1 - 16 EMB2 CH1 - 16 AES CH1 - 8 ANALOG CH1 - 4	Selects an audio signal to be assigned to the channel that is selected under CH SEL.

If the same audio signal is selected for multiple CH SEL channels, or a NON-PCM signal is assigned to an audio channel, the menu will be indicated with an "*", i.e. „*EMB1 CH1", and **DOWNMIX-L and DOWNMIX-R** will be muted.

NOTE

To output downmixed audio signals, see sections 6-5-1 "EMB1 OUT REMAP" to 6-5-4 "ANALOG OUT REMAP".

6-8. DOWN MIX2 SET



Menu button

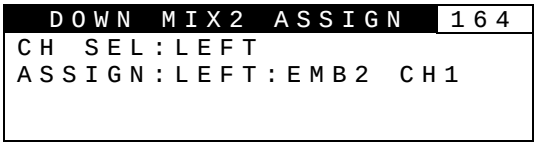
IN SEL
DOWN MIX

Parameter	Default	Setting range (Steps)	Description
MODE *1	STEREO	STEREO SURROUND MONAURAL	Selects a mode to downmix2 audio signals.
SURROUND MIX	-3dB	-3dB -6dB -9dB 0	Sets the Ls/Rs (surround channels) level. **0** : (-∞dB) Excludes surround channels from the downmix.
CENTER MIX	-3dB	-3dB -4.5 dB -6dB	Sets the C (center channel) level. **-3dB**: The output level after the downmix retains the original center channel level. **-4.5dB, -6dB:** Used to reduce the audio level in case it becomes too loud due to the center channel audio mixing to both the right and left channels.
MASTER LVL	-3dB	-3dB AUTO	Sets the level for the downmixed audio signals as a whole. If set to **AUTO**, Down MIX Master Level changes according to the Downmix Mode and Surround Mix level selections. *2

*1 See section 10. “Downmix Block Diagram” for details on downmix modes.
*2 If MASTER LVL is set to AUTO, Master Level changes as shown in the below table.

Surround Mix Level / Down Mix Mode	-3dB	-6dB	-9dB	0 (-∞dB)
Stereo	approx.-7.7dB	approx.-6.9dB	approx.-6.3dB	approx.-4.6dB
Surround	approx.-9.9dB	approx.-8.7dB	approx.-7.7dB	approx.-4.6dB
Monaural	approx.-12.9dB	approx.-12.0dB	approx.-11.4dB	approx.-9.5dB

6-8-1. DOWN MIX2 ASSIGN



Menu button

IN SEL
DOWNMIX

Parameter	Default	Setting range (Steps)	Description
CH SEL	LEFT	LEFT(L) RIGHT(R) CENTER(C) LEFT SRRND(LS) RIGHT SRRND(RS)	Selects a channel to be downmixed in downmix 1 for which to assign a source audio.
ASSIGN	LEFT:EMB2 CH1 RIGHT:EMB2 CH2 CENTER:EMB2 CH3 LEFT SRRND: EMB2 CH5 RIGHT SRRND: EMB2 CH6	EMB1 CH1 - 16 EMB2 CH1 - 16 AES CH1 - 8 ANALOG CH1 - 4	Selects an audio signal to be assigned to the channel that is selected under CH SEL.

If the same audio signal is selected for multiple CH SEL channels, or a NON-PCM signal is assigned to an audio channel, the menu will be indicated with an "*", i.e. "*EMB1 CH1", and **DOWNMIX-L and DOWNMIX-R** will be muted.

NOTE
To output downmixed audio signals, see sections 6-5-1 "EMB1 OUT REMAP" to 6-5-4 "ANALOG OUT REMAP".

6-9. AUDIO MODE SET (MODE)

6-9-1. EMB1 SRC MODE

```
  EMB1 SRC MODE        171
CH SEL   :CH 1/2
SRC MODE:SRC IN
```

Menu button

OUT SEL
MODE

Parameter	Default	Setting range	Description
CH SEL	CH1/2	CH1/2 - CH15/16	Selects a stereo pair of FS1 embedded audio signals to be set to pass or by-pass the SRC circuit.
SRC MODE	SRC IN	AUTO BY-PASS SRC IN	Sets the SRC circuit to pass or by-pass the audio channel pair selected under CH SEL. **AUTO:** Sets the SRC circuit to pass signals. However, NON-PCM audio signals will be by-passed. **BY-PASS:** Sets the SRC circuit to by-pass signals. Set to **By-pass** to output asynchronous audio signals. To embed the asynchronous audio signals to SDI video signals, an audio clock must be selected under (6-1-4) “EMB1 OUT CLOCK“ for the respective audio groups. **SRC IN:** Sets the SRC circuit to pass both PCM or NON-PCM signals. Useful for the irregular PCM signal with the NON-PCM audio channel status indication. However, real NON-PCM signals cannot be output properly.

6-9-2. EMB2 SRC MODE

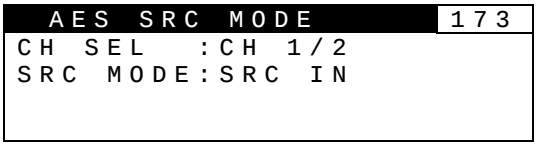
```
  EMB2 SRC MODE        172
CH SEL   :CH 1/2
SRC MODE:SRC IN
```

Menu button

OUT SEL
MODE

Parameter	Default	Setting range	Description
CH SEL	CH1/2	CH1/2 - CH15/16	Selects a stereo pair of FS2 embedded audio signals to be set to pass or by-pass the SRC circuit.
SRC MODE	SRC IN	AUTO BY-PASS SRC IN	Sets the SRC circuit to pass or by-pass the audio channel pair selected under CH SEL. **AUTO:** Sets the SRC circuit to pass signals. However, NON-PCM audio signals will be by-passed. **BY-PASS:** Sets the SRC circuit to by-pass signals. Set to **By-pass** to output asynchronous audio signals. To embed the asynchronous audio signals to SDI video signals, an audio clock must be selected under (6-1-8) “EMB2 AUDIO CLOCK“ for the respective audio groups. **SRC IN:** Sets the SRC circuit to pass both PCM or NON-PCM signals. Useful for the irregular PCM signal with the NON-PCM audio channel status indication. However, real NON-PCM signals cannot be output properly.

6-9-3. AES SRC MODE

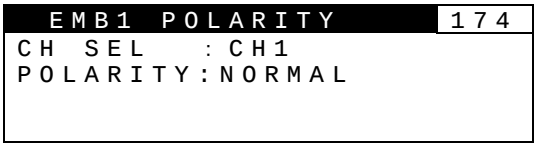


Menu button

OUT SEL
MODE

Parameter	Default	Setting range	Description
CH SEL	CH1/2	CH1/2 - CH15/16	Selects a stereo pair of AES audio signals to be set to pass or by-pass the SRC circuit.
SRC MODE	SRC IN	AUTO BY-PASS SRC IN	Sets the SRC circuit to pass or by-pass the audio channel pair selected under CH SEL. **AUTO:** Sets the SRC circuit to pass signals. However, NON-PCM audio signals will be by-passed. **BY-PASS:** Sets the SRC circuit to by-pass signals. Set to **By-pass** to output asynchronous audio signals. To embed the asynchronous audio signals to SDI video signals, an audio clock must be selected under (6-1-4) “EMB1 OUT CLOCK“ for the respective audio groups. **SRC IN:** Sets the SRC circuit to pass both PCM or NON-PCM signals. Useful for the irregular PCM signal with the NON-PCM audio channel status indication. However, real NON-PCM signals cannot be output properly.

6-9-4. EMB1 POLARITY

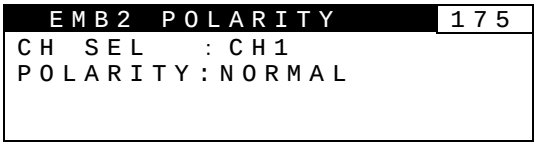


Menu button

OUT SEL
MODE

Parameter	Default	Setting range	Description
CH SEL	CH1	CH 1 - 16	Selects a channel from among FS1 embedded audio channels for which to set polarity.
POLARITY	NORMAL	NORMAL INVERT	Sets the polarity for the channel that is selected under CH SEL. **INVERT**: Reverses the polarity.

6-9-5. EMB2 POLARITY

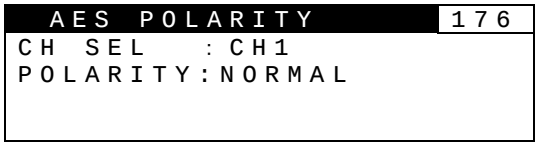


Menu button

OUT SEL
MODE

Parameter	Default	Setting range	Description
CH SEL	CH1	CH 1 - 16	Selects a channel from among FS2 embedded audio channels for which to set polarity.
POLARITY	NORMAL	NORMAL INVERT	Sets the polarity for the channel that is selected under CH SEL. **INVERT**: Reverses the polarity.

6-9-6. AES POLARITY

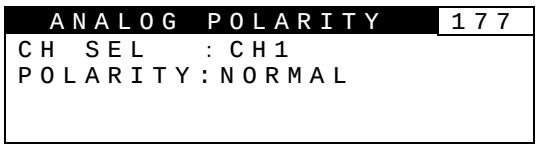


Menu button

OUT SEL
MODE

Parameter	Default	Setting range	Description
CH SEL	CH1	CH 1 - 8	Selects a channel from among AES audio channels for which to set polarity.
POLARITY	NORMAL	NORMAL INVERT	Sets the polarity for the channel that is selected under CH SEL. **INVERT**: Reverses the polarity.

6-9-7. ANALOG POLARITY



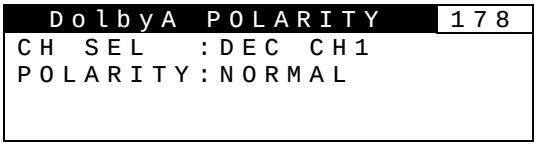
Menu button

OUT SEL
MODE

Parameter	Default	Setting range	Description
CH SEL	CH1	CH 1 - 4	Selects a channel from among analog audio channels for which to set polarity.
POLARITY	NORMAL	NORMAL INVERT	Sets the polarity for the channel that is selected under CH SEL. **INVERT:** Reverses the polarity.

6-9-8. Dolby A POLARITY

* This menu is accessible only if the FA-95D-D or FA-95DE-E is installed in option slot A.



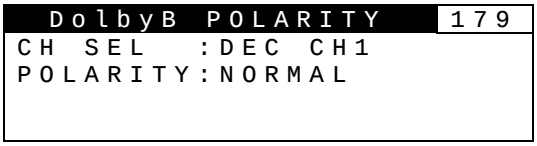
Menu button

OUT SEL
MODE

Item	Default	Setting range	Description
CH SEL	DEC CH1	DEC CH1 – 8 DolbyDM-L DolbyDM-R	Selects a channel from among Dolby decoder output channels for which to set polarity.
POLARITY	NORMAL	NORMAL INVERT	Sets the polarity for the channel that is selected under CH SEL. **INVERT**: Reverses polarity.

6-9-9. Dolby B POLARITY

* This menu is accessible only if the FA-95D-D or FA-95DE-E is installed in option slot B.



Menu button

OUT SEL
MODE

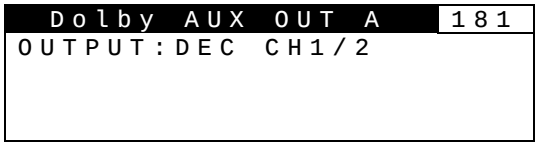
Item	Default	Setting range	Description
CH SEL	DEC CH1	DEC CH1 – 8 DolbyDM-L DolbyDM-R	Selects a channel from among Dolby decoder output channels for which to set polarity.
POLARITY	NORMAL	NORMAL INVERT	Sets the polarity for the channel that is selected under CH SEL. **INVERT**: Reverses polarity.

6-10. AUDIO OPTION (AUDIO OP)

6-10-1. FA-95D-D / FA-95DE-E

6-10-1-1. Dolby AUX OUT

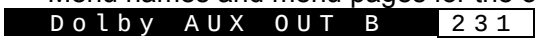
This menu is displayed only if the FA-95D-D or FA-95DE-E option is installed in slot A.



Menu button

VIDEO OP
AUDIO OP

Menu names and menu pages for the option in slot B change as shown below.



Parameter	Default	Setting range	Description
OUTPUT	DEC CH1/2	DEC CH1/2 – CH7/8 DolbyDM L/R ENC CH1/2 *1 500Hz TONE 1kHz TONE SILENCE NONE	Selects an audio signal to be output from the optional Dolby output connector (Dolby OUT). **DEC CH1/2 – CH7/8**: Dolby-decoded PCM signals **DolbyDM L/R**: Down mixed signals generated from Dolby-decoded PCM signals **ENC CH1/2**: Encoded Dolby E signal of selected SOURCE channel signals. **500Hz/1KHz TONE**:Test signal (TONE) **SILENCE**: Mute signal **NONE**: No signal output

*1 Shown only if the FA-95DE-E option is installed.

6-10-1-2. Dolby DEC IN

* This menu is displayed only if the FA-95D-D or FA-95DE-E option is installed in slot A.

```
Dolby DEC IN A      182
INPUT  :AUX IN
STREAM:LOSS
PROGRAM:LOSS
```

Menu button

VIDEO OP
AUDIO OP

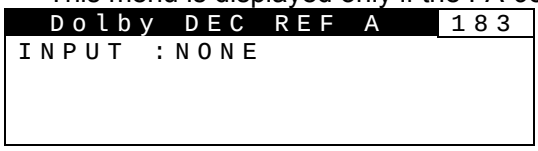
Menu names and menu pages for the option in slot B change as shown below.

```
Dolby DEC IN B      232
```

Parameter	Default	Setting range	Description
INPUT	AUX IN	AUX IN EMB1 CH1/2 - 15/16 EMB2 CH1/2 - 15/16 AES CH1/2 - 7/8	Selects an audio signal to be input to the Dolby decoder. **AUX IN:** Input signal in the optional Dolby input connector (Dolby IN).
STREAM	-	D 32bit D 16bit 1, 2, 1/2 CH E 24, 20, 16 bit PCM LOSS ERROR	Displays signal type and bit width of signal selected under INPUT. **D ***:** Dolby Digital signal **E ***:** Dolby E signal **PCM:** Normal audio signal **LOSS:** No signal **ERROR:** Unidentifiable
PROGRAM	-	Dolby E 5.1+2 5.1+2x1 4+4 4+2x2 4+2+2x1 4+4x1 4x2 3x2+2x1 2x2+4x1 2+6x1 8x1 5.1 4+2 4+2x1 3x2 2x2+2x1 2+4x1 6x1 4 2+2 2+2x1 4x1 7.1 7.1 Screen NON-Dolby E	Displays Dolby E program configuration (Coding mode) or status of signal selected under INPUT. See Dolby E/Digital Decoder Output Channel Assignment table in section 13 “Dolby E Decoder/Encoder Channel Assignment Table” for channel assignments of respective configurations.
		Dolby Digital 1+1 1/0 2/0 3/0 2/1 3/1 2/2 3/2 3/0L 2/1L 3/1L 2/2L 3/2L	
		LOSS INVALID	

6-10-1-3. Dolby DECODER REFERENCE

This menu is displayed only if the FA-95D-D or FA-95DE-E option is installed in slot A.



Menu button

VIDEO OP
AUDIO OP

Menu names and menu pages for the option in slot B change as shown below.

Parameter	Default	Setting range	Description
INPUT	NONE	NONE FS1 OUTPUT FS2 OUTPUT AUX REF IN FS1 INPUT FS2 INPUT	Selects a reference signal to be used in the Dolby decoder. PCM signal output from the Dolby decoder will be synchronized to the selected reference signal. **NONE**: No reference signal used **FS1/2 OUTPUT**: Uses the respective FS output video signals. **AUX REF IN**: Uses the input signal in the optional Dolby reference input connector (REF IN). If no signal is in the REF IN connector, the PCM signal output will be in free-run mode. **FS1/2 INPUT**: Uses the respective FS input video signals.

6-10-1-4. Dolby DOWNMIX

This menu is displayed only if the FA-95D-D or FA-95DE-E option is installed in slot A.

Menu button

VIDEO OP
AUDIO OP

Menu names and menu pages for the option in slot B chang as shown below.

Parameter	Default	Setting range	Description
MODE	SURROUND	SURROUND STEREO MONAURAL	Selects a downmix mode for the Dolby decoder.

6-10-1-5. Dolby DECODER GAIN

This menu is displayed only if the FA-95D-D or FA-95DE-E option is installed in slot A.

```
Dolby DEC GAIN A   185
CH SEL   :DEC CH1
GAIN SET:   0.0dB
MASTER   :   0.0dB
```

Menu button

VIDEO OP
AUDIO OP

Menu names and menu pages for the option in slot B chang as shown below.

```
Dolby DOWNMIX B   235
```

Parameter	Default	Setting range	Description
CH SEL	DEC CH1	DEC CH1 – CH8 DolbyDM-L DolbyDM-R	Selects a signal for gain adjustment. **DEC CH1-CH8:** Dolby-decoded PCM signal **DolbyDM-L/R:** Down mixed signal generated from Dolby-decoded PCM signal
GAIN SET	0.0 dB	-20.0 - +20.0 dB (0.1 dB) *1	Sets gain for the signal selected under CH SEL.
MASTER	0.0 dB	-20.0 - +20.0 dB (0.1 dB)	Sets offset for all Dolby-decoded signals.

*1 If the MASTER setting exceeds the total setting range of individual channels, the alert will be displayed as *20.0dB or *-20.0dB.

6-10-1-6. Dolby ENCODER INPUT

This menu is displayed only if FA-95DE-E option is installed in option slot A.

```
Dolby ENC IN A      186
INPUT :DIRECT IN SEL
CH SEL:CH1
ASSIGN:EMB1 CH1
```

Menu button

VIDEO OP
AUDIO OP

Menu names and menu pages for the option in slot B chang as shown below.

```
Dolby ENC IN B      236
```

Parameter	Default	Setting range	Description
INPUT	DIRECT IN SEL	DIRECT IN SEL Dolby DEC OUT	Selects a signal to be input to the Dolby encoder. *1 **DIRECT IN SEL:** SOURCE channel signals of the FA-9520. **Dolby DEC OUT:** Output signal from the Dolby decoder
CH SEL	CH 1	CH 1-8	Selects a channel to which to assign a signal.
ASSIGN	EMB1 CH1 *2	When DIRECT IN SEL is selected: EMB1 CH1 - 16 EMB2 CH1 - 16 AES CH1 - 8 ANALOG CH1 - 4 DOWNMIX1-L DOWNMIX1-R DOWNMIX2-L DOWNMIX2-R 500Hz TONE 1KHz TONE SILENCE	When INPUT is set to DIRECT IN SEL: **EMB1 CH1 - 16:** FS1 embedded audio signals. **EMB2 CH1 - 16:** FS2 embedded audio signals. **AES CH1 – 8:** AES audio signals **ANALOG CH1 – 4:** Analog audio signals **DOWNMIX-L/R**: Down mixed signal generated from SOURCE channel signals. **500Hz/1KHz TONE**: Test signal (TONE) **SILENCE**: Mute signal **LOUD1, 2A, B-L-Rs**: Loudness controlled signal When INPUT is set to Dolby DEC OUT: **Dolby DEC1-8**: PCM signal output from the Dolby decoder **DolbyDM-L/R**: Down mixed signal generated from Dolby-decoded PCM signal **500Hz/1KHz TONE**: Test signal (TONE) **SILENCE**: Mute signal
		LOUD1A - *3 LOUD2A - *3 LOUD1B - *4 LOUD2B - *4 → L R C LFE Ls Rs	
		When Dolby DEC OUT is selected: Dolby DEC 1-8 DolbyDM-L DolbyDM-R 500Hz TONE 1KHz TONE SILENCE	

*1 DIRECT IN SEL and Dolby DEC OUT settings are retained until changed. When an INPUT setting, DIRECT IN SEL or Dolby DEC OUT, is changed, CH1-8 signal assignments will be changed to that of the INPUT selection. DIRECT IN SEL and Dolby DEC OUT signals cannot be input to the Dolby encoder together. Dolby Digital signal output from the Dolby decoder, Dolby DEC OUT, cannot be encoded to the Dolby E signal.

*2 EMB1 channels corresponding to CH1-8 will be the default value.
(CH1: EMB 1 CH1/2 - CH8: EMB1 CH15/16)
If INPUT is set to Dolby DEC OUT, the settings will be; CH1: Dolby DEC 1 - CH8: Dolby DEC 8.

*3 Shown if the FA-95ALA is installed in slot A.

*4 Shown if the FA-95ALA is installed in slot B.

6-10-1-7. Dolby ENCODER SETTING

This menu is displayed only if FA-95DE-E option is installed in option slot A.

```
 Dolby ENC SET A   187
PROGRAM   : 5.1+2
BIT DEPTH:20bit
FRAME REF:FS1
```

Menu button

VIDEO OP
AUDIO OP

Menu names and menu pages for the option in slot B chang as shown below.

```
 Dolby ENC SET B   237
```

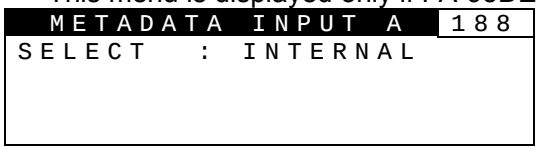
Parameter	Default	Setting range	Description
PROGRAM	5.1+2	5.1+2 *1 5.1+2x1 *1 4+4 *1 4+2x2 *1 4+2+2x1 *1 4+4x1 *1 4x2 *1 3x2+2x1 *1 2x2+4x1 *1 2+6x1 *1 8x1 *1 5.1 4+2 4+2x1 3x2 2x2+2x1 2+4x1 6x1 4 2+2 2+2x1 4x1 7.1 *1 7.1 Screen *1	Selects Dolby E encoder program configuration. See Dolby E Encoder Input Channel Assignment table in section 13 “Dolby E Decoder/Encoder Channel Assignment Table” for channel assignments of respective configurations.
BIT DEPTH	20bit	20bit 16bit	Selects the bit width of the Dolby E encoder output.
FRAME REF	FS1	FS1 FS2	Selects a video output to which the Dolby E encoder output is synchronized. (FS 1 or FS 2) *2

*1 If BIT DEPTH is set to 16bit, the “＊“ will be displayed and the program functions as 5.1. To select these configurations, set BIT DEPTH to 20bit.

*2 See section 5-7 “VIDEO OUT SELECT (OUT SEL)” for details on FS1 and FS2 settings.

6-10-1-8. METADATA INPUT

This menu is displayed only if FA-95DE-E option is installed in option slot A.



Menu button

VIDEO OP
AUDIO OP

Menu names and menu pages for the option in slot B chang as shown below.

Parameter	Default	Setting range	Description
SELECT	INTERNAL	INTERNAL Dolby DEC OUT	Selects a metadata to be used for Dolby E encoding. **INTERNAL:** Uses the program configuration and bit depth selected in the 6-9-7 Dolby ENCODER SETTING menu. Other metadata will be reset to default. **Dolby DEC OUT**: Uses the metadata of the Dolby E signal input to the Dolby decoder. The program configuration and bit depth selected in the 6-10-1-7 Dolby ENCODER SETTING will be ineffective.

6-10-2. Automatic Loudness Adjustment (FA-95ALA)

Automatic Loudness Adjustment is the function that measures and automatically adjusts the input audio signal loudness level to the target level. The FA-95ALA in one option slot can measure and adjust the loudnes level of 2 signals (monaural, stereo, or 5.1 ch selectable) simultaneously. The following menus allow you to set the loudness measurement and adjustment parameters. See section 6-5 AUDIO MAPPING (MAPPING) for details on the output assignments of the adjusted signals to SDI, AES or analog audio output.
* Available only if the FA-95ALA option is installed.

6-10-2-1. LOUDNESS MEASUREMENT

• When installed in option slot A (Channel -1)

```
LOUD MEASURE 1A      211
   MOMENT SHORT LONG
I:  -20.0 -20.0 -20.0
O:  ----- ----- -----
F3>STR F4>CL  0:00:03
```

Menu button

VIDEO OP
AUDIO OP

Menu names and menu pages for the second channel of the FA-95ALA in option slot A, and the first and second channels of the FA-95ALA in option slot B change as shown below.

• Channel -2 of the FA-95ALA in option slot A

```
LOUD MEASURE 2A      221
```

• Channel -1 of the FA-95ALA in option slot A

```
LOUD MEASURE 1B      261
```

• Chabnnel -2 of the FA-95ALA in option slot B

```
LOUD MEASURE 2B      271
```

Parameter	Default	Setting range	Description
I (INPUT)	-	-	Displays the measured loudness level of the FA-95ALA input audio signal in LKFS. See section 6-10-2-4. LOUDNESS CHANNEL ASSIGNMENT for details on input settings. *1 **MOMENT**: Momentary loudness level **SHORT**: Short-term loudness level **LONG**: Long-term loudness level
O (OUTPUT)	-	-	Displays the loudness level of the audio signal adjusted by the FA-95ALA in LKFS. Displays "-----" if the adjustment is disabled. *1 **MOMENT**: Momentary loudness level **SHORT**: Short-term loudness level **LONG**: Long-term loudness level
F3>	STR	STR (START) STP (STOP)	Pressing the F3 control knob starts loudness measurement and adjustment. Press again to stop. Pressing the F3 control knob alternates the menu display between STR and STP. *2 **STR**: Starts measuring and adjusting. **STP**: Stops measuring and adjusting. Once the measurement and adjustment starts, the elapsed time will be displayed.
F4>	CL	-	Pressing the F4 control knob clears all measured loudness levels and the elapsed time display.

*1 Displays "NA" for no input signal. All values measured as over 0.0 LKFS will be displayed as "0.0".

IMPORTANT
Measurement and adjustment can be performed for up to 6:59:59 (6 hr 59 min 59 sec). If measurement continues for the maximum duration, the elapsed time display restarts from 0:00:00.

6-10-2-2. LOUDNESS CONTROL ENABLE

• When installed in option slot A (Channel -1)

```
LOUD CTRL ENA1A      212
CONTROL   :OFF

RESPONSE S:NORMAL
RESPONSE F:NORMAL
```

Menu button

VIDEO OP
AUDIO OP

Menu names and menu pages for the second channel of the FA-95ALA in option slot A, and the first and second channels of the FA-95ALA in option slot B change as shown below.

• Channel -2 of the FA-95ALA in option slot A

```
LOUD CTRL ENA2A      222
```

• Channel -1 of the FA-95ALA in option slot A

```
LOUD CTRL ENA1B      262
```

• Channel -2 of the FA-95ALA in option slot A

```
LOUD CTRL ENA2B      272
```

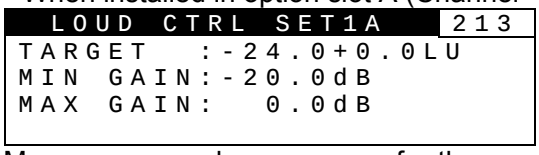
Parameter	Default	Setting range	Description
CONTROL	OFF	OFF ON	Allows you to turn On or Off the Loudness Level Adjustment feature. Set to Off to measure loudness, but not to adjust. The setting can be changed only when loudness is not being measured. While measuring the loudness level, “OFF(LOCK)” or “ON(LOCK)” is displayed, and the setting cannot be changed.
RESPONSE S	NORMAL	NA -4, -3, -2, -1 NORMAL +1, +2, +3, +4	Allows you to select the loudness level adjustment speed (SLOW) to achieve the target level for long-term loudness level adjustment, allowing gradual leveling. The larger the value, the faster the response allowing greater adjustment. **NA**: Disables the SLOW adjustment function.
RESPONSE F	NORMAL	NA -4, -3, -2, -1 NORMAL +1, +2, +3, +4	Allows you to select the loudness level adjustment speed (FAST) to achieve the target level for instantaneous loudness level adjustment, allowing sudden leveling (leveling down only). The larger the value, the faster the response allowing greater adjustment. **NA**: Disables the FAST adjustment function.

IMPORTANT

Set RESPONSE according to the input signal. Larger values under both RESPONSE settings are recommended for materials with dynamic loudness level ranges. Smaller values under both settings are recommended for materials for which only minimum leveling is preferred, such as music materials.

6-10-2-3. LOUDNESS CONTROL SETTINGS

• When installed in option slot A (Channel -1)

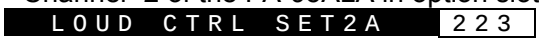


Menu button

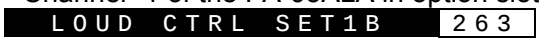
VIDEO OP
AUDIO OP

Menu names and menu pages for the second channel of the FA-95ALA in option slot A, and the first and second channels of the FA-95ALA in option slot B change as shown below.

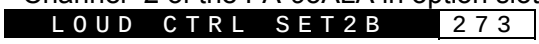
• Channel -2 of the FA-95ALA in option slot A



• Channel -1 of the FA-95ALA in option slot B



• Channel -2 of the FA-95ALA in option slot B



Parameter	Default	Setting range	Description
TARGET	+0.0 LU	-2.0 to +2.0 LU (0.1 LU)	Allows you to set the target loudness level. The target level specified by the standard that is selected under the LOUDNESS STANDARD menu (sec. 6-10-2-5) is displayed to the left.
MIN GAIN	-20.0 dB	-20.0 to 0.0 dB (1.0 dB)	Allows you to set the minimum gain (lower threshold) to limit attenuation.
MAX GAIN	0.0 dB	0.0 to +5.0 dB (1.0 dB)	Allows you to set the maximum gain (upper threshold) to limit magnification.

6-10-2-4. LOUDNESS CHANNEL ASSIGNMENT

• When installed in option slot A (Channel -1)

```
  LOUD CH ASGN1A      214
MODE:STEREO
L    :EMB1 CH 1
R    :EMB1 CH 2
C    :INVALID
  LOUD CH ASGN1A      215
LFE  :INVALID
Ls   :INVALID
Rs   :INVALID
```

Menu button

VIDEO OP
AUDIO OP

• When installed in option slot A (Channel -2)

```
  LOUD CH ASGN2A      224
MODE:STEREO
L    :EMB2 CH 1
R    :EMB2 CH 2
C    :INVALID
  LOUD CH ASGN2A      225
LFE  :INVALID
Ls   :INVALID
Rs   :INVALID
```

Menu names and menu pages for the FA-95ALA in option slot B change as shown below.

• When installed in option slot A (Channel -1)

```
  LOUD CH ASGN1B      264
  LOUD CH ASGN1B      265
```

• When installed in option slot A (Channel -2)

```
  LOUD CH ASGN2B      274
  LOUD CH ASGN2B      275
```

Parameter	Default	Setting range	Description
MODE	STEREO	MONAURAL *3 STEREO 5.1 CH	Allows you to specify the audio mode of the audio signal loudness level to be measured and adjusted.
L (CH)	EMB1/2 CH1 *1	EMB1 CH 1-16 EMB2 CH 1-16 AES CH 1-8 ANALOG CH 1-4 DOWNMIX1-L, R DOWNMIX2-L, R Dolby DECA-1-8 *4 Dolby DMA-L, R *4 Dolby DECB-1-8 *5 Dolby DMB-L, R *5	Allows you to select an audio channel of which loudness level to be measured and adjusted. **EMB1**: FS1 IN input audio channels **EMB2**: FS2 IN input audio channels **AES**: AES input audio channels **ANALOG**: Input analog audio channels **DOWNMIX**: Internally generated downmixed audio channels (See sec. 6-7. 6-8. DOWNMIX1, 2 SET) **Dolby DEC**: Dolby decoder output audio channels (See sec. 6-10-1.FA-95D-D, FA-95DE-E.) **Dolby DM**: Dolby decoder downmixed output audio channels (See sec. 6-10-1.FA-95D-D, FA-95DE-E.) Invalid channels due to their Mode settings will be indicated as “INVALID”.
R (CH)	EMB1/2 CH2 *1		
C (CH)	INVALID (EMB1/2 CH3) *1		
LFE (CH) *2	INVALID (EMB1/2 CH4) *1		
Ls (CH)	INVALID (EMB1/2 CH5) *1		
Rs (CH)	INVALID (EMB1/2 CH6) *1		

*1 Default values of Channel-1 are “EMB1 CH1-6”, and Channel-2 are “EMB2 CH9-14”.

*2 The LFE channel is not subject to measurement, but to adjustment.

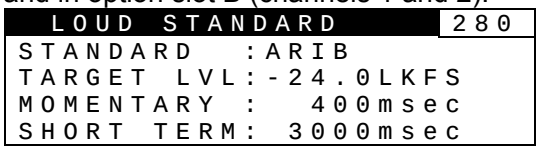
*3 *3 If MODE is set to MONAURAL, the output signal for LOUD 1/2 R selected in the SDI, AES or Analog REMAPPING menu will be the same as that for LOUD 1/2-L.

*4 Shown if the FA-95D-D or FA-95DE-E is installed in option slot A.

*5 Shown if the FA-95D-D or FA-95DE-E is installed in option slot B.

6-10-2-5. LOUDNESS STANDARD

Settings in this menu are common for the FA-95ALA in option slot A (channels 1 and 2) and in option slot B (channels 1 and 2).



Parameter	Default	Setting range	Description
STANDARD	ARIB	ARIB ATSC A85 EBUR128 ITU R1770	Allows you to select the standard under which the loudness measurement and adjustment will be conducted. **ARIB**: ARIB TR-B32 **ATSC A85**: ATSC A/85 **EBU R128**: EBU-R128 **ITU R1770**: ITU-R BS.1770
TARGET LVL	-	-	Displays the specified target level of the selected standard.
MOMENTARY	-	-	Displays the specified measurement duration (Momentary) of the selected standard.
SHORT TERM	-	-	Displays the specified measurement duration (Short Term) of the selected standard.

Parameter Specification of Standards used in the FA-95ALA

Parameter	ARIB TR-B32	ATSC A/85	EBU-R128	ITU-R BS.1770
Target Level	-24.0 LKFS	-24.0 LKFS	-23.0 LUFS	-24.0 LKFS
Momentary Average Time	400 msec	125 msec	400 msec	400 msec
Short Term Average Time	3000 msec	10000 msec	3000 msec	3000 msec
Absolute Gating	-70.0 LKFS	NONE	-70.0 LUFS	-70.0 LKFS
Relative Gating	-10 LU	NONE	-10 LU	-10 LU
Overlap Size	75%	0%	75%	75%

6-11. AUDIO SYSTEM Settings (AUDIO SYS)

Allows you to set basic settings on the audio system.

6-11-1. FADE IN / OUT

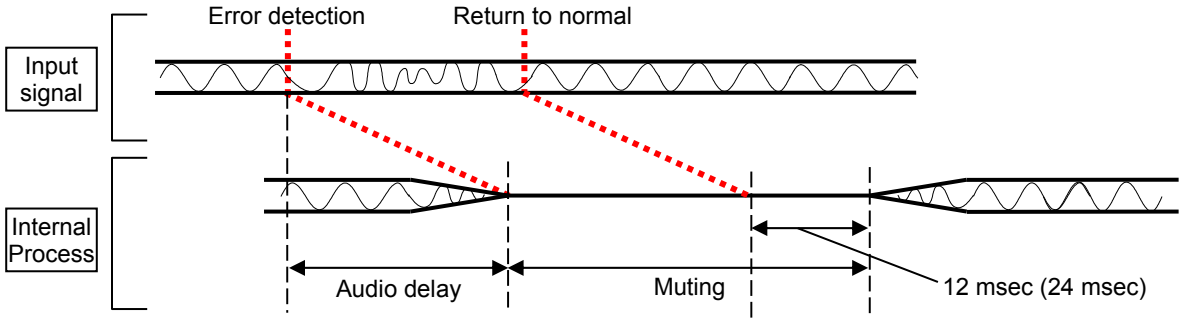
```
FADE IN/OUT                281
FADE MODE:DISABLE
FADE TIME:12msec
```

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
FADE MODE	DISABLE	DISABLE ENABLE	**DISABLE:** Always outputs input audio signals without adding any effect such as Fade or Mute. **ENABLE:** Sets an audio to mute with fade out if an audio error is detected, and make it fade in when recovered. *1
FADE TIME	12 msec	12 msec 24 msec	Sets the duration for FADE IN and OUT transitions.

*1 To use this function, the audio delay must be set longer than the sum of the FADE TIME and error detection time (2 msec).
Ex.) If FADE TIME is set to 12 msec, the audio delay must be longer than 14 msec; i.e. 12+ 2 msec (error detection time).



IMPORTANT

FADE IN/OUT may not function properly for the switching between AES input signals whose sampling rates are different, or that are asynchronous.

6-11-2. DIGITAL AUDIO

```
DIGITAL AUDIO          282
REF LEVEL :-20dBFS
GRADE:PROFESSIONAL
RESOLUTION:24bit
```

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
REF LEVEL	-20dBFS	-18dBFS -20dBFS -24dBFS	Selects the reference level for digital audio signals. See section 11-2 “Digital Output Level Relative to the Analog Input Level” for details.
GRADE	PROFESSIONAL	PROFESSIONAL CONSUMER	Selects an audio application for AES and SDI AUDIO outputs. **PROFESSIONAL**: Optimized for professional use. **CONSUMER**: Optimized for consumer use.
RESOLUTION	24bit	24bit, 20bit, 16bit	Selects an audio word length for AES and SDI AUDIO outputs.

6-11-3. AUDIO ERR SENSE

```
AUDIO ERR SENSE        283
CH SEL    :FS-1/2
CH STATUS:SRC BYPASS
VALIDITY  :SRC BYPASS
```

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
CH SEL	FS1-1/2	FS1-1/2 – FS1-15/16 FS2-1/2 – FS2-15/16 AES 1/2 - AES 7/8	Selects a stereo channel pair for which to enable Audio Error SENSE.
CH STATUS	SRC BYPASS	SRC BYPASS PCM MUTE	Selects audio error sensor mode for each stereo channel pair of SDI and AES input audio signals whose NON-PCM channel status flag is 1. *1 **SRC BYPASS**: Treats audio signals as NON-PCM. By-passes audio signals through SRC *2, and selects audio clock input in the NON-PCM signal channel for SDI AUDIO CLOCK. *3 **PCM**: Treats audio signals as PCM (standard audio signal). By-passes audio signals through SRC *2, and selects REFERENCE for SDI AUDIO CLOCK. *3 **MUTE**: Treats audio signals as mute signals.

Parameter	Default	Setting range	Description
VALIDITY	SRC BYPASS	SRC BYPASS PCM MUTE	Selects audio error sensor mode for each stereo channel pair of SDI and AES input audio signals whose channel status Validity Bit flag is 1.*1 **SRC BYPASS**: Treats audio signals as NON-PCM. By-passes audio signals through SRC *2, and selects audio clock input in the NON-PCM signal channel for SDI AUDIO CLOCK. *3 **PCM**: Treats audio signals as PCM (standard audio signal). By-passes audio signals through SRC *2, and selects REFERENCE for SDI AUDIO CLOCK. *3 **MUTE**: Treats audio signals as mute signals.
CORRECTION	NORMAL	DISABLE NORMAL SENSITIVE	FA-9520 can fade*4 and mute audio when it detects a change in the audio status due to, e.g., signal switchover. This parameter allows you to select whether to detect changes and how sensitive detection should be to such changes. **DISABLE**: Disables mute function when change in audio status is detected. Normally not selected. **NORMAL**: Mutes when a change on an SDI signal, ADP (Audio Data Packet), or DBN (Data Block Number) is detected. Normally selected. **SENSITIVE**: Mutes when a change on channel status, or EDP (Extended Data Packet) presence (only for SD-SDI), as well as the above items, is detected.

*1 Channel status and audio channel (input) Validity Bit can be checked using a wave form monitor.
*2 Processes audio signals as described if SRC MODE in 6-9-1 “EMB1 SRC MODE”, 6-9-2 “EMB2 SRC MODE”, and 6-9-3 “AES SRC MODE” is set to AUTO.
*3 Processes audio signals as described if EMB1 OUT CLOCK in section 6-1-4 is set to AUTO.
*4 Fade function depends on the FADE MODE setting in the 6-11-1 FADE IN / OUT menu.

◆ CH STATUS

The FA-9520 determins whether the input audio signal is PCM or not from the NON-PCM flag carried in the Audio Channel Status (ACS). If ACS is incorrect it may lead to improper processing. This setting may effective processing such audio signals with incorrect ACS properly.

◆ VALIDITY

The FA-9520 determines whether the input audio signal is PCM or not using Validity Bits (V Bit) in audio signal. If Validity Bit (V Bit) is incorrect the audio signal may cause improper processing. This setting may effective processing such audio signals with incorrect Validy Bits properly.

IMPORTANT
Please use these settings only if there is audio noise or the audio is muted. Otherwise, do not change the default setting.

◆ CORRECTION

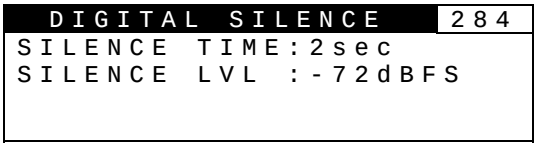
Normally set to **NORMAL**. Set to **DISABLE** for a specific program or duration when audio output has noise or is muted.
The FA-9520 fades out audio or resets the delay circuit when a status change (SDI signal input interruption, signal switchover (by a router, etc.) is detected. Faulty ancillary data in normal audio signals may also be detected as status changes.

Audio signals with such faulty ancillary data may lead the FA-9520's automatic correction to improperly process the audio input and produce noise or mute the audio.
Note that disableing the automatic correction can prevent such improper processing, however, the following functions will also be disabled.

- After a signal switchover by router or the recovery of an interrupted SDI signal, delay settings will lose their accuracy to within 1.3 msec max. Audio signal phases among audio groups will not match.

Perform either of the following operations when setting CORRECTION to **DISABLE**, or changing the setting from **DISABLE** to **NORMAL**.
(a) Change the 6-1-3. "EMB1 IN SET ALIGNMENT setting from **DISABLE** to **ENABLE**.
(b) Disconnect and reinput the SDI input signal.
These operations reset the audio circuit and minimize the delay differences and group audio phase differences. Output audio signals will be muted while performing the operations.

6-11-4. DIGITAL SILENCE



Menu button

VIDEO SYS
AUDIO SYS

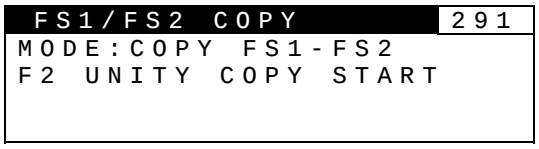
Parameter	Default	Setting range	Description
SILENCE TIME	2sec	1 - 10sec	Sets the duration to determine the SDI embedded audio and AES input signals are silent. The audio status display appears as Silence after the set duration. *1
SILENCE LVL	-72dBFS	-72dBFS -66dBFS -60dBFS -54dBFS -48dBFS	Sets the audio level to determine the SDI embedded audio and AES input signals are silent. *1

*1 According to this setting, the audio status is displayed in the EMB 1 IN AUDIO (5-10-10), EMB 2 IN AUDIO (5-10-11), and AES IN AUDIO menus (5-10-12).

7. Other Settings & Information (OTHER)

Allows you to set other settings other than video and audio settings.
Also, information on the various versions and installation states of FA-9520 option items can be viewed.

7-1. FS1/FS2 COPY



Menu button

STATUS
OTHER

Parameter	Default	Setting range	Description
MODE	COPY FS1->FS2	COPY FS1->FS2 COPY FS2->FS1 COPY FS1<->FS2	Allows you to copy settings between FS1 and FS2. Select a mode and press the F2 UNITY button to copy. **COPY FS1->FS2**: Copies FS1 settings to FS2. (FS1 and FS2 settings will become the same.) **COPY FS2->FS1**: Copies FS2 settings to FS1. (FS1 and FS2 settings will become the same.) **COPY FS1<->FS2**: Copies FS1 settings to FS2 and FS2 settings to FS1. (Exchanged)

Refer to the “Menus of Which Settings are Copied” for the settings that will be copied.

* This menu cannot be accessed from the FA-95RU.

NOTE

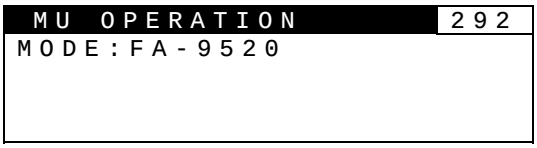
It is better to save settings to an event memory before copying. Doing so enables you to recall the settings, in case the copying fails.

See section 8. “Event Memory” for details on Event memory.

◆ **Copy Settings Menus**

Menu button	VIDEO menus (Lit green)	
PROCESS SDI AUDIO	VIDEO PROC AMP	
CC AES AUDIO	WHITE LEVEL, BLACK LEVEL,	GAMMA LEVEL, COLOR CORRECT
CONV1 ANALOG	U/D MODE, SIZE/POS SET, CROPPING,	VIDEO IMPROVE, SIDE RGB
AVO *2 MAPPING	AVO SETTING, USER1-5 LEVEL SET,	USER1-2 AREA SET, AVO SETUP
CLIP DELAY	YPbPr/RGB CLIP,	COMPOSITE CLIP
IN SEL DOWN MIX	VIDEO INPUT SET, ANC DETECT LINE,	ANC DETECT SEL
OUT SEL MODE	ANC DATA EMBED,	ANC EMBED LINE
VIDEO OP AUDIO OP	LOGO SEL,	KEYER SET
VIDEO SYS AUDIO SYS	FS MODE SET HD PHASE SET, SD PHASE SET, VIDEO POSITION, FREEZE SET, ANC SET,	ANC LOSS SET, WSS AFD ERROR, AUDIO GRP, TEST SIGNAL, SD LINE MASK

7-2. MU OPERATION



Menu button

STATUS
OTHER

Parameter	Default	Setting range	Description
MODE	FA-9520	FA-9520 FA-9500	Allows you to select an FA-9520 operation mode. **FA-9500**: Mode in which the unit operates the same as the former FA-9500. Suitable for simultaneous outputs. **FA-9520**: Independent 2-channel frame synchronizers can be used. A WAIT 5sec AND REBOOT message appears when the operation mode is changed. In such case, wait at least 5 seconds, then reboot the FA-9520. The FA-9520 can be used in the selected operation mode after the restart. **Make sure** that the MU OPERATION menu is open when rebooting the unit. Rebooting while another menu is open does not implement the operation mode change.

* This menu cannot be accessed from the FA-95RU.

7-2-1. Important Note on Changing the Operation Mode

Be sure to follow the procedure described in section 7-2-2 “FA-9520 Operation Mode Change Procedure”, if you wish to change the FA-9520 operation mode to ensure proper performance.

7-2-2. FA-9520 Operation Mode Change Procedure

1. Be sure to close all Web browser connections with the FA-9520.
2. If you are using remote control interfaces such as an SNMP manager to manage the FA-9520, disconnect the interface.
3. Change the MODE (change FA-9520/FA9500 selection) setting. Wait for more than 5 seconds, then reboot the unit.
4. Make sure the “MU OPERATION” menu is displayed when rebooting the unit.
   (The operation mode cannot be changed by rebooting the unit if the menu is diplaying one that is different from the “MU OPERATION” menu.)
5. To control the FA-9520 via remote control interfaces such as an SNMP manager, be sure to download the MIB file for the correct operation mode.

☞ See section 9-1 “Connecting via a WEB Browser” for details on WEB Browsers. See section 9-6-3 “Downloading a MIB File” for details on downloading the MIB file for FA-9520 mode. See the FA-9500 mode Operation Manual for details on downloading an MIB file for FA-9500 mode.

7-3. CONTROL SETTING

Menu button

STATUS
OTHER

Parameter	Default	Setting range	Description
CONTROL	LOCAL	LOCAL REMOTE	**LOCAL:** Disables control from FA-95RU / FA-10DCCRU. (Front panel REMOTE LED is unlit.) **REMOTE:** Enables control from FA-95RU / FA-10DCCRU. (Front panel REMOTE LED is lit.)

* This menu cannot be accessed from the FA-95RU.

7-4. FRONT OPERATION

Menu button

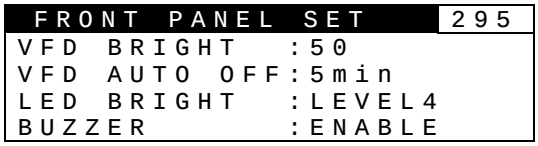
STATUS
OTHER

Parameter	Default	Setting range	Description
MODE	NORMAL	NORMAL LIVE SAFE	Allows you to select a front panel operation mode. **NORMAL:** Changes made by control knobs F1 to F4 will be applied immediately to the unit. **LIVE SAFE:** Requires confirmation before control knob changes are applied. *

* Whenever a change is made by control knobs F1 to F4, the single-arrow buttons (up and down) and the LED around the control knob of the changed parameter blink confirming the change. Pressing the single down arrow button confirms the change and the control knob LED lights. Pressing the single up arrow button cancels the change and everything reverts to the previous state. Refer to section 4. "Front Panel Operation" for details.

* The FRONT OPERATION menu in the FA-95RU allows you to select a front panel operation mode for the FA-95RU.

7-5. FRONT PANEL SET



Menu button

STATUS
OTHER

Parameter	Default	Setting range	Description
VFD BRIGHT	50	10 - 50	Sets brightness of the menu display. 1**0 - 50:** dark to bright
VFD AUTO OFF	DISABLE	DISABLE 5min 10min 30 min	Sets the idle time before turning off the menu display. **DISABLE:** Does not turn off the menu display.
LED BRIGHT	LEVEL4	LEVEL1 - 8	Sets the brightness of all LED indicators on the front panel. **LEVEL1 – 8:** dark to bright
BUZZER	ENABLE	DISABLE ENABLE	**DISABLE:** Disable buzzer **ENABLE:** Enable buzzer

* This menu cannot be accessed from the FA-95RU.

7-6. GPI SETTING

```
 GPI SETTING          296
GPI1-7 SEL:GPI1
IN/OUT SEL:INPUT
ASSIGN:NONE
```

Menu button

STATUS
OTHER

Parameter	Default	Setting range		Description
GPI1-7 SEL	GPI1	GPI1-7		Selects a GPI pin of the REMOTE port.
IN/OUT SEL *1	INPUT	INPUT OUTPUT		Selects whether to use the GPI pin that is selected under GPI1-7 SEL for input or tally output.
ASSIGN	NONE	In case IN/OUT SEL is set to INPUT *2 NONE DEFAULT EVENT1 - 100		Assigns a function to the GPI pin that is selected under GPI1-7 SEL according to the selection under IN/OUT SEL.
		BY-PASS	(SDI1) (SDI2) (VBS)	
		FS1/FS2	FREEZE FULL CB 75% CB SMPTE CB RAMP SDI1 SDI2 OP A *4 OP B *5 COMPOSITE KEYER LOAD 1-7 *7	
		EXT AUDIO DEFAULT EVENT1~100		
		LOUD1 LOUD2	A START *8 B START *9 A CLEAR *8 B CLEAR *9	
		BY-PASS (OP A) *4 BY-PASS (OP B) *5		
		In case IN/OUT SEL is set to OUTPUT NONE REF IN FAN ALARM DC POWER1 *6 DC POWER2 *6		
		FS1/FS2	FREEZE VIDEO IN SDI1 SDI2 OP A *4 OP B *5 COMPOSITE KEYER	
		LOUD 1 LOUD 2	A CTRL *8 B CTRL *9	
LOGO ID	1 - 7	1 - 256		Selects a logo ID for the selected FS1 LOAD 1 - 7, or FS2 LOAD 1 – 7.

*1 Whenever the IN/OUT SEL setting is changed, ASSIGN is reset to NONE. Reset ASSIGN.

*2 The input functions consist of pulse mode and level mode functions. See the following "◆INPUT FUNCTION" for details.

*3 Details of the output functions are shown in the "◆OUTPUT FUNCTION" on the next page. Power 1 and 2 are selectable if the FA-95PS option is installed.

*4 Effective if the FA-95AIO option is installed in option slot A.
*5 Effective if the FA-95AIO option is installed in option slot B.
*6 Shown if the FA-95PS option is installed.
*7 FS1 LOGOs 1 - 7, and FS2 LOGOs 1 – 7 will be displayed, if selected, as “LOGO ID: 1”. Logo ID can be assigned to any number 1 through 256. In the following cases, the logo will not be inserted to the FS output signals, although data will be loaded to the FA-9520.
- No logo is registered under the selected Logo ID.
- The registered logo format and converter output video format do not match.
- The keyer of the relevant FS is turned off.
*8 Shown if the FA-95ALA option is installed in option slot A.
*9 Shown if the FA-95ALA option is installed in option slot B.

◆ INPUT FUNCTION

Function	Mode	Description
NONE		No function
BY-PASS (SDI1) *1	Level	Sets BY-PASS ON/OFF for SDI IN 1 to SDI OUT 1. Shorted to GND: BY-PASS ON OPEN: BY-PASS OFF
BY-PASS (SDI2) *1	Level	Sets BY-PASS ON/OFF for SDI IN 2 to SDI OUT 3. Shorted to GND: BY-PASS ON OPEN: BY-PASS OFF
BY-PASS (VBS) *1	Level	Sets BY-PASS ON/OFF for COMPOSITE IN to COMPOSITE OUT. Shorted to GND: BY-PASS ON OPEN: BY-PASS OFF
FS1/FS2 FREEZE *2	Level	Sets FREEZE ON/OFF for each FS. Shorted to GND: FREEZE ON OPEN: FREEZE OFF
FS1/FS2 FULL CB	Level	Selects FULL CB (color bar) for the test signal for each FS. Shorted to GND: FULL CB ON OPEN: FULL CB OFF
FS1/FS2 75% CB	Level	Selects 75% CB for the test signal for each FS. Shorted to GND: 75% CB ON OPEN: 75% CB OFF
FS1/FS2 SMPTE CB	Level	Selects SMPTE CB for the test signal for each FS. Shorted to GND: SMPTE CB ON OPEN: SMPTE CB OFF
FS1/FS2 RAMP	Level	Selects RAMP for the test signal for each FS. Shorted to GND: RAMP ON OPEN: RAMP OFF
FS1/FS2 AUDIO	Level	Sets AUDIO test signal ON for each FS. Shorted to GND: AUDIO test signal ON OPEN: AUDIO test signal OFF
EXT AUDIO	Level	Sets AES and ANALOG AUDIO test signals ON Shorted to GND: AUDIO test signal ON OPEN: AUDIO test signal OFF
FS1/FS2 SDI1, 2 FS1/FS2 COMPOSITE FS1/FS2 OP A *3 FS1/FS2 OP B *4	Pulse	Selects an input video signal for each FS. Switches over to the selected input signal when shorted to GND.
DEFAULT *5 EVENT 1 – 100 *5	Pulse	Loads the DEFAULT, and events 1 through 100. When shorted to GND, the assigned settings (among default and events) will be loaded.
FS1/FS2 KEYER	Level	Sets the keyer ON/OFF for each FS. Shorted to GND: Keyer ON OPEN: Keyer OFF
FS1/FS2 LOAD 1-7	Pulse	Loads the logo assigned to a LOGO ID to the selected FS. FS1/2 LOAD 1 - LOAD 7 are assigned to LOGO IDs.
LOUD1, 2A START *6 LOUD1, 2B START *7	Level	Starts or Stops respective LOUDNESS measurements. Shorted to GND: Starts LOUDNESS measurement OPEN: Stops LOUDNESS measurement
LOUD1, 2A CLEAR *6 LOUD1, 2B CLEAR *7	Pulse	Clears respective LOUDNESS measurements. Shorted to GND: Clears LOUDNESS measurement.

BY-PASS(OP A) *1*3 BY-PASS(OP B) *1*4	Level	Sets BY-PASS ON/OFF for FA-95AIO I/O in slots A&B. Shorted to GND: BY-PASS ON OPEN: BY-PASS OFF

*1 The BY-PASS that is displayed as disabled in the BY-PASS SETTING menu (sec. 5-9-11) will not turn on by setting the above to ON. In such case, the menu will be displayed as "＊BYPASS(SDI1)". To enable the BY-PASS, change associated settings in FS INPUT SELECT (sec. 5-6-1) and OUTPUT ASSIGN (sec. 5-7-1).

*2 Although FREEZE is set to ON, the freeze function is disabled if SYNCHRO in section 5-9-1 "FS MODE SET" is set to LINE, or AVDL. In such case, the menu will be displayed as "＊FREEZE". To enable FREEZE for INPUT FUNCTION, be sure to set SYNCHRO to FRAME.

*3 Shown only if FA-95AIO option is installed in option slot A

*4 Shown only if FA-95AIO option is installed in option slot B

*5 Event loading will load all settings.

*6 Shown only if FA-95ALA option is installed in option slot A

*7 Shown only if FA-95ALA option is installed in option slot B.

NOTE

See section 14 "REMOTE" for details on pulse and level durations.

◆ OUTPUT FUNCTION

Function	Description
NONE	No function
FS1/FS2 FREEZE	FS1/FS2 FREEZE ON: Low FS1/FS2 FREEZE OFF: High (Open Collector)
FS1/FS2 VIDEO IN	Signal present in FS1/FS2: Low No signal present in FS1/FS2: High (Open Collector)
AUDIO IN	Signal present: Low No signal present: High (Open Collector)
REF IN	Signal present: Low No signal present: High (Open Collector)
FAN ALARM *1	FAN failed: Low FAN normal: High (Open Collector)
DC POWER 1 *2	Power 1 failure: Low Power 1 normal: High (Open Collector)
DC POWER 2 *2	Power 2 failure: Low Power 2 normal: High (Open Collector)
FS1/FS2 SDI1	FS1/FS2 SDI1 input signal is selected: Low FS1/FS2 SDI1 input signal is not selected: High (Open Collector)
FS1/FS2 SDI2	FS1/FS2 SDI2 input signal is selected: Low FS1/FS2 SDI2 input signal is not selected: High (Open Collector)
FS1/FS2 COMPOSITE	FS1/FS2 COMPOSITE input signal is selected: Low FS1/FS2 COMPOSITE input signal is not selected: High (Open Collector)
FS1/FS2 OP A *3	FS1/FS2 OP A input signal is selected: Low S1/FS2 OP A input signal is not selected: High (Open Collector)
FS1/FS2 OP B *4	S1/FS2 OP B input signal is selected: Low S1/FS2 OP B input signal is not selected: High (Open Collector)
FS1/FS2 KEYER	FS1/FS2 KEYER is enabled: Low FS1/FS2 KEYER is disabled: High (Open Collector)
LOUD1, 2A CTRL *5 LOUD1, 2B CTRL *6	Each LOUDNESS CONTROL is set to ON (LOUDNESS measurement is active): Low Each LOUDNESS CONTROL is set to OFF (LOUDNESS measurement is inactive): High (Open Collector)

*1 FAN ALARM goes to low (active), if either one of two fans fails.

*2 Effective if the optional FA-95PS is installed.

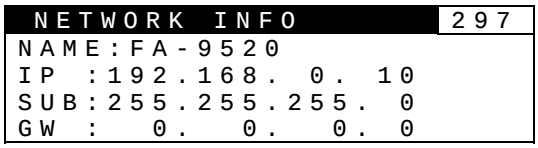
*3 Effective if the optional FA-95AIO is installed in option slot A.

*4 Effective if the optional FA-95AIO is installed in option slot B.

*5 Effective if the optional FA-95ALA is installed in option slot A.

*6 Effective if the optional FA-95ALA is installed in option slot B.

7-7. NETWORK INFO



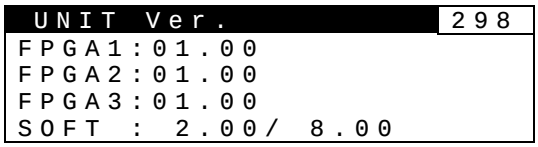
Menu button

STATUS
OTHER

Parameter	Default	Description
NAME	FA-9520	Displays the unit name.
IP	192.168.0.10	Displays the LAN PORT1 IP address.
SUB	255.255.255.0	Displays the LAN PORT1 subnet mask.
GW	0.0.0.0	Displays the LAN PORT1 gateway.

The NETWORK INFO settings can be changed on a web browser window on a computer. See section 9-8-2 “NETWORK SETTING” for details.

7-8. UNIT Ver.



Menu button

STATUS
OTHER

Parameter	Description
FPGA1	Displays the FPGA1 version information.
FPGA2	Displays the FPGA2 version information.
FPGA3	Displays the FPGA3 version information.
SOFT	Displays the FA-9520 operation mode software version information. (First 4 digits) Displays the FA-9500 operation mode software version information. (Last 4 digits)

7-9. OPTION A Ver.

```
 OPTION A Ver.        299
NAME:NONE
FPGA1:--.--
FPGA2:--.--
SOFT :--.--
```

Menu button

STATUS
OTHER

Parameter	Default	Setting range (Steps)	Description
NAME	-	-	Displays the name of the optional device that is installed in OPTION SLOT A. Displays “NONE” if no device is installed.
FPGA1	-	-	Displays the FPGA1 version information in OPTION SLOT A. Displays “--.—“ if the version is not supported.
FPGA2	-	-	Displays the FPGA2 version information in OPTION SLOT A. Displays “--.—“ if the version is not supported.
SOFT	-	-	Displays the version information of SOFT in OPTION SLOT A. Displays “--.—“ if the version is not supported.

◆ **Display when FA-95DACBL is installed**

```
 OPTION A Ver.        299
NAME:FA-95DACBL
FPGA1:--.--
FPGA2:--.--
SOFT :--.--
```

7-10. OPTION B Ver.

```
 OPTION B Ver.        300
NAME:NONE
FPGA1:--.--
FPGA2:--.--
SOFT :--.--
```

Menu button

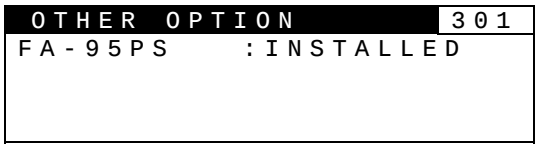
STATUS
OTHER

Parameter	Default	Setting range (Steps)	Description
NAME	-	-	Displays the name of the optional device that is installed in OPTION SLOT B. Displays “NONE” if no device is installed.
FPGA1	-	-	Displays the FPGA1 version information in OPTION SLOT B. Displays “--.—“ if the version is not supported.
FPGA2	-	-	Displays the FPGA2 version information in OPTION SLOT B. Displays “--.—“ if the version is not supported.
SOFT	-	-	Displays the version information of SOFT in OPTION SLOT B. Displays “--.—“ if the version is not supported.

◆ **Display when FA-95DACBL is installed**

```
 OPTION B Ver.        300
NAME:FA-95DACBL
FPGA1:--.--
FPGA2:--.--
SOFT :--.--
```

7-11. OTHER OPTION

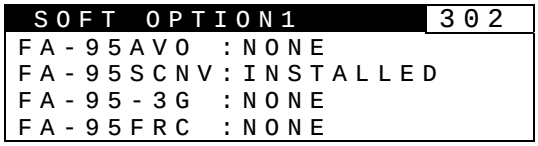


Menu button

STATUS
OTHER

Parameter	Default	Setting range	Description
FA-95PS	-	-	**INSTALLED:** FA-95PS option is installed. **NONE:** FA-95PS option is not installed.

7-12. SOFT OPTION1



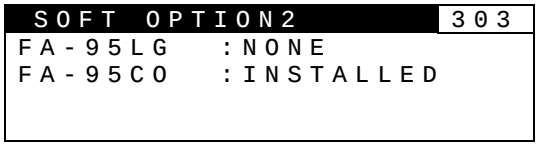
Menu button

STATUS
OTHER

Parameter	Default	Setting range	Description
FA-95AVO *	-	-	**INSTALLED:** FA-95AVO is installed. **NONE:** FA-95AVO is not installed.
FA-95SCNV	-	-	**INSTALLED:** FA-95SCNV option is installed. **NONE:** FA-95SCNV option is not installed.
FA-95-3G	-	-	**INSTALLED:** FA-95-3G option is installed. **NONE:** FA-95-3G option is not installed.
FA-95FRC	-	-	**INSTALLED:** FA-95FRC option is installed. **NONE:** FA-95FRC option is not installed.

* FA-95AVO comes standard (optional in Japan).
* FA-953G comes standard (optional in Japan).

7-13. SOFT OPTION2



Menu button

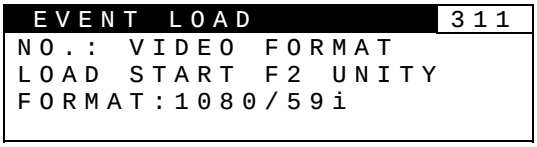
STATUS
OTHER

Parameter	Default	Setting range	Description
FA-95LG	-	-	**INSTALLED:** Logo Generator is installed. **NONE:** Logo Generator is not installed.
FA-95CO	-	-	**INSTALLED:** FA-95CO option is installed. **NONE:** FA-95CO option is not installed.

8. Event Memory

The FA-9520 can store 100 event memories, as well as sets of settings, each of which are stored for each format.
Every press of the EVENT button alternates the menus: EVENT LOAD (lit green), EVENT SAVE (lit red), and EVENT SETUP(lit orange). To go to the desired page, press the EVENT button a few times, or press the EVENT button once and the up or down single arrow button to move between EVENT pages.

8-1. EVENT LOAD



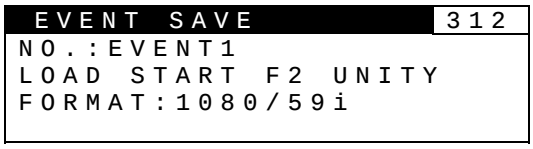
Menu button

EVENT

Parameter	Default	Setting range	Description
NO.		DEFAULT *1 EVENT1 - EVENT100	Selects the number of an event you want to load.
MODE	LOAD ALL	LOAD ALL LOAD FS1 ONLY *2 LOAD FS2 ONLY *2	Selects the event loading mode. **LOAD ALL**: Loads all setting data stored in events. **LOAD FS1 ONLY**: Loads only FS1 setting data stored in events. **LOAD FS2 ONLY**: Loads only FS2 setting data stored in events.
LOAD START F3 UNITY	-	-	Loads the event that is selected under MODE when the F3 UNITY button is pressed.

*1 DEFAULT loads the default settings.
*2 Only the FS1 or FS2 settings that are shown with ○ or ◎ in the menu list in section 4-2-2 “Menu Buttons“, and can be respectively set for FS1 and FS2. Other settings will always be loaded regardless of the selected loading mode.

8-2. EVENT SAVE



Menu button

EVENT

Parameter	Default	Setting range	Description
NO.	EVEMT1	EVENT1 - EVENT100	Selects the number of an event you want to save.
SAVE START F2 UNITY	-	-	Saves the event that is selected under NO. when the F2 UNITY button is pressed.

8-3. EVENT SETUP

Menu button

EVENT

Parameter	Default	Setting range	Description
START	LAST SETTING	LAST SETTING DEFAULT EVENT1 - EVENT100	Selects an event you want to load at startup. **LAST SETTING**: Loads the last settings that are used before startup. **DEFAULT:** Resets all settings to the default settings at startup. **EVENT1 - 100**: Loads the selected event memory among event memory settings 1 through 100.

8-4. Parameters That Are Not Stored in Event Memories

The following parameters are not stored in event memories.
ON/OFF settings of FREEZE in the FREEZE SET menu (5-9-5).
All settings in the EVENT SETUP menu (8-3).
All settings in the Other Settings & Information (OTHER) menu (7).
All settings in the Various Signal Status Display (STATUS) menu (5-10).
All settings in the Network Settings menu (9-8).
All settings in the LOUDNESS MEASUREMENT menu (6-10-2-1).
ON/OFF settings of CONTROL in the LOUDNESS CONTROL ENABLE menu (6-10-2-2).

8-5. Note on Event Memory Operation

Do not power off the unit while saving an event. The event may not be properly stored.
Also, the FA-9520 regularly updates the setting data. Do not turn off the unit for at least 5 seconds after changing settings. It is recommended to save important data into a backup file.
See sections 9-6-2 “Backup Parameter” and 9-6-4 “Event Data” for details on how to save setting data into a backup file.

9. Control via WEB Browser

This section describes how to control the FA-9520 from a computer via a web browser.
See section 3-5 “Connecting a Computer” for details on connecting with a computer.
Do not open pop-up setting dialogs at the same time. Doing so may disable operation.

9-1. Connecting via a WEB Browser

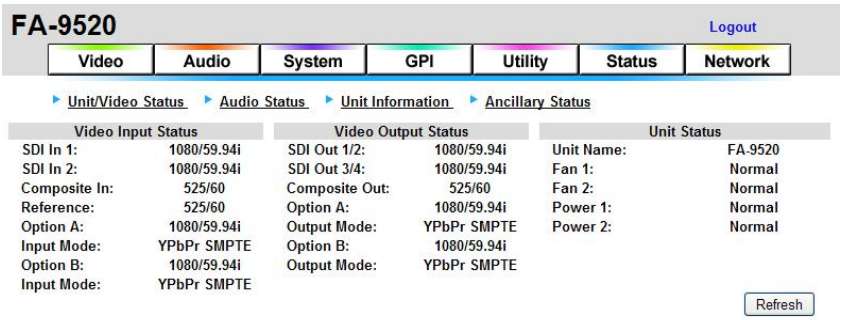
Open a web browser on your computer, and enter the address as http://192.168.0.10/ (factory default setting) in the address bar.
Press the [Enter] key to connect to the FA-9520.
The login page is displayed.

Click **Login**.
The authentication dialog appears.

Enter your user name and password. (The default user name and password are set at the factory.)
User name: fa9520
Password: foranetwork

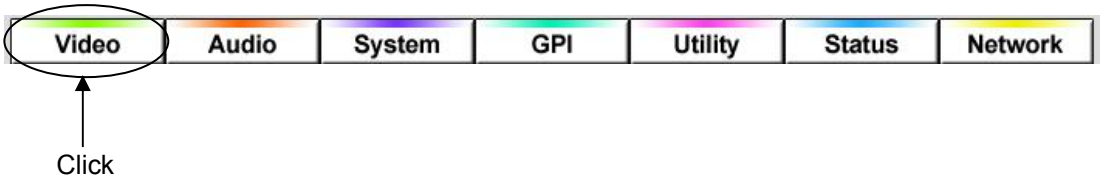
Click **OK**. The Status page is displayed.

If the user name and password are not set in the USER SETTING page (see section 9-8-5), the Status page will be displayed without displaying the Login page or authentication dialog.



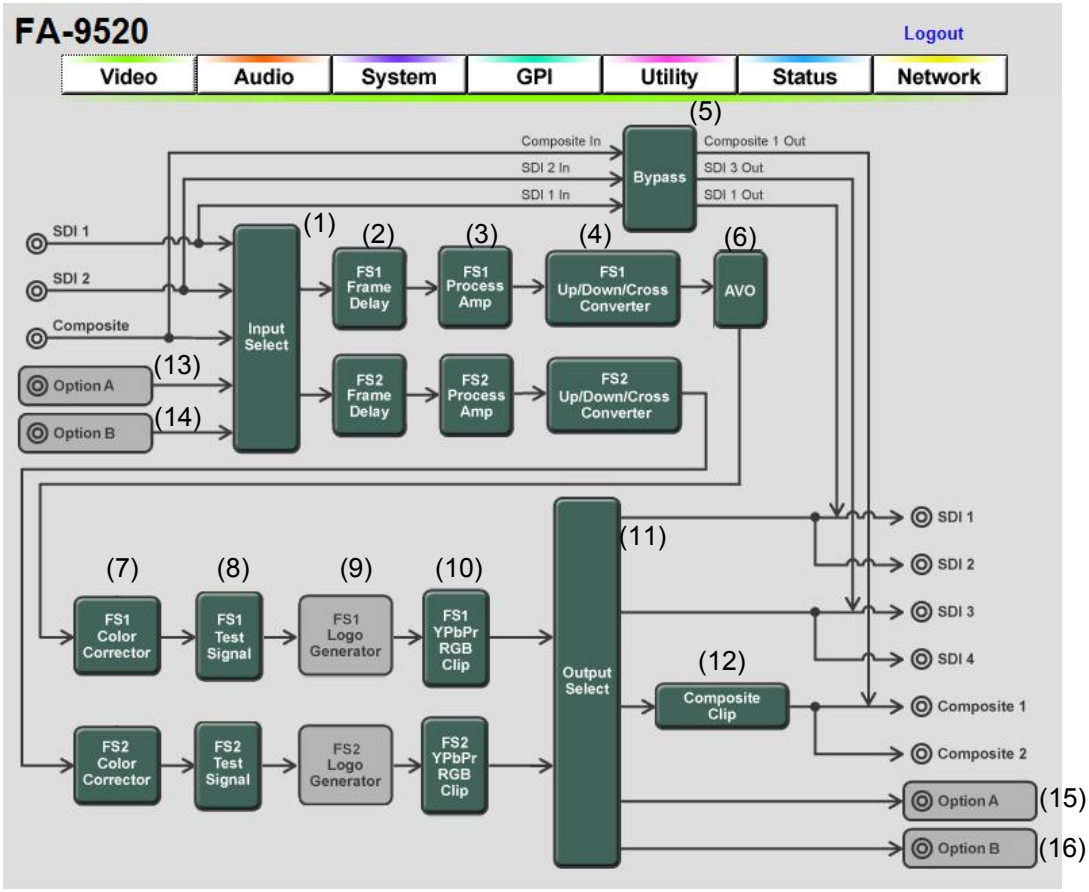
Click **Logout** to return to the Login page.
If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.

9-2. VIDEO Settings



Click the Video tab at the top of the page. The video block diagram will be displayed.
Each block in the diagram lets you to go to the corresponding windows or dialog boxes that allow you to change various settings.

Video Block Diagram

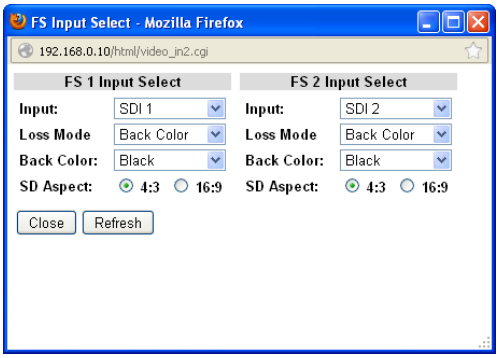


* No setting options for (9), (13) through (16).
* (13) through (16) are displayed as “FA-95AIO” if the FA-95AIO is installed.

If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.

9-2-1. FS Input Select

Clicking block (1) on the Video block diagram opens the FS Input Select dialog box.



Select setting values for parameters in the respective pull-down menus.
After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

◆ FS1/FS2 Input Select

Parameter	Default	Setting range	Description
Input (FS1)	SDI1	SDI1 SDI2 Composite Option Slot A *2 Option Slot B *3	Selects an input signal.
Input (FS2)	SDI2		
Loss Mode	Back Color	Back Color Auto Freeze *1 Color Bar Output Disable	Selects an operation for the time the signal input selected under Input is lost.
Back Color	Off	Off Black Blue Red Magenta Green Cyan Yellow	Select a background color.
SD Aspect	4:3	4:3 16:9	Selects the aspect ratio for SD input signals. This setting is used for fixed aspect ratio conversions that are performed when ASPECT in the CONV menu is set to other than AFD (4:3), AFD-ALT (4:3), AFD (16:9), AFD-ALT (16:9), AFD, AFD-ALT.

*1 If Synchro Mode under FS Mode in section 9-4-1 “FS1/FS2 Video System” is set to Line, AVDL, or Input Lock, the selected Auto Freeze functions the same as Back Color. In such case, the “Auto Freeze” display will be grayed out.
*2 Selectable only if FA-95AIO option is installed in option slot A.
*3 Selectable only if FA-95AIO option is installed in option slot B.

◆ AIO Slot A Input Mode

Parameter	Default	Setting range	Description
MODE	YPbPr SMPTE	YPbPr SMPTE YPbPr BETACAM RGB Y/C	Selects the input signal format of the FA-95AIO in option slot A. (Not shown if no FA-95AIO is installed in option slot A.)

◆ AIO Slot B Input Mode

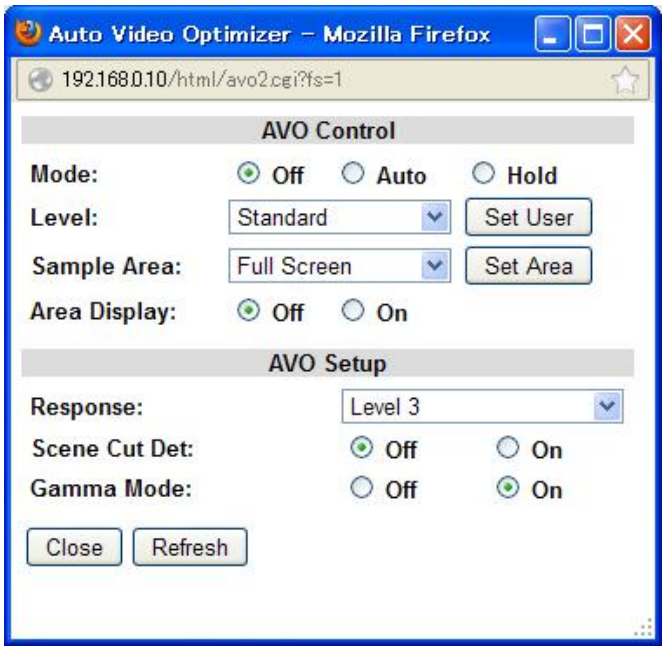
Parameter	Default	Setting range	Description
MODE	YPbPr SMPTE	YPbPr SMPTE YPbPr BETACAM RGB Y/C	Selects the input signal format of the FA-95AIO in option slot B. (Not shown if no FA-95AIO is installed in option slot B.)

<Video Loss Mode>
Video Loss Mode allows you to select what to output when the input signal selected under Input is lost.

- Back Color
  Displays a screen in a color selected under Back Color.
- Auto Freeze
  Freezes the last image before loss of signal.
  Freezes progressive signals such as 720p in frame freeze mode and other signals in field freeze mode.
- Color Bar
  Outputs SMPTE color bars.
- Output Disable
  No outputs from SDI OUT1/2, 3/4, or COMPOSITE OUT1/2.

9-2-2. Auto Video Optimizer (AVO)

Clicking block (6) on the video block diagram opens the Auto Video Optimizer dialog box.
* AVO settings are effective on FS1 video signals.



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

◆ **AVO Control**

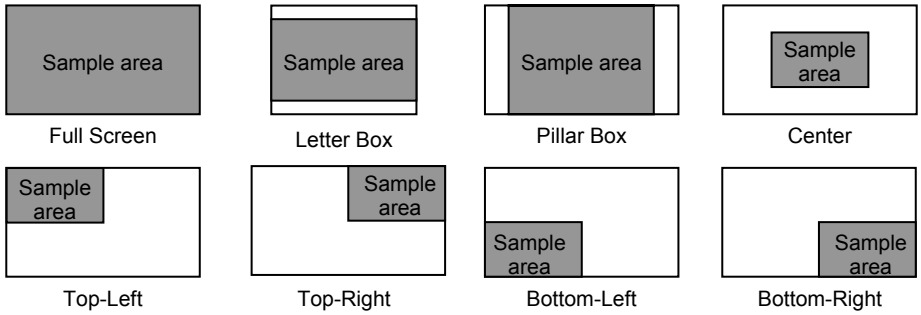
Parameter	Default	Setting range	Description
Mode	Off	Off Auto *1 Hold *1	**Auto**: Enables automatic level adjustment. **Hold**: Stops auto level adjustment. When MODE selection is changed from AUTO to HOLD, the signal levels stop and remain as they are. **Off**: Disables automatic level adjustment. When MODE selection is changed from AUTO to Off, the signal levels return to their state before auto level adjustment is applied. When set to Off, the signal levels can be manually adjusted. See section 9-2-7 “Color Corrector” for details. * AVO Control Mode cannot be changed from Off when LINK setting mode is enabled in the FA-9520 or a connected FA-95RU. To set to Auto or Hold, disable LINK setting mode. See sec. 4-2-8. “Switching Between 2-Channel Frame Synchronizers” for details on LINK settings.
Level (Adjustment level)	Standard	Darker Dark Standard Bright Brighter User1 User2 User3 User4 User5	Selects a type of signal level adjustment. 10 options are available: Five fixed options and five custom options. Darker < Dark < Standard < Bright < Brighter User1 - User5 : Customizable Clicking **Set User** opens the USER1 - 5 LEVE SET dialog box. See section9-2-2-2 “User 1 - 5 LEVEL SET” for details.
Sample Area	Full Screen	Full Screen, - Bottom Right User Area1 User Area2	Sets the sample area to calculate the adjustment. 10 options are available: Eight fixed areas and tow custom areas. <Fixed areas> Full Screen, Letter Box, Pillar Box, Center, Top-Left, Top-Right, Bottom Left, Bottom Right <Custom areas> Clicking **Set Area** opens the User Area1, 2 setting dialog box. See section 9-2-2-3 “User Area 1, 2” for details.
Area Display (Marker display)	Off	Off On	Sets sample area display On/Off. If set to On, the sample area appears as a semi-transparent white rectangle on all output videos. It is set to Off at startup. Also, if Mode is set to Off, Area Display is automatically set to Off.

*1 The FS1/FS2 LINKed setting will be disabled if AVO setting is changed to Auto or Hold while it is enabled.

IMPORTANT
Auto Level Adjustment will provide optimal results in many cases, but not always. Sample Area determines the area where the data is sampled and the level adjustments are applied to whole images.

◆ **Sample Area (Fixed area)**

Eight available sample areas are as shown below. Data is continuously sampled within each area. (See section 9-2-2-3 “User Area 1, 2” for USERA REA 1, and 2.)



◆ **AVO Setup**

Parameter	Default	Setting range	Description
Response (Filtering strength)	Level 3	Level 1 - Level 5	Sets the filtering strength for calculating the mean distances that are applied to histograms created using the sample data. The larger the value, the more gradually filtering is performed, with a more stable image but slower response. The smaller the value, the less stable the image, but with a faster response.
Scene Cut Det *1 (Scene cut detection)	Off	Off, On	When set to On, the cut transitions are detected and images are properly adjusted even if there are sharp luminance changes.
Gamma Mode (Gamma correction)	On	Off, On	When set to On, signal levels are adjusted using the Gamma Level settings.

*1 The follwoing delay will be produced when performing scene cut detection depending on the input signal format.
Interlaced formats: 2 fields (1 frame) + some lines
Progressive and PsF formats: 2 frames + some lines

Scene cut detection images will be properly adjusted and output when enough frame delay is set. If the amount of frame delay is insufficient, Scene cut detection will not be properly processed. To perform AVO scene cut detection properly, set enough delay using the FRAME DELAY function. The output delay varies depending on the SYNCRO MODE, input signal format, FRAME DELAY setting, and video signal H/V phase difference. FRAME DELAY settings are described on the next page.

9-2-2-1. About Scene Cut Detection and Frame Delay Settings

To properly perform AVO scene cut detection and adjustment, Frame Delay must be set in the setting range according to the menu settings (9-2-3 “Frame Delay” menu) as shown in the table below.

FRAME DELAY Setting Range Chart

*1 SYNCHRO	*2 Setting Rrange per Input Video Format	
	525/60i 625/50i 1080/59i 1080/50i	720/59p/50p 1080/59p,50p 1080/23PsF, 24PsF
FRAME	1 to 8 FRAME	2 to 8 FRAME
LINE/AVDL	Cannot be set	Cannot be set

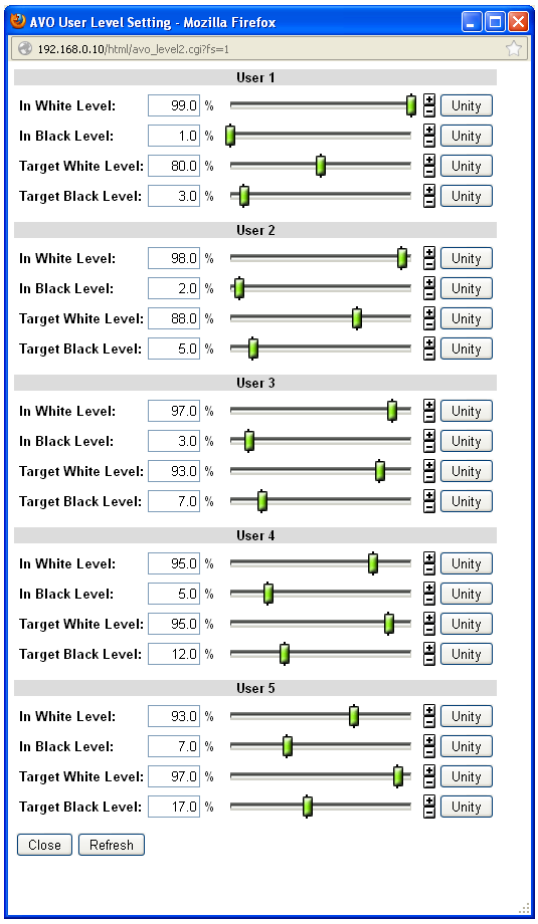
*1 Synchro Mode settings in section 9-4-1 “FS1/FS2 Video System”
*2 The current input video format can be verified in the Unit/Video Status menu (Sec. 9-7-1) for each input selected in the FS Input Select menu (Sec. 9-2-1).

IMPORTANT

Adjust the audio delay as required in the Audio Delay menu (Sec. 9-3-4) to account for any additional video signal delay produced by changing Frame Delay settings in the Frame Delay menu (Sec. 9-2-3).

9-2-2-2. User 1 - 5 LEVEL SET

Clicking **Set User** on the Auto Video Optimizer dialog box opens the User1 - 5 setting dialog box.



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.
Click **Unity** to reset to the default settings.
Click [+] to increase the value by the smallest steps.
Click [-] to decrease the value by the smallest steps.

The Level drop-down menu in the AVO dialog box has five options of user settings, User 1 through 5. Each User1 – 5 is composed of four level settings such as In White Level, In Black Level, Target White Level, and Target Black Level. The default settings of user settings User 1 through 5 are the same as those for Darker, Dark, Standard, Bright, and Brighter respectively. The desirable level settings are easily obtained by adjusting values from the default values.

◆ **USER1 – 5 Default Settings**

Parameter	SELECT LEVEL (Adjustment level)				
(Custom levels)	User 1 Default	User 2 Default	User 3 Default	User 4 Default	User 5 Default
(Fixed levels)	Darker	Dark	Standard	Bright	Brighter
In White Level	99.0%	98.0%	97.0%	95.0%	93.0%
In Black Level	1.0%	2.0%	3.0%	5.0%	7.0%
Target White Level	80.0%	88.0%	93.0%	95.0%	97.0%
Target Black Level	3.0%	5.0%	7.0%	12.0%	17.0%

◆ **In White Level and In Black Level**

These two parameters determine the highest and lowest levels of luminance in the input signal.

Parameter	Setting range (step)	Description
In White Level	80.0 - 99.0% (0.5%)	The maximum value of luminance in the sample data is defined as 100%. Based on this reference value, this determines the highest level of luminance for level control. If the value is too large, some noise may be picked up, causing the results to become unstable. If the value is too small, it increases contrast, but it may cause the images to be overexposed.
In Black Level	1.0 - 20.0% (0.5%)	The minimum value of luminance in the sample data is defined as 0%. Based on this reference value, this determines the lowest level of luminance for level control. If the value is too small, some noise may be picked up causing the results to become unstable. If the value is too large, it increases contrast, but it may cause the images to be underexposed.

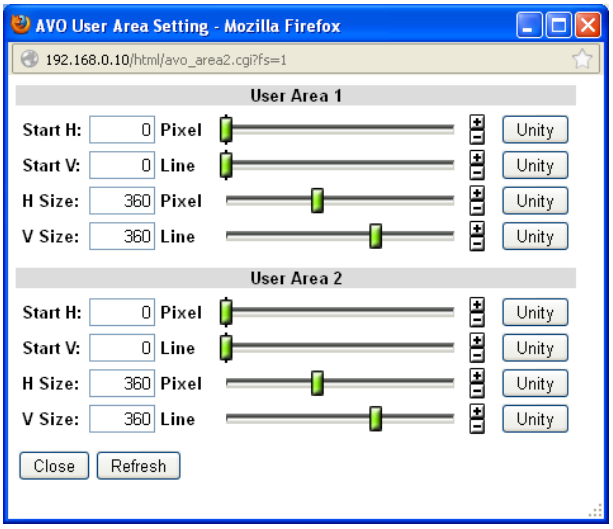
◆ **Target White Level and Target Black Level**

These two parameters determine the highest and lowest levels of luminance for target images (outputs).

Parameter	Setting range (step)	Description
Target White Level	60.0 - 100.0% (0.5%)	Determines the maximum value of luminance for outputs. The maximum luminance value of the image after correction should approximate this value. The larger the value, the brighter the image, which may however cause the image to be overexposed. The smaller the value, the brighter tones are kept. However, the overall obtained image may be dark.
Target Black Level	0 - 40.0% (0.5%)	Determines the minimum value of luminance for outputs. The minimum luminance value of the image after correction should approximate this value. The larger the value, the dark area in pictures will appear brighter, which may however lower the contrast and the noise will become apparent. The smaller the value, the higher the contrast, which may however cause the image to be underexposed

9-2-2-3. User Area 1, 2

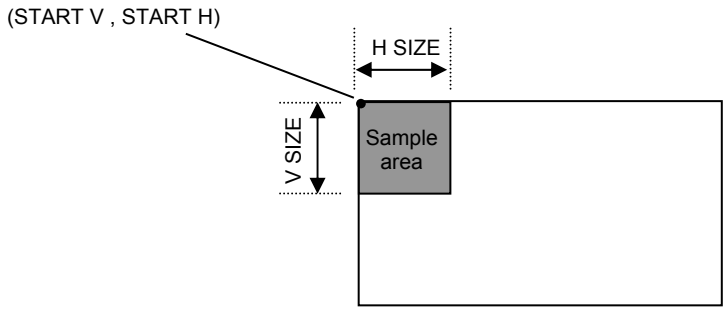
Clicking **Set Area** of Sample Area on the AVO setting dialog box opens the User Area 1, 2 Setting dialog box.



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.
Click **Unity** to reset to the default settings.
Click [+] to increase the value by the smallest steps.
Click [-] to decrease the value by the smallest steps.

To set the sample area, set the start point and the size.

Parameter	Default	Setting range	Description
Start H	0 Pixel	Variable (2Pixel)	Specifies the horizontal start point.
Start V	0 Line	Variable (2Line)	Specifies the vertical start point.
H Size	360	Variable (2Pixel)	Specifies the horizontal size (distance) from the start point.
V Size	360	Variable (2Line)	Specifies the vertical size (distance) from the start point.



Default setting of sample area in 1080/59.94i.

IMPORTANT

The sample area should be set within the effective lines and pixels. Otherwise, the sample area will automatically revert to their default values. Be particularly careful in the following cases.

- When the video format is changed to SDTV after the sample area has been set.
- When the sample area settings are changed by loading an event.

9-2-3. Frame Delay

Clicking block (3) in the Video block diagram opens the Frame Delay setting dialog box for the corresponding FS.

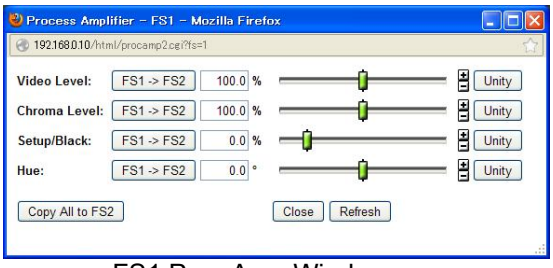
After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.
Click **Unity** to reset to the default settings.
Click [+] to increase the value by the smallest steps.
Click [-] to decrease the value by the smallest steps.

Parameter	Default	Setting range	Description
Frame Delay	0	0 - 8Frame	Sets the amount of frame delay.

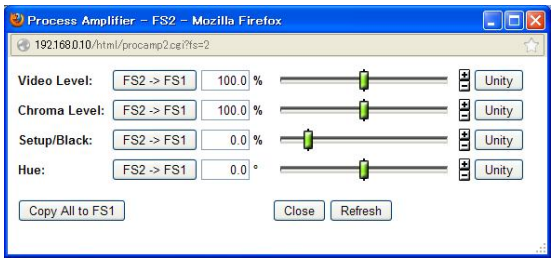
Selecting Odd/Even for Forced Field, Synchro Mode to Frame Sync under FS Mode in 9-4-1 FS1/FS2 Video System, while 9-2-1 FS Input Select is set to Composite, and Frame Delay to 0 frame, Frame Delay will always reset to 1 frame. Set Frame Delay beween 1 and 8 frames. Also, Frame Delay cannot be set if Synchro Mode is set to Line Sync or AVDL under FS Mode in section 9-4-1 “FS1/FS2 Video System”.

9-2-4. Proc Amp

Clicking block (3) on the video block diagram opens the Proc Amp setting dialog box for the corresponding FS.



FS1 Proc Amp Window



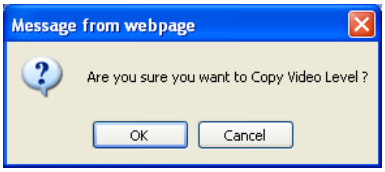
FS2 Proc Amp Window

After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.
Click **Unity** to reset to the default settings.
Click [+] to increase the value by the smallest steps.
Click [-] to decrease the value by the smallest steps.

Parameter	Default	Setting range (Steps)	Description
Video Level	100.0%	0.0 - 200.0% (0.1%)	Adjusts the video level.
Chroma Level	100.0%	0.0 - 200.0% (0.1%)	Adjusts the chrominance level.
Setup/Black	0.0%	-20.0 - 100.0% (0.1%)	Adjusts the black level.
Hue	0.0°	-179.8 - 180.0° (0.2°)	Adjusts the color phase.

◆ FS1<->FS2 Copying

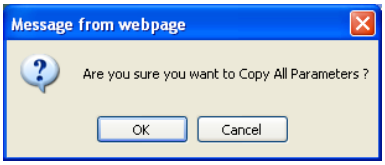
The **FS1->FS2** button (in the FS1 Proc Amp dialog box) next to Video Level allows you to copy the Video Level setting of FS1 to FS2.
A confirmation dialog as shown below appears.



Click **OK** to copy the FS1 Video Level setting to FS2.
Click **Cancel** to stop copying.
Chroma Level, Setup/Black, and Hue settings can also be copied to FS2 in the same manner.
To copy FS2 settings to FS1, click the FS2->FS1 button in the FS2 Proc Amp dialog box, and proceed in the same manner.

◆ Copy All to FS1/FS2

Click Copy All to FS2 (in the FS1 Proc Amp dialog box) to copy FS1 Video Level, Chroma Level, Setup/Black, and Hue settings to FS2. A confirmation dialog as shown below appears.

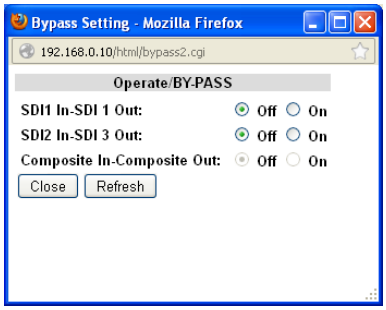


Click OK to copy all FS1 Video Level, Chroma Level, Setup/Black, and Hue settings to FS2.
Click Cancel to stop copying.
To copy all FS2 Video Level, Chroma Level, Setup/Black, and Hue settings to FS1, click Copy All to FS1 in the FS2 Proc Amp dialog box in the same manner.

IMPORTANT
If Correction Mode is set to Sepia in the Color Corrector menu (9-2-7), the Chroma Level and Hue settings cannot be changed.

9-2-5. BY-PASS Setting

Clicking block (5) on the video block diagram opens the BY-PASS setting dialog box.



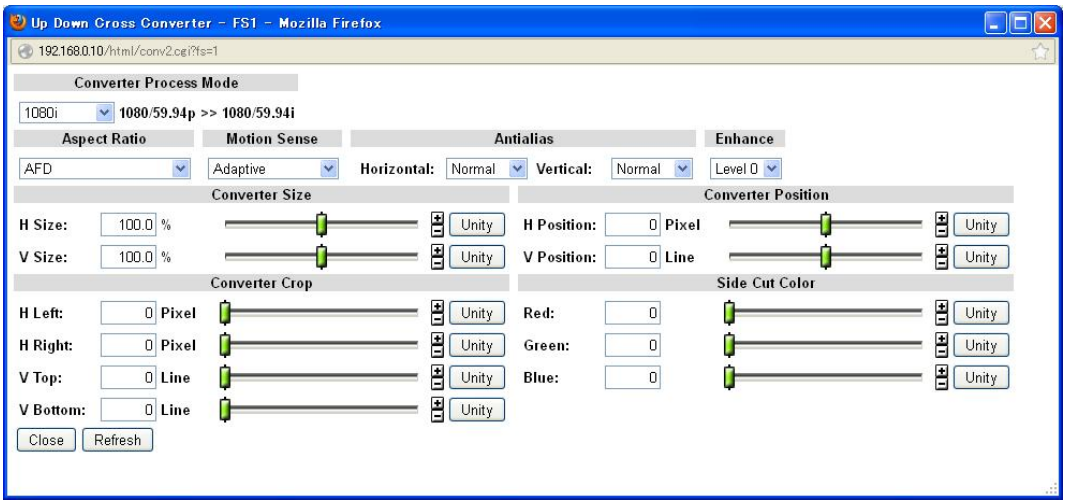
After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

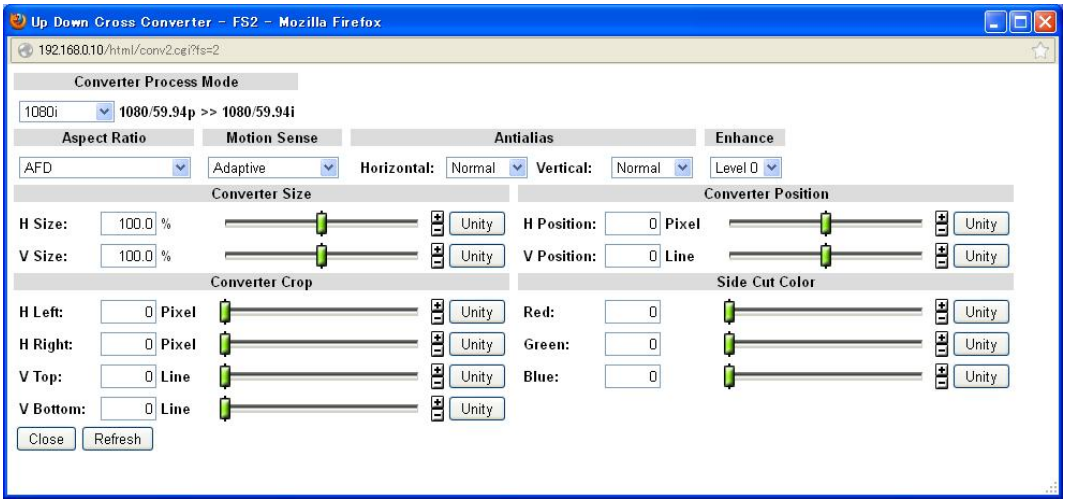
◆ **Operate BY-PASS**

Parameter	Default	Setting range	Description
SDI1 In-SDI1 Out	Off	Off On	Setting to On bypasses SDI1 input signals to SDI 1 output with a relay connection.
SDI2 In-SDI3 Out	Off	Off On	Setting to On bypasses SDI2 input signals to SDI 3 output with a relay connection.
Composite In-Composite Out	Off	Off On	Setting to On bypasses composite input signals to composite output with a relay connection.
AIO Option A/B	Off	Off On	Setting to On bypasses AIO input and output connectors in option slot A/B with a relay connection.

9-2-6. Converter

Clicking block (6) on the video block diagram opens the Up Down Cross Converter setting dialog box for the corresponding FS.





After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.
Click **Unity** to reset to the default settings.

◆ Converter Process Mode

Parameter	Default	Setting range	Description
Mode	BY-PASS	BY-PASS SD 1080i 720p 1080PsF 1080p(3G)	Selects a mode for FS1/FS2 UP/DOWN Converter to convert the input signal. **BY-PASS**: Outputs the signal without converting. **SD**: Converts signals to a standard definition format. **1080i**: Converts signals to a 1080i format. **720p**: Converts signals to a 720p format. **1080PsF**: Converts signals to a 1080PsF format. **1080P(3G)**: Converts signals to a 3G-SDI 1080p format.
-	-	-	Displays the format of the input signal to and the format the signal will be converted to in FS1 or FS2.

See section 5-3-2 “CONV Conversion Table” for details on conversions.

◆ **Aspect Ratio**

Parameter	Default	Setting range	Description
Aspect Ratio	AFD(4:3)	AFD(4:3) AFD-ALT(4:3) AFD(16:9) AFD-ALT(16:9) 4:3 L 16:9 T 4:3 L 14:9 T 4:3 L>16:9 4:3 F 4:3 4:3 L 16:9PRTD 4:3 L 14:9 4:3 F ALT14:9 4:3 L ALT14:9 *1 4:3 L ALT 4:3 *1 16:9 L>16:9 16:9 F 16:9 *1 16:9 P 4:3 16:9 F PRTD *1 16:9 P 14:9 *1 16:9 P ALT 14:9 *1 16:9 F ALT14:9*1 16:9 F ALT4:3 *1	Selectable aspect ratio settings when Converter Process Mode is set to SD. AFD(4:3), AFD-ALT(4:3), AFD(16:9), AFD-ALT(16:9) automatically select an aspect ratio according to the AFD data in the input signal. If no AFD data is found in the input signal, the aspect ratio will be determined according to the setting made under 5-9-7 **ANC LOSS SET**. To output video signals in 4:3, select either ratio with (4:3). To output in 16:9, select either ratio with (16:9). Other options will output video signals in the specified aspect ratio. See section 20 “About AFD (Active Format Description)” for details. Options (4:3 L 16:9 T to 16:9 F ALT 4:3) other than the above four require the input signal aspect ratio to be specified under SD Aspect in 9-2-1 FS Input Select if the input signal is an SD signal.
	AFD	AFD AFD-ALT 16:9 L>16:9 16:9 F 16:9 16:9 P 4:3 16:9 F PRTD 16:9 P 14:9 16:9 P ALT14:9 16:9 F ALT14:9 16:9 F ALT4:3	Selectable aspect ratios when CONV1 is set to 1080i, 720p, 1080PsF, or 1080(3G). AFD and AFD-ALT automatically select an aspect ratio according to the AFD data in the input signal. If no AFD data is found in the input signal, the aspect ratio will be determined according to the setting made under 5-9-7 **ANC LOSS SET**. Options other than the above two output in the specific aspect ratio. See section 20 “About AFD” for details on conversions according to AFD data.

The Aspect Ratio setting cannot be changed if Converter Process Mode is set to BY-PASS.

*1 BT1119 WSS will be embedded according to the WSS AFD ERROR settings (Sec. 5-9-8) for non-WSS aspect ratio conversions.

◆ **Motion Sense**

Parameter	Default	Setting range (Steps)	Description
Motion Sense	Adaptive	Field Adaptive Frame(Odd 1st) Frame(Even 1st)	**Field**: Generates a progressive scan image from one field of an interlaced scan image. The created image has no motion artifacts, but vertical resolution will be reduced. **Adaptive**: Detects whether there is motion or no motion in the scene, and generates an optimal progressive scan image. **Frame(Odd 1st)**: Generates a progressive scan image from two fields (odd/even) of an interlaced scan image. Suitable for the progressive segment frame input of progressive scan signals. **Frame(Even 1st)**: Generates a progressive scan image from two fields (even/odd) of and interlaced scan image.

IMPORTANT
Setting Motion Sense to Frame (Odd 1st) or Frame (Even 1st) for input signals other than progressive segment frame inputs cause motion artifacts. In such case, change Motion Sense setting to Field or Adaptive.

◆ **Antialias**

Parameter	Default	Setting range (Steps)	Description
Horizontal	Normal	Weak 8-1 Normal Strong1-8	Performs horizontal anti-aliasing for the output video image. **Weak 8 to Strong 8** (low to high) This setting cannot be changed if the conversion is set to the formats indicated as (BYPASS) in the CONV Conversion Table in section 5-3-2.
Vertical	Normal	Weak 8-1 Normal Strong1-8	Performs vertical anti-aliasing for the output video image. **Weak 8 to Strong 8** (low to high) This setting cannot be changed if the conversion is set to the formats indicated as (BYPASS) in the CONV Conversion Table in section 5-3-2.

The Antialias setting cannot be changed if Converter Process Mode is set to BY-PASS, or if the conversion is set to the formats indicated as (BY-PASS) in the CONV Conversion Table (5-3-2).

◆ **Enhance**

Parameter	Default	Setting range (Steps)	Description
Enhance	Level 0	Level 0-8	Sharpens the output video image. **Level 0 to 8** (low to high)

The Enhance setting cannot be changed if Converter Process Mode is set to BY-PASS. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV Conversion Table (5-3-2).

◆ **Converter, Size**

Parameter	Default	Setting range(Steps)	Description
H Size (Horizontal Size)	100.0%	50.0 - 150.0% (0.1%)	Adjusts the width of the video displayed on the monitor.
V Size (Vertical Size)	100.0%	50.0 - 150.0% (0.1%)	Adjusts the height of the video displayed on the monitor.

The Converter Size setting cannot be changed if Converter Process Mode is set to BY-PASS. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV Conversion Table (5-3-2).

◆ **Converter, Position**

Parameter	Default	Setting range (Steps)	Description
H Position (Horizontal Position)	0 Pixel	Variable *1 (2 Pixel)	Adjusts the horizontal position of the video displayed on the monitor.
V Position (Vertical Position)	0 Line	Variable *1 (1 Line)	Adjusts the vertical position of the video displayed on the monitor.

The Converter Position setting cannot be changed if Converter Process Mode is set to BY-PASS. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV Conversion Table (5-3-2).

*1 The Converter Position setting range varies depending on Converter Process Mode, and Sync Format settings in FS Mode (9-4-1 FS1/FS2 Video System).

◆ **Converter, Crop**

Parameter	Default	Setting range (Steps)	Description
H Left	0 Pixel	Variable *1 (2 Pixel)	Crops the left side of the video.
H Right	0 Pixel	Variable *1 (2 Pixel)	Crops the right side of the video.
V Top	0 Line	Variable *1 (1 Line)	Crops the top of the video.
V Bottom	0 Line	Variable *1 (1 Line)	Crops the bottom of the video.

The Converter Crop setting cannot be changed if Converter Process Mode is set to BY-PASS. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV Conversion Table (5-3-2).

*1 The Converter Crop setting range varies depending on the Sync Format settings in FS Mode (9-4-1 FS1/FS2 Video System).

IMPORTANT
The cropping setting range resets itself if the video input changes. If the set value exceeds the setting range due to an input change, the set value will automatically reset itself to the default value. If the set value exceeds the horizontal range, the H Left and H Right settings will reset to their default values. If the value exceeds the vertical range, the V Top and V Bottom settings will also reset accordingly.

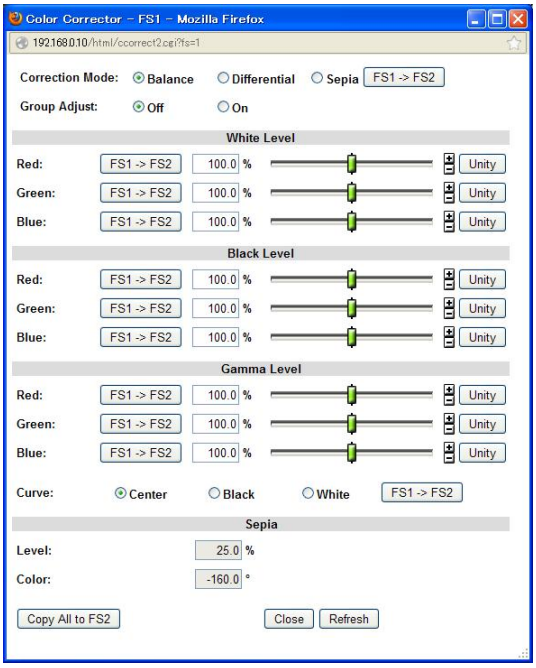
◆ **Side Cut Color**

Parameter	Default	Setting range	Description
Red, Green, Blue	0	0 - 255	Sets background color that will be visible if the converted image is set smaller than the original under Converter1 Size (5-3-3). R, G, and B components can be adjusted separately. Control knob F4 allows you to adjust R, G, and B at the same time.

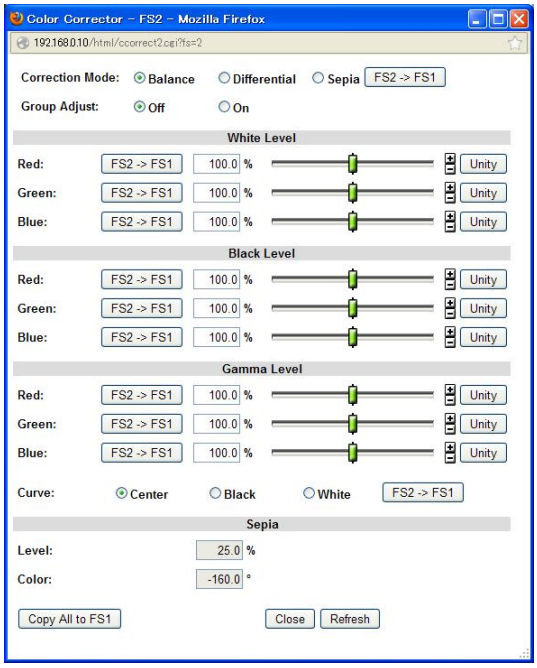
The Side Cut Color setting cannot be changed if Converter Process Mode is set to BY-PASS. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV Conversion Table (5-3-2).

9-2-7. Color Corrector

Clicking block (7) on the video block diagram opens the Color Corrector dialog box for the corresponding FS.
See section 5-2-4 “COLOR CORRECTOR (C.C.)” for details.
Auto Video Optimizer (AVO) and Color Corrector use the same circuit. The color corrector settings are not fully changeable when AVO mode (9-2-2 “Auto Video Optimizer (AVO)”) is set to Auto. See section 5-2-5 “Color Corrector and AVO Modes” for the available menu settings.



FS1 Color Corrector dialog box



FS2 Color Corrector dialog box

After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.
Click **Unity** to reset to the default settings.
Click [+] to increase the value by the smallest steps.
Click [-] to decrease the value by the smallest steps.

◆ Correction Mode

Parameter	Default	Setting range (Steps)	Description
Correction Mode	Balance	Balance Differential Sepia *1	Selects a correction mode from Balance (RGB), Differential (YPbPr), or Sepia. **Balance:** RGB signal correction mode Allows you to adjust the white balance. Gray scale can be changed by adjusting R, G and B levels. **Differential:** Color difference signal mode Allows you to adjust contrast without changing white balance. R, G and B levels can be changed without affecting gray scale. This adjustment is effective for images with different color saturation levels. **Sepia:** Sepia mode Useful for creating black and white images.

*1 Sepia will not be displayed while changing FS1 and FS2 settings simultaneously. If Correction Mode is set to Sepia, the White Level, Black Level, or Gamma Level R, B setting cannot be changed. Also, it cannot be changed if AVO Control is set to Auto or Hold in the Auto Video Optimizer (AVO) menu (9-2-2). Correction Mode cannot be set to Sepia, if LINK setting mode is enabled in the FA-9520 or connected FA-95RU. To set to Sepia, disable LINK setting mode. See section 4-2-8. “Switching Between 2-Channel Frame Synchronizers” for details on LINK settings.

◆ **White Level**

Parameter	Default	Setting range (Steps)	Description
R, G, B (RGB White Level)	100.0%	0.0 - 200.0% (0.5%)	Adjusts the white level of R, G, and B components separately.
Group Adjust	Off	On Off	Enables you to adjust white level R, G, and B components simultaneously, retaining separately adjusted R, G, and B proportion, by changing the value of one component.

If AVO Control is set to Auto in the Auto Video Optimizer (AVO) menu (9-2-2), the White Level setting cannot be changed.

◆ **Black Level**

Parameter	Default	Setting range (Steps)	Description
Red, Green, Blue (RGB Black Level)	100.0%	0.0 - 200.0% (0.5%)	Adjusts the black level of R, G, and B components separately.
Group Adjust	Off	On Off	Enables you to adjust black level R, G, and B components simultaneously, retaining separately adjusted R, G, and B proportion, by changing the value of one component.

If AVO Control is set to Auto in the Auto Video Optimizer (AVO) menu (9-2-2), the Black Level setting cannot be changed.

◆ **Gamma Level**

Parameter	Default	Setting range (Steps)	Description
Red, Green, Blue (RGB Gamma level)	100.0%	0 - 200% (0.5%)	Adjusts the gamma level of R, G, and B components separately.
Group Adjust	Off	On Off	Enables you to adjust gamma level R, G, and B components simultaneously, retaining separately adjusted R, G, and B proportion, by changing the value of one component.
Curve (Gamma Curve)	Center	Center Black White	Selects a gamma curve type.

If AVO Control is set to Auto in the Auto Video Optimizer (AVO) menu (9-2-2), the all Gamma Level/Curve settings cannot be changed. Also, if AVO Control is set to Hold, the Curve setting cannot be changed.

◆ **Sepia**

The Sepia Level and Color settings can be changed if Correction Mode is set to Sepia. Sepia will not be displayed while changing FS1 and FS2 settings simultaneously.

Parameter	Default	Setting range (Steps)	Description
Level	25.0%	0 - 100% (0.1%)	Adjusts the color level in SEPIA mode.
Color	-160.0°	--179.8° - 180.0° (0.2°)	Adjusts the color in SEPIA mode.

If AVO Control is set to Auto or Hold in the Auto Video Optimizer (AVO) menu (9-2-2), the Sepia settings cannot be changed.

IMPORTANT

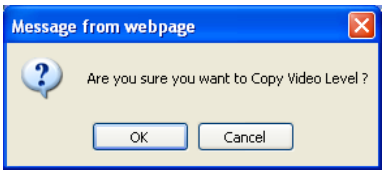
Differential or Sepia mode settings under Correction Mode will automatically change to Balance mode whenever AVO is enabled.

While AVO is being used, the color corrector performs correction as if Correction Mode is in Balance mode and the gamma curve type is Black curve.

Color correction enabled by setting AVO Control to Hold is also performed in the above state.

◆ **FS1<->FS2 Copying**

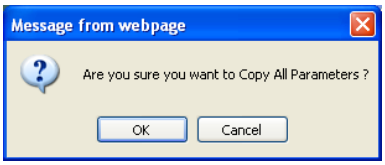
The **FS1->FS2** button (in the FS1 Color Corrector dialog box) next to Correction Mode allows you to copy the Correction Mode setting of FS1 to FS2.
A confirmation dialog as shown below appears.



Click **OK** to copy the FS1 Correction Mode setting to FS2.
Click **Cancel** to stop copying.
White Level, Black Level, Gamma Level, and Sepia settings can also be copied to FS2 in the same manner. To copy FS2 settings to FS1, click the **FS2->FS1** button in the FS2 Color Corrector dialog box, and proceed in the same manner.

◆ **Copy All to FS1/FS2**

Click **Copy All to FS2** (in the Color Corrector dialog box) to copy all FS1 Color Corrector settings to FS2. A confirmation dialog as shown below appears.



Click **OK** to copy all FS1 Color Corrector settings to FS2. Click **Cancel** to stop copying.
To copy all FS2 Color Corrector settings to FS1, click **Copy All to FS1** in the FS2 Color Corrector dialog box in the same manner.

9-2-8. Video Test Signal

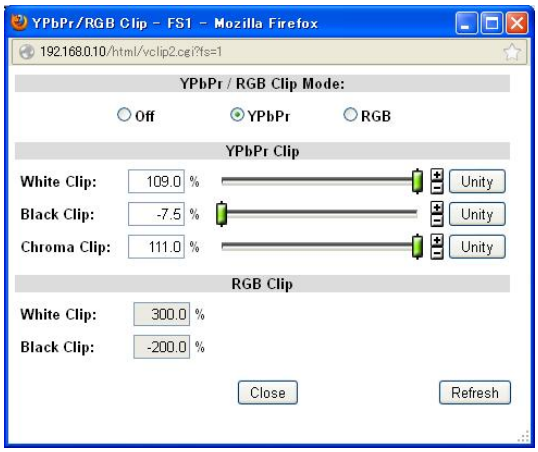
Clicking block (8) on the video block diagram opens the Video Test Signal setting dialog box for the corresponding FS.

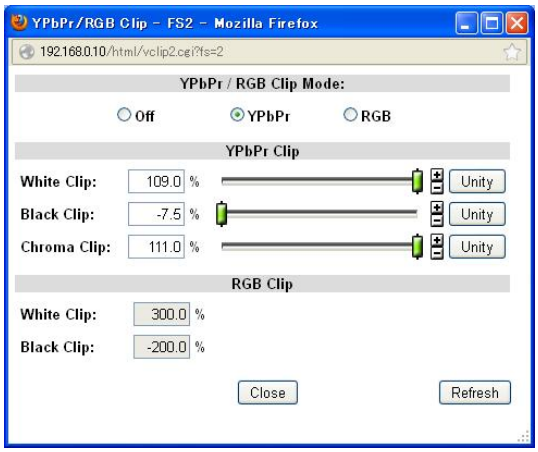
After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

Parameter	Default	Setting range	Description
Video Test Signal	Off	Off Full Color Bar 75% Color Bar SMPTE Color Bar Ramp	Outputs an internal video test signal.

9-2-9. YPbPr/RGB Clip

Clicking block (10) on the video block diagram opens the YPbPr/RGB setting dialog box.
See section 5-5-3 “VIDEO CLIPSetting range” for details.





After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.
Click **Unity** to reset to the default settings.
Click [+] to increase the value by the smallest steps.
Click [-] to decrease the value by the smallest steps.

◆ YPbPr / RGB Clip Mode

Parameter	Default	Setting range	Description
Clip Mode	Off	Off YPbPr RGB	Selects a mode whether to clip signals in the YPbPr or RGB color space.

◆ YPbPr Clip

Parameter	Default	Setting range (Steps)	Description
White Clip (Y White Clip)	109.0%	50.0 - 109.0% (0.5%)	Sets the Y signal upper threshold.
Black Clip (Y Black Clip)	-7.5%	-7.5 - 50.0% (0.5%)	Sets the Y signal lower threshold.
Chroma Clip (PbPr Chroma Clip)	111.0%	50.0 - 111.0% (0.5%)	Sets both the upper and lower thresholds of PbPr signals.

Selectable when Clip Mode is set to YPbPr.

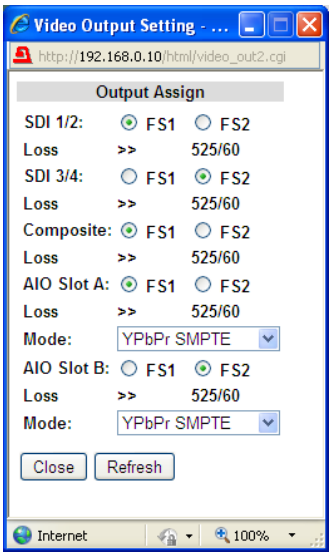
◆ RGB Clip

Parameter	Default	Setting range (Steps)	Description
White Clip (RGB White Clip)	300.0%	50 - 300% (0.5%)	Sets the upper RGB color space threshold.
Black Clip (RGB Black Clip)	-200.0%	-200 - 50% (0.5%)	Sets the lower RGB color space threshold.

Selectable when Clip Mode is set to RGB.

9-2-10. Output Assign

Clicking block (11) on the video block diagram opens the Video Output Setting dialog box.



◆ Output Assign

Allows you to assign video signals to output from video output connectors.

Parameter	Default	Setting range	Description
SDI1/2	FS1	FS1 FS2	Selects FS1 or FS2 of which signal to be output from SDI1 and 2 connectors. I/O formats of the selected FS are displayed under the radio buttons.
SDI3/4	FS2	FS1 FS2	Selects FS1 or FS2 of which signal to be output from SDI3 and 4 connectors. I/O formats of the selected FS are displayed under the radio buttons.
Composite	FS1	FS1 FS2	Selects FS1 or FS2 of which signal to be output from Composite connectors. I/O formats of the selected FS are displayed under the radio buttons. Outputs a black signal for HD output signals.
AIO SlotA *1	FS1	FS1 FS2	Selects the signal to be output, FS1 or FS2, from the FA-95AIO output connector in slot A. I/O formats of the selected FS are displayed under the radio buttons.
Mode *1	YPbPr SMPTE	YPbPr SMPTE YPbPr BETACAM RGB Y/C	Selects the signal format for the FA-95AIO video output in slot A.
AIO SlotB *2	FS2	FS1 FS2	Selects the signal to be output, FS1 or FS2, from the FA-95AIO output connector in slot B. I/O formats of the selected FS are displayed under the radio buttons.
Mode *2	YpbPr SMPTE	YPbPr SMPTE YPbPr BETACAM RGB Y/C	Selects the signal format for the FA-95AIO video output in slot B.

*1 Shown only if the FA-95AIO is installed in option slot A.
*2 Shown only if the FA-95AIO is installed in option slot B.

Composite Output Format Table

CONV1 and 2 output signals	Output signal from COMPOSITE connector
525/60	CONV signals in 525/60
625/50	CONV signals in 625/50
1080/59i	B.B. in 525/60
1080/50i	B.B. in 625/50
1080/24PsF	B.B. in 625/50
1080/23.98PsF	B.B. in 525/60
720/59p	B.B. in 525/60
720/50p	B.B. in 625/50
1080/59p	B.B. in 525/60
1080/50p	B.B. in 625/50

YPbPr/RGB Output Format

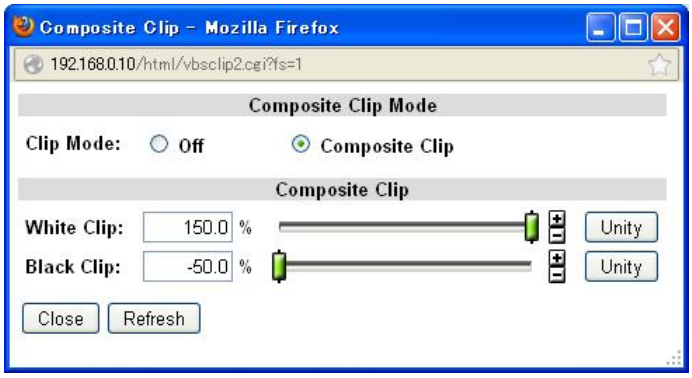
FS1 or 2 output signal	FA-95AIO YPbPr/RGB output signal
525/60	525/60 signal in FS 1 or 2
625/50	625/50 signal in FS 1 or 2
1080/59i	1080/59i signal in FS 1 or 2
1080/50i	1080/50i signal in FS 1 or 2
1080/24PsF	1080/24PsF signal in FS 1 or 2
1080/23.98PsF	1080/23.98PsF signal in FS 1 or 2
720/59p	720/59p signal in FS 1 or 2
720/50p	720/50p signal in FS 1 or 2
1080/59p	1080/59i black video
1080/50p	1080/50i black video

Y/C Output format

FS 1 or 2 output signal	Y/C output signal
525/60	525/60 signal in FS 1 or 2
625/50	625/50 signal in FS 1 or 2
1080/59i	525/60 BB signal
1080/50i	625/50 BB signal
1080/24PsF	625/50 BB signal
1080/23.98PsF	525/60 BB signal
720/59p	525/60 BB signal
720/50p	625/50 BB signal
1080/59p	525/60 BB signal
1080/50p	625/50 BB signal

9-2-11. Composite Clip

Clicking block (12) on the video block diagram opens the Composite Clip dialog box.
See section 5-5-3 “VIDEO CLIP Setting Ranges” for details.



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.
Click **Unity** to reset to the default settings.
Click [+] to increase the value by the smallest steps.
Click [-] to decrease the value by the smallest steps.

◆ **Composite Clip Mode**

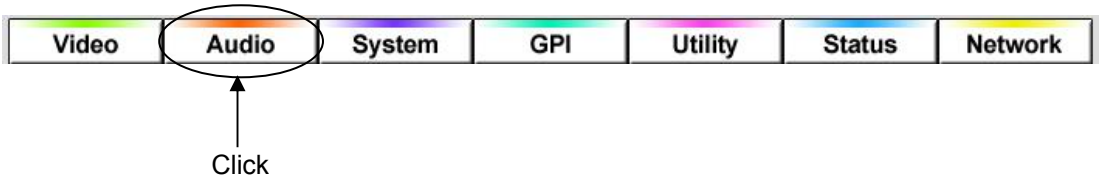
Parameter	Default	Setting range (Steps)	Description
Clip Mode	Off	Off, Composite Clip	**Composite Clip** enables clipping on the composite output signals.

The COMPOSITE CLIP settings are effective only on the analog composite outputs.
The settings are not effective on the SDI1/2 and SDI3/4 outputs.
To enable the Composite Clip menu, set Clip Mode to Off in the YPbPr/RGB Clip menu (9-2-9).

◆ **Composite Clip Mode**

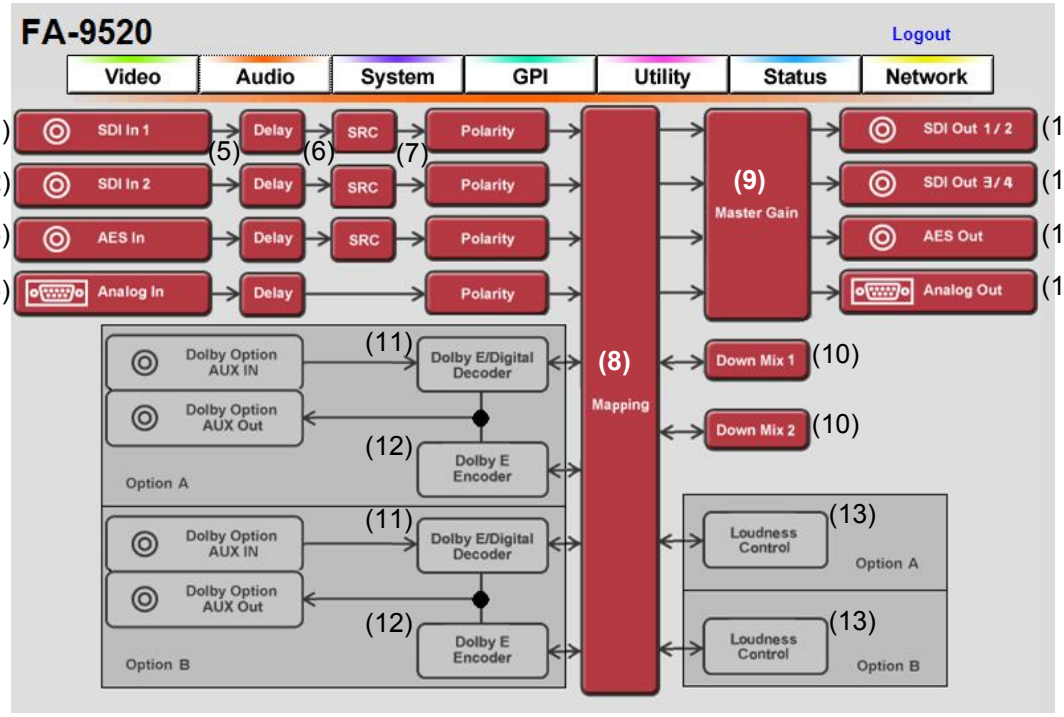
Parameter	Default	Setting range (Steps)	Description
White Clip	150.0%	50 - 150% (0.5%)	Sets the upper threshold of analog composite color space.
Black Clip	-50.0%	-50 - 50% (0.5%)	Sets the lower threshold of analog composite color space.

9-3. AUDIO Settings



Click the Audio tab at the top of the page. The audio block diagram will be displayed.
Each block in the diagram lets you to go to the corresponding windows or dialog boxes that allows you to change various settings.

Audio Block Diagram

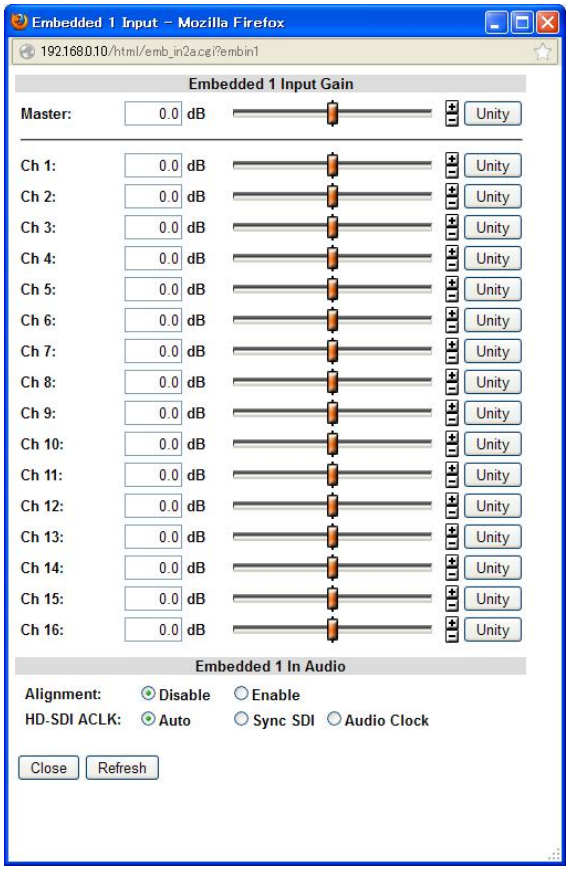


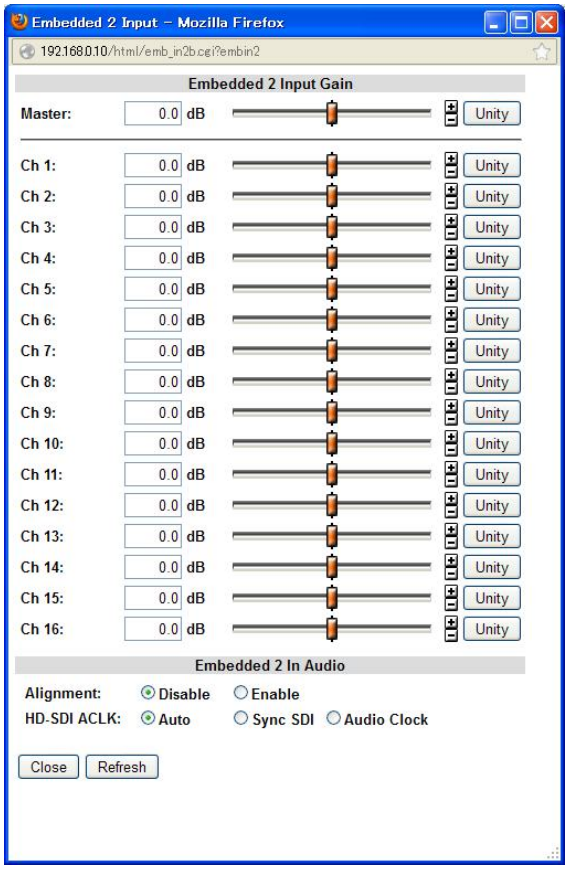
* (11) is effective when the FA-95D-D or FA-95DE-E option is installed.
* (12) is effective when the FA-95DE-E option is installed.
* (13) is effective when the FA-95ALA option is installed.

If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.

9-3-1. SDI Input

Clicking block (1) or (2) on the audio block diagram opens the SDI 1, 2 Input dialog box.
SDI 1 Input and SDI 2 Input dialog boxes allow you to set FS1 and FS2 embedded audio settings respectively.





After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.
Click **Unity** to reset to the default settings.
Click [+] to increase the value by the smallest steps.
Click [–] to decrease the value by the smallest steps.

◆ Embedded 1, 2 Input Gain

Parameter	Default	Setting range (Steps)	Description
Master	0.0dB	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to the input gain for all channels Ch1 to Ch16 of SDI embedded audio.
Ch1-Ch16	0.0dB	-20.0 - +20.0 dB *1 (0.1 dB)	Sets the input gain for the individual SDI embedded audio channel.

*1 Master and individual channel values cannot exceed the setting range as a total. The setting value will stop at the end of the range.

◆ **Embedded 1, 2 In Audio**

Parameter	Default	Setting range	Description
Alignment	Disable	Disable Enable	Enables or disables automatic phase adjustment for FS1/FS2 input embedded audio channel groups. **Enable:** Automatic adjustment (normal setting) **Disable:** No adjustment
HD-SDI ACLK	Auto	Auto Sync SDI Audio Clock	Selects audio clock signal to use for de-embedding and processing audio data in HD-SDI input signal. **Auto**: De-embeds HD-SDI embedded audio data using the audio clock phase data in the embedded audio. Synchronous and asynchronous embedded audio signals from 4 audio groups can be de-embedded separately. *2 Audio data will be processed as synchronous data if the audio clock phase data is incorrect, or jitter is too great. **Sync SDI**: All audio data in 4 audio groups are always processed as synchronous data without refering to the respective audio clock phase data. *3 **Audio Clock**: Always uses audio clock phase data in HD-SDI embedded audio data to de-embed the audio data. *4

*1 Embedded audio signal groups are automatically phase-adjusted when they are input to the FA-9520. If there is an abnormal audio signal in an audio group, whether the audio group is in use or not, audio streams may be obstructed by the auto phase adjustment. In such cases, audio stream obstruction can be avoided using this Alignment enable/disable function.

*2 Embedded audio signals in SD-SDI video inputs are always processed as synchronous signals.

*3 Sync SDI should be selected only if audio data cannot pass through as Auto or asynchronous audio data is never input.

*4 Audio Clock may be effective in the case audio data cannot properly pass through as Auto or Sync SDI.

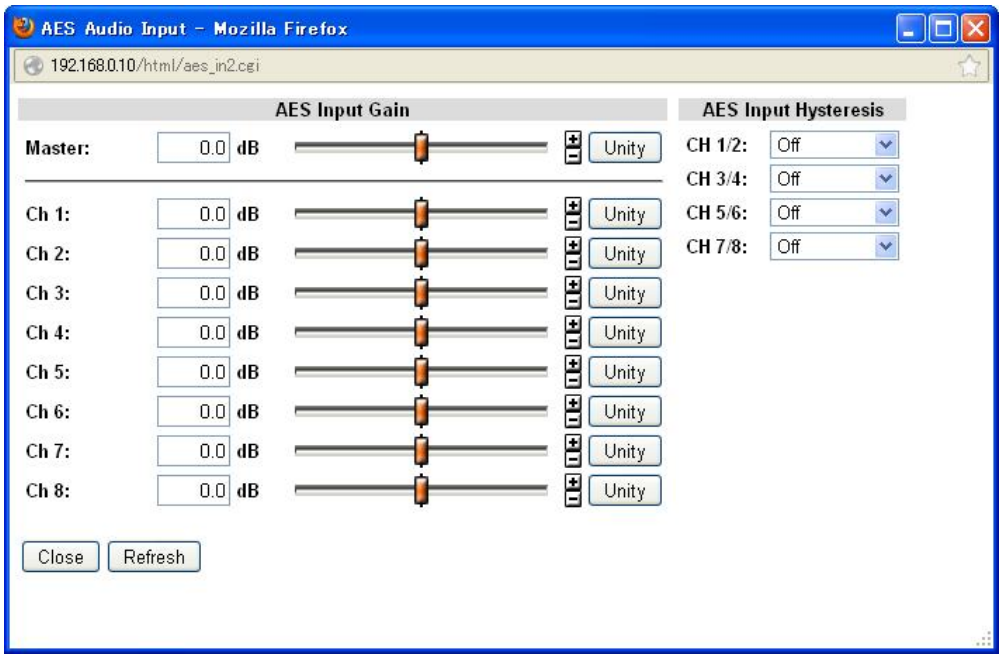
IMPORTANT

Use this Alignment enable/disable function only if the audio output has noise or is muted. Do not change the setting for normal audio output.

Note that the audio output will be temporally muted when Alignment is changed from Disable to Enable while audio signal phases are aligning.

9-3-2. AES Audio Input Settings

Clicking block (3) on the audio block diagram opens the AES Audio Input dialog box.



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.
Click **Unity** to reset to the default settings.
Click [+] to increase the value by the smallest steps.
Click [-] to decrease the value by the smallest steps.

◆ AES Input Gain

Parameter	Default	Setting range (Steps)	Description
Master	0.0dB	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to the input gain for all channels CH1 to 8 of AES inputs.
Ch1 - Ch8	0.0 dB	-20.0 - +20.0 dB *1 (0.1 dB)	Sets the input gain for the individual AES channel

*1 The total value of Master and individual channel cannot exceed the setting range. The setting value will stop at the end of the range.

◆ AES Input Hysteresis

Parameter	Default	Setting range (Steps)	Description
Ch1/2 – Ch7/8	Off	Off Group A Group B	Synchronizes the AES input signals in group A or B per group. This setting is effective when using AES audio signals to output multi-channel audio signals such as surround sound.

The channel pair with the smallest channel numbers within a group is used as the reference pair and other channel pairs are synchronized to it. If there is no audio signal in the channel pair, the next channel pair will be the reference. Audio signals with a phase difference relative to the reference within ±0.25 of a sample period can be synchronized.

Setting Examples:

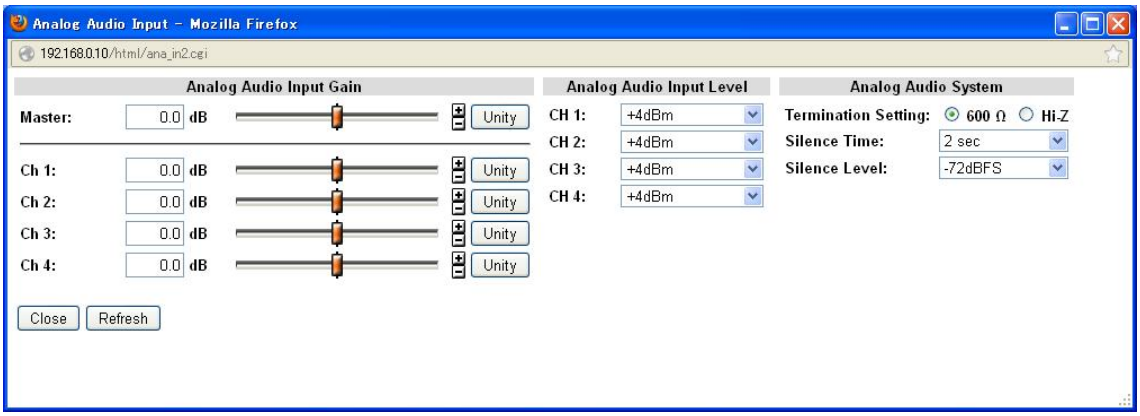
◆ **When setting all channel pairs CH 1/2 to 7/8 to Group A**
CH 1/2 will be the reference. Other channel pairs will be synchronized to the word clock of CH1/2.

◆ **When setting channels CH1/2 to 3/4 to Group A, and channels CH5/6 to 7/8 to Group B**
CH 1/2 will be the reference pair for Group A, and CH 5/6 the reference pair for Group B.

IMPORTANT
Channel pairs in an audio group must be synchronous and must have the same sampling rate. Changing the audio assignment of the reference channel pair may cause noise on other channel pairs in the same audio group. Also, changing the assignment may affect the phase alignment of the reference channel pair and other channel pairs. If the alignment is turned off, set Master Mute (see section 9-3-8 “Audio Master Gain Settings”) to on and off, or turn the unit power off and on to regain the alignment.

9-3-3. Analog Audio Input

Clicking block (3) on the audio block diagram opens the Analog Audio Input dialog box.



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.
Click **Unity** to reset to the default settings.
Click [+] to increase the value by the smallest steps.
Click [-] to decrease the value by the smallest steps.

◆ Analog Audio Input Gain

Parameter	Default	Setting range (Steps)	Description
Master	0.0dB	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to the input gain for all analog audio channels CH1 to CH4.
Ch1 – Ch4	0.0 dB	-20.0 - +20.0 dB *1 (0.1 dB)	Sets the input gain for the individual Analog Audio channel.

*1 The total value of Master and indivual channel cannot exceed the setting range. The setting value will stop at the end of the range.

◆ Analog Audio Input Level

Parameter	Default	Setting range (Steps)	Description
Ch1 – Ch4	+4dBm	-10 dBm 0 dBm +4 dBm +8 dBm	Sets the signal level for the individual Analog Audio channel.

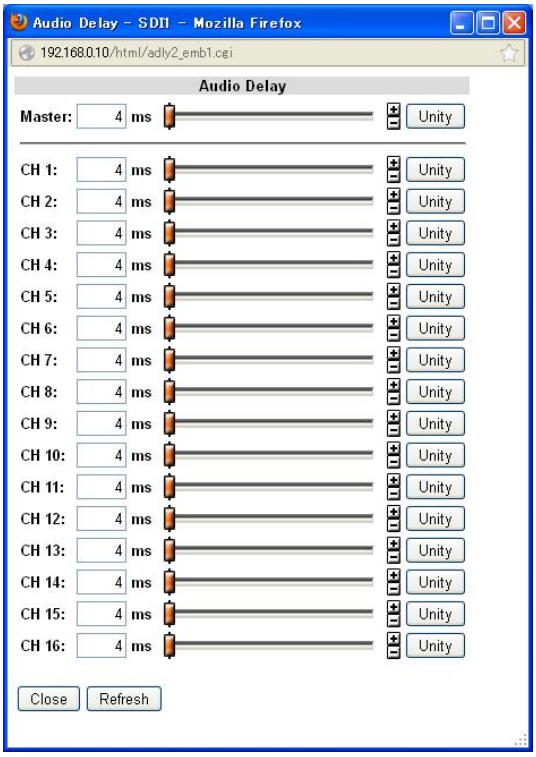
◆ Analog Audio System

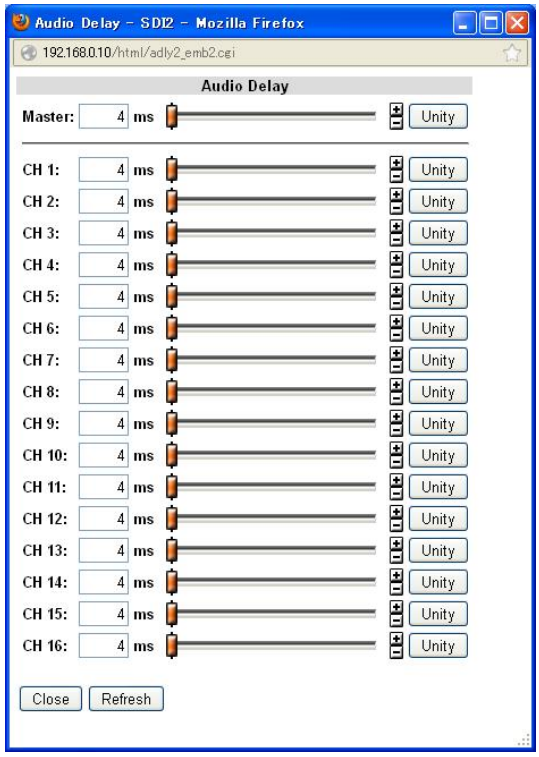
Parameter	Default	Setting range (Steps)	Description
Termination Setting	600Ω	600Ω Hi-Z	Selects how to terminate the analog inputs 1/2 and 3/4. **600Ω**: 600Ω termination **Hi-Z**: High-impedance
Silence Time	2sec	1 – 10 sec (1 sec)	Sets the duration to determine whether the input analog audio is silent.
Silence Level	-72dBFS	-72 - -48 dBFS (6dBFS)	Sets the audio level to determine whether the input analog audio is silent.

9-3-4. Audio Delay (SDI / AES / Analog)

Clicking block (5) on the audio block diagram opens the Audio Delay dialog box.

◆ SDI1, SDI2 Audio Delay





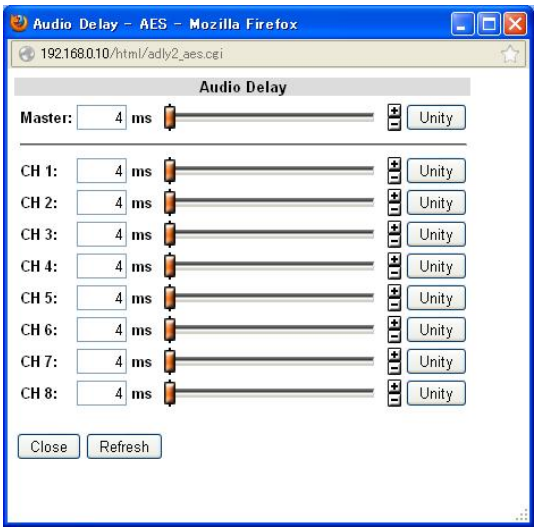
After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.
Click **Unity** to reset to the default settings.
Click [+] to increase the value by the smallest steps.
Click [-] to decrease the value by the smallest steps.

◆ Audio Delay

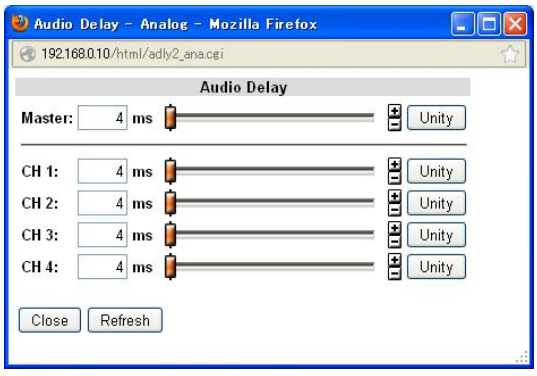
Parameter	Default	Setting range	Description
Master	4msec	4 - 1000msec	Sets the delay for SOURCE channels.
CH1-CH16		4 - 1000msec*1	

*1 The total value of Master and individual channel cannot exceed the setting range. The setting value will stop at the end of the range.

AES Audio Delay



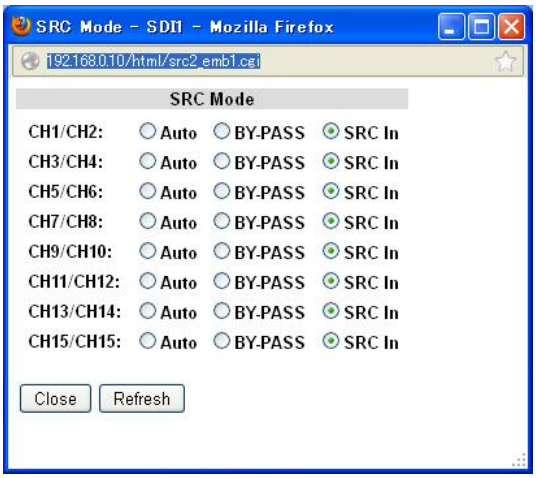
Analog Audio Delay

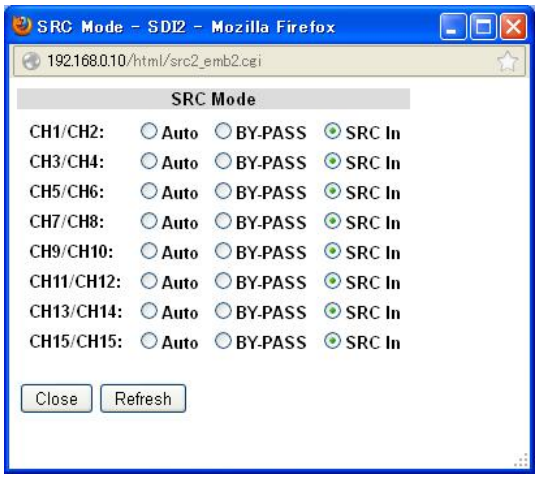


9-3-5. SRC Mode (SDI / AES)

Clicking block (6) on the audio block diagram opens the SRC Mode dialog box.

◆ SDI1, SDI2 SRC Mode

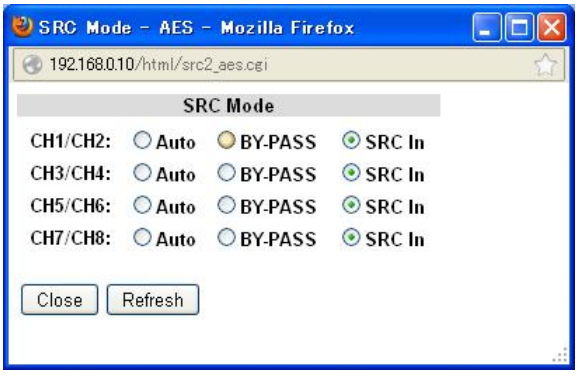




After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

Parameter	Default	Setting range	Description
SRC Mode	SRC IN	Auto BY-PASS SRC In	Sets the SRC circuit to pass or by-pass audio signals per channel pair. **Auto:** Sets the SRC circuit to pass signals. However, non-PCM audio signals will be by-passed. **BY-PASS:** Sets the SRC circuit to by-pass signals. Set to **By-pass** to output asynchronous audio signals. An audio clock must be selected under 9-3-10 “SDI Audio Output Setting“ for the respective audio groups to embed audio signals to SDI output video signals. **SRC In:** Sets the SRC circuit to pass both PCM or NON-PCM signals. Useful for the irregular PCM signal with the NON-PCM audio channel status indication. However, real NON-PCM signals cannot be output properly.

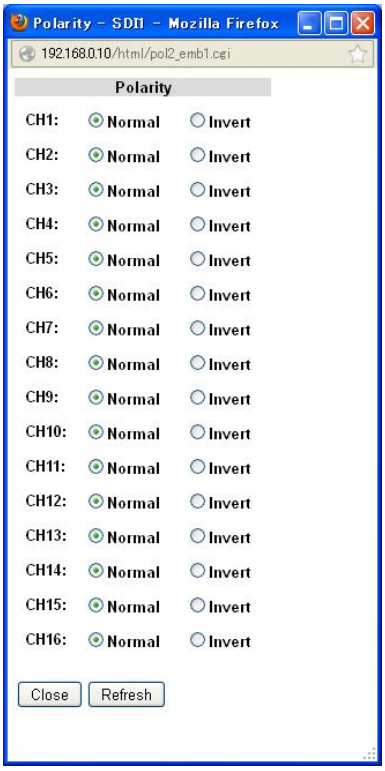
◆ AES SRC Mode

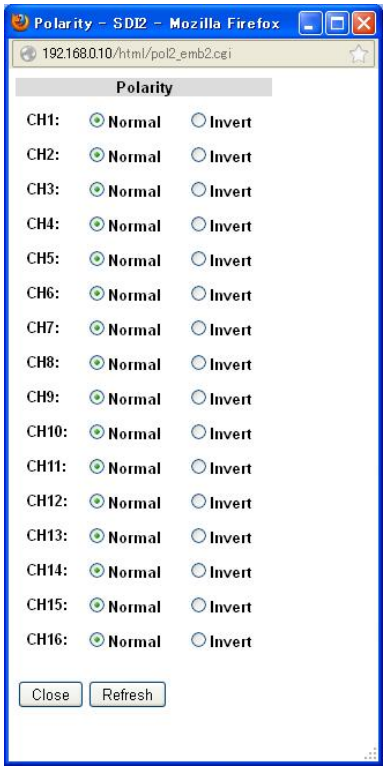


9-3-6. Audio Output Polarity (SDI / AES / Analog)

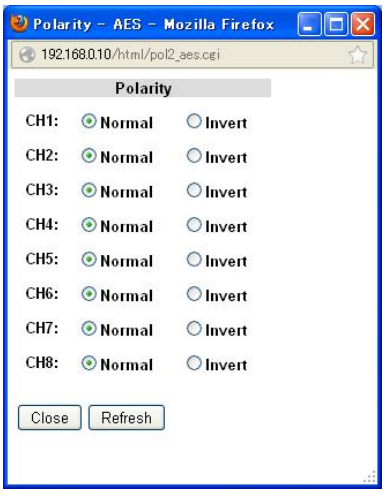
Clicking block (7) on the audio block diagram opens the Audio Output Polarity dialog box.

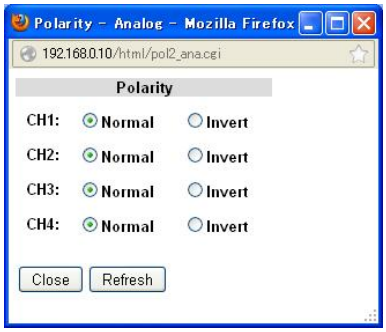
◆ **Polarity: SDI1, SDI2**





◆ **Polarity: AES, Analog**





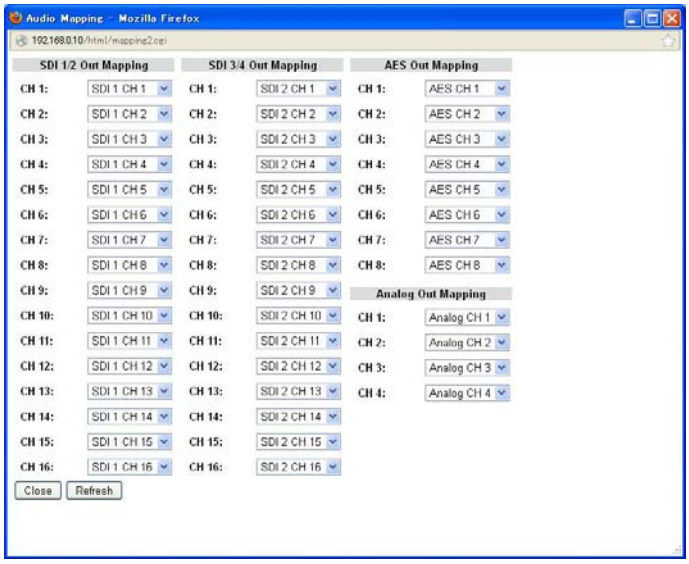
After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

◆ **Polarity**

Parameter	Default	Setting range	Description
CH1-16 (AES CH1-8) (Analog CH1-4)	Normal	Normal Invert	Sets the polarity for each channel. **Invert:** Reverses the polarity.

9-3-7. Audio Mapping

Clicking block (8) on the audio block diagram opens the Audio Mapping dialog box.
(See section 6-5. “AUDIO MAPPING (MAPPING)” for details.)



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

◆ SDI1/2, 3/4 Out Mapping

Parameter	Default	Setting range		Description
CH1-16	SDI CH1-16	SDI 1 CH1-16 SDI 2 CH1-16 AES CH1-8 ANALOG CH1-4 DOWN MIX1-L DOWN MIX1-R DOWN MIX2-L DOWN MIX2-R 500Hz TONE 1KHz TONE SILENCE Dolby Decoder A CH1~8 *1 *2 Dolby Decoder A Downmix L *1 *2 Dolby Encoder A CH1 *2 Dolby Encoder A CH2 *2 Dolby Decoder B CH1~8 *3 *4 Dolby Decoder B Downmix L *3 *4 Dolby Encoder B CH1 *4 Dolby Encoder B CH2 *4		Selects an audio signal to embed into respective FS1/FS2 audio channels.
		Loudness 1 A- *5 Loudness 2 A- *5 Loudness 1 B- *6 Loudness 2 B- *6	Left Right Center LFE Ls Rs	

*1 Selectable when the FA-95D-D option is installed in option slot A.
*2 Selectable when the FA-95DE-E option is installed in option slot A.
*3 Selectable when the FA-95D-D option is installed in option slot B.
*4 Selectable when the FA-95DE-E option is installed in option slot B.
*5 Selectable when the FA-95ALA option is installed in option slot A.
*6 Selectable when the FA-95ALA option is installed in option slot B.

◆ AES Out Mapping

Parameter	Default	Setting range	Description
CH1-8	AES CH1-8	The same as SDI Out 1/2 3/4 Mapping	Selects an audio signal to output to respective AES audio channels.

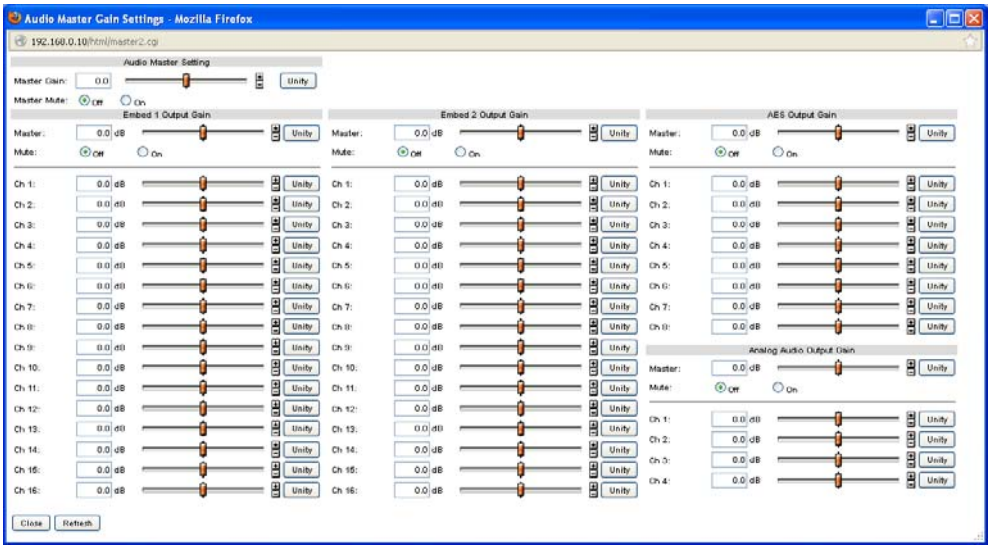
◆ **Analog Out Mapping**

Parameter	Default	Setting range		Description
CH1-16	Analog CH1-4	SDI 1 CH1-16 SDI 2 CH1-16 AES CH1-8 ANALOG CH1-4 DOWN MIX1-L DOWN MIX1-R DOWN MIX2-L DOWN MIX2-R 500Hz TONE 1KHz TONE SILENCE Dolby Decoder A CH1~8 *1 *2 Dolby Decoder A Downmix L *1 *2 Dolby Encoder A CH1 *2 Dolby Encoder A CH2 *2 Dolby Decoder B CH1~8 *3 *4 Dolby Decoder B Downmix L *3 *4 Dolby Encoder B CH1 *4 Dolby Encoder B CH2 *4		Selects an audio signal to embed into respective FS1/FS2 audio channels.
		Loudness 1 A- *5 Loudness 2 A- *5 Loudness 1 B- *6 Loudness 2 B- *6	Left Right Center LFE Ls Rs	

*1 Selectable when the FA-95D-D option is installed in option slot A.
*2 Selectable when the FA-95DE-E option is installed in option slot A.
*3 Selectable when the FA-95D-D option is installed in option slot B.
*4 Selectable when the FA-95DE-E option is installed in option slot B.
*5 Selectable when the FA-95ALA option is installed in option slot A.
*6 Selectable when the FA-95ALA option is installed in option slot B.

9-3-8. Audio Master Gain Settings

Clicking block (9) on the audio block diagram opens the Audio Master Gain Setting dialog box.



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.
Click **Unity** to reset to the default settings.
Click [+] to increase the value by the smallest steps.
Click [–] to decrease the value by the smallest steps.

◆ Audio Master Settings

Parameter	Default	Setting range	Description
Master Gain	0.0dB	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to the audio gain for all audio channels CH1 through 16.
Master Mute	Off	Off On	**On**: Mutes all audio channels that will be internally processed.

* Master Mute is not effective on NON-PCM outputs. NON-PCM output signals pass through.

◆ Embed 1, 2 Output Gain (See sec. 6-4-2 and 6-4-3)

Parameter	Default	Setting range (Steps)	Description
Master	—	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to audio output gain for all audio channels CH1 through 16 in respective FS.
Mute	Off	Off On	**On:** Mutes all embedded audio channels in respective FS.
CH1-CH16	0.0dB	-20.0 - +20.0 dB *1 (0.1 dB)	Sets audio gain for all audio channels CH1 through 16 in respective FS.

*1 The total value of Master and individual channel cannot exceed the setting range. The setting value will stop at the end of the range.

◆ AES Output Gain

The setting menus are the same as those of Embed 1, 2 Output Gain. See section 6-4-4 “AES OUT GAIN“ for details.

◆ Analog Audio Output Gain

The setting menus are the same as those of Embed 1, 2 Output Gain. See section 6-4-5 “ANALOG OUT GAIN“ for details.

9-3-9. Down Mix Setting

Clicking block (10) on the audio block diagram opens the Down Mix Setting dialog box.

See section 6-7 “DOWN MIX1 SET” and 6-8. “DOWN MIX2 SET” for details.

◆ Downmix 1, 2 Setting

Parameter	Default	Setting range	Description
Mode	Stereo	Stereo Surround Monaural	Selects a mode to downmix audio signals.
Surround Mix	-3dB	-3dB -6dB -9dB 0	Sets the Ls/Rs (surround channels) level. **0** : (-∞dB) Excludes surround channels from the downmix.
Center Mix	-3dB	-3dB -4.5 dB -6dB	Sets the C (center channel) level. **-3dB**: The output level after the downmix retains the original center channel level. **-4.5dB, -6dB:** Used to reduce the audio level in case it becomes too loud due to the center channel audio mixing to both the right and left channels.
Master Level	-3dB	-3dB Auto	Sets the level for the downmixed audio signals as a whole. If set to **Auto**, Down MIX Master Level changes according to the Downmix Mode and Surround Mix level selections. *1

*1 If Master Level is set to Auto, Master Level changes as shown in the below table.

Surround Mix Level / Down Mix Mode	-3dB	-6dB	-9dB	0 (-∞dB)
Stereo	approx.-7.7dB	approx.-6.9dB	approx.-6.3dB	approx.-4.6dB
Surround	approx.-9.9dB	approx.-8.7dB	approx.-7.7dB	approx.-4.6dB
Monaural	approx.-12.9dB	approx.-12.0dB	approx.-11.4dB	approx.-9.5dB

◆ **Downmix Assign**

Parameter	Default	Setting range	Description
Left Right Center Left Surround Right Surround	Left: EMB CH1 Right: EMB CH2 Center: EMB CH3 Left Surround: EMB CH5 Right Surround: EMB CH6	EMB1 CH1-16 EMB2 CH1-16 AES CH1-8 ANALOG CH1-4 Dolby DECA CH1-8 Dolby DECB CH1-8	Selects audio signals to be downmixed.

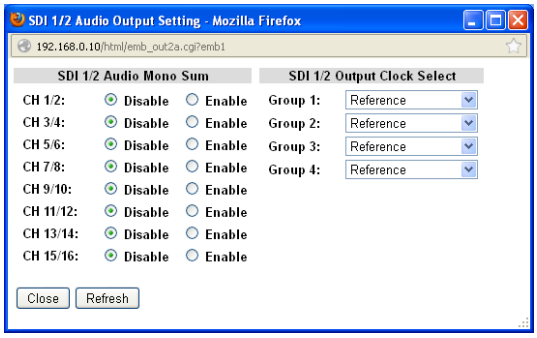
* If the same audio signal is selected for multiple CH SEL channels, or a NON-PCM signal is assigned to an audio channel, the menu will be indicated with an "*", i.e. „*EMB1 CH1", and **DOWNMIX-L and DOWNMIX-R** will be muted.

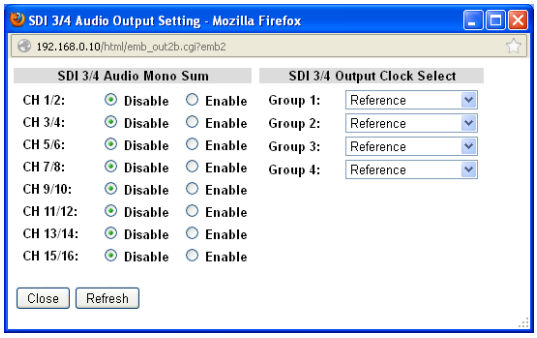
* The downmixed audio signals are output as Down Mix-L, and R.

NOTE
To embed downmixed audio signals, Down Mix -L and R, see section 9-3-10 "SDI Audio Output Setting". To output downmixed audio signal from AES connectors, see section 9-3-11 "AES Audio Output Setting". To output from the analog audio output connectors, see section 9-3-12 "Analog Audio Output Setting".

9-3-10. SDI Audio Output Settings

Clicking block (14) or (15) on the audio block diagram opens the SDI 1/2 or 3/4 Audio Output Setting dialog box.





After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

◆ **SDI1/2, 3/4 Audio Mono Sum**

Parameter	Default	Setting range	Description
CH1/2-CH15/16	Disable	Disable Enable	**Enable:** Outputs the stereo pair channels as a mono sum.

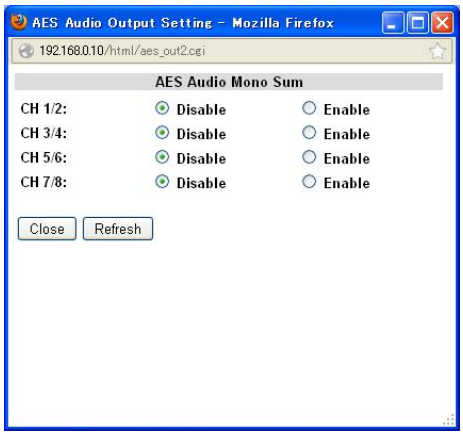
◆ **SDI 1/2, 3/4 Output Clock Select**

Parameter	Default	Setting range	Description
Group 1	Reference	Auto Reference CH 1/2 CH 3/4	Selects an audio clock per group for SDI embedded audio output. **Auto:** Automatically selects audio clock input in the NON-PCM signal channel, if an input NON-PCM signal is in the selected SDI embedded audio group. Automatically selects audio clock signal in the smallest numbered channel, if all signals in the audio group are NON-PCM. Automatically selects audio clock signal synchronized to the output video signal, if all signals in the audio group are PCM. *1 **Reference:** Audio clock synchronize with the output video signal. (Used to synchronize audio with the video signals processed in the SRC.) **CH 1/2 to 15/16:** An input audio clock in channels 1/2 to 15/16. To output asynchronous audio signals, select one input channel pair for each group. *1 For SD-SDI outputs, **Reference** is automatically selected regardless of the setting.
Group 2	Reference	Auto Reference CH 5/6 CH 7/8	
Group 3	Reference	Auto Reference CH 9/10 CH 11/12	
Group 4	Reference	Auto Reference CH 13/14 CH 15/16	

*1 Embedded audio signals are divided into 4 groups. Each group consists of 4 audio channels; Group 1 (CH 1 to 4), Group 2 (CH 5 to 8), Group 3 (CH 9 to 12), Group 4 (CH 13 to 16). The audio signals in the same group are transmitted together using the same audio clock (48kHz). PCM audio signals will be synchronized to a genlock signal in the SRC (sampling rate converter) so as to synchronize with the output video signal. Non-PCM audio signals (compressed audio data such as AC-3) do not go into SRC. If the non-PCM audio input signal is asynchronous with the output video signal, the non-PCM audio output signal will be asynchronous. The asynchronous non-PCM audio signals can be embedded to SDI video signals by selecting an audio clock for each audio group. To do so, all 4 channels in the respective audio groups must be synchronous. Assign 4 synchronous audio signals to channels in a group.

9-3-11. AES Audio Output Settings

Clicking block (16) on the audio block diagram opens the AES Audio Output Setting dialog box.



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

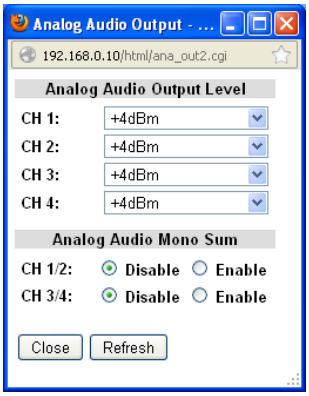
◆ **AES Audio Mono Sum**

Parameter	Default	Setting range	Description
CH 1/2-CH 7/8	Disable	Disable Enable	**Enable:** Outputs the stereo pair channels as a mono sum.

IMPORTANT
To use AES audio signals 1/2 through 7/8 for Source, the AES connector must be set to be used for input. See AES 1/2-3/4 IO Setting and AES5/6-7/8 IO Setting in section 9-4-2 “Audio System” for details.

9-3-12. Analog Audio Output Settings

Clicking block (17) on the audio block diagram opens the Analog Audio Output dialog box.



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.
Click **Unity** to reset to the default settings.
Click [+] to increase the value by the smallest steps.
Click [-] to decrease the value by the smallest steps.

◆ **Analog Audio Output Level**

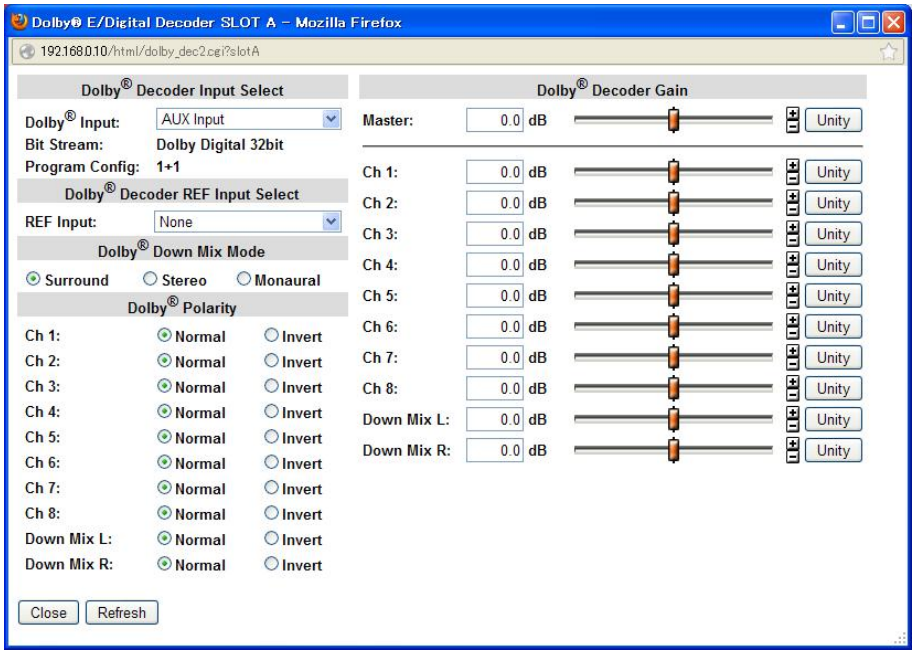
Parameter	Default	Setting range	Description
CH 1-CH 4	+4dBm	-10dBm 0dBm +4dBm +8dBm	Sets the output signal level for analog audio output channels.

◆ **Analog Audio Mono Sum**

Parameter	Default	Setting range	Description
CH 1/2 CH 3/4	Disable	Disable Enable	**Enable:** Outputs the stereo pair channels as a mono sum.

9-3-13. Dolby E/Digital Decoder

Clicking block (15) on the audio block diagram when the FA-95D-D or FA-95DE-E option is installed in option slot A/B opens the Dolby Decoder dialog box.
(The Dolby options in slots A and B can be set separately.)



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

◆ **Dolby Decoder Input Select**

Parameter	Default	Setting range	Description
Dolby Input	AUX Input	AUX Input Embeded 1 Ch 1/2-15/16 Embeded 2 Ch 1/2-15/16 AES 1/2-7/8	Selects source audio signals to input to the Dolby decoder. **AUX Input**: Input signal in optional Dolby input connector (Dolby IN). **Embeded 1 Ch 1/2-15/16**: Embedded FS1 audio signal **Embeded 2 Ch 1/2-15/16**: Embedded FS2 audio signal **AES 1/2-7/8**: AES input audio signal
Bit Stream	-	Dolby Digital 32bit Dolby Digital 16bit 1CH Dolby Digital 16bit 2CH Dolby Digital 16bit 1/2CH Dolby E 24bit Dolby E 20bit Dolby E 16bit PCM Loss Error	Displays signal type and bit width of signal selected under Dolby Input. **PCM:** Normal audio signal **Loss:** No signal **Error:** Unidentifiable

Parameter	Default	Setting range	Description
Program Config	-	Dolby E 5.1+2 Dolby E 5.1+2x1 Dolby E 4+4 Dolby E 4+2x2 Dolby E 4+2+2x1 Dolby E 4+4x1 Dolby E 4x2 Dolby E 3x2+2x1 Dolby E 2x2+4x1 Dolby E 2+6x1 Dolby E 8x1 Dolby E 5.1 Dolby E 4+2 Dolby E 4+2x1 Dolby E 3x2 Dolby E 2x2+2x1 Dolby E 2+4x1 Dolby E 6x1 Dolby E 4 Dolby E 2+2 Dolby E 2+2x1 Dolby E 4x1 Dolby E 7.1 Dolby E 7.1Screen NON-Dolby E	Displays Dolby E program configuration (Coding mode) or status of signal selected under Dolby Input. See Dolby E/Digital Decoder Output Channel Assignment table in section 12 “Analog Audio Connection” for channel assignments of respective configurations.
		Dolby Digital 1+1 Dolby Digital 1/0 Dolby Digital 2/0 Dolby Digital 3/0 Dolby Digital 2/1 Dolby Digital 3/1 Dolby Digital 2/2 Dolby Digital 3/2 Dolby Digital 3/0L Dolby Digital 2/1L Dolby Digital 3/1L Dolby Digital 2/2L Dolby Digital 3/2L	
		Loss Invalid	

◆ **Dolby Decoder REF Input Select**

Parameter	Default	Setting range	Description
REF Input	AUX REF IN	None FS1 Output FS2 Output AUX REF In FS1 Input FS2 Input	Selects a reference signal to be used in the Dolby decoder. PCM signal output from the Dolby decoder will be synchronized to the selected reference signal. **None**: No reference signal used **FS1 Output**: Uses the FS1 output video signal. **FS2 Output**: Uses the FS2 output video signal. **AUX REF In**: Uses the input signal in the optional Dolby reference input connector (REF IN). If no signal is in the REF IN connector, the PCM signal output will be in free-run mode. **FS1 Input**: Uses the FS1 input video signal. **FS2 Input**: Uses the FS2 input video signal.

◆ **Dolby Down Mix Mode**

Parameter	Default	Setting range	Description
Mode	Surround	Surround Stereo Monaural	Selects a downmix mode for the Dolby decoder.

◆ **Dolby Polarity**

Parameter	Default	Setting range	Description
Ch 1-8	Normal	Normal Invert	Sets polarity for the Dolby decoder output.

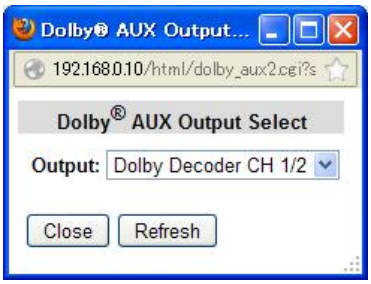
◆ **Dolby Decoder Gain**

Parameter	Default	Setting range	Description
Master	0.0 dB	-20.0 - +20.0 dB (0.1 dB)	Sets offset for all Dolby-decoded signals.
Ch 1-8 Down Mix L Ch Down Mix R Ch	0.0 dB	-20.0 - +20.0 dB*1 (0.1 dB)	Sets gain for each Dolby decoder channel.

*1 Audio signals will be clipped if the sum of Master and Ch gain settings exceed the upper or lower threshold of the setting range.

9-3-14. Dolby AUX Output Select

Clicking block (17) on the audio block diagram when the FA-95D-D or FA-95DE-E option is installed in option slot A/B opens the DolbyAUX Output dialog box.
(The options in slots A and B can be set separately.)



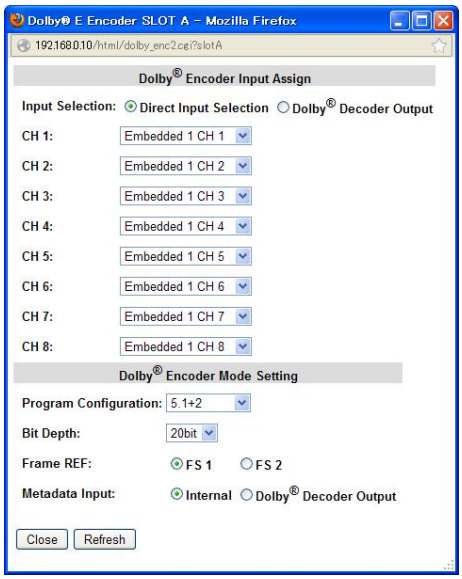
After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

Parameter	Default	Setting range	Description
Output	Dolby Decoder CH 1/2	Dolby Decoder CH 1/2 Dolby Decoder CH 3/4 Dolby Decoder CH 5/6 Dolby Decoder CH 7/8 Dolby Down Mix L/R Dolby Encoder CH 1/2 *1 500Hz Tone 1kHz Tone Silence None	Selects a signal to be output from the optional Dolby output connector (Dolby OUT). **Decoder Output CH 1/2 – CH 7/8**: Dolby-decoded PCM signals **Dolby Down Mix L/R**: Downmixed signal generated from Dolby-decoded PCM signals. **Dolby Encoder CH 1/2**: Encoded Dolby E signal of selected signals of SOURCE channels. **500Hz Tone**: 500Hz Test signal (TONE) **1kHz Tone**: 1KHz Test signal (TONE) **Silence**: Mute signal **None**: No signal output

*1 Shown only if the FA-95DE-E option is installed.

9-3-15. Dolby E Encoder

Clicking block (16) on the audio block diagram when the FA-95DE-E option is installed in option slot A/B opens the Dolby E Encoder dialog box.
(The options in slots A and B can be set separately.)



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

Dolby Encoder Input Assign

Parameter	Default	Setting range		Description
Input Selection	Direct Input Selection	Direct Input Selection Dolby Decoder Output		Selects a signal to be input to the Dolby encoder. *1 **Direct Input Selection**: Source channel signals of the FA-9520 **Dolby Decoder Output**: Output signal from the Dolby decoder *1
CH 1-8	Embedded 1 CH1-CH8	When Direct Input Selection is selected Embedded1, 2 CH1-CH16 AES CH1-CH8 Analog CH1-CH4 Down Mix 1, 2 L/1, 2 R 500Hz TONE 1KHz TONE Silence		When Input Selection is set to Direct Input Selection: **Embedded1/2 CH1-CH16**: OURCE signal selected in the 6-5 AUDIO MAPPING (MAPPING) menu **AES CH1-8**: AES input channel **Analog CH1-4**: Analog audio input channel **Down Mix 1,2L/1,2R**: Down-mixed 1/2 output audio signal. **500Hz/1KHz TONE**: 500Hz/1KHz test signal (TONE) **Silence**: Mute signal
		Loudness 1 A *2 Loudness 2 A *2 Loudness 1 B *3 Loudness 2 B *3	Left Right Center LFE Ls Rs	**Loudness 1/2 A/B Left** **Loudness 1/2 A/B Right** **Loudness 1/2 A/B Center** **Loudness 1/2 A/B LFE** **Loudness 1/2 A/B Ls** **Loudness 1/2 A/B Rs** Loudness-processed1/2, A/B output audio signal
		When Dolby Decoder Output is selected Dolby Decoder CH 1-8 Dolby Down Mix L DolbyDown Mix R 500Hz TONE 1KHz TONE Silence		When Input Selection is set to Dolby Decoder Output: **Dolby Decoder CH 1-8**: PCM signal output from the Dolby decoder **DolbyDown Mix L/R**: Down mixed signal generated from Dolby-decoded PCM signal **500Hz/1KHz TONE**: 500Hz/1KHz test signal (TONE) **Silence**: Mute signal

*1 **Direct Input Selection** and **Dolby Decoder Output** settings are retained until changed. When the **Direct Input Selection** or **Dolby Decoder Output** is changed, Ch1-8 signal assignments will be changed to that of the Input Selection. **Direct Input Selection** and **Dolby Decoder Output** signals cannot be input to the Dolby encoder together. Dolby Digital signal output from the Dolby decoder, **Dolby Decoder Output**, cannot be encoded to the Dolby E signal.
*2 Not shown if the FA-95ALA option is not installed in option slot A.
*3 Not shown if the FA-95ALA option is not installed in option slot B.

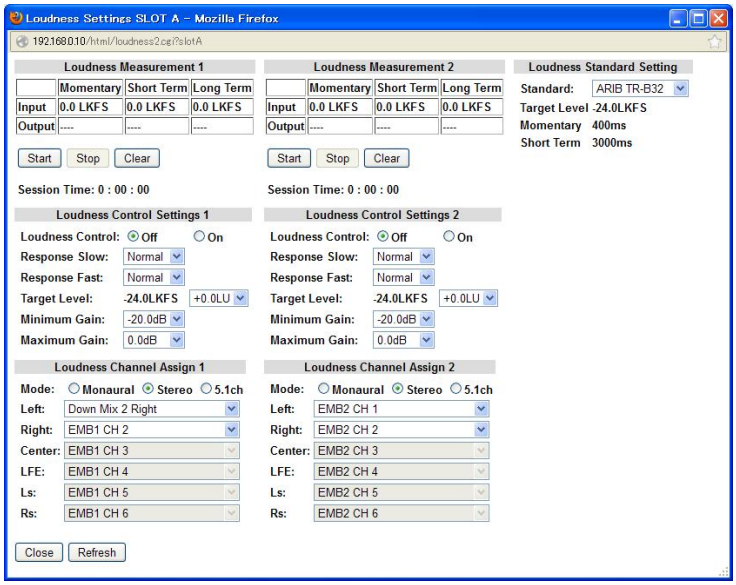
Dolby Encoder Mode Setting

Parameter	Default	Setting range	Description
Program Configuration	5.1+2	5.1+2 *1 5.1+2x1 *1 4+4 *1 4+2x2 *1 4+2+2x1 *1 4+4x1 *1 4x2 *1 3x2+2x1 *1 2x2+4x1 *1 2+6x1 *1 8x1 *1 5.1 4+2 4+2x1 3x2 2x2+2x1 2+4x1 6x1 4 2+2 2+2x1 4x1 7.1 *1 7.1 Screen *1	Selects Dolby E encoder program configuration.
Bit Depth	20bit	20bit 16bit	Selects the bit width of the Dolby E encoder output.
Frame REF	FS1	FS1 FS2	Selects a video output to which the Dolby E encoder output is synchronized. (FS 1 or FS 2)
Meta Data Input	Internal	Internal Dolby Decoder Output	Selects a metadata to be used for Dolby E encoding. **Internal**: Uses the Program Configuration and Bit Depth settings. Other metadata will be reset to default. **Dolby Decoder Output**: Uses the metadata of the Dolby E signal input to the Dolby decoder. Program Configuration and Bit Depth will be ineffective.

*1 If Bit Depth is set to 16bit, the "∗" will be displayed and the program functions as 5.1. To select these configurations, set Bit Depth to 20bit.

9-3-16. Automatic Loudness Adjustment (FA-95ALA)

Clicking block (13) on the audio block diagram when the FA-95ALA option is installed in option slot A/B opens the Automatic Loudness Adjustment dialog box.
(Settings for the FA-95ALA in both option slots are the same, but can be set separately.)



◆ Loudness Measurement1/2

Input indicates the measured loudness level of the FA-95ALA input audio signal in LKFS.
Output indicates the loudness level of the loudness processed signal in LKFS.

Parameter	Default	Setting range	Description
Input	-	-	Displays the measured loudness level of the FA-95ALA input audio signal in LKFS.
Output	-	-	Displays the measured loudness level of the FA-95ALA output audio signal in LKFS. Set Loudness Control to On, then click **Start** to start loudness adjustment and display the measured loudness level.
Start	-	-	Allows you to start to adjust the audio signal loudenss according to the Loudness standard selected under Stndard.
Stop	-	-	Allows you to stop loudness measurement and adjustment.
Clear	-	-	Allows you to clear loudness measurement. If clicked while Start is enabled, loudness measurement and adjustment restart after being cleared. Session Time display also resets to 0:00:00.
Session Time			Displays the elapsed time of loudness measurement and adjustment. After counting up to 6:59:59, the display resets to 0:00:00. Loudness measurement and adjustment will also be cleared and restart.

◆ **Loudness Control Settings 1/2**

Parameter	Default	Setting range	Description
Loudness Control	Off	Off On	Allows you to turn On or Off the Loudness Level Adjustment feature. Set to Off to enable only loudness measurement. The On/Off setting can only be changed while loudness measurement is being stopped.
Response Slow	Normal	NA -4, -3, -2, -1 Normal +1, +2, +3, +4	Allows you to select the loudness level adjustment speed (SLOW) to achieve the target level for long-term loudness level adjustment, allowing gradual leveling. The larger the value, the faster the responce allowing greater adjustment. **NA**: Disables the SLOW adjustment function.
Response Fast	Normal	NA -4, -3, -2, -1 NORMAL +1, +2, +3, +4	Allows you to select the loudness level adjustment speed (FAST) to achieve the target level for instantaneous loudness level adjustment, allowing sudden leveling (leveling down only). The larger the value, the faster the response allowing greater adjustment. **NA**: Disables the FAST adjustment function.
Target Level	+0.0 LU	-2.0- to +2.0 LU (0.1 LU)	Allows you to set the target loudness level (offset). The target level of the standard selected under Standard is displayed to the left of the setting box.
Minimum Gain	-20.0 dB	-20.0 to 0.0 dB (1.0 dB)	Allows you to set the minimum gain (lower threshold) to limit the attenuation.
Maximum Gain	0.0 dB	0.0 to +5.0 dB (1.0 dB)	Allows you to set the maximum gain (upper threshold) to limit the magnification.

IMPORTANT
Change Response settings according to the audio material characteristics. For materials with a wide audio level range, set each setting to a large value. For materials that prefer minimum loudness adjustment, set each setting to a small value.

◆ **Loudness Channel Assign 1/2**

Parameter	Default	Setting range	Description
Mode	Stereo	Monaural Stereo 5.1 CH	Allows you to select the audio mode of an audio signal for its loudness level to be measured and adjusted.
Left	EMB1 CH1 *3	EMB1 CH1～16 EMB2 CH 1~16 AES CH 1~8 Analog CH 1~4 Down Mix 1 Left Down Mix 1 Right Down Mix 2 Left Down Mix 2 Right Dolby Decoder Slot A/B CH 1~8 *4 Dolby Decoder Slot A/B Downmix L *4 Dolby Decoder Slot A/B Downmix R *4	Allows you to select audio signals to be measured and adjusted. **EMB1**: FS1 IN input audio signals **EMB2**: FS2 IN input audio signals **AES**: AES input audio signals **Analog**: Input analog audio signals **Down Mix**: Internally generated downmixed audio signals. **Dolby Decoder Slot A/B CH 1~8:** Dolby decoder output audio signals **Dolby Decoder Slot A/B Downmix**: Dolby decoder downmixed output audio signals
Right *1	EMB1 CH2 *3	The same as above	The same as above
Center *2	EMB1 CH3 *3	The same as above	The same as above
LFE *2	EMB1 CH4 *3	The same as above	The same as above
Ls *2	EMB1 CH5 *3	The same as above	The same as above
Rs *2	EMB1 CH6 *3	The same as above	The same as above

*1 Selectable if Mode is set to Stereo or 5.1ch.
*2 Selectable if Mode is set to 5.1ch.
*3 Under Loudness Channel Assign 2 menus, values are EMB2 CH1 – 6 respectively.
*4 Shown if the FA-95D-D or FA-95DE-E is installed in option slot A/B.
* LFE channels are subjected to adjustments, but not to measurement.

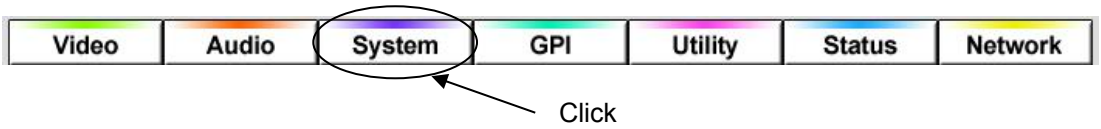
◆ **Loudness Standars Setting**

Parameter	Default	Setting range	Description
Standard	ARIB TR-B32	ARIB TR-B32 ATSC A85 EBU-R128 ITU R BS.1770	Allows you to select according to what standard the loudness measurement and adjustment will be conducted.

Parameter Specification of Standards used in the FA-95ALA

Parameter	ARIB TR-B32	ATSC A/85	EBU-R128	ITU-R BS.1770
Target Level	-24.0 LKFS	-24.0 LKFS	-23.0 LUFS	-24.0 LKFS
Momentary Average Time	400 msec	125 msec	400 msec	400 msec
Short Term Average Time	3000 msec	10000 msec	3000 msec	3000 msec
Absolute Gating	-70.0 LKFS	NONE	-70.0 LUFS	-70.0 LKFS
Relative Gating	-10 LU	NONE	-10 LU	-10 LU
Overlap Size	75%	0%	75%	75%

9-4. SYSTEM Settings



Click the System tab at the top of the page. The System setting window will be displayed.
The system setting window consists of Video System and Audio System pages.
Those pages are accessed by clicking **►FS1 Video System ►FS2 Video System ►Audio System** at the top of the page.

9-4-1. FS1/FS2 Video System

Click **►FS1 Video System** or **►FS2 Video System** at the top of the Video System page to access the corresponding FS Video System page.

Click **Refresh** to update the settings.
Click **Unity** to reset to the default settings.
Click [+] to increase the value by the smallest steps.
Click [–] to decrease the value by the smallest steps.

If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.

◆ **FS1, FS2 SD Phase** *1

Parameter	Default	Setting range (Steps)	Description
H Phase	0 clk	-864 - 864 clk (1 clk)	Adjusts the horizontal and vertical phases of the system referring to genlock signal. This setting is applied to SD output signals.
V Phase	0 Line*2 (Frame, Input) 1 Line*2 (Line, AVDL)	-313 - 313 Lines (1 Lines)	

*1 These settings cannot be made if there is no reference signal input.
*2 The default value varies depending on the Synchro Mode setting as shown in the below table. The set value will be reset to its relevant default value whenever the Synchro Mode setting is changed.

SYNCHRO	IN SEL	Default
FRAME	—	0
LINE	SDI1, 2	1
	Composite (525/60)	3
	Composite (625/50)	4
	Component (Y/C)	4
	Component (others)	1
AVDL	SDI1, 2	1
	Composite (525/60)	3
	Composite (625/50)	4
	Component (Y/C)	4
	Component (others)	1

◆ **FS1, FS2 HD Phase** *1

Parameter	Default	Setting range (Steps)	Description
1080 H Phase	0 clk	-1375 - 1375 clk (1 clk)	Adjusts the horizontal and vertical phases of the system referring to genlock signal. This setting is applied to 1080-format output signals.
1080 V Phase	0 Line*2 (Frame, Input) 1 Line*2 (Line, AVDL)	-563 - 563 Lines (1 Lines)	
720 H Phase	0 clk	-2063 - 2063 clk (1 clk)	Adjusts the horizontal and vertical phases of the system referring to genlock signal. This setting is applied to 720-format output signals.
720 V Phase	0 Line*2 (Frame, Input) 1 Line*2 (Line, AVDL)	-375 - 375 Lines (1 Lines)	

*1 These settings cannot be made if there is no reference signal input.

*2 The default value varies depending on the Synchro Mode setting as shown in the below table. The set value will be reset to its relevant default value whenever the Synchro Mode setting is changed.

SYNCHRO	IN SEL	Default
FRAME	—	0
LINE	SDI1, 2	1
	Composite (525/60)	3
	Composite (625/50)	4
	Component (Y/C)	4
	COMPONENT (others)	1
AVDL	SDI1, 2	1
	Composite (525/60)	3
	Composite (625/50)	4
	Component (Y/C)	4
	COMPONENT (others)	1

◆ **FS1, FS2 Video Position**

Parameter	Default	Setting range (Steps)	Description
H Position	0 Pixel	525/60i ±92 625/50 ±92 1080/59i ±240 1080/50i ±240 1080/23PsF ±240 1080/24PsF ±240 720/59p ±160 720/50p ±160 1080/59p ±240 1080/50p ±240 (Pixel)	Adjusts the horizontal/vertical position of output videos.
V Position	0 Line	525/60i ±30 625/60i ±36 1080/59i ±68 1080/50i ±68 1080/23PsF ±68 1080/24PsF ±68 720/59p ±90 720/50p ±90 1080/59p ±135 1080/50p ±135 (Line)	

◆ **FS1, FS2 Freeze Settings**

Parameter	Default	Setting range	Description
Freeze On/Off *1	Off	Off, On	Sets FREEZE ON/OFF
Freeze Mode *2	Frame	Frame, Odd, Even	Select an operation mode for FREEZE.
Strobe Freeze	0	0 – 255	Sets the interval to refresh the images by the number of fields for the field or frame freeze. ("0" will not refresh the image.)

*1 Changing the FS Mode or Synchro Mode setting while Freeze On/Off is set to On will turn freeze Off. Freeze On/Off cannot be set to On if Synchro mode is set to Line Sync, or AVDL. Freeze is always set to Off at startup. These settings are not stored in the event memory.

*2 Freeeze Mode is automatically set to Frame for progressive and progressive segmented frame input signals and cannot be changed. See the below Freeze Mode Setting Chart for details.

Freeze Mode Setting Chart

	Input signal									
Sync Format settings	525/60	625/50	1080/59i	1080/50i	720/59p	720/50p	1080/23PsF	1080/24PsF	1080/59p	1080/50p
AUTO	OE	OE	OE	OE	F	F	F	F	F	F
525/60	OE	NOE	NOE	NOE	NOE	NOE	NOE	NOE	NOE	NOE
625/50	NOE	OE	NOE	NOE	NOE	NOE	NOE	NOE	NOE	NOE
1080/59i	NOE	NOE	OE	NOE	NOE	NOE	NOE	NOE	NOE	NOE
1080/50i	NOE	NOE	NOE	OE	NOE	NOE	NOE	NOE	NOE	NOE
720/59p	NF	NF	NF	NF	F	NF	NF	NF	NF	NF
720/50p	NF	NF	NF	NF	NF	F	NF	NF	NF	NF
1080/23PsF	NF	NF	NF	NF	NF	NF	F	NF	NF	NF
1080/24PsF	NF	NF	NF	NF	NF	NF	NF	F	NF	NF
1080/59p	NF	NF	NF	NF	NF	NF	NF	NF	F	NF
1080/50p	NF	NF	NF	NF	NF	NF	NF	NF	NF	F

OE: Can be set to Frame, Odd, or Even.
F: Fixed to Frame.
NOE: Can be set to Frame, Odd, or Even, but the image does not appear properly.
NF: Fixed to Frame, and the image does not appear properly.

◆ **FS1, FS2 Synchro Mode**

Parameter	Default	Setting range	Description
Synchro Mode *1 *2 *3 *4 *5	Frame Sync	Frame Sync Line Sync AVDL *6	**Frame Sync:** Enables horizontal and vertical alignment of video signals to a genlock signal. Effective on both synchronous and asynchronous signals. **Line Sync:** Locks the video signal of within ±1/2H to a genlock signal. Output delay is 1H. Effective only when video signal is synchronous to the genlock signal. **AVDL:** Locks the video signal to a genlock signal with a 1H delay. Effective only when video signal is synchronous to the genlock signal. **Input Lock:** Locks the system to an input video signal. The delay can be adjusted by System Phase and/or Frame Delay. However, the minimum delay is 520clk common in all formats. (HD: 74 MHz, SD: 27MHz) Does not use a genlock signal.
Sync Format *7	Auto Detect	Auto Detect 525/60 625/50 1080/59.94i 1080/50i 720/59.94p 720/50p 1080/23PsF 1080/24PsF 1080/59.94p 1080/50p	Sets a system format for the FA-9520. Auto Detect: Detects and sets the detected input video format to the system format. Other values make the system work in the format.
Forced Field *1 *3	Off	Off Odd Even	Selects which field to be used twice to compose a frame. (Effective on composite signal inputs.)

*1 Selecting ODD/EVEN for Forced Field, while FS Input Select(9-2-1) is set to Composite, Synchro Mode to Frame Sync, and Frame Delay(9-2-3) to 0 frame, the Frame Delay setting value will always reset to 1 frame. Set Frame Delay to between 1 and 8 frames.
*2 Frame Delay (9-2-3) cannot be set if Synchro Mode is set to Line Sync, or AVDL.
*3 Forced Field cannot be set if Synchro Mode is set to Line Sync, or AVDL.
*4 The Freeze function via GPI input is disabled if Synchro Mode is set to Line Sync, or AVDL. See section 9-5 “GPI” for details.
*5 Changing the Synchro Mode setting will reset 1080 V Phase and 720 V Phase settings in HD Phase menu and the V PHASE setting in SD Phase menu to their default values according to the set Synchro Mode.
*6 Switching input signals with a phase difference using a router or such device may cause shock noise to occur on video or audio signals if the phase difference (compared to the genlock signal) exceeds the range shown in the following table. If the difference is within range, shock noise will not occur.
*7 This item is disabled if an FA-95CO option is installed and Format Error Trigger in section 9-2-1 “FS Input Select” is enabled.

Video format	Phase difference from genlock signal
SD	-1H (with line differences depending on video format) to +1/2H
HD	-5H (with line differences depending on video format) to +1/2H

Table of Reference signals and Input formats that can lock

	Reference signal							
Input signal	525/60	1080/59i	720/59p	625/50	1080/50i	720/50p	1080/23PsF	1080/24PsF
525/60	✓✓✓	✓✓✓	✓	-	-	-	✓	-
1080/59i	✓✓✓	✓✓✓	✓	-	-	-	✓	-
720/59p	✓✓✓	✓✓✓	✓✓✓	-	-	-	✓	-
1080/59p	✓✓✓	✓✓✓	✓✓✓	-	-	-	✓	-
625/50	-	-	-	✓✓✓	✓✓✓	✓	-	✓
1080/50i	-	-	-	✓✓✓	✓✓✓	✓	-	✓
720/50p	-	-	-	✓✓✓	✓✓✓	✓✓✓	-	✓
1080/50p	-	-	-	✓✓✓	✓✓✓	✓✓✓	-	✓
1080/23PsF	✓	✓	✓	-	-	-	✓✓✓	-
1080/24PsF	-	-	-	✓	✓	✓	-	✓✓✓

✓✓✓: SYNCHRO can be set to FRAME, LINE, or AVDL.
△: SYNCHRO can only be set to FRAME.
-: Unable to synchronize.

◆ FS1, FS2 Ancillary Setting

Parameter	Default	Setting range	Description
ANC Mode	H/V ANC	H/V ANC Detail	Selects ancillary data processing mode for the FS1/FS2 output signal. H ANC and V ANC menu settings will become available when H/V ANC is selected. Set to Detail to enable ANC Data Embed settings in 9-4-3 “ANC Settings”.
H ANC *	Overwrite	Overwrite In Data Blank	Embeds audio signals into horizontal ancillary data of FS1/FS2 output videos. **Overwrite:** Removes the embedded audio from the input SDI video, then embeds the processed audio data in the video signal. Whether to embed is determined by the FS1/FS2 Audio Group setting. The input SDI data will be embedded in the video signal after audio signals are embedded. **In Data:** Passes the input SDI horizontal ancillary data without processing. (Processed audio data cannot be embedded.) **Blank :** Deletes all horizontal ancillary data, and embeds the processed audio data.
V ANC *	Pass	Pass Blank	Embeds audio signals into vertical ancillary data of FS1/FS2 output videos. **Pass**: Embeds the vertical ancillary data without processing. **Blank**: Deletes all vertical ancillary data.

* H ANC and V ANC settings are effective if input and output formats are the same. If such formats are different, both H ANC and V ANC will be set to BLANK.

◆ FS1, FS2 Audio Group

Parameter	Default	Setting range	Description
Group1 *1	Enable	Disable Enable *3	**Disable**: Does not insert GROUP 1-embedded audio. **Enable** : Inserts GROUP 1-embedded audio.
Group 2 *1	Enable	Disable Enable *3	**Disable**: Does not insert GROUP 2-embedded audio. **Enable** : Inserts GROUP 2-embedded audio.
Group 3 *1	Enable	Disable Enable *3	**Disable**: Does not insert GROUP 3-embedded audio. **Enable** : Inserts GROUP 3-embedded audio.
Group 4 *1*2	Enable	Disable Enable *3	**Disable**: Does not insert GROUP 4-embedded audio. **Enable** : Inserts GROUP 4-embedded audio.

*1 Operative if H ANC under FS1/FS2 Ancillary Setting is set to Overwrite or Blank.

*2 GROUP4 embedded audio cannot be inserted into SD-SDI output signals regardless of the GROUP4 setting.

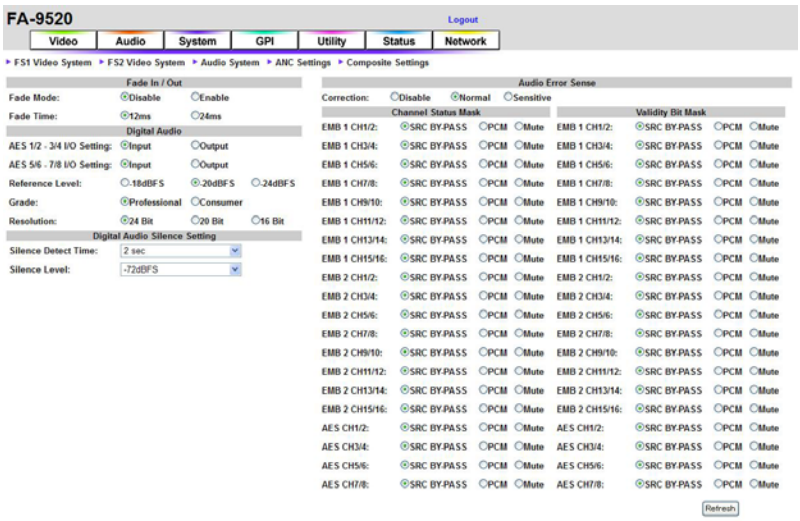
*3 The setting is ineffective if the input and output formats are the same, and H ANC is set to In Data under Converter1 Ancillary Setting.

◆ FS1, FS2 SD Line Mask

Parameter	Default	Setting range	Description
Line6-23	Pass	Pass Blank	**Pass**: Outputs the line to a composite, Y/C or SD-SDI output signal without processing. **Blank**: Masks the selected composite, Y/C or SD-SDI output signal line.

IMPORTANT
Line settings specified under ANC Settings (sec. 9-4-3) take a priority over FS1, FS2 Line Mask line settings and will take effect.

9-4-2. Audio System



If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.
Click **Refresh** to update the settings.

◆ Fade In/Out

Parameter	Default	Setting range	Description
Fade Mode	Disable	Disable Enable	**Disable:** Always outputs input audio signals without adding any effect such as Fade or Mute. **Enable:** Sets an audio channel to mute with fade out if an audio error is detected and fade in when recovered. *1
Fade Time	12ms	12ms 24ms	Sets the duration for Fade In and Out transitions.

*1 To use this function, the audio delay must be set longer than the total Fade In/Out Time and Silence Detect Time.
Ex.) If Fade Time is set to 12 ms, the audio delay must be longer than 14 msec; i.e. 12+ 2msec (Silence Detect Time).

IMPORTANT
Fade In/Out may not function properly for the switching between AES input signals whose sampling rates are different, or that are asynchronous.

◆ Digital Audio

Parameter	Default	Setting range	Description
AES 1/2-3/4 I/O Setting	Input	Input Output	**Input**: AES1/2, and 3/4 connectors are set to be input connectors. **Output**: AES1/2, and 3/4 connectors are set to be output connectors. *1
AES 5/6-7/8 I/O Setting	Input	Input Output	**Input**: AES5/6, and 7/8 connectors are set to be input connectors. **Output**: AES5/6, and 7/8 connectors are set to be output connectors. *1
Reference Level	-20dBFS	-18dBFS -20dBFS -24dBFS	Selects the reference level for digital audio signals. See section 11 “ANALOG/DIGITAL Audio Input/Output Level” for details.
Grade	Professional	Professional Consumer	Selects an audio application for digital audio channels. **Professional**: Optimized for professional use **Consumer**: Optimized for consumer use.
Resolution	24Bit	24Bit 20Bit 16Bit	Selects an audio word length for Digital Audio output signals.

*1 All connectors are set to be input connectors and this menu will be disabled if the optional FA-95DACBL is installed.

◆ **Digital Audio Silence Setting**

Parameter	Default	Setting range	Description
Silence Detect Time	2sec	1 – 10sec	Sets the duration to determine the SDI embedded audio and AES input signals are silent.
Silence Level	-72dBFS	-72dBFS -66dBFS -60dBFS -54dBFS -48dBFS	Sets the audio level to determine the SDI embedded audio and AES input signals are silent.

*1 According to this setting, the audio status Slilence is displayed in the Audio Status page (9-7-2).

◆ **Audio Error Sense**

Parameter	Default	Setting range	Description
Correction	Normal	Disable Normal Sensitive	FA-9520 can fade*1 and mute audio when it detects a change in the audio status due to, e.g., signal switchover. This parameter allows you to select whether to detect changes and how sensitive detection should be to such changes. **Disable**: Disables mute function when change in audio status is detected. Normally not selected. **Normal**: Mutes when a change on an SDI signal, ADP (Audio Data Packet), or DBN (Data Block Number) is detected. Normally selected. **Sensitive**: Mutes when a change on channel status, or EDP (Extended Data Packet) presence (only for SD-SDI), as well as the above items, is detected.

*1 Fade function depends on the Fade Mode setting in the Fade In/Out menu.

◆ **Correction**

Normally set to **Normal**. Set to **Disable** for a specific program or duration when audio output has noise or is muted.

The FA-9520 fades out audio or resets the delay circuit when a status change (SDI signal input interruption, signal switchover (by a router, etc.) is detected. Faulty ancillary data in normal audio signals may also be detected as status changes.

Audio signals with such faulty ancillary data may lead the FA-9520's automatic correction to improperly process the audio input and produce noise or mute the audio.

Note that disableing the automatic correction can prevent such improper processing, however, the following functions will also be disabled.

- After a signal switchover by router or the recovery of an interrupted SDI signal, delay settings will lose their accuracy to within 1.3 msec max. Audio signal phases among audio groups will not match.

Perform either of the following operations when setting Correction to **Disable**, or changing the setting from **Disable** to **Normal**.

(a) Change the Alignment setting from **Disable** to **Enable** under SDI Input Audio in 9-4-2. "Audio System".

(b) Disconnect and reinput the SDI input signal.

These operations reset the audio circuit and minimize the delay differences and group audio phase differences. Output audio signals will be muted while performing the operations.

◆ **Channel Status Mask**

Parameter	Default	Setting range	Description
EMB1/EMB2 CH1/2-CH15/16 AES CH1/2-CH7/8	SRC BY-PASS	SRC BY-PASS PCM Mute	Selects audio error sensor mode for each stereo channel pair of SDI and AES input audio signals whose channel status NON-PCM flag is 1. *1 **SRC BY-PASS**: Treats audio signals as NON-PCM. By-passes audio signals through SRC *2, and selects audio clock input in the NON-PCM signal channel for SDI AUDIO CLOCK. *3 **PCM**: Treats audio signals as PCM (standard audio signal). By-passes audio signals through SRC *2, and select REFERENCE for SDI AUDIO CLOCK. *3 **Mute**: Treats audio signals as mute signals.

*1 Channel status and Validity Bit of input audio channel status can be checked using a wave form monitor.
*2 Processes the audio signal as described if 9-3-5 SRC Mode is set to Auto.
*3 Processes the audio signal as described if 9-3-10 SDI Audio Output Settings is set to Auto.

- CH STATUS:

FA-9520 determins whether the input audio signal is PCM or NON-PCM by the NON-PCM flag in the Audio Channel Status (ACS). If ACS is incorrect the audio signal may cause inproper processing. For such case, this setting may effective processing the audio signal normally.

IMPORTANT
Use this setting only if there is audio noise or the audio is muted. Otherwise, do not change the setting from the default setting.

◆ **Validity Bit Mask**

Parameter	Default	Setting range	Description
EMB1/EMB2 CH1/2-CH15/16 AES CH1/2-CH7/8	SRC Bypass	SRC BY-PASS PCM Mute	Selects audio error sensor mode for each stereo channel pair of SDI and AES input audio signals whose channel status Validity Bit flag is 1.*1 **SRC BY-PASS**: Treats audio signals as NON-PCM. By-passes audio signals through SRC *2, and selects audio clock input in the NON-PCM signal channel for SDI AUDIO CLOCK. *3 **PCM**: Treats audio signals as PCM (standard audio signal). By-passes audio signals through SRC *2, and select REFERENCE for SDI AUDIO CLOCK. *3 **Mute**: Treats audio signals as mute signals.

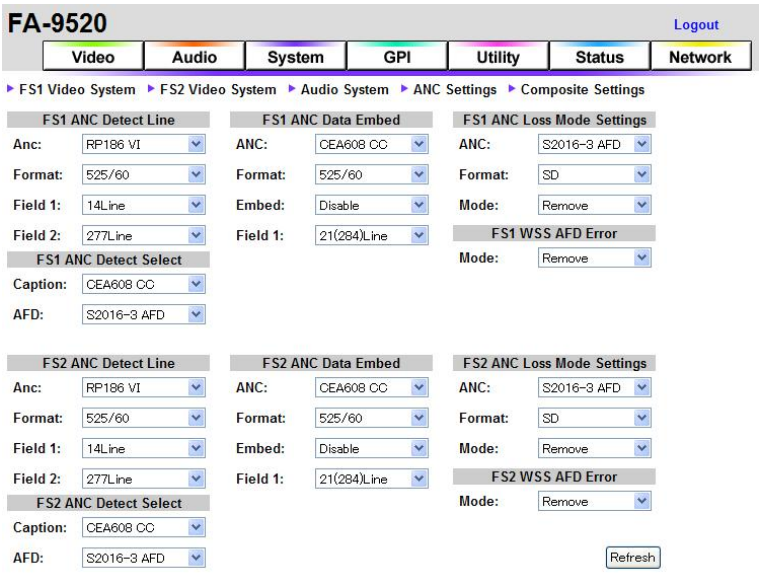
*1 Channel status and Validity Bit of input audio channel status can be checked using a wave form monitor.
*2 Processes the audio signal as described if 9-3-5 SRC Mode is set to Auto.
*3 Processes the audio signal as described if 9-3-10 SDI Audio Output Settings is set to Auto.

- Validity:

FA-9520 determins whether the input audio signal is PCM or NON-PCM by Validity Bit (V Bit) in audio signal. If Validity Bit (V Bit) is incorrect the audio signal may cause inproper processing. For such case, this setting may effective processing the audio signal normally.

IMPORTANT
Please use this setting only if there is audio noise or the audio is muted. Otherwise, do not change the setting from In Data.

9-4-3. ANC Settings



If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.
Click **Refresh** to update the settings.

◆ FS1/FS2 ANC Detect Line

Allows you to select which line of the input signal to detect the superimposed ancillary data.
For RP186 VI:

Parameter	Default	Setting range	Description
ANC	RP186 VI	RP186 VI BT1119 WSS	Selects an ancillary data standard.
Format	525/60	525/60 625/50	Selects the input signal format.
Field 1	14 Line (in 525/60) 11 Line (in 625/50)	12~19 Line (in 525/60) 8~22 Line (in 625/50)	Selects a line to detect ancillary data in Field 1.
Field 2	277 Line (in 525/60) 324 Line (in 625/50)	275~282 Line (in 525/60) 321~335 Line (in 625/50)	Selects a line to detect ancillary data in Field 2.

For BT1119 WSS:

Parameter	Default	Setting range	Description
ANC	RP186 VI	RP186 VI BT1119 WSS	Selects an ancillary data standard.
Format	625/50	625/50	Selects the input signal format.
Field 1	23 Line	8- 23 Line	Selects a line to detect ancillary data in Field 1.

◆ FS1/FS2 ANC Detect Select

Allows you to select the superimposed ancillary data type.

Parameter	Default	Setting range	Description
Caption *1	CEA608 CC	CEA608 CC S334-1 CC	**CEA608 CC:** Detects closed caption data in luminance signal of 525/60 systems. **S334-1 CC:** Detects closed caption data in 525/60 SDI signal ancillary data space.
AFD	S2016-3 AFD	S2016-3 AFD RP186 VI BT1119 WSS	Selects an ancillary data type to detect in SDTV input signals.

*1 Be sure to set to CEA608 CC when processing closed caption data in 525/60 composite signals. Otherwise the caption data will not be detected.

◆ FS1/FS2 ANC Data Embed

Allows you to set ancillary data insertion into FS1/FS2 output video signals.

Parameter	Default	Setting range	Description
ANC	CEA608 CC	CEA608 CC S334-1 CC SD CEA708 CC HD S2016-3 AFD RP186 VI BT1119 WSS	Selects an ancillary data type to insert.
Format	-	*	Selects a video format that supports the ancillary data selected under ANC. Only selectable format will be shown.
Embed	Disable	Disable Enable	**Disable:** Does not insert ancillary data selected under ANC. **Enable:** Inserts ancillary data selected under ANC. Settings can be respectively set for different ANC setting data types.
Line Field 1	-	*	Selects a line in ancillary data space into which ancillary data is inserted. A line can be selected for different ANC and FORMAT selections separately. If ANC is set to RP186 VI, lines can be selected for fields 1 and 2 respectively. This parameter allows you to select a line for Field 1.
Field 2	-	*	If ANC is set to RP186 VI, lines can be selected for fields 1 and 2 respectively. This parameter allows you to select a line for Field 2. Shown only if ANC is set to RP186 VI.

* The setting range varies according to the ancillary data type and video format.

Ancillary data type	FORMAT	LINE		Default
ANC:CEA 608 CC	525/60	21(284) Line 固定 *1		
ANC:S334-1 CC SD	525/60	12(275) to 19(282) Line *1		12 (275) Line *1
ANC:CEA708 CC HD	1080i	9 to 20 Line		9 Line
	720p	9 to 25 Line		9 Line
ANC:S2016-3 AFD	525/60	12(275) to 19(282) Line *1		12(275) Line *1
	625/50	8(321) to 22(335) Line *1		8(321) Line *1
	1080i/PsF	9 to 20 Line		9 Line
	720p	9 to 25 Line		9 Line
	1080p/(3G)	9 to 41 Line		9 Line
ANC:RP186 VI	525/60	Field 1	12 to 19 Line	14 Line
		Field 2	275 to 282 Line	277 Line
	625/50	Field 1	8 to 22 Line	11 Line
		Field 2	321 to 335 Line	324 Line
ANC:BT1119 WSS	625/50	Field 1	8 to 23 Line	23 Line

*1 Field2 line number displayed in parentheses.

If CEA608 or S334-1 CC closed caption data is detected in the input signal, and the FS1 and/or FS2 converter output signal format(s) is/are 1080/59i or 720/59p, the detected closed caption data will be automatically converted to CEA708. However, if CEA708 closed caption insertion is disabled, the data will not be inserted.

If FS1 and/or FS2 converter output format(s) is/are 1080/PsF or 1080/59p, the CEA708 closed caption data insertion will be automatically terminated.

☞ Meanwhile, if CEA708 closed caption data is detected in the 1080/59i or 720/59p HD-SDI input signal, and the FS1 and/or FS2 converter output signal format(s) is/are 525/60, the detected closed caption data will be automatically converted to S334-1 CC and/or CEA608 CC.

However, if S334-1 CC and/or CEA608 closed caption insertions are disabled, the data will not be inserted. If the input signal is 1080/59p or 1080/PsF, detection and automatic conversion to S334-1 CC and/or CEA608 CC will not be performed.

IMPORTANT
Closed caption data output to SD-SDI ancillary data will stop when data input is lost. If closed caption data input is lost, the ancillary data output will be conducted according to the ANC LOSS SET settings. See section 5-9-7 “ANC LOSS SET” for details.

Ancillary data combinations that cannot be simultaneously embedded to the same line.

Video format	Ancillary data type	S334-1 CC	S2016-3 AFD	RP186 VI	BT1119 WSS
525/60	S2016-3 CC		Can be set to same line	Unable to set to same line	
	S2016-3 AFD	Can be set to same line		Unable to set to same line	
	RP186 VI	Unable to set to same line	Unable to set to same line		
625/50	S2016-3 AFD			Unable to set to same line	Unable to set to same line
	RP186 VI		Unable to set to same line		Can be set to same line
	BT1119 WSS		Unable to set to same line	Can be set to same line	

If the same line is set for the ancillary data combination described as “Unable to set to same line”, and both ancillary data types are set to be embedded under ANC Data Embed, an error message ”Identical ANC line location settings!” will appear. If the sign is displayed, ancillary data will not be properly embedded. The line settings must be properly set. Usually the default value will properly embed the ancillary data. Keep this in mind when changing the value to configure a system with other devices.

◆ FS1/FS2 ANC Loss Mode Settings

Allows you to select an operation mode when input signal ancillary data is lost.

Parameter	Default	Setting range	Description
ANC	S2016-3 AFD	S2016-3 AFD RP186 VI BT1119 WSS	Selects an ancillary data type to insert into the SDI signal.
Format	SD	SD HD *1	Selects a video format compatible with the ancillary data selected under ANC. Only compatible Video formats will be displayed
Mode	Remove	If Format is set to SD Remove *2 Hold *2 4:3 L 16:9 T *2 4:3 L14:9 T *2 4:3 L>16:9 *2 4:3 F 4:3 *2 4:3 L16:9PRTD *2 4:3 L 14:9 *2 4:3 F ALT14:9 *2 4:3 L ALT14:9 4:3 L ALT 4:3 16:9 L>16:9 16:9 F 16:9 *2 16:9 P 4:3 16:9 F PRTD 16:9 P 14:9 16:9 P ALT14:9 16:9 F ALT14:9 16:9 F ALT4:3	Mode can be set for respective ANC and Format selections. **Remove:** Does not embed the ancillary data to either FS1, or 2 **Hold:** Retains the last ancillary data aspect ratio and outputs video signal in the aspect ratio. Other values operate according to the selected AFD as an input AFD. BT1119 WSS selected under ANC can only select AFD codes indicated by *2.
		If Format is set to HD Remove Hold 16:9 L>16:9 16:9 F 16:9 16:9 P 4:3 16:9 F PRTD 16:9 P 14:9 16:9 P ALT14:9 16:9 F ALT14:9 16:9 F ALT4:3	Mode can be set for respective ANC and Format selections. **Remove:** Does not embed the ancillary data to either FS1, or 2 **Hold:** Retains the last ancillary data aspect ratio and outputs video signal in the aspect ratio. Other values operate according to the selected AFD as an input AFD.

*1 HD is selectable only when ANC is set to S2016-3.

◆ FS1/FS2 WSS AFD Error

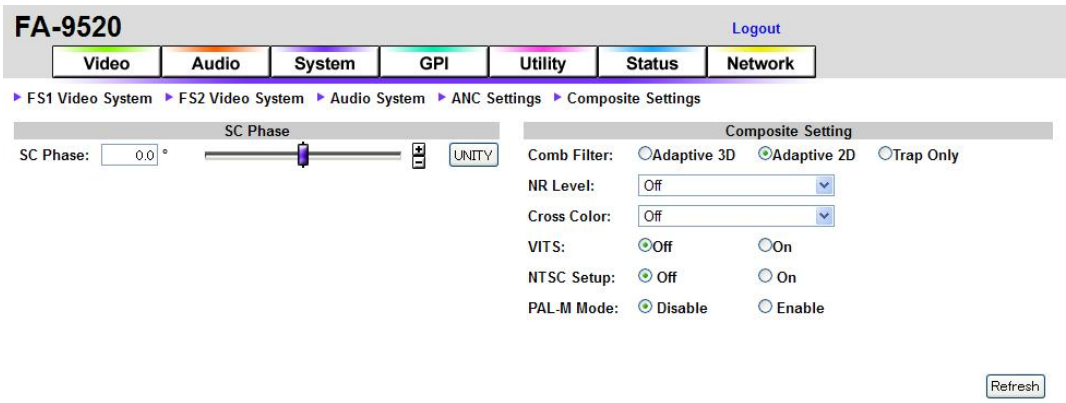
Allows you to select the WSS AFD ancillary operation mode when the input signal WSS AFD ancillary data is lost.

Parameter	Default	Setting range	Description
Mode	Remove	Remove F 4:3	**Remove**: Does not embed BT1119 WSS to FS1 and/or 2. **F 4:3**: Embeds BT1119 WSS F 4:3 (code 8) to FS1 and/or 2.

IMPORTANT

Ancillary data insersion line settings specified under ANC Settings (sec. 9-4-3) take priority over the line settings specified under the FS1, FS2 SD LINE MASK (sec. 9-4-1) and will take effect.

9-4-4. Composite Settings



If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.
Click **Refresh** to update the settings.

◆ SC Phase

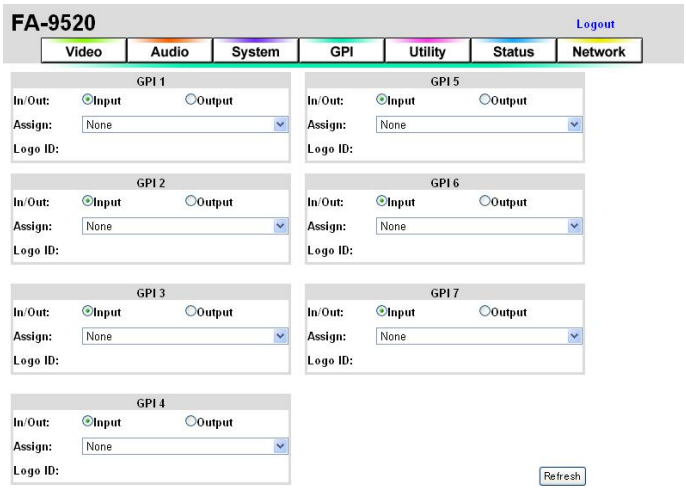
Parameter	Default	Setting range	Description
SC Phase	0°	-179.8° - 180°	Adjusts the subcarrier phase of composite and Y/C output signals referring to the B.B. genlock signal. Not adjustable with the tri-level genlock signal.

◆ Composite Setting

Parameter	Default	Setting range	Description
Comb Filter	Adaptive 2D	Adaptive 3D Adaptive 2D Trap Only	Selects a mode to separate the Y (luminance) and C (chrominance) of composite signals.
NR Level	Off	Off Level 1 - 4	Sets the noise reduction level for the composite signal inputs.
Cross Color	Off	Off Level 1 - 3	Sets the cross color (noise) reduction level.
VITS	Off	Off On	**On**: Passes through VITS (V-ANC) lines 10 to 21 (NTSC), or 6 to 23 (PAL) of composite input signals. For SD-SDI output signals, inserts VITS lines into Y signals.
NTSC Setup	Off	Off On	Select **Off** when using signals without 7.5 IRE setup. Select **On** when using signals with 7.5 IRE setup.
PAL-M Mode Set	Disable	Disable Enable	**Disable**: Allows NTSC signals to be output. **Enable**: Allows PAL-M signals to be output. *1

*1 This setting enables PAL-M output for COMPOSITE OUT and Y/C *1 outputs, however, NTSC signal output will be disabled.
To synchronize the PAL-M output, input a PAL-M BB or 59.94/29.97 Hz tri-level sync signal to the GENLOCK IN connector. (NTSC BB signals cannot synchronize PAL-M output signals.)

9-5. GPI



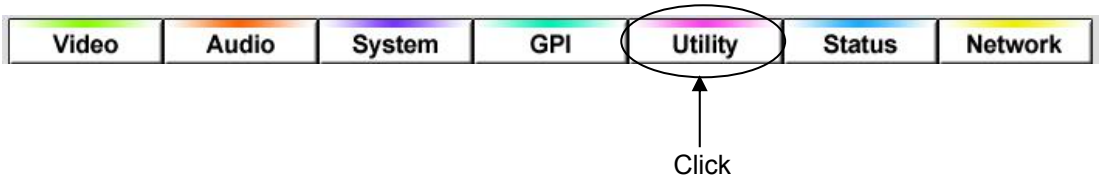
If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.
Click **Refresh** to update the settings.

Parameter	Default	Setting range(Steps)	Description
In/Out *1	Input	Input Output	Selects whether to use GPI pins 1 through 7 each for input or tally output.
Assign *2	None	In case In/Out is set to Input None BY-PASS(SDI1) *2 BY-PASS(SDI2) *2 BY-PASS(VBS) *2 FS1/FS2 Freeze *2 *4 FS1/FS2 Full Color Bar *2 FS1/FS2 75% Color Bar *2 FS1/FS2 SMPTE Color Bar *2 FS1/FS2 Ramp *2 FS1/FS2 Audio EXT Audio FS1/FS2 Input SDI1 *2 FS1/FS2 Input SDI2 *2 FS1/FS2 Composite *2 Default Event1～100 *2 FS1/FS2 Keyer FS1/FS2 Load 1～7 Loudness 1, 2 A/B Start Loudness 1, 2 A/B Clear BY-PASS Option A *6 BY-PASS Option B *7	Assigns a function to GPI pins 1 through 7 according to the selection under In/Out.
Assign *2	None	In case In/Out is set to Output None *3 FS1/FS2 Freeze *3 FS1/FS2 Video In *3 REF In *3 FAN Alarm *3 DC-POWER1/2 *5 FS1/FS2 SDI1 *3 FS1/FS2 SDI2 *3 FS1/FS2 Composite *3 FS1/FS2 Keyer Loudness 1, 2 A/B Control	Assigns a function to GPI pins 1 through 7 according to the selection under In/Out.
Logo ID *8	1-7	1-256	Sets ID (1 through 256) to logos to be inserted for outputs 1 through 7 of FS 1 and 2.

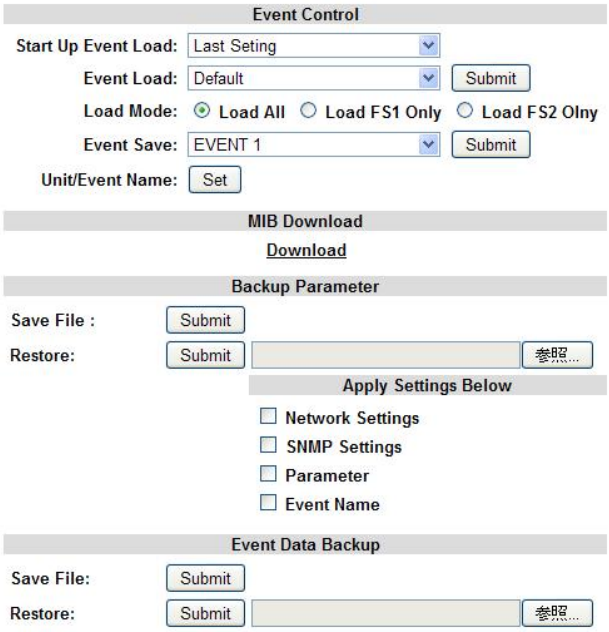
*1 Whenever the In/Out setting is changed, **Assign** is reset to **None**. Reset Assign.

*2 The input functions consist of pulse mode and level mode functions. See the "◆INPUT FUNCTION" in section 7-6 "GPI SETTING" for details.
*3 Details of the output functions are shown in the "◆OUTPUT FUNCTION" in section 7-6 "GPI SETTING".
*4 If **FS Mode > Synchro Mode** in section 9-4-1 "FS1/FS2 Video System" is set to Line Sync, or AVDL, the Freeze setting will not function, but will be displayed as ***Freeze**.
To enable **Freeze** for **Input**, be sure to set **Synchro Mode** in section 9-4-1 "FS1/FS2 Video System" to Frame Sync.
*5 DC Power 1 and 2 are selectable only if FA-95PS is installed.
*6 Shown only if the FA-95AIO option is installed in slot A.
*7 Shown only if the FA-95AIO option is installed in slot B.
*8 The Logo ID setting box will be displayed when In/Out is set to Input, and Assign is set to any of FS1 Load 1 – 7 or FS2 Load 1 – 7. In the following cases, the logo will not be inserted to the converter output signals, although data will be loaded to the FA-9520.
- No logo is registered under the selected Logo ID.
- The registered logo format and converter output video format do not match.
- The keyer of the relevant converter is turned off.

9-6. Utility Settings



Click the Utility tab at the top of the page. The Utility setting window will be displayed.



If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.
Click **Refresh** to update the settings.

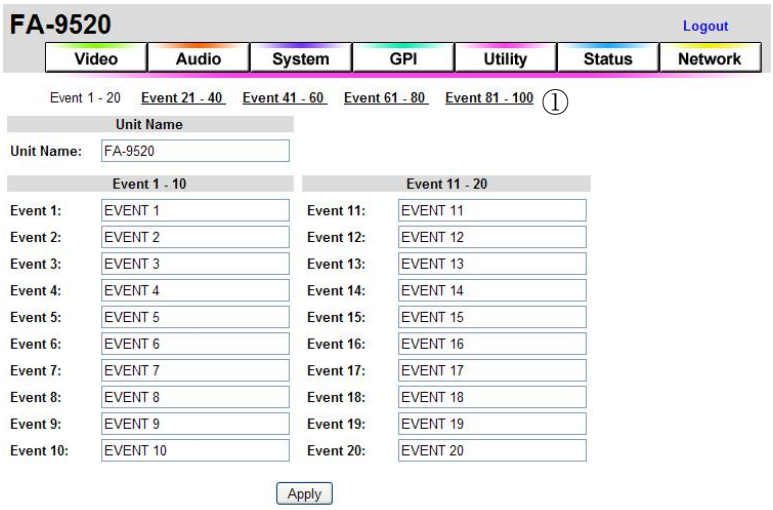
9-6-1. Event Control

Parameter	Default	Setting range	Description
Start Up Event Load	Last Setting	Last Setting Default *1 Event1-Event100	Selects an event you want to load at startup. **Last Setting**: Starts up with the last set settings. **Default**: Starts up with default settings. **Event1 to 100**: Starts up with the settings saved as an event among events 1 to 100.
Event Load	Default	Default *1 Event1-Event100	Selects the number of an event saved in the FA-9520 to load. Click **Submit** to load.
Load Mode	Load All	Load All Load FS1 Only Load FS2 Only	Selects the mode to load the data in the event selected by the number under Event Load. **Load ALL**: Loads all data in the event. **Load FS1 Only**: Loads only FS1 settings. **Load FS2 Only**: Loads only FS2 settings.
Event Save	Video Format	Video Format *1 Event1-Event100	Selects the number of an event you want to save. Click **Submit** to save the settings to the FA-9520.

*1 Default recalls the default settings.

◆ **Set Event Name**

Click **Set** next to Unit/Event Name. A window that allows you to name the FA-9520 and events 1 through 100 as shown below opens.



- Unit Name

Enter a name for the FA-9520 within 15 characters. The name will be displayed on the front panel under NAME in the NETWORK INFO menu (sec. 7-4). The factory default is FA-9520.

- Event Name

Select a group of 20 events to be displayed by clicking on the event group in section ①. Enter a name in the setting box next to respective events within 15 alphanumeric characters. After entering name(s), click **Submit**. The factory default values are Event 1 to 100.

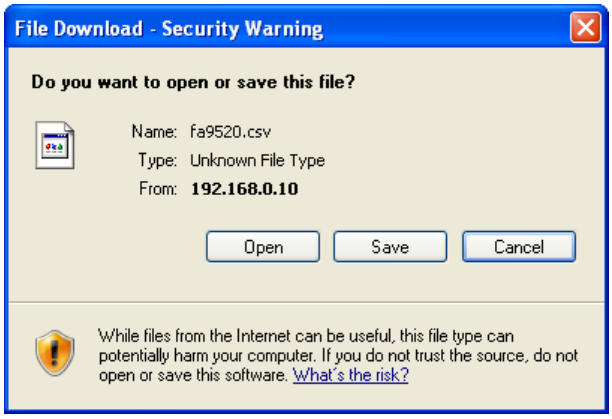
The entered event names will be displayed when performing Event Load or Event Save. They will also be displayed on the front panel menu display while opening menus described in section 8 “Event Memory”.

9-6-2. Backup Parameter

The FA-9520 settings can be saved to a file, and the saved settings in a file can be loaded.

◆ Saving the FA-9520 Settings to a File

Click **Submit** next to Save File under Backup Parameter. The **File Download** dialog appears.

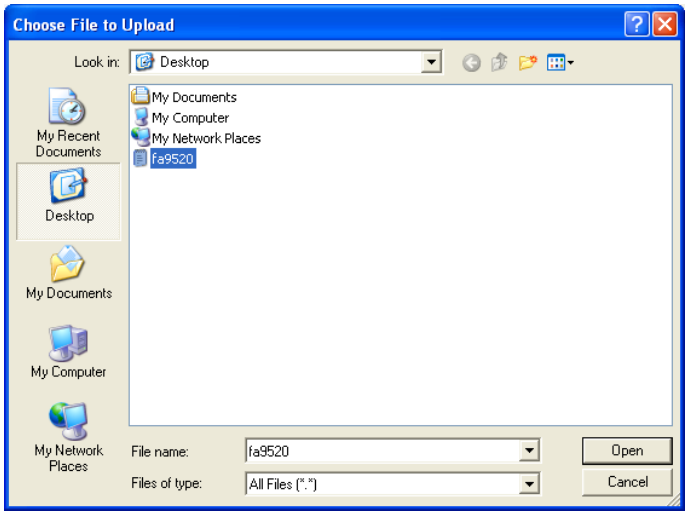


Click **OK** to start saving.

IMPORTANT
Some versions of Internet Explorer may not save data having a long file name properly. In such case, save data in Internet Explorer using a short file name, then rename the file in Windows Explorer. A data file can also be saved under its default file name in any version of Internet Explorer.

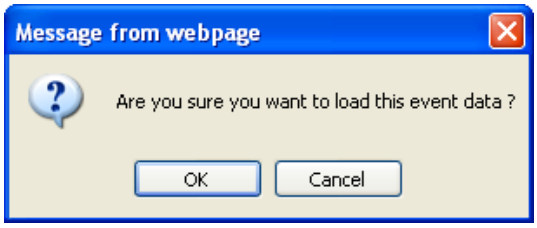
◆ Loading the Data Saved in a File

In Apply Setting Below, select the checkboxes of the items you wish to load the data. If no checkbox is selected, no settings are loaded. See section 9-8-2. “NETWORK SETTING” for details on the checkboxes in Network Setting. See section 9-8-3. “SNMP SETTING“ for details on the checkboxes in SNMP Setting. Selecting the Parameter checkbox loads all parameters except for Event Memory. Selecting the Event Name checkbox loads the event memory names. See Set Event Name in section 9-6-1 “Event Control” for details. After selecting the items to be loaded and clicking **Browse**, the Choose file dialog appears.



Specify the destination directory and click **Open**.

Click **Load**. A confirmation message appears.



Click **OK** to start transferring the file to the FA-9520. To stop transferring the file, click **Cancel**.

IMPORTANT
BY-PASS On/Off and Freeze On/Off settings cannot be saved. The data saved in FA-9500 mode cannot be loaded. Do not attempt to load the data saved in FA-9500 mode.

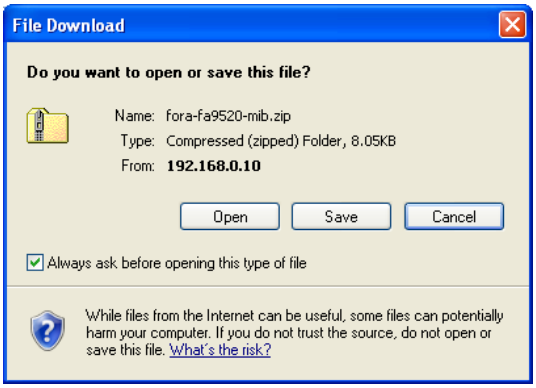
IMPORTANT
The FA-9520 uses the CSV file format to backup the configuration data which enables commercially available spreadsheet software to edit the data. However, Unit ID or event names that consist only of numbers may be recognized as numeric values by such software and appear differently after being recalled to the FA-95RU. It is recommended that alphabetical values be included in names to enable editing using such software.

9-6-3. Downloading a MIB File

The MIB file used when the FA-9520 is monitored and operated through the external SNMP manager can be downloaded from the FA-9520. The downloaded file is in zip format and so you will need to unzip the file before its use.

◆ **Download MIB File**

Click Download under **Download MIB File** on the **Utility** page. The File Download dialog appears.



Click **OK**. "fora-fa9520-mib.zip" will be downloaded to the destination directory.

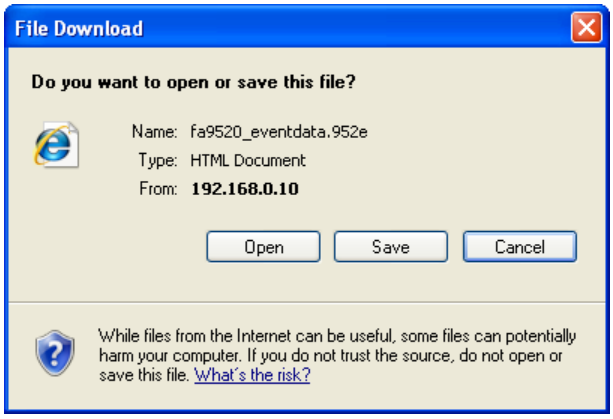
After unzipping the file using an unzip utility, you will have the files "FORA-FA9520-mib.mib", and "FOR A-MIB.MIB".

NOTE
See section 18 "About SNMP (Simple Network Management Protocol)" for details on the MIB file.

9-6-4. Event Data Backup

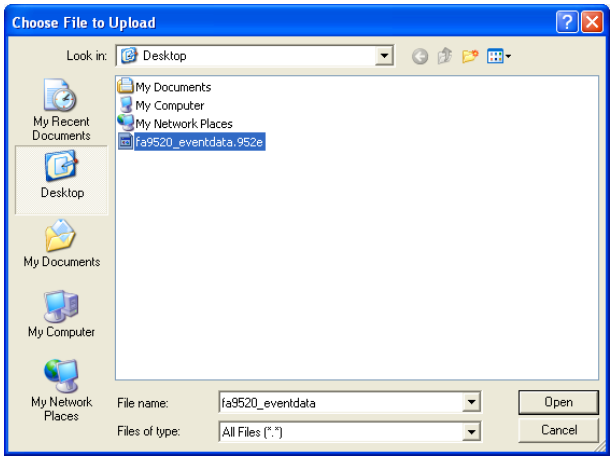
The Event Memory data (Events1 through 100) saved in FA-9520 mode can be saved in a file on the computer as a backup. You can also move the data to another FA-9520 (in FA-9520 mode).

◆ Save File
Click **Save**.

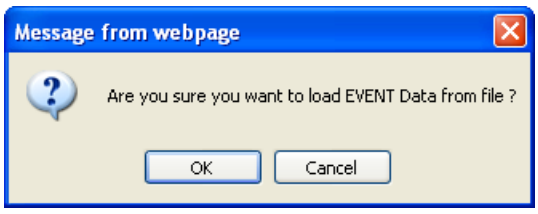


Click **OK**. The event data will be saved to the destination directory with the file name "fa9520_eventdata.952e".

◆ **Restore**
To load the backup file on the computer, click **Browse**. The Choose file to Upload dialog appears.



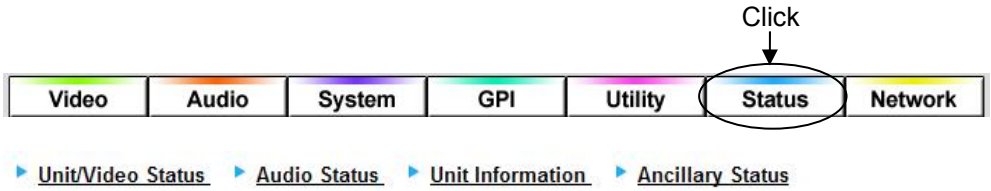
Specify the directory and the file name and click **Open**. The destination path will be displayed on the screen.
Click **Load**. The confirmation dialog appears.



Click **OK** to start loading the data. To cancel loading the data, click **Cancel**.

IMPORTANT
The data saved in FA-9500 mode cannot be loaded. Do not attempt to load the data saved in FA-9500 mode.

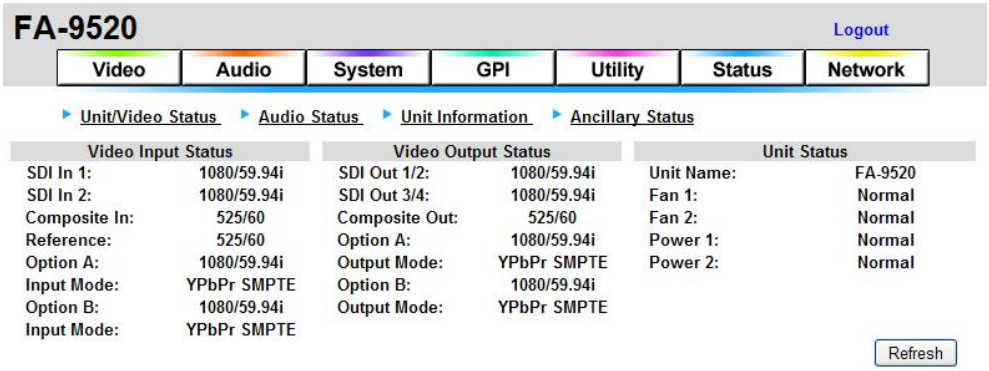
9-7. Status Display



Click the **Status** tab at the top of the page. The Unit/Video Status page will be displayed. To go to the Audio Status page, click **Audio Status** at the top left of the page. In the same way, click **Unit/Video Status** to go to the Unit/Video Status page, and click **Unit Information** to go to the Unit Information page. Click **Changeover Status** to go to the Changeover Status page. The Changeover Status page will open only if the FA-95CO option is installed.

9-7-1. Unit/Video Status

The video and unit statuses are shown on the Unit/Video Status page.



If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown. Click **Refresh** to refresh the page.

◆ **Video Input Status**

Item	Display	Description
SDI In1	Loss 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF 1080/59p 1080/50p BY-PASS Unknown	Displays the video format of the SDI1 input signal. Displays "**Loss**" if there is no input signal. Displays "**Unknown**" if there is an unsupported input signal. Displays "**BY-PASS**" if the function is enabled.
SDI In2	Loss 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF 1080/59p *1 1080/50p *1 BY-PASS Unknown -----	Displays the video format of the SDI2 input signal. Displays "**Loss**" if there is no input signal. Displays "**Unknown**" if there is an unsupported input signal. Displays "**BY-PASS**" if the function is enabled. Displays "**-----**" indicating no SDI2 input detection if 9-2-1 FS Input Select is set to YPbPr SMPTE, YPbPr BETACAM, RGB, or Y/C.

Item	Display	Description
Composite In	Loss 525/60 625/50 BY-PASS Unknown	Displays the video format of the COMPOSITE input signal. Displays "**Loss**" if there is no input signal. Displays "**Unknown**" if there is an unsupported input signal. Displays "**BY-PASS**" if the function is enabled.
Reference	Loss 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF PAL-M *1 Unknown	Displays the video format of the genlock input signal. Displays "**Loss**" if there is no input signal. Displays "**Unknown**" if there is an unsupported input signal.
Option A *2	Loss 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF BY-PASS Unknown	Displays the video format of the Component input signal of the FA-95AIO installed in option slot A. Displays "**Loss**" if there is no input signal. Displays "**Unknown**" if there is an unsupported input signal. Displays "**BY-PASS**" if the function is enabled.
Option B *3	Ditto	Displays the video format of the Component input signal of the FA-95AIO installed in option slot B.
Imput Mode	YPbPr SMPTE YPbPr BETACAM RGB Y/C -----	Displays the input signal format of FA-95AIO installed in option slot A and B.

*1 Shown when PAL-M Mode Set in the 9-4-1 FS1/FS2 Video System is set to Enable, or an input signal in GENLOCK IN connector is 525/60 or PAL-M signal.

*2 Shown if FA-95AIO is installed in option slot A.

*3 Shown if FA-95AIO is installed in option slot B.

◆ Video Output Status

Item	Display	Description
SDI Out 1/2	525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF 1080/59p 1080/50p BY-PASS Disable	Displays the video format of the SDI1 output signal. Displays "**BY-PASS**" if the function is enabled. Displays "**Disable**" if there is no signal output.
SDI Out 3/4	Same as above	Displays the video format of the SDI2 output signal. Displays "**BY-PASS**" if the function is enabled. Displays "**Disable**" if there is no signal output.
Composite Out	525/60 625/50 BY-PASS Disable PAL-M	Displays the video format of the COMPOSITE output signal. Displays "**Disable**" if there is no signal output. Displays "**PAL-M**" if PAL-M Mode Set is enabled in the 9-4-1 FS1/FS2 Video System menu, and the format setting for the converted output video signal under Composite Output Setting in the 9-2-10 Output Assign menu is 525/60.

Option A *1	525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF BY-PASS Disable	Displays the video format of the FA-95AIO output signal in option slot A. Displays "**Disable**" if there is no signal output.
Option B *2	Ditto	Displays the video format of the FA-95AIO output signal in option slot B.
Output Mode	YPbPr SMPTE YPbPr BETACAM RGB Y/C	Displays the output signal format of FA-95AIO installed in option slots A and B. See section 9-2-10 "Output Assign" for details on output signal format settings.

*1 Shown if the FA-95AIO option is installed in option slot A.
*2 Shown if the FA-95AIO option is installed in option slot B.

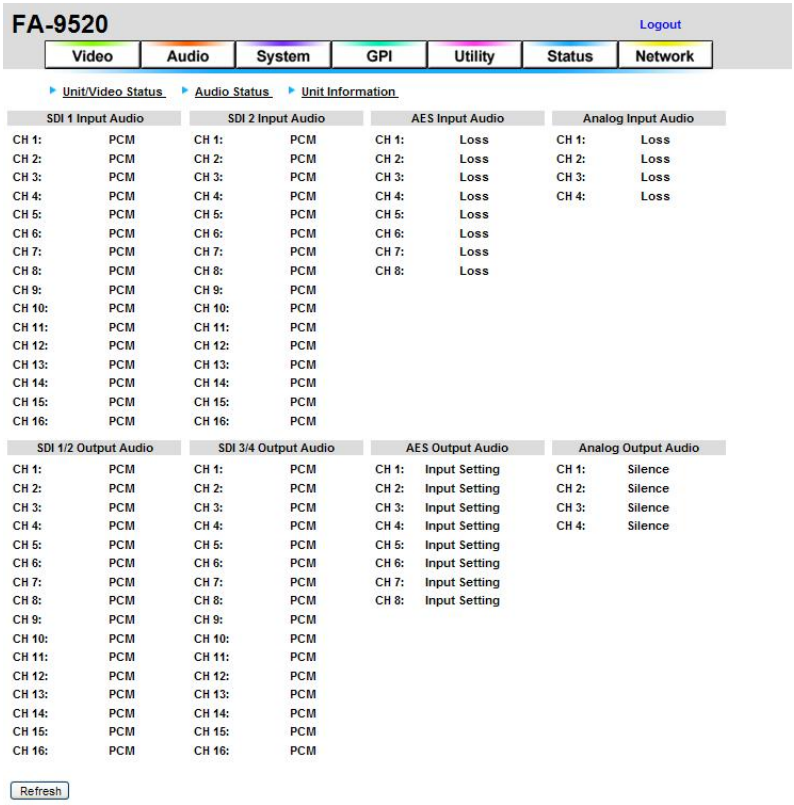
◆ **Unit Status**

Item	Display	Description
Unit Name	FA-9520	Displays the unit name. The default setting is "FA-9520".
Fan1	Normal Stopped	Displays the status of Fan1. **Normal**: Operating normally. **Stopped**: FAN1 has stopped. Turn the unit power off, and contact your dealer if a replacement is needed.
Fan2	Normal Stopped	Displays the status of Fan2. **Normal**: Operating normally. **Stopped**: FAN2 has stopped. Turn the unit power off, and contact your dealer if a replacement is needed.
Power1 *1	Normal Abnormal	Displays the status of DC Power1. **Normal**: The power supply is normal. **Abnormal**: DC Power1 has failed. A power failure has occurred. Although the unit is working properly, It is recommended that the power supply unit be replaced. Contact your dealer if a replacement is necessary.
Power2 *1	Normal Abnormal	Displays the status of DC Power2. **Normal**: The power supply is normal. **Abnormal**: DC Power2 has failed A power failure has occurred. Although the unit is working properly, It is recommended that the power supply unit be replaced. Contact your dealer if a replacement is necessary.

*1 : Displays "-------" if the optional FA-95PS is not installed.

9-7-2. Audio Status

The audio statuses are shown on the Audio Status page.



If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.
Click **Refresh** to refresh the page.

◆ SDI1 Input Audio

Item	Display	Description
CH1 - CH16	Loss PCM Silence Non-PCM PCM(Async) Silence (Async) Non-PCM(Async) Unknown	Displays the status of audio signal channels CH1 - CH16 of the SDI1 input signal. **Loss:** No audio signals **PCM:** Normal audio signal **Silence:** Mute signal **Non-PCM:** Compressed audio data such as AC3 **PCM (Async):** Normal audio signal (asynchronous) **Silence (Async)** : Mute signal (asynchronous) **Non-PCM (Async) :** Compressed audio data such as AC3 (asynchronous) **Unknown:** Unidentifiable

◆ SDI2 Input Audio

Item	Display	Description
CH1 - CH16	Loss PCM Silence Non-PCM PCM(Async) Silence (Async) Non-PCM(Async) Unknown	Displays the status of audio signal channels CH1 - CH16 of the SDI2 input signal. **Loss:** No audio signals **PCM:** Normal audio signal **Silence:** Mute signal **Non-PCM:** Compressed audio data such as AC3 **PCM (Async):** Normal audio signal (asynchronous) **Silence (Async) :** Mute signal (asynchronous) **Non-PCM (Async) :** Compressed audio data such as AC3 (asynchronous) **Unknown:** Unidentifiable

◆ **SDI1/2 Output Audio**

Item	Display	Description
CH1 - CH16	PCM Silence Non-PCM Unknown Blank BY-PASS	Displays the status of audio signal channels CH1 through CH16 of the SDI 1/2 output. **PCM:** Normal audio signal **Silence:** Mute signal **Non-PCM:** Compressed audio data such as AC3 **Unknown:** Unidentifiable **Blank:** No audio signal embedding **BY-PASS:** By-passed through

◆ **SDI3/4 Output Audio**

Item	Display	Description
CH1 - CH16	PCM Silence Non-PCM Unknown Blank BY-PASS	Displays the status of audio signal channels CH1 through CH16 of the SDI 3/4 output. **PCM:** Normal audio signal **Silence:** Mute signal **Non-PCM:** Compressed audio data such as AC3 **Unknown:** Unidentifiable **Blank:** No audio signal embedding **BY-PASS:** By-passed through

◆ **AES Input Audio**

Item	Display	Description
CH1 - CH8	Loss PCM 48kHz PCM 44.1kHz PCM 32kHz PCM Other Silence 48kHz Silence 44.1kHz Silence 32kHz Silence Other Non-PCM Output Setting	Displays the status of the audio signal input to the DIGITAL AUDIO IO connectors. **Loss:** No audio signals **PCM 48kHz:** Normal audio signal (approx. 48kHz) **PCM 44.1kHz:** Normal audio signal (approx. 44.1kHz) **PCM 32kHz:** Normal audio signal (approx. 32kHz) **PCM Other:** Normal audio signal (Other AES) **Silence 48kHz:** Mute signal (approx. 48kHz) **Silence 44.1kHz:** Mute signal (approx. 44.1kHz) **Silence 32kHz:** Mute signal (approx. 32kHz) **Silence Other:** Mute signal (Other AES) **Non-PCM:** Compressed audio data such as AC3 **Output Setting:** Connector is set to Output

◆ **AES Output Audio**

Item	Display	Description
CH1 - CH8	PCM Silence Non-PCM Unknown Input Setting	Displays the status of the audio signal output from the DIGITAL AUDIO IO connectors. **PCM:** Normal audio signal **Silence:** Mute signal **Non-PCM:** Compressed audio data such as AC3 **Unknown:** Unidentifiable **Input Setting:** Connector is set to input

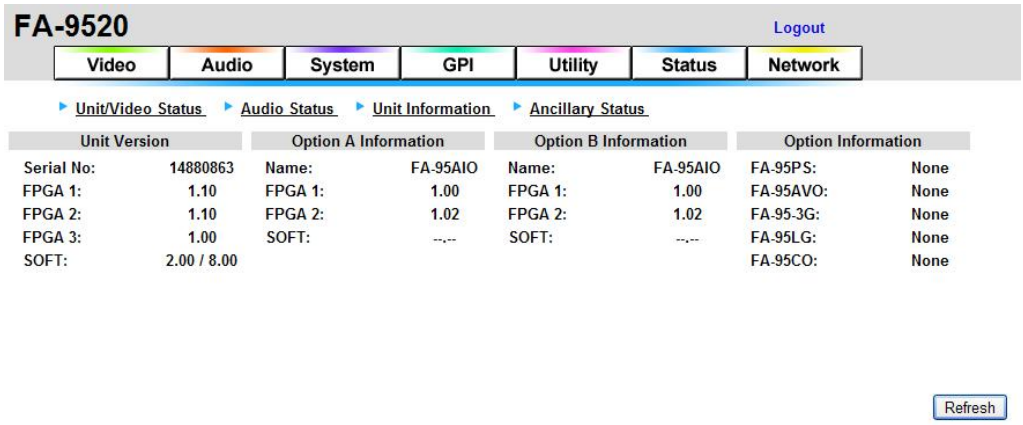
◆ **Analog Input Audio**

Item	Display	Description
CH1 - CH4	Loss In	Displays status of the input audio signal in the ANALOG AUDIO connector. **Loss:** No audio signals **In:** Input signal is present

◆ **Analog Output Audio**

Item	Display	Description
CH1 - CH4	Silence Out	Displays status of the output audio signal from the ANALOG AUDIO connector. **Silence:** Mute signal **Out:** Output signal is present

9-7-3. Unit Information



If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.
Click **Refresh** to update the settings.

◆ **Unit Version**

Item	Description
Serial No:	Displays the serial number of the FA-9520.
FPGA1	Displays the FPGA1 version.
FPGA2	Displays the FPGA2 version.
FPGA3	Displays the FPGA3 version.
SOFT	Displays the software version of the FA-9520 in FA-9520 mode. (First 4 digits) Displays the software version of the FA-9520 in FA-9500 mode. (Last 4 digits)

◆ **Option A Information**

Displays the information of the optional installed expansion card in SLOT A. If no card is installed, “None” will be shown.

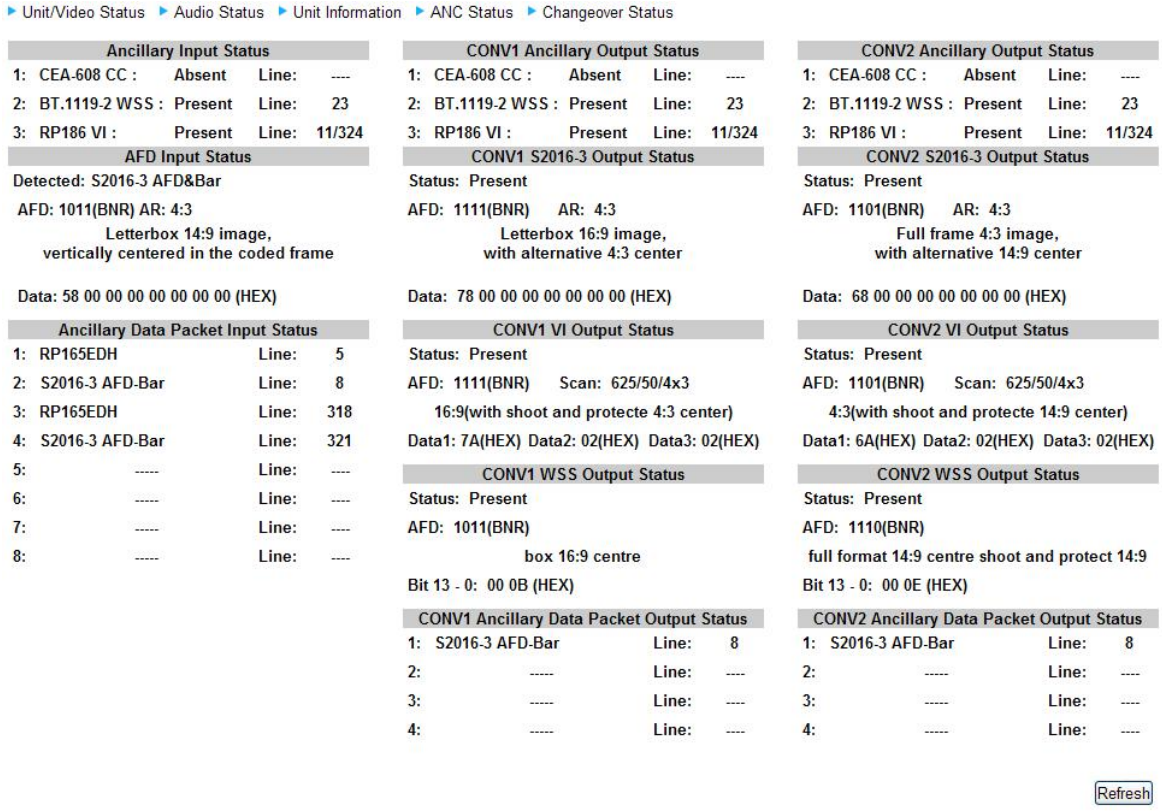
◆ **Option B Information**

Displays the information of the optional installed expansion card in SLOT B. If no card is installed, “None” will be shown.

◆ **Option Information**

Displays the installation status and information on options other than the expansion cards installed into SLOT A and SLOT B.

9-7-4. ANC Status



Click **Refresh** to update the settings.

◆ Ancillary Input Stats

Displays the status of CEA608, WSS, and VI ancillary data detection.
The line number in which the ancillary data is in is displayed.

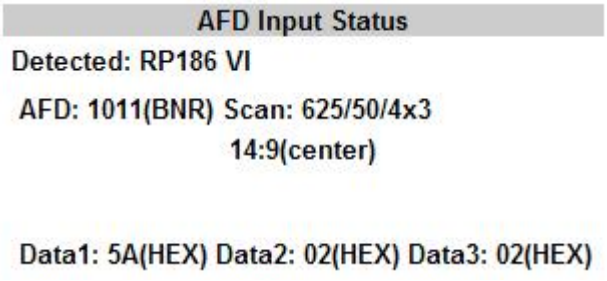
◆ AFD Input Status

Displays the status of AFD detection in the input signal.

<When detecting AFD in input S2016-3 >

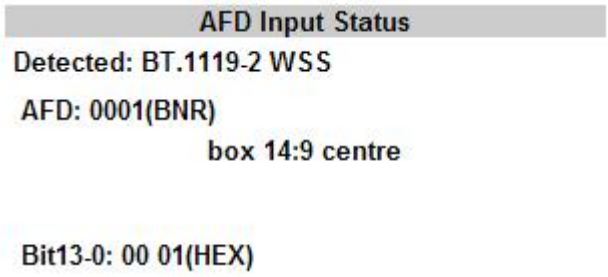
Detected: Displays as S2016-3 AFD& BAR.
AFD: Displays Active Format Description code in binary format.
AR: Didplays the aspect ratio as 4:3 or 16:9.
The detected AFD type is shown
Data: Displays the detected 8-byte data in hexadecimal format.

<When detecting AFD in input RP186 VI>



Detected: Displays as RP186VI.
AFD: Displays Active Format Description code in binary format.
Scan: Displays the Scanning System.
The detected AFD type is shown on the third row.
Data1-3: Displays the detected Data in hexadecimal format.

<When detecting AFD in input BT.1119-2 WSS >



Detected: Displays as BT.1119-2 WSS.
AFD: Displays Active Format Description code in binary format.
The detected AFD type is shown on the third row.
Bit13-0: Displays detected Bits 13 – 0 in hexadecimal format.

◆ **Ancillary Data Packet Input Status**

Displays the status of ancillary data packets in an input SDI signal.
Displays the detected DID and SDID of the ancillary data in hexadecimal format, such as DID/SDID: 05/30, if they are different from that of supported formats.
Displays the ancillary data name, such as S334-1CDP(708), if the DID and SDID of the ancillary data match that of supported formats.
See section 19. “FA-9520 Ancillary Data Packet Name List” for details on ancillary data names, and DID and SDID of formats.
The status of up to 8 ancillary data can be displayed.

◆ **CONV1/2 Ancillary Output Status**

Displays the status of CEA608 CC, BT. 1119-2 WSS, and RP186 VI ancillary data in the output luminance signals of Converters 1 and 2, and the line number where the data is inserted.
Status: Displays **Present** if ancillary data is inserted. Displays **Absent** if no ancillary data is inserted. If ANC Mode under Converter1 Ancillary Setting in the FS1/FS2 Video System menu (Sec. 9-4-1) is set to H/V ANC, the state of the V ANC setting (Pass or Blank) will be displayed. In such case, the line number display appears as “Line: ---“. (See section 9-4-1 FS1/FS2 Video System for details on ANC Mode and V ANC setting.)

◆ **CONV1/2 S2016-3 Output Status**

Displays the status of S2016-3 in Converter 1 and 2 output signals.

Status: Displays **Present** if ancillary data is inserted. Displays **Absent** if no ancillary data is inserted. If ANC Mode under Converter1 Ancillary Setting in the FS1/FS2 Video System menu (Sec. 9-4-1) is set to H/V ANC, the state of the V ANC setting (Pass or Blank) will be displayed.

AFD: Displays Active Format Description code in binary format.

AR: Displays the aspect ratio as 4:3 or 16:9 and the inserted AFD type.

Data: Displays the detected 8-byte data in hexadecimal format.

◆ **CONV1/2 VI Output Status**

Displays the status of RP186 VI in Converters 1 and 2 output signals.

Status: Displays Present if ancillary data is inserted. Displays Absent if no ancillary data is inserted. If ANC Mode under Converter1 Ancillary Setting in the FS1/FS2 Video System menu (Sec. 9-4-1) is set to H/V ANC, the state of the V ANC setting (Pass or Blank) will be displayed.

AFD: Displays Active Format Description code in bynary format.

Scan: Displays the Scanning System and the inserted AFD type.

Data1-3: Displays the detected data in hexadecimal format.

◆ **CONV1/2 WSS Output Status**

Displays the status of BT1119-2 WSS in Converters 1 and 2 output signals.

Status: Displays Present if ancillary data is inserted. Displays Absent if no ancillary data is inserted. If ANC Mode under Converter1 Ancillary Setting in the FS1/FS2 Video System menu (Sec. 9-4-1) is set to H/V ANC, the state of the V ANC setting (Pass or Blank) will be displayed.

AFD: Displays Active Format Description code in hexadecimal format and the AFD type.

Bit 13-0: Displays the inserted Bit13 to Bit0 in hexadecimal format.

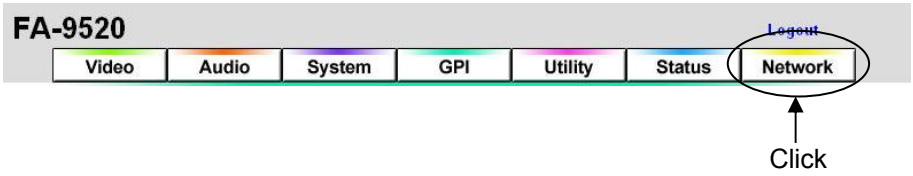
◆ **CONV1/2 Ancillary Data Packet Output Status**

Displays the content, names and inserted lines of the 4 total ancillary data packets inserted into Converter 1 and 2 output signals.

See section 19. “FA-9520 Ancillary Data Packet Name List” for details on ancillary data names, and DID and SDID of formats.

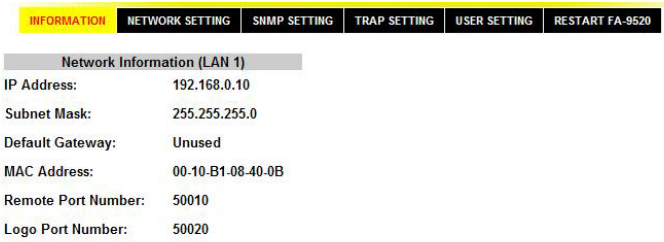
Displays “----“ if no ancillary data is inserted.

9-8. Network Settings



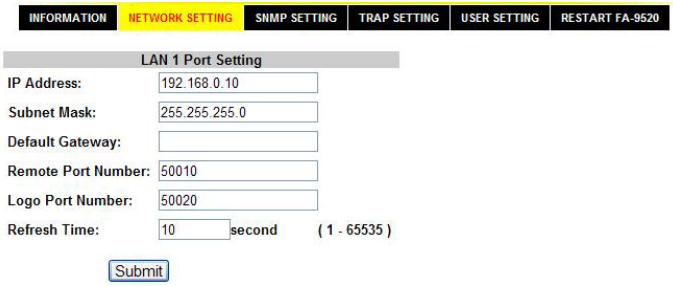
If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.
Click the Network tab at the top of the page. The Network page will be displayed.
In INFORMATION | NETWORK SETTING | SNMP SETTING | TRAP SETTING | USER SETTING | NETWORK RESTART at the top left, click NETWORK SETTING to go to the NETWORK SETTING screen. In the same way, click SNMP SETTING, TRAP SETTING, USER SETTING, or NETWORK RESTART to go to the respective page.

9-8-1. Network Information



Displays the network settings of the LAN1 port on the rear panel.

9-8-2. NETWORK SETTING



IMPORTANT
The web page may not be properly displayed if your PC does not have sufficient capacity (CPU, memory, etc.). In such case, set **Refresh Time** to a value larger than 30.

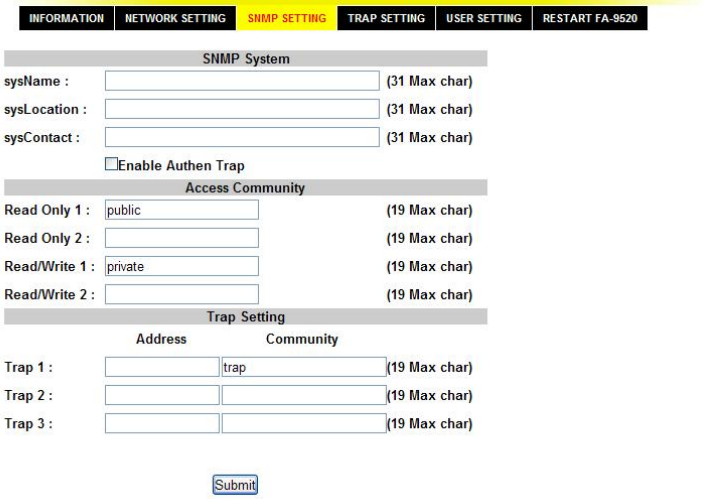
The LAN1 port network settings screen will be displayed.

Item	Default	Description
IP Address	192.168.0.10	Allows you to set the LAN1 port IP address. A period "." is used to separate each octet.
Subnet Mask	255.255.255.0	Allows you to set the LAN1 port subnet mask. A period "." is used to separate each octet.
Default Gateway	0.0.0.0	Allows you to set the gateway. A period "." is used to separate each octet.
Remote Port Number	50010	Allows you to set the TCP port number for the FA-95RU / FA-10DCCRU connection. *1
Logo Port Number	50020	Allows you to set the TCP port number for the FA-95LG GUI connection. *2
Refresh Time	10	Allows you to set the time (seconds) for refreshing the web screen.

After you are sure that all settings are appropriate, click **Submit**. After clicking **Submit**, restart the FA-9520 through the NETWORK RESTART page. Otherwise, the settings will not be applied.
*1 The Remote Port Number must match that of the FA-95RU.
*2 Logo Port Number settings in the FA-9520 and the FA-95LG GUI must match.

9-8-3. SNMP SETTING

This page allows you to set the SNMP settings. After you are sure that all settings are appropriate, click **Submit**. After clicking **Submit**, restart the FA-9520 through the NETWORK RESTART page. Otherwise, the settings will not be applied.



◆ **SNMP System**

Item	Setting Range (Alphanumeric and symbolic characters)	Description
sysName	31 char max	Allows you to set the device name.
sysLocation	31 char max	Allows you to enter comments regarding the device location.
sysContact	31 char max	Allows you to enter comments regarding the person in charge of the device.

If authentication has failed while the Enable Authen Trap checkbox is selected, a trap will be generated.

◆ **Access Community**

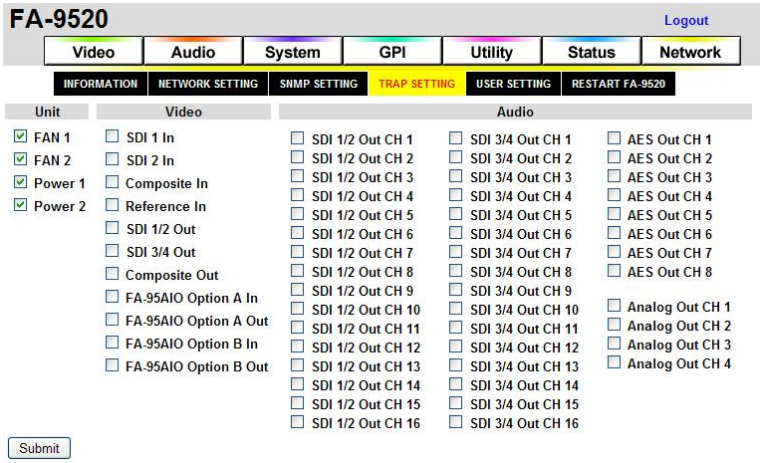
Item	Setting Range (Alphanumeric and symbolic characters)	Description
Read Only1	19 char max	Read only SNMP community name
Read Only2	19 char max	Read only SNMP community name
Read/Write1	19 char max	Read/Write SNMP community name
Read/Write2	19 char max	Read/Write SNMP community name

◆ **Trap Setting**

Item	Setting Range (Alphanumeric and symbolic characters)	Description
Trap1 Address	---	The SNMP manager's IP address to which a trap is sent.
Trap2 Address	---	The SNMP manager's IP address to which a trap is sent.
Trap3 Address	---	The SNMP manager's IP address to which a trap is sent.
Trap1 Community	19 char max	The community name that sends a trap to Trap1 Address.
Trap2 Community	19 char max	The community name that sends a trap to Trap2 Address.
Trap3 Community	19 char max	The community name that sends a trap to Trap3 Address.

9-8-4. TRAP SETTING

Allows you to control SNMP trap transmission. Check the check box of a trap to be sent, then click Submit. Uncheck to stop sending. See the TRAP List in section 18 “About SNMP (Simple Network Management Protocol)” for details.



◆ Unit Trap

Allows you to select whether to send fan and power unit alarm traps.
Default is to send.

Item	Description
FAN1	Check to send an alarm trap for Fan1.
FAN2	Check to send an alarm trap for Fan2.
Power1 *1	Check to send an alarm trap for Power1.
Power2 *1	Check to send an alarm trap for Power2.

*1 Not shown if the FA-95PS option is not installed.

◆ Video Trap

Allows you to select whether to send traps for Input/output video signal changes.
Default is not to send.

Item	Description
SDI 1 In	Check to send a trap for SDI In 1.
SDI 2 In	Check to send a trap for SDI In 2.
Composite In	Check to send a trap for Composite In.
Reference	Check to send a trap for Reference.
SDI 1/2 Out	Check to send a trap for SDI Out 1/2.
SDI 3/4 Out	Check to send a trap for SDI Out 3/4.
Composite Out	Check to send a trap for Composite Out.
FA-95AIO Option A In *1	Check to send a trap for FA-95AIO Option A input video.
FA-95AIO Option A Out *1	Check to send a trap for FA-95AIO Option A output video.
FA-95AIO Option B In *2	Check to send a trap for FA-95AIO Option B input video.
FA-95AIO Option B Out *2	Check to send a trap for FA-95AIO Option B output video.

*1 Shown if the FA-95AIO option is installed in option slot A.
*2 Shown if the FA-95AIO option is installed in option slot B.

◆ Audio Trap

Allows you to select whether to send traps for Input/output audio signal changes.
No traps are sent in the default setting.

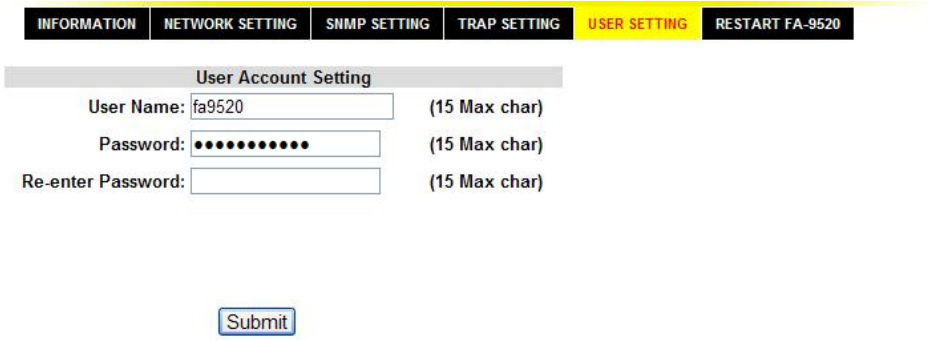
Item	Description
SDI 1/2 OutCH1-16	Check to send a trap for SDI 1/2 audio output channels.
SDI 3/4 OutCH1-16	Check to send a trap for SDI 3/4 audio output channels.
AES Out CH1-8	Check to send a trap for AES audio output channels.
Analog Out CH1-4	Check to send a trap for analog audio output channels.

9-8-5. USER SETTING

This page allows you to set the user name and password for accessing the FA-9520.

The default settings are:

User Name: fa9520
Password: foranetwork



Item	Setting Range (Alphanumeric and symbolic characters)	Description
User Name	15 char max	Allows you to set the user name.
Password	15 char max	Allows you to set the password.
Re-enter Password	15 char max	Allows you to confirm the password.

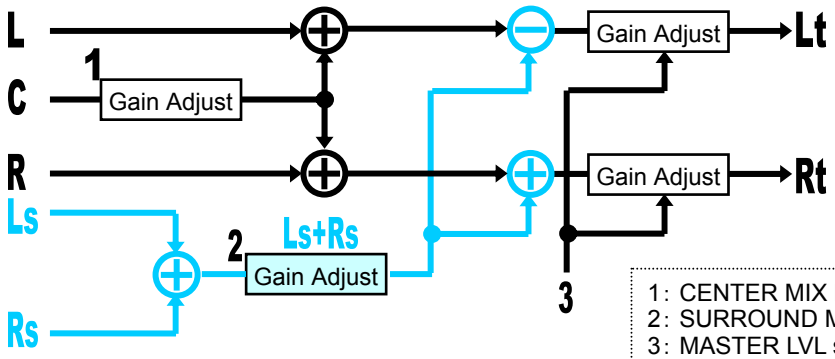
The authentication dialog box will not appear at the next login if the User Name and Password setting boxes are left empty.
Changes will be applied after rebooting or 9-8-6 “Restart” is performed.

9-8-6. Restart

Click **Restart** to reboot the FA-9520. The FA-9520 performs the same operation as when it is on. Note that the video and audio signals will be distorted while rebooting the FA-9520.

10. Downmix Block Diagram

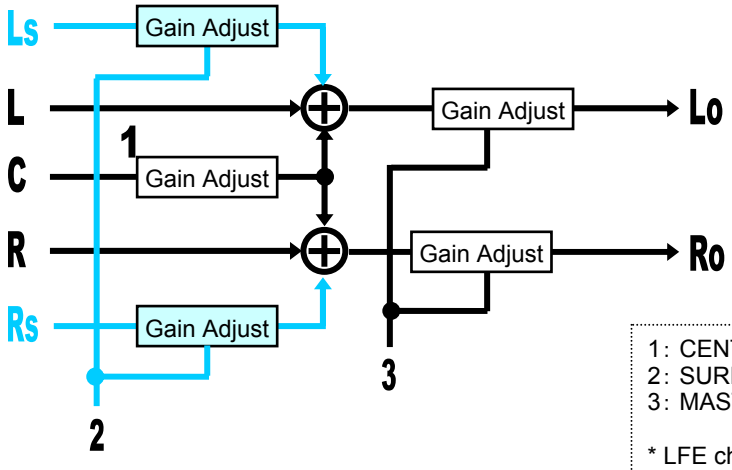
<Surround Mix (Lt/Rt)>
Ls/Rs surround channels are summed to produce a mono surround channel and mixed to right and left channels by the 180 degree phase difference. (LFE channel is discarded.)



1: CENTER MIX level setting
2: SURROUND MIX level setting
3: MASTER LVL setting

* LFE channel is not subjected to the mix.

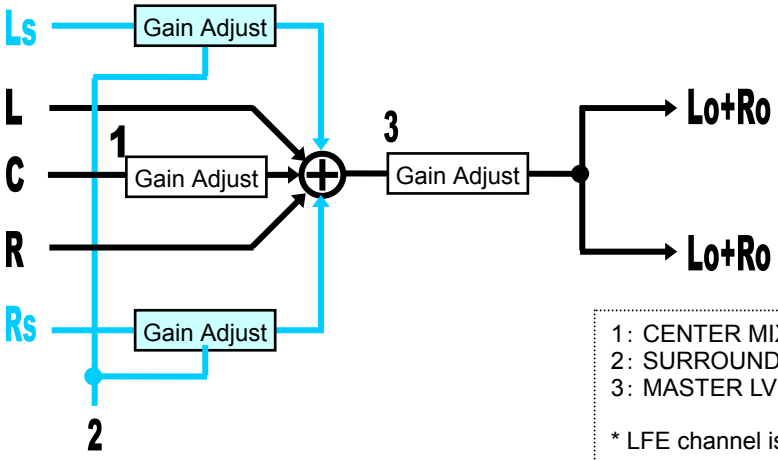
<Stereo Mix (Lo/Ro)>
For Stereo Monitors



1: CENTER MIX level setting
2: SURROUND MIX level setting
3: MASTER LVL setting

* LFE channel is not subjected to the mix.

<Monaural Mix (Lo+Ro/Lo+Ro)>
For Monaural Monitors



1: CENTER MIX level setting
2: SURROUND MIX level setting
3: MASTER LVL setting

* LFE channel is not subjected to the mix.

11. ANALOG/DIGITAL Audio Input/Output Level

11-1. Analog Output Level Relative to the Digital Input Level

◆ **Digital Reference Level: -18dBFS**

	ANALOG OUT LEVEL setting			
Digital audio input level	-10 dBm	0 dBm	4 dBm	8 dBm
-24 dBFS	-16 dBm	-6 dBm	-2 dBm	+2 dBm
-20 dBFS	-12 dBm	-2 dBm	+2 dBm	+6 dBm
-18 dBFS	-10 dBm	0 dBm	+4 dBm	+8 dBm
0 dBFS	+8 dBm	+18 dBm	+22 dBm	CLIP

◆ **Digital Reference Level: -20dBFS**

	ANALOG OUT LEVEL setting			
Digital audio input level	-10 dBm	0 dBm	4 dBm	8 dBm
-24 dBFS	-14 dBm	-4 dBm	0 dBm	+4 dBm
-20 dBFS	-10 dBm	0 dBm	+4 dBm	+8 dBm
-18 dBFS	-8 dBm	+2 dBm	+6 dBm	+10 dBm
0 dBFS	+10 dBm	+20 dBm	+24 dBm	CLIP

◆ **Digital Reference Level: -24dBFS**

	ANALOG OUT LEVEL setting			
Digital audio input level	-10 dBm	0 dBm	4 dBm	8 dBm
-24 dBFS	-10 dBm	+0 dBm	+4 dBm	+8 dBm
-20 dBFS	-6 dBm	+4 dBm	+8 dBm	+12 dBm
-18 dBFS	-4 dBm	+6 dBm	+10 dBm	+14 dBm
0 dBFS	+14 dBm	+24 dBm	CLIP	CLIP

☞ See REF LEVEL in section 6-11-2. "DIGITAL AUDIO" for details on the Digital Reference Level setting.

See section 6-3-3. "ANALOG OUT LEVEL" for details on the ANALOG OUT LEVEL setting.

11-2. Digital Output Level Relative to the Analog Input Level

Digital Reference Level: -18dBFS

	ANALOG IN LEVEL setting			
Analog audio input level	-10 dBm	0 dBm	4 dBm	8 dBm
-20 dBm	-28 dBFS	-38 dBFS	-42 dBFS	-46 dBFS
-10 dBm	-18 dBFS	-28 dBFS	-32 dBFS	-36 dBFS
-4 dBm	-12 dBFS	-22 dBFS	-26 dBFS	-30 dBFS
0 dBm	-8 dBFS	-18 dBFS	-22 dBFS	-26 dBFS
4 dBm	-4 dBFS	-14 dBFS	-18 dBFS	-22 dBFS
8 dBm	0 dBFS	-10 dBFS	-14 dBFS	-18 dBFS
10 dBm	CLIP	-8 dBFS	-12 dBFS	-16 dBFS

Digital Reference Level: -20dBFS

	ANALOG IN LEVEL setting			
Analog audio input level	-10 dBm	0 dBm	4 dBm	8 dBm
-20 dBm	-30 dBFS	-40 dBFS	-44 dBFS	-48 dBFS
-10 dBm	-20 dBFS	-30 dBFS	-34 dBFS	-38 dBFS
-4 dBm	-14 dBFS	-24 dBFS	-28 dBFS	-32 dBFS
0 dBm	-10 dBFS	-20 dBFS	-24 dBFS	-28 dBFS
4 dBm	-6 dBFS	-16 dBFS	-20 dBFS	-24 dBFS
8 dBm	-2 dBFS	-12 dBFS	-16 dBFS	-20 dBFS
10 dBm	0 dBFS	-10 dBFS	-14 dBFS	-18 dBFS

Digital Reference Level: -24dBFS

	ANALOG IN LEVEL setting			
Analog audio input level	-10 dBm	0 dBm	4 dBm	8dBm
-20 dBm	-34 dBFS	-44 dBFS	-48 dBFS	-52 dBFS
-10 dBm	-24 dBFS	-34 dBFS	-38 dBFS	-42 dBFS
-4 dBm	-18 dBFS	-28 dBFS	-32 dBFS	-36 dBFS
0 dBm	-14 dBFS	-24 dBFS	-28 dBFS	-32 dBFS
4 dBm	-10 dBFS	-20 dBFS	-24 dBFS	-28 dBFS
8 dBm	-6 dBFS	-16 dBFS	-20 dBFS	-24 dBFS
10 dBm	-4 dBFS	-14 dBFS	-18 dBFS	-22 dBFS

☞ See REF LEVEL in section 6-11-2. "DIGITAL AUDIO" for details on the Digital Reference Level settings.

See section 6-3-1. "ANALOG IN LEVEL" for details on the ANALOG IN LEVEL settings.

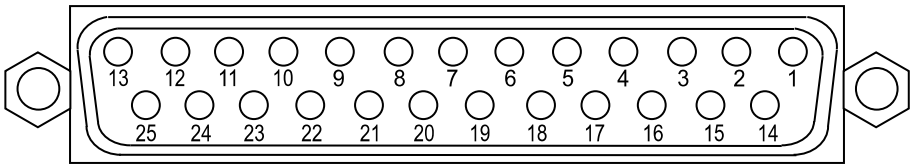
12. Analog Audio Connection

For balanced input and output, connect the hot and cold wires of an analog audio signal to plus and minus pins respectively.

For unbalanced input, connect the analog audio signal line to the plus pin and route the ground line to the minus pin and COM pin.

For unbalanced output, connect the analog audio signal line to the plus pin and the ground line to the COM pin.

◆ **Analog Audio IN/OUT Connector (25-pin D-sub, female, inch screws)**



◆ **Pin Assignments**

Pin No.	Setting
1	CH4 OUT+
2	CH4 OUT COM
3	CH3 OUT-
4	CH2 OUT+
5	CH2 OUT COM
6	CH1 OUT-
7	CH4 IN+
8	CH4 IN COM
9	CH3 IN-
10	CH2 IN+
11	CH2 IN COM
12	CH1 IN-
13	NC
14	CH4 OUT-
15	CH3 OUT+
16	CH3 OUT COM
17	CH2 OUT-
18	CH1 OUT+
19	CH1 OUT COM
20	CH4 IN-
21	CH3 IN+
22	CH3 IN COM
23	CH2 IN-
24	CH1 IN+
25	CH1 IN COM

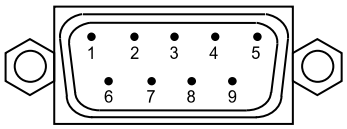
13. Dolby E Decoder/Encoder Channel Assignment Table

Dolby E Decoder Output / Encloder Input Channel Assignment									
Program Configuration		Out/In Ch1	Out/In Ch2	Out/In Ch3	Out/In Ch4	Out/In Ch5	Out/In Ch6	Out/In Ch7	Out/In Ch8
Dolby E	5.1+2	1L	1R	1C	1LFE	1Ls	1Rs	2L	2R
	5.1+2×1	1L	1R	1C	1LFE	1Ls	1Rs	2C	3C
	4+4	1L	1R	1C	1S	2C	2S	2L	2R
	4+2×2	1L	1R	1C	1S	3L	3R	2L	2R
	4+2+2×1	1L	1R	1C	1S	3C	4C	2L	2R
	4+4×1	1L	1R	1C	1S	4C	5C	2C	3C
	4×2	1L	1R	3L	3R	4L	4R	2L	2R
	3×2+2×1	1L	1R	3L	3R	4C	5C	2L	2R
	2×2+4×1	1L	1R	3C	4C	5C	6C	2L	2R
	2+6×1	1L	1R	4C	5C	6C	7C	2C	3C
	8×1	1C	2C	3C	4C	5C	6C	7C	8C
	5.1	1L	1R	1C	1LEF	1Ls	1Rs	None	None
	4+2	1L	1R	1C	1S	None	None	2L	2R
	4+2×1	1L	1R	1C	1S	None	None	2S	3C
	3×2	1L	1R	3L	3R	None	None	2L	2R
	2×2+2×1	1L	1R	3C	4C	None	None	2L	2R
	2+4×1	1L	1R	4C	5C	None	None	2C	3C
	6×1	1C	2C	3C	4C	5C	6C	None	None
	4	1L	1R	1C	1S	None	None	None	None
	2+2	1L	1R	None	None	None	None	2L	2R
	2+2×1	1L	1R	None	None	None	None	2C	3C
	4×1	1C	2C	3C	4C	None	None	None	None
	7.1	1L	1R	1C	1LFE	1Ls	1Rs	1Bsl	1Bsr
	7.1screen	1L	1R	1C	1LFE	1Ls	1Rs	1Le	1Re

Deolby Digital Decoder Output Channel Assignment									
Coding Mode		Out Ch1	Out Ch2	Out Ch3	Out Ch4	Out Ch5	Out Ch6	Out Ch7	Out Ch8
Dolby Digital	3/2L	1L	1R	1C	1LFE	1Ls	1Rs	None	None
	3/2	1L	1R	1C	None	1Ls	1Rs	None	None
	2/2L	1L	1R	None	1LFE	1Ls	1Rs	None	None
	2/2	1L	1R	None	None	1Ls	1Rs	None	None
	3/1L	1L	1R	1C	1LFE	1S	1S	None	None
	3/1	1L	1R	1C	None	1S	1S	None	None
	2/1L	1L	1R	None	1LFE	1S	1S	None	None
	2/1	1L	1R	None	None	1S	1S	None	None
	3/0L	1L	1R	1C	1LFE	None	None	None	None
	3/0	1L	1R	1C	None	None	None	None	None
	2/0	1L	1R	None	None	None	None	None	None
	1/0	None	None	1C	None	None	None	None	None
	1+1	1C	2C	None	None	None	None	None	None
PCM		1L	1R	None	None	None	None	None	None

14. REMOTE

14-1. REMOTE Connector



The pin assignments of the REMOTE (GPI) connector are as shown in the table below. The connector has seven ports. Although the pin assignments below cannot be changed, the input and output are selectable and the functions for GPI1 to GPI7 can also be selected.

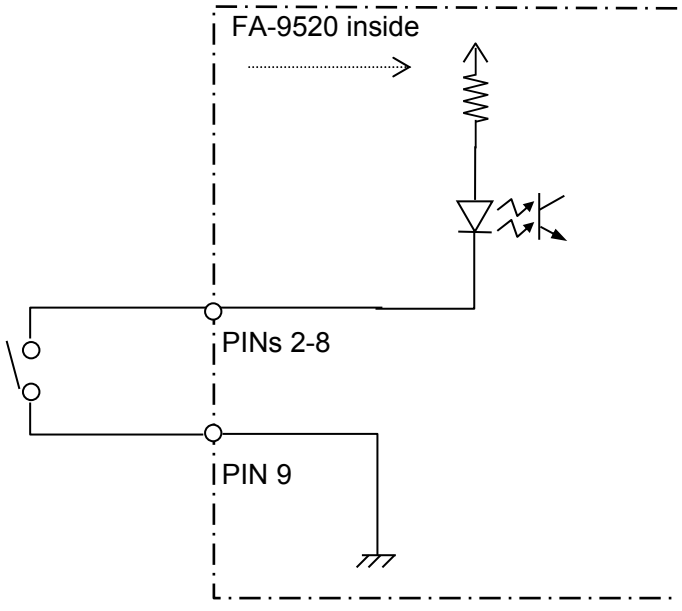
◆ **REMOTE (GPI) Pin Assignments (9pin D-sub, male, inch screws)**

Pin No.	Setting
1	DC OUT (Up to 200mA output current is available at 5.4V.)
2	GPI 1 (input/output)
3	GPI 2 (input/output)
4	GPI 3 (input/output)
5	GPI 4 (input/output)
6	GPI 5 (input/output)
7	GPI 6 (input/output)
8	GPI 7 (input/output)
9	GND (ground)

☞ See section 7-6. "GPI SETTING" for the function assignments for GPI1-GPI7.

For GPI inputs, the function is ON when a pin is shorted to ground and OFF when open.

14-2. GPI Input Circuit



14-3. GPI Input Control

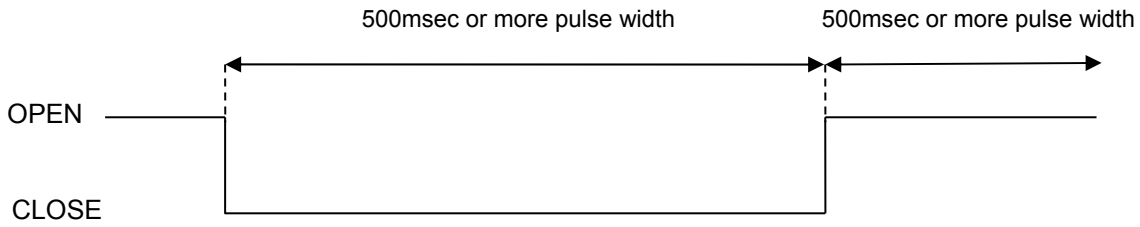
◆ **Level Control**

The pin assigned function is enabled or disabled by the pulse level.

Trigger (state of pin)

OPEN: Function is **OFF**

CLOSE: Function is **ON**



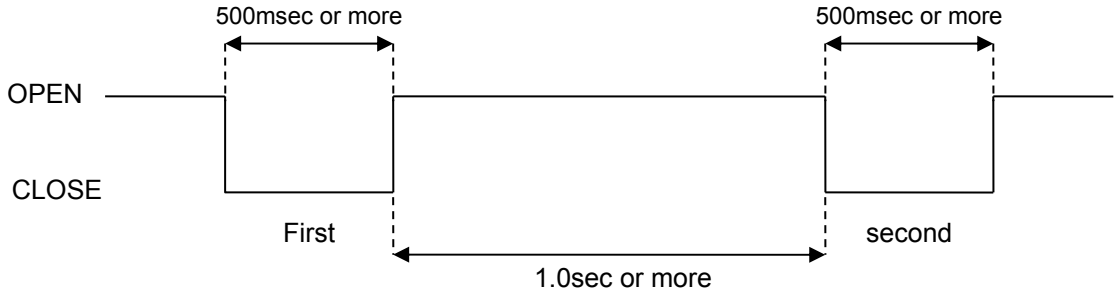
◆ **Pulse Control**

The assigned pin function is triggered by changing the pin state between OPEN and CLOSE.

Trigger (state change of pin)

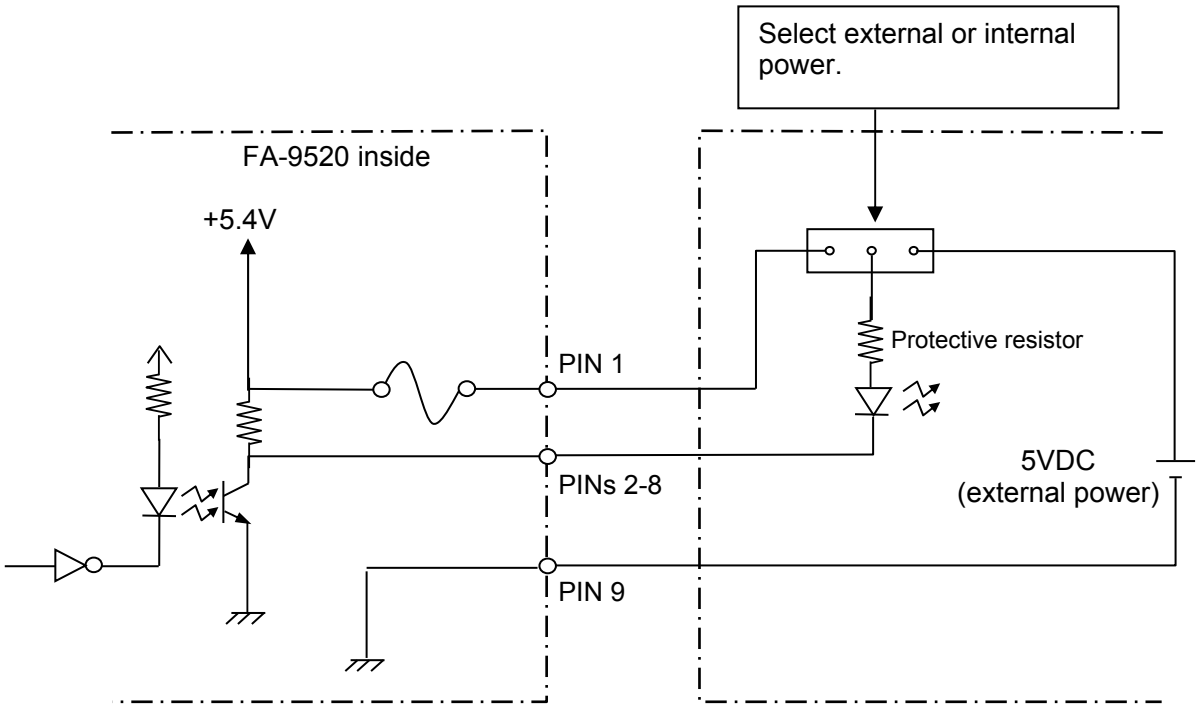
OPEN to CLOSE: Function is **ON**

◆ **Normal Pulse Control**



IMPORTANT
Use the specified pulse width and duration. Otherwise the GPI inputs may not function properly. Do not simultaneously close circuits for more than 1 pulse to prevent the GPI inputs from malfunctioning.

14-4. GPI Output Circuit



IMPORTANT
Note that the allowed current for each GPI output circuit is **10mA** and the external power supply should be **5VDC**.

15. How to Install the FA-95DACBL

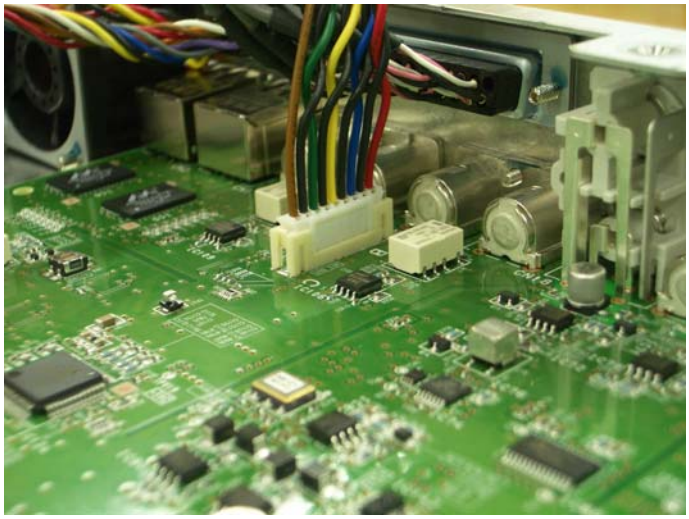
This section describes how to install the optional FA-95DACBL. If you have purchased the FA-95DACBL with the FA-9520, this procedure is unnecessary since the FA-95DACBL has been factory installed.

15-1. Procedure

1. Turn off the power of the FA-9520 and disconnect the power cord.
2. Remove the 3 screws from the top panel, and 4 screws each from the right and left sides of the unit. Remove the top panel. (See the below picture.)

3. Remove the 2 screws from the blank panel on OPTION SLOT B. Keep these screws in a safe place to use later to secure the FA-95DACBL. (To install the FA-95DACBL in slot A, remove the screws from the blank panel on OPTION SLOT A.)

4. Connect the white connector of the FA-95DACBL to CN34. (See the below picture.)



5. Install the BNC connector panel of the FA-95DACBL into the slot from inside the unit. Secure the connector panel with the screws that were removed from the blank panel. (See the below picture.)

6. If you have install the FA-95DACBL in slot A, set switch 5 in the S2 DIP switch to OFF. If you have installed it into slot B, set switch 5 in the S2 DIP switch to ON.

7. Return and secure the top panel onto the unit with the 3 screws on top, and 4 screws each on the right and left sides of the unit.

15-2. Installation Confirmation

Confirm the status of the FA-95DACBL on the front panel menu. See sections 7-9 “OPTION A Ver.” and 7-10 “OPTION B Ver.”.

The menu appears as shown below, if the FA-95DACBL is installed;

in SLOT A

```
OPTION A Ver.      299
NAME:FA-95DACBL
FPGA1:---.--
FPGA2:---.--
SOFT  :  ---.--
```

Menu button

STATUS
OTHER

in SLOT B

```
OPTION B Ver.      300
NAME: FA-95DACBL
FPGA1:---.--
FPGA2:---.--
SOFT  :  ---.--
```

Menu button

STATUS
OTHER

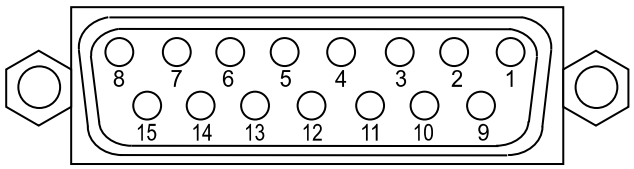
IMPORTANT
Four connectors of the FA-95DACBL digital audio expansion option can be used for outputs. If the FA-95DACBL option is installed, the DIGITAL AUDIO IO connectors can only be used for inputs and the AES I/O SETUP menu (section 6-2-4) is not accessible.

16. FA-95AIO Option

16-1. FA-95AIO Pin Assignments

Be sure to use the supplied FA-95AIO connection cable.

FA-95AIO Connector (15-pin D-sub female inch screws)

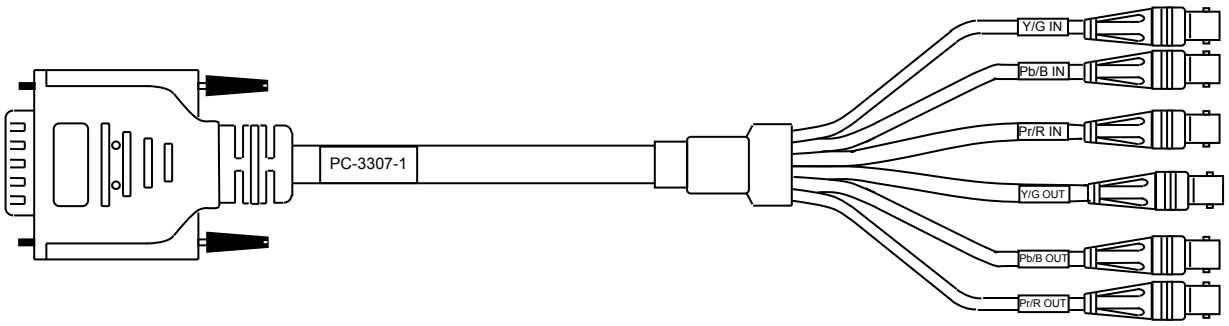


Pin Assignment (15-pin D-sub female)

Pin No.	Connector	Signal
1	Y/G IN	Y/G IN
2	Pb/B IN	Pb/B/C IN
3	Pr/R IN	Pr/R IN
4		GND
5		GND
6	Y/G OUT	Y/G OUT
7	Pb/B OUT	Pb/B/C OUT
8	Pr/R OUT	Pr/R OUT
9		GND
10		GND
11		GND
12		GND
13		GND
14		GND
15		GND

When BY-PASS is enabled, Y/G IN - Y/G OUT, Pb/B IN - Pb/B OUT, and Pr/R IN - Pr/R OUT are connected.

FA-95AIO connection cable PC-3307-1



16-2. FA-95AIO Switch Settings

IMPORTANT
Note that internal switch settings should not be changed from factory defaults. If you have accidentally changed the setting, refer to the Dipswitch S1 settings below to return to the factory default setting. Futher note that adjustments and maintenance should only be performed by qualified technical personnel familiar with FOR-A equipment.

WARNING
Do not access MU internal cards or make connections with unit power ON. Always power OFF the main unit prior to accessing the interior. Do not touch other components on the card to avoid damage from static electricity.

Dipswitch S1 settings

Pin No.	Default	Description
1	OFF	Do not change
2	OFF	Do not change
3	OFF	Do not change
4	OFF	Do not change
5	OFF	Do not change
6	OFF	Do not change
7	OFF	Do not change
8	OFF	Do not change

17. System Requirements

To use with the FA-9520, your computer must meet the following requirements.

OS	Windows® XP operating system SP2 or later Professional (32bit)	Windows Vista® operating system Business (32bit)	Windows® 7 operating system Professional (32bit/64bit)
Browser	Firefox®20.0	Firefox®20.0	Windows® Internet Explorer 10, Firefox®20.0
CPU	Pentium® 4 processor 2.8GHz or higher	Intel® Core™2 Duo processor 2GHz or higher	Intel® Core™2 Duo processor 2GHz or higher
Memory	512MB or more	2GB or more	2GB or more
Display	1280×1024 pixels or more resolution, 24-bit full-color		
Network	Ethernet (100BASE-TX/1000BASE-T), 1 port or more		
Network cable	Enhanced Category 5 or higher		
Network protocol	SNMPv2c, HTTP		

IMPORTANT

When using Internet Explorer 8, Windows Updates after 6/13/2011 must be downloaded for proper performance. It is highly recommended to keep your computer updated with the latest Windows Updates.

PCs that do not meet the above system requirements may not proplely display web pages.

We recommend the use of a Firefox web browser.

18. About SNMP (Simple Network Management Protocol)

The FA-9520 can be remotely monitored and some of its settings can be remotely changed using the SNMPv2C protocol. Some menu items can also be set via the network. MIB (Management Information Base) is required for the monitoring and can be downloaded (see section 9-6-3 "Downloading a MIB File"). See section 9-8-3 "SNMP SETTING" for details about the SNMP network settings.

◆ **SET/GET List** (Dark grey-shaded commands are not supported.)

○: Available　　—: Unavailable

Object group	Front TITLE	Item name	Settings	Object name in MIB file	OID	Type	Trap	Read
OID: 1.3.6.1.4.1.20175.1.307.1. (Unit info)								
Unit Info	—	Product Name	Model name	fa952ProductName	1	OCTET STRING	-	○
	—	Product Code	Product code	fa952ProductCode	2	INTEGER	-	○
	—	Unit Name	Unit name	fa952UnitName	3	OCTET STRING	-	○
	—	Serial No.	Serial number	fa952SerialNumber	4	INTEGER	-	○
	Unit Ver.	Soft	Software version	fa952SoftVersion	11	OCTET STRING	-	○
		FPGA1 Ver	FPGA1version	fa952FPGA1Version	12	OCTET STRING	-	○
		FPGA2 Ver	FPGA2 version	fa952FPGA2Version	13	OCTET STRING	-	○
		FPGA3 Ver	FPGA3 version	fa952FPGA3Version	14	OCTET STRING	-	○
OID:1.3.6.1.4.1.20175.1.307.1.100. (Software option)								
Soft Option	SOFT OPTION1/2	FA-95SCNV	0: notInstalled 1: installed	fa952ScnvOption	1	INTEGER	-	○
		FA-95AVO	0: notInstalled 1: installed	fa952AvoOption	2	INTEGER	-	○
		FA-95-3G	0: notInstalled 1: installed	fa952-3GOption	3	INTEGER	-	○
		FA-95CO	0: notInstalled 1: installed	fa952CoOption	4	INTEGER	-	○
		FA-95LG	0: notInstalled 1: installed	fa952LGOption	5	INTEGER	-	○
OID:1.3.6.1.4.1.20175.1.307.1.200.1 (Option Slot A)								
OPTION Slot A	OPTION A Ver	Name	0: notInstalled 1: FA-95AIO 4: FA-95DE-E 5: FA-95D-D 11: FA-95DACBL 12: Unknown 15:FA-95ALA	fa952SlotTypeA	1	INTEGER	-	○
		FPGA1 Ver	SlotA FPGA1 version	fa952FPGA1VerSlotA	2	OCTET STRING(5|13)	-	○
		FPGA2 Ver	SlotA FPGA2 version	fa952FPGA2VerSlotA	3	OCTET STRING(5|13)	-	○
		SOFT Ver	SlotA Software version	fa952CPUVerSlotA	4	OCTET STRING(5|13)	-	○
OID:1.3.6.1.4.1.20175.1.307.1.200.2 (Option Slot B)								
OPTION Slot B	OPTION B Ver	Name	0: notInstalled 1: FA-95AIO 4: FA-95DE-E 5: FA-95D-D 11: FA-95DACBL 12: Unknown 15:FA-95ALA	fa952SlotTypeB	1	INTEGER	-	○
		FPGA1 Ver	SlotA FPGA1 version	fa952FPGA1VerSlotB	2	OCTET STRING(5|13)	-	○
		FPGA2 Ver	SlotA FPGA2 version	fa952FPGA2VerSlotB	3	OCTET STRING(5|13)	-	○
		SOFT Ver	SlotA Software version	fa952CPUVerSlotB	4	OCTET STRING(5|13)	-	○
OID: 1.3.6.1.4.1.20175.1.307.2.2. (Input video signal selection)								
INPUT SEL	VIDEO IN SETTING	FS1 Input Select	0: SDI1 1: SDI2 2: Composite 3: OpA 4: OpB	fa952FS1VideoInputSelect	1	INTEGER	○	○
		FS1Video Loss Mode	If no signal is present 0: Back Color 1: Auto Freeze 2: Color Bar 3: Output Disable	fa952VideoLossMode	2	INTEGER	○	○
		FS2 Input Select	0: SDI1 1: SDI 2: Composite 3: OpA 4: OpB	fa952FS1VideoInputSelect	3	INTEGER	○	○
		FS2Video Loss Mode	If no signal is present 0: Back Color 1: Auto Freeze 2: Color Bar 3: Output Disable	fa952VideoLossMode	4	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.307.2.3 (Output video signal selection)								
OUT SEL	SDI 1/2 OUT SET	Assign	0: FS1 1: FS2	fa952OutSDI1-2Sel	1	INTEGER	○	○
	SDI 3/4 OUT SET	Assign	0: FS1 1: FS2	fa952OutSDI3-4Sel	2	INTEGER	○	○
	COMPOSITE SET	Assign	0: FS1 1: FS2	fa952OutCompositeSel	3	INTEGER	○	○
	OpA SEL	Assign	0: FS1 1: FS2	fa952OutOpASel	4	INTEGER	○	○
	OpB SEL	Assign	0: FS1 1: FS2	fa952OutOpBSel	5	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.307.2.4　Video System								
VIDEO SYSTEM	OID: 1.3.6.1.4.1.20175.1.307.2.4.1（FS Mode）							
	FS Mode	FS1 SYNCHRO MODE	0: FRAME 1: LINE 3：AVDL	fa952FS1VideoSyncMode	1	INTEGER	○	○
		FS2 SYNCHRO MODE	0: FRAME 1: LINE 3：AVDL	fa952FS2VideoSyncMode	2	INTEGER	○	○
	OID: 1.3.6.1.4.1.20175.1.307.2.4.2（System　Format）							
		FS1　System Format	0: Auto 1: 525/60 2:625/50 3: 1080/59.94i 4:1080/50i 5: 720/59.94p 6:720/50p 7:1080/23PsF 8:1080/24PsF 19:1080/59p 20:1080/50p	fa952VideoSystemFormat	1	INTEGER	○	○

Object group	Front TITLE	Item name	Settings	Object name in MIB file	OID	Type	Write	Read
VIDEO SYSTEM		FS2 System Format	0: Auto 1: 525/60 2:625/50 3: 1080/59.94i 4:1080/50i 5: 720/59.94p 6:720/50p 7:1080/23PsF 8:1080/24PsF 19:1080/59p 20:1080/50p	fa952VideoSystemFormat	2	INTEGER	○	○
	OID: 1.3.6.1.4.1.20175.1.307.2.4.3. (FREEZE)							
	FREEZE	FS1 Freeze Enable	0: Off 1:ON	fa952FS1FreezeEnable	1	INTEGER	○	○
		FS1 Freeze Mode	0: FRAME 1:field-Odd 2:field-Even	fa95FS1FreezeMode	2	INTEGER	○	○
		FS2 Freeze Enable	0: Off 1:ON	fa952FS2FreezeEnable	3	INTEGER	○	○
		FS2 Freeze Mode	0: FRAME 1:field-Odd 2:field-Even	fa95FS2FreezeMode	4	INTEGER	○	○
	OID: 1.3.6.1.4.1.20175.1.307.2.4.4. (Composite settings)							
	COMPOSITE	COMB	0: Adaptive 3D 1: Adaptive 2D 2: Trap Only	fa952VbsCombFilter	1	INTEGER	○	○
		NR Level	0-4: Off Level1-4	fa952VbsNRFilter	2	INTEGER	○	○
		Cross Color	0-3: Off Level1-3	fa952VbsCrossColorFilter	3	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.307.2.6 (FS1Converter)								
FS1 Converter	FS1 Converter	FS1CONV MODE	0: BY-PASS 1: SD 2: 1080i 3: 720p 4: 1080PsF 5: 1080p(3G)	fa952FS1ConvertMode	1	INTEGER	○	○
		FS1Aspect(SD)	0: AFD(4:3) 1: AFD-ALT(4:3) 2: AFD(16:9) 3: AFD(16:9) 4: Letterbox 16:9 top 5: Letterbox 14:9 top 6: Letterbox>16:9(4:3) 7: Fullframe 4:3 8: Letterbox 16:9 9: Letterbox 14:9 10: Fullframe 4:3 Alt 14:9 11: Letterbox 16:9 Alt 14:9 12: Letterbox 16:9 Alt 4:3 13: Letterbox>16:9(16:9) 14: Fullframe 16:9 15: Pillarbox 4:3 16: Fullframe 16:9 Protected 17: Pillarbox 14:9 18: Pillarbox 4:3 Alt 14:9 19: Fullframe 16:9 Alt 14:9 20: Fullframe 16:9 alt 4:3	fa952FS1ConverterAspectSD	4	INTEGER	○	○
		FS1Aspect(HD)	0: AFD 1: AFD-ALT 2: Letterbox>16:9 3: Fullframe 16:9 4: Pillarbox 4:3 5: Fullframe 16:9 Protected 6: Pillarbox 14:9 7: Pillarbox 4:3 Alt 4:9 8: Fullframe 16:9 Alt 14:9 9: Fullframe 16:9 alt 4:3	fa952FS1ConverterAspectHD	5	INTEGER	○	○
	FS1CONV IMPROVE	FS1Motion Sense	1: Field 2: Frame(Odd 1st) 3: Frame(Even 1st) 4: Adaptive	fa952FS1ConverterMotionSense	31	INTEGER	○	○
		FS1Enhance	0~8	fa952FS1ConverterEnhance	42	INTEGER	○	○
		FS1Antialias H	-8~0~+8	fa952FS1ConverterAntiAliasH	43	INTEGER	○	○
		FS1Antialias V	-8~0~+8	fa952FS1ConverterAntiAliasV	44	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.307.2.7 (FS2Converter)								
FS2 Converter	FS2 Converter	FS2CONV MODE	0: BY-PASS 1: SD 2: 1080i 3: 720p 4: 1080PsF 5: 1080p(3G)	fa952FS2ConvertMode	1	INTEGER	○	○
		FS2 Aspect(SD)	0: AFD(4:3) 1: AFD-ALT(4:3) 2: AFD(16:9) 3: AFD(16:9) 4: Letterbox 16:9 top 5: Letterbox 14:9 top 6: Letterbox>16:9(4:3) 7: Fullframe 4:3 8: Letterbox 16:9 9: Letterbox 14:9 10: Fullframe 4:3 Alt 14:9 11: Letterbox 16:9 Alt 14:9 12: Letterbox 16:9 Alt 4:3 13: Letterbox>16:9(16:9) 14: Fullframe 16:9 15: Pillarbox 4:3 16: Fullframe 16:9 Protected 17: Pillarbox 14:9 18: Pillarbox 4:3 Alt 14:9 19: Fullframe 16:9 Alt 14:9 20: Fullframe 16:9 alt 4:3	fa952FS2ConverterAspectSD	4	INTEGER	○	○
		FS1Aspect(HD)	0: AFD 1: AFD-ALT 2: Letterbox>16:9 3: Fullframe 16:9 4: Pillarbox 4:3 5: Fullframe 16:9 Protected 6: Pillarbox 14:9 7: Pillarbox 4:3 Alt 4:9 8: Fullframe 16:9 Alt 14:9 9: Fullframe 16:9 alt 4:3	fa952FS2ConverterAspectHD	5	INTEGER	○	○
	FS2CONV IMPROVE	FS2Motion Sense	1: Field 2: Frame(Odd 1st) 3: Frame(Even 1st) 4: Adaptive	fa952FS2ConverterMotionSense	31	INTEGER	○	○
		Enhance	0～8	fa952FS1ConverterEnhance	42	INTEGER	○	○
		Antialias H	-8～0～+8	fa952FS1ConverterAntiAliasH	43	INTEGER	○	○
		Antialias V	-8～0～+8	fa952FS1ConverterAntiAliasV	44	INTEGER	○	○

Object group	Front TITLE	Item name	Settings	Object name in MIB file	OID	Type	Write	Read
OID: 1.3.6.1.4.1.20175.1.307.2.8（AVO）								
AVO	AVO SETTING	Operation Mode	0: Off 1: Auto 2: Hold	fa952AvoMode	1	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.307.2.10(FA-95LG)								
FA-95LG	VIDEO OPTION	ASSIGN(FS1)	ID: 1～256	fa95LgFS1Assign	1	INTEGER	○	○
		Keyer(FS1)	0: OFF 1: ON	fa95LgFS1Keyer	2	INTEGER	○	○
		ASSIGN(FS2)	ID: 1～256	fa95LgFS2Assign	3	INTEGER	○	○
		Keyer(FS2)	0: OFF 1: ON	fa95LgFS2Keyer	4	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.307.3.1.1（fa952AudioEmb1Assign）								
Audio	Audio SDI	Audio Emb1 Assign	0:emb1Ch1 1:emb1Ch2 2:emb1Ch3 3:emb1Ch4 4:emb1Ch5 5:emb1Ch6 6:emb1Ch7 7:emb1Ch8 8:emb1Ch9 9:emb1Ch10 10:emb1Ch11 11:emb1Ch12 12:emb1Ch13 13:emb1Ch14 14:emb1Ch15 15:emb1Ch16 16: emb2Ch1 17: emb2Ch2 18: emb2Ch3 19: emb2Ch4 20: emb2Ch5 21: emb2Ch6 22: emb2Ch7 23: emb2Ch8 24: emb2Ch9 25: emb2Ch10 26: emb2Ch11 27: emb2Ch12 28: emb2Ch13 29: emb2Ch14 30: emb2Ch15 31: emb2Ch16 32:aesCh1 33:aesCh2 34:aesCh3 35:aesCh4 36:aesCh5 37:aesCh6 38:aesCh7 39:aesCh8 40:analogCh1 41:analogCh2 42:analogCh3 43:analogCh4 44:downMix1-L 45:downMix1-R 46:downMix2-L 47:downMix2-R 48:tone500Hz 49:tone1kHz 50:silence 51:dolbyDecodeOpACh1 52:dolbyDecodeOpACh2 53:dolbyDecodeOpACh3 54:dolbyDecodeOpACh4 55:dolbyDecodeOpACh5 56:dolbyDecodeOpACh6 57:dolbyDecodeOpACh7 58:dolbyDecodeOpACh8 59:dolbyDownMixOpA-L 60:dolbyDownMixOpA-R 61:dolbyEncodeOpACh1 62:dolbyEncodeOpBCh2 63:dolbyDecodeOpBCh1 64:dolbyDecodeOpBCh2 65:dolbyDecodeOpBCh3 66:dolbyDecodeOpBCh4 67:dolbyDecodeOpBCh5 68:dolbyDecodeOpBCh6 69:dolbyDecodeOpBCh7 70:dolbyDecodeOpBCh8 71:dolbyDownMixOpB-L 72:dolbyDownMixOpB-R 73:dolbyEncodeOpBCh1 74:dolbyEncodeOpBCh2 75:Loudness1-OpA-L 76:Loudness1-OpA-R 77:Loudness1-OpA-C 78:Loudness1-OpA-LFE 79:Loudness1-OpA-LS 80:Loudness1-OpA-RS 81:Loudness2-OpA-L 82:Loudness2-OpA-R 83:Loudness2-OpA-C 84:Loudness2-OpA-LFE 85:Loudness2-OpA-LS 86:Loudness2-OpA-RS 87:Loudness1-OpA-L 88:Loudness1-OpA-R 89:Loudness1-OpA-C 90:Loudness1-OpA-LFE 91:Loudness1-OpA-LS 92:Loudness1-OpA-RS 93:Loudness2-OpA-L 94:Loudness2-OpA-R 95:Loudness2-OpA-C 96:Loudness2-OpA-LFE 97:Loudness2-OpA-LS 98:Loudness2-OpA-RS	fa952AudioEmbedded1OutAssignCh1	1	INTEGER	○	○
			Ditto	fa952AudioEmbedded1OutAssignCh2	2	INTEGER	○	○
			Ditto	fa952AudioEmbedded1OutAssignCh3	3	INTEGER	○	○
			Ditto	fa952AudioEmbedded1OutAssignCh4	4	INTEGER	○	○
			Ditto	fa952AudioEmbedded1OutAssignCh5	5	INTEGER	○	○
			Ditto	fa952AudioEmbedded1OutAssignCh6	6	INTEGER	○	○
			Ditto	fa952AudioEmbedded1OutAssignCh7	7	INTEGER	○	○

Object group	Front TITLE	Item name	Settings	Object name in MIB file	OID	Type	Write	Read
Audio	Audio SDI	Audio Emb1 Assign	Ditto	fa952AudioEmbedded1OutAssignCh8	8	INTEGER	○	○
			Ditto	fa952AudioEmbedded1OutAssignCh9	9	INTEGER	○	○
			Ditto	fa952AudioEmbedded1OutAssignCh10	10	INTEGER	○	○
			Ditto	fa952AudioEmbedded1OutAssignCh11	11	INTEGER	○	○
			Ditto	fa952AudioEmbedded1OutAssignCh12	12	INTEGER	○	○
			Ditto	fa952AudioEmbedded1OutAssignCh13	13	INTEGER	○	○
			Ditto	fa952AudioEmbedded1OutAssignCh14	14	INTEGER	○	○
			Ditto	fa952AudioEmbedded1OutAssignCh15	15	INTEGER	○	○
			Ditto	fa952AudioEmbedded1OutAssignCh16	16	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.307.3.1.2 (fa952AudioEmb2Assign)								
Audio	Asdio SDI	Audio Emb2 Assign	0:emb1Ch1 1:emb1Ch2 2:emb1Ch3 3:emb1Ch4 4:emb1Ch5 5:emb1Ch6 6:emb1Ch7 7:emb1Ch8 8:emb1Ch9 9:emb1Ch10 10:emb1Ch11 11:emb1Ch12 12:emb1Ch13 13:emb1Ch14 14:emb1Ch15 15:emb1Ch16 16: emb2Ch1 17: emb2Ch2 18: emb2Ch3 19: emb2Ch4 20: emb2Ch5 21: emb2Ch6 22: emb2Ch7 23: emb2Ch8 24: emb2Ch9 25: emb2Ch10 26: emb2Ch11 27: emb2Ch12 28: emb2Ch13 29: emb2Ch14 30: emb2Ch15 31: emb2Ch16 32:aesCh1 33:aesCh2 34:aesCh3 35:aesCh4 36:aesCh5 37:aesCh6 38:aesCh7 39:aesCh8 40:analogCh1 41:analogCh2 42:analogCh3 43:analogCh4 44:downMix1-L 45:downMix1-R 46:downMix2-L 47:downMix2-R 48:tone500Hz 49:tone1kHz 50:silence 51:dolbyDecodeOpACh1 52:dolbyDecodeOpACh2 53:dolbyDecodeOpACh3 54:dolbyDecodeOpACh4 55:dolbyDecodeOpACh5 56:dolbyDecodeOpACh6 57:dolbyDecodeOpACh7 58:dolbyDecodeOpACh8 59:dolbyDownMixOpA-L 60:dolbyDownMixOpA-R 61:dolbyEncodeOpACh1 62:dolbyEncodeOpBCh2 63:dolbyDecodeOpBCh1 64:dolbyDecodeOpBCh2 65:dolbyDecodeOpBCh3 66:dolbyDecodeOpBCh4 67:dolbyDecodeOpBCh5 68:dolbyDecodeOpBCh6 69:dolbyDecodeOpBCh7 70:dolbyDecodeOpBCh8 71:dolbyDownMixOpB-L 72:dolbyDownMixOpB-R 73:dolbyEncodeOpBCh1 74:dolbyEncodeOpBCh2 75:Loudness1-OpA-L 76:Loudness1-OpA-R 77:Loudness1-OpA-C 78:Loudness1-OpA-LFE 79:Loudness1-OpA-LS 80:Loudness1-OpA-RS 81:Loudness2-OpA-L 82:Loudness2-OpA-R 83:Loudness2-OpA-C 84:Loudness2-OpA-LFE 85:Loudness2-OpA-LS 86:Loudness2-OpA-RS 87:Loudness1-OpA-L 88:Loudness1-OpA-R 89:Loudness1-OpA-C 90:Loudness1-OpA-LFE 91:Loudness1-OpA-LS 92:Loudness1-OpA-RS 93:Loudness2-OpA-L 94:Loudness2-OpA-R 95:Loudness2-OpA-C 96:Loudness2-OpA-LFE 97:Loudness2-OpA-LS 98:Loudness2-OpA-RS	fa952AudioEmbedded2OutAssignCh1	1	INTEGER	○	○
			Ditto	fa952AudioEmbedded2OutAssignCh2	2	INTEGER	○	○
			Ditto	fa952AudioEmbedded2OutAssignCh3	3	INTEGER	○	○
			Ditto	fa952AudioEmbedded2OutAssignCh4	4	INTEGER	○	○
			Ditto	fa952AudioEmbedded2OutAssignCh5	5	INTEGER	○	○
			Ditto	fa952AudioEmbedded2OutAssignCh6	6	INTEGER	○	○
			Ditto	fa952AudioEmbedded2OutAssignCh7	7	INTEGER	○	○
			Ditto	fa952AudioEmbedded2OutAssignCh8	8	INTEGER	○	○
			Ditto	fa952AudioEmbedded2OutAssignCh9	9	INTEGER	○	○
			Ditto	fa952AudioEmbedded2OutAssignCh10	10	INTEGER	○	○
			Ditto	fa952AudioEmbedded2OutAssignCh11	11	INTEGER	○	○

Object group	Front TITLE	Item name	Settings	Object name in MIB file	OID	Type	Write	Read
Audio	Asdio SDI	Audio Emb2 Assign	Ditto	fa952AudioEmbedded2OutAssignCh12	12	INTEGER	○	○
			Ditto	fa952AudioEmbedded2OutAssignCh13	13	INTEGER	○	○
			Ditto	fa952AudioEmbedded2OutAssignCh14	14	INTEGER	○	○
			Ditto	fa952AudioEmbedded2OutAssignCh15	15	INTEGER	○	○
			Ditto	fa952AudioEmbedded2OutAssignCh16	16	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.307.3.2.3（fa952AudioAesOutAssign）								
Audio	Audio AES	Audio AES Out Assign	0:emb1Ch1 1:emb1Ch2 2:emb1Ch3 3:emb1Ch4 4:emb1Ch5 5:emb1Ch6 6:emb1Ch7 7:emb1Ch8 8:emb1Ch9 9:emb1Ch10 10:emb1Ch11 11:emb1Ch12 12:emb1Ch13 13:emb1Ch14 14:emb1Ch15 15:emb1Ch16 16: emb2Ch1 17: emb2Ch2 18: emb2Ch3 19: emb2Ch4 20: emb2Ch5 21: emb2Ch6 22: emb2Ch7 23: emb2Ch8 24: emb2Ch9 25: emb2Ch10 26: emb2Ch11 27: emb2Ch12 28: emb2Ch13 29: emb2Ch14 30: emb2Ch15 31: emb2Ch16 32:aesCh1 33:aesCh2 34:aesCh3 35:aesCh4 36:aesCh5 37:aesCh6 38:aesCh7 39:aesCh8 40:analogCh1 41:analogCh2 42:analogCh3 43:analogCh4 44:downMix1-L 45:downMix1-R 46:downMix2-L 47:downMix2-R 48:tone500Hz 49:tone1kHz 50:silence 51:dolbyDecodeOpACh1 52:dolbyDecodeOpACh2 53:dolbyDecodeOpACh3 54:dolbyDecodeOpACh4 55:dolbyDecodeOpACh5 56:dolbyDecodeOpACh6 57:dolbyDecodeOpACh7 58:dolbyDecodeOpACh8 59:dolbyDownMixOpA-L 60:dolbyDownMixOpA-R 61:dolbyEncodeOpACh1 62:dolbyEncodeOpBCh2 63:dolbyDecodeOpBCh1 64:dolbyDecodeOpBCh2 65:dolbyDecodeOpBCh3 66:dolbyDecodeOpBCh4 67:dolbyDecodeOpBCh5 68:dolbyDecodeOpBCh6 69:dolbyDecodeOpBCh7 70:dolbyDecodeOpBCh8 71:dolbyDownMixOpB-L 72:dolbyDownMixOpB-R 73:dolbyEncodeOpBCh1 74:dolbyEncodeOpBCh2 75:Loudness1-OpA-L 76:Loudness1-OpA-R 77:Loudness1-OpA-C 78:Loudness1-OpA-LFE 79:Loudness1-OpA-LS 80:Loudness1-OpA-RS 81:Loudness2-OpA-L 82:Loudness2-OpA-R 83:Loudness2-OpA-C 84:Loudness2-OpA-LFE 85:Loudness2-OpA-LS 86:Loudness2-OpA-RS 87:Loudness1-OpA-L 88:Loudness1-OpA-R 89:Loudness1-OpA-C 90:Loudness1-OpA-LFE 91:Loudness1-OpA-LS 92:Loudness1-OpA-RS 93:Loudness2-OpA-L 94:Loudness2-OpA-R 95:Loudness2-OpA-C 96:Loudness2-OpA-LFE 97:Loudness2-OpA-LS 98:Loudness2-OpA-RS	fa952AudioAesOutAssignCh1	1	INTEGER	○	○
			Ditto	fa952AudioAesOutAssignCh2	2	INTEGER	○	○
			Ditto	fa952AudioAesOutAssignCh3	3	INTEGER	○	○
			Ditto	fa952AudioAesOutAssignCh4	4	INTEGER	○	○
			Ditto	fa952AudioAesOutAssignCh5	5	INTEGER	○	○
			Ditto	fa952AudioAesOutAssignCh6	6	INTEGER	○	○
			Ditto	fa952AudioAesOutAssignCh7	7	INTEGER	○	○
			Ditto	fa952AudioAesOutAssignCh8	8	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.307.3.3.3（fa952AudioAnalogOutAssign）								
Audio	Audio Analog	Audio Analog Out Assign	0:emb1Ch1 1:emb1Ch2 2:emb1Ch3 3:emb1Ch4 4:emb1Ch5 5:emb1Ch6	fa952AudioAnalogOutAssignCh1	1	INTEGER	○	○

Object group	Front TITLE	Item name	Settings	Object name in MIB file	OID	Type	Write	Read
Audio	Audio Analog	Audio Analog Out Assign	6:emb1Ch7					
			7:emb1Ch8					
			8:emb1Ch9					
			9:emb1Ch10					
			10:emb1Ch11					
			11:emb1Ch12					
			12:emb1Ch13					
			13:emb1Ch14					
			14:emb1Ch15					
			15:emb1Ch16					
			16: emb2Ch1					
			17: emb2Ch2					
			18: emb2Ch3					
			19: emb2Ch4					
			20: emb2Ch5					
			21: emb2Ch6					
			22: emb2Ch7					
			23: emb2Ch8					
			24: emb2Ch9					
			25: emb2Ch10					
			26: emb2Ch11					
			27: emb2Ch12					
			28: emb2Ch13					
			29: emb2Ch14					
			30: emb2Ch15					
			31: emb2Ch16					
			32:aesCh1					
			33:aesCh2					
			34:aesCh3					
			35:aesCh4					
			36:aesCh5					
			37:aesCh6					
			38:aesCh7					
			39:aesCh8					
			40:analogCh1					
			41:analogCh2					
			42:analogCh3					
			43:analogCh4					
			44:downMix1-L					
			45:downMix1-R					
			46:downMix2-L					
			47:downMix2-R					
			48:tone500Hz					
			49:tone1kHz					
			50:silence					
			51:dolbyDecodeOpACh1					
			52:dolbyDecodeOpACh2	fa952AudioAnalogOutAssignCh1	1	INTEGER	○	○
			53:dolbyDecodeOpACh3					
			54:dolbyDecodeOpACh4					
			55:dolbyDecodeOpACh5					
			56:dolbyDecodeOpACh6					
			57:dolbyDecodeOpACh7					
			58:dolbyDecodeOpACh8					
			59:dolbyDownMixOpA-L					
			60:dolbyDownMixOpA-R					
			61:dolbyEncodeOpACh1					
			62:dolbyEncodeOpBCh2					
			63:dolbyDecodeOpBCh1					
			64:dolbyDecodeOpBCh2					
			65:dolbyDecodeOpBCh3					
			66:dolbyDecodeOpBCh4					
			67:dolbyDecodeOpBCh5					
			68:dolbyDecodeOpBCh6					
			69:dolbyDecodeOpBCh7					
			70:dolbyDecodeOpBCh8					
			71:dolbyDownMixOpB-L					
			72:dolbyDownMixOpB-R					
			73:dolbyEncodeOpBCh1					
			74:dolbyEncodeOpBCh2					
			75:Loudness1-OpA-L					
			76:Loudness1-OpA-R					
			77:Loudness1-OpA-C					
			78:Loudness1-OpA-LFE					
			79:Loudness1-OpA-LS					
			80:Loudness1-OpA-RS					
			81:Loudness2-OpA-L					
			82:Loudness2-OpA-R					
			83:Loudness2-OpA-C					
			84:Loudness2-OpA-LFE					
			85:Loudness2-OpA-LS					
			86:Loudness2-OpA-RS					
			87:Loudness1-OpA-L					
			88:Loudness1-OpA-R					
			89:Loudness1-OpA-C					
			90:Loudness1-OpA-LFE					
			91:Loudness1-OpA-LS					
			92:Loudness1-OpA-RS					
			93:Loudness2-OpA-L					
			94:Loudness2-OpA-R					
			95:Loudness2-OpA-C					
			96:Loudness2-OpA-LFE					
			97:Loudness2-OpA-LS					
			98:Loudness2-OpA-RS					
			Ditto	fa952AudioAnalogOutAssignCh2	2	INTEGER	○	○
			Ditto	fa952AudioAnalogOutAssignCh3	3	INTEGER	○	○
			Ditto	fa952AudioAnalogOutAssignCh4	4	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.307.3.4（fa952AudioMaster）								
Audio	Audio Master	Audio Master Mute	0: OFF 1: ON	fa952AudioMasterMute	1	INTEGER	○	○
		Emb1 Master Mute	0: OFF 1: ON	fa952AudioEmbedded1MasterMute	2	INTEGER	○	○
		Emb2 Master Mute	0: OFF 1: ON	fa952AudioEmbedded2MasterMute	3	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.307.3.10.1（fa952LoudnessOpA）								
Audio	Loudness OpA	Loudness1 OpA Control	0: OFF 1: ON	fa952Loudness1-OpAControl	1	INTEGER	○	○
		Loudness1 OpA Mesure	0: STOP 1:START	fa952Loudness1-OpAMesure	2	INTEGER	○	○
		Loudness1 OpA Mesure Clear	1:CLEAR	fa952Loudness1-OpAMesureClear	3	INTEGER	○	○
		Loudness2 OpA Control	0: OFF 1: ON	fa952Loudness2-OpAControl	11	INTEGER	○	○

Object group	Front TITLE	Item name	Settings	Object name in MIB file	OID	Type	Write	Read
Audio	Loudness OpA	Loudness2 OpA Mesure	0: STOP 1:START	fa952Loudness2-OpAMesure	12	INTEGER	○	○
		Loudness2 OpA Mesure Clear	1:CLEAR	fa952Loudness2-OpAMesureClear	13	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.307.3.10.2（fa952LoudnessOpB)								
Audio	Loudness OpB	Loudness1 OpB Control	0: OFF 1: ON	fa952Loudness1-OpBControl	1	INTEGER	○	○
		Loudness1 OpB Mesure	0: OFF 1: ON	fa952Loudness1-OpBMesure	2	INTEGER	○	○
		Loudness1 OpB Mesure Clear	1: clear	fa952Loudness1-OpBMesureClear	3	INTEGER	○	○
		Loudness2 OpB Control	0: OFF 1: ON	fa952Loudness2-OpBControl	11	INTEGER	○	○
		Loudness2 OpB Mesure	0: OFF 1: ON	fa952Loudness2-OpBMesure	12	INTEGER	○	○
		Loudness2 OpB Mesure Clear	1: clear	fa952Loudness2-OpBMesureClear	13	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.307.4.（SYSTEM)								
System	BY-PASS	BY-PASS SDI OUT1	0:disable 1:enable	fa952SDIIn1-Out1Bypass	1	INTEGER	○	○
		BY-PASS SDI OUT3	0:disable 1:enable	fa952SDIIn2-Out3Bypass	2	INTEGER	○	○
		BY-PASS Composite	0:disable 1:enable	Fa952CompositeIn-Out1Bypass	3	INTEGER	○	○
	TEST SIGNAL	FS1 VIDEO TEST SIGNAL	0: OFF 1: Full CB 2: 75% CB 3: SMPTE CB 4: RAMP	fa952FS1VideoTestSignal	4	INTEGER	○	○
		FS2 VIDEO TEST SIGNAL	Ditto	fa952FS2VideoTestSignal	5	INTEGER	○	○
		FS1 AUDIO TEST SIGNAL	0: Off 1: 1KHz Tone	fa952FS1AudioTestSignal	6	INTEGER	○	○
		FS1 AUDIO TEST SIGNAL	0: Off 1: 1KHz Tone	fa952FS1AudioTestSignal	7	INTEGER	○	○
		EXT AUDIO TEST SIGNAL	0: Off 1: 1KHz Tone	fa952ExtAudioTestSignal	8	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.307.5.1.(Unit alarm)								
UNIT	UNIT ALARM	FAN1	0: Normal 1: Stopped	fa952Fan1Status	1	INTEGER	-	○
		FAN2	0: Normal 1: Stopped	fa952Fan2Status	2	INTEGER	-	○
		Power1	0: Normal 1: Ab normal	fa952Power1Status	11	INTEGER	-	○
		Power2	0: Normal 1: Ab normal	fa952Power2Status	12	INTEGER	-	○
OID: 1.3.6.1.4.1.20175.1.307.5.2.(Input/Output Video signal format)								
VIDEO STATUS	VIDEO IN STATUS	SDI 1 IN	00: Loss 01: 525/60i 02: 625/50i 04: 1080/59i 05: 1080/50i 09: 1080/24PsF 10: 1080/23.98PsF 12: 1080/59p 13: 1080/50p 20: 720/59p 21: 720/50p 29: Unknown 30: BY-PASS 31: DISABLE 32: none 33:cannotdetection	fa952InSDI1	1	INTEGER	○	○
		SDI 2 IN	Ditto	fa952InSDI2	2	INTEGER	○	○
		Composite IN	0: LOSS 1: 525/60 2: 625/50 30:BY-PASS	fa952InComposite	3	INTEGER	○	○
VIDEO STATUS	VIDEO IN STATUS	Reference IN	00: Loss 01: 525/60i 02: 625/50i 04: 1080/59i 05: 1080/50i 09: 1080/24PsF 10: 1080/23.98PsF 12: 1080/59p 13: 1080/50p 20: 720/59p 21: 720/50p 29: Unknown 30: BY-PASS 31: DISABLE 32: none 33:cannotdetection	fa952InReference	11	INTEGER	○	○
		SDI OUT 1 / 2	00: Loss 01: 525/60i 02: 625/50i 04: 1080/59i 05: 1080/50i 09: 1080/24PsF 10: 1080/23.98PsF 12: 1080/59p 13: 1080/50p 20: 720/59p 21: 720/50p 29: Unknown 30: BY-PASS 31: DISABLE 32: none 33:cannotdetection	fa952OutSDI1-2	21	INTEGER	○	○
		SDI OUT 3/4	Ditto	fa952OutSDI3-4	22	INTEGER	○	○
		Composite OUT	0: Loss 1: 525/60 2: 625/50 30: BY-PASS 31:Disable	fa952OutComposite	23	INTEGER	○	○

Object group	Front TITLE	Item name	Settings	Object name in MIB file	OID	Type	Write	Read
VIDEO STATUS	VIDEO IN STATUS	Option A IN	00: Loss 01: 525/60i 02: 625/50i 04: 1080/59i 05: 1080/50i 09: 1080/24PsF 10: 1080/23.98PsF 12: 1080/59p 13: 1080/50p 20: 720/59p 21: 720/50p 29: Unknown 30: BY-PASS 31: DISABLE 32: none 33:cannotdetection	fa952InOpA	101	INTEGER	○	○
		Option A OUT	00: Loss 01: 525/60i 02: 625/50i 04: 1080/59i 05: 1080/50i 09: 1080/24PsF 10: 1080/23.98PsF 12: 1080/59p 13: 1080/50p 20: 720/59p 21: 720/50p 29: Unknown 30: BY-PASS 31: DISABLE 32: none 33:cannotdetection	fa952OutpA	102	INTEGER	○	○
		Option B IN	00: Loss 01: 525/60i 02: 625/50i 04: 1080/59i 05: 1080/50i 09: 1080/24PsF 10: 1080/23.98PsF 12: 1080/59p 13: 1080/50p 20: 720/59p 21: 720/50p 29: Unknown 30: BY-PASS 31: DISABLE 32: none 33:cannotdetection	fa952InOpA	201	INTEGER	○	○
		Option B OUT	00: Loss 01: 525/60i 02: 625/50i 04: 1080/59i 05: 1080/50i 09: 1080/24PsF 10: 1080/23.98PsF 12: 1080/59p 13: 1080/50p 20: 720/59p 21: 720/50p 29: Unknown 30: BY-PASS 31: DISABLE 32: none 33:cannotdetection	fa952OutpA	202	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.307.5.3.1.(EMB1 input audio status)								
AUDIO INPUT	EMB1 IN AUDIO	CH1	0: Loss 1: PCM 2: Silence 3: NON-PCM 4: PCM(Async) 5: Silence(Async) 6: NON-PCM(Async) 7: Unknown 8: Bypass 9: Blank 10:Disable	fa952StatusSdiEmbIn1Ch1	1	INTEGER	-	○
		CH2	Ditto	fa952StatusSdiEmbIn1Ch2	2	INTEGER	-	○
		CH3	Ditto	fa952StatusSdiEmbIn1Ch3	3	INTEGER	-	○
		CH4	Ditto	fa952StatusSdiEmbIn1Ch4	4	INTEGER	-	○
		CH5	Ditto	fa952StatusSdiEmbIn1Ch5	5	INTEGER	-	○
		CH6	Ditto	fa952StatusSdiEmbIn1Ch6	6	INTEGER	-	○
		CH7	Ditto	fa952StatusSdiEmbIn1Ch7	7	INTEGER	-	○
		CH8	Ditto	fa952StatusSdiEmbIn1Ch8	8	INTEGER	-	○
		CH9	Ditto	fa952StatusSdiEmbIn1Ch9	9	INTEGER	-	○
		CH10	Ditto	fa952StatusSdiEmbIn1Ch10	10	INTEGER	-	○
		CH11	Ditto	fa952StatusSdiEmbIn1Ch11	11	INTEGER	-	○
		CH12	Ditto	fa952StatusSdiEmbIn1Ch12	12	INTEGER	-	○
		CH13	Ditto	fa952StatusSdiEmbIn1Ch13	13	INTEGER	-	○
		CH14	Ditto	fa952StatusSdiEmbIn1Ch14	14	INTEGER	-	○
		CH15	Ditto	fa952StatusSdiEmbIn1Ch15	15	INTEGER	-	○
		CH16	Ditto	fa952StatusSdiEmbIn1Ch16	16	INTEGER	-	○
OID: 1.3.6.1.4.1.20175.1.307.5.3.2.(EMB2 input audio status)								
AUDIO INPUT	EMB2 IN AUDIO	CH1	0: Loss 1: PCM 2: Silence 3: NON-PCM 4: PCM(Async) 5: Silence(Async) 6: NON-PCM(Async) 7: Unknown 8: Bypass 9: Blank 10:Disable	fa952StatusSdiEmbIn2Ch1	1	INTEGER	-	○
		CH2	Ditto	fa952StatusSdiEmbIn2Ch2	2	INTEGER	-	○
		CH3	Ditto	fa952StatusSdiEmbIn2Ch3	3	INTEGER	-	○
		CH4	Ditto	fa952StatusSdiEmbIn2Ch4	4	INTEGER	-	○
		CH5	Ditto	fa952StatusSdiEmbIn2Ch5	5	INTEGER	-	○
		CH6	Ditto	fa952StatusSdiEmbIn2Ch6	6	INTEGER	-	○
		CH7	Ditto	fa952StatusSdiEmbIn2Ch7	7	INTEGER	-	○
		CH8	Ditto	fa952StatusSdiEmbIn2Ch8	8	INTEGER	-	○
		CH9	Ditto	fa952StatusSdiEmbIn2Ch9	9	INTEGER	-	○
		CH10	Ditto	fa952StatusSdiEmbIn2Ch10	10	INTEGER	-	○
		CH11	Ditto	fa952StatusSdiEmbIn2Ch11	11	INTEGER	-	○
		CH12	Ditto	fa952StatusSdiEmbIn2Ch12	12	INTEGER	-	○
		CH13	Ditto	fa952StatusSdiEmbIn2Ch13	13	INTEGER	-	○
		CH14	Ditto	fa952StatusSdiEmbIn2Ch14	14	INTEGER	-	○
		CH15	Ditto	fa952StatusSdiEmbIn2Ch15	15	INTEGER	-	○
		CH16	Ditto	fa952StatusSdiEmbIn2Ch16	16	INTEGER	-	○

Object group	Front TITLE	Item name	Settings	Object name in MIB file	OID	Type	Write	Read
OID: 1.3.6.1.4.1.20175.1.307.5.3.3.(AES input audio status)								
AUDIO INPUT	AES IN AUDIO	CH1	0: Loss 1: PCM 48kHz 2: PCM 44.1kHz 3: PCM 32kHz 4: PCM Other 5: Silence 48kHz 6: Silence 44.1kHz 7: Silence 32kHz 8: Silence Other 9: NON-PCM 10: Unknown 11: notInputSetting	fa952StatusAesInCh1	1	INTEGER	-	○
		CH2	Ditto	fa952StatusAesInCh2	2	INTEGER	-	○
		CH3	Ditto	fa952StatusAesInCh3	3	INTEGER	-	○
		CH4	Ditto	fa952StatusAesInCh4	4	INTEGER	-	○
		CH5	Ditto	fa952StatusAesInCh5	5	INTEGER	-	○
		CH6	Ditto	fa952StatusAesInCh6	6	INTEGER	-	○
		CH7	Ditto	fa952StatusAesInCh7	7	INTEGER	-	○
		CH8	Ditto	fa952StatusAesInCh8	8	INTEGER	-	○
OID: 1.3.6.1.4.1.20175.1.307.5.3.4.(ANALOG input audio status)								
AUDIO INPUT	ANALOG IN AUDIO	CH1	0: Loss 1: IN	fa952StatusAnalogInCh1	1	INTEGER	-	○
		CH2	Ditto	fa952StatusAnalogInCh2	2	INTEGER	-	○
		CH3	Ditto	fa952StatusAnalogInCh3	3	INTEGER	-	○
		CH4	Ditto	fa952StatusAnalogInCh4	4	INTEGER	-	○
OID: 1.3.6.1.4.1.20175.1.307.5.3.21.(SDI1-2 output audio status)								
AUDIO OUTPUT	SDI1-2 Embeded Audio Out	CH1	0: Loss 1: PCM 2: Silence 3: NON-PCM 4: PCM(Async) 5: Silence(Async) 6: NON-PCM(Async) 7: Unknown 8:BY-PASS 9:Blank 10:Disable	fa952StatusSdiEmbOut1-2Ch1(1)	1	INTEGER	-	○
		CH2	Ditto	fa952StatusSdiEmbOut1-2Ch2(2)	2	INTEGER	-	○
		CH3	Ditto	fa952StatusSdiEmbOut1-2Ch3(3)	3	INTEGER	-	○
		CH4	Ditto	fa952StatusSdiEmbOut1-2Ch4(4)	4	INTEGER	-	○
		CH5	Ditto	fa952StatusSdiEmbOut1-2Ch5(5)	5	INTEGER	-	○
		CH6	Ditto	fa952StatusSdiEmbOut1-2Ch6(6)	6	INTEGER	-	○
		CH7	Ditto	fa952StatusSdiEmbOut1-2Ch7(7)	7	INTEGER	-	○
		CH8	Ditto	fa952StatusSdiEmbOut1-2Ch8(8)	8	INTEGER	-	○
		CH9	Ditto	fa952StatusSdiEmbOut1-2Ch9(9)	9	INTEGER	-	○
		CH10	Ditto	fa952StatusSdiEmbOut1-2Ch10(10)	10	INTEGER	-	○
		CH11	Ditto	fa952StatusSdiEmbOut1-2Ch11(11)	11	INTEGER	-	○
		CH12	Ditto	fa952StatusSdiEmbOut1-2Ch12(12)	12	INTEGER	-	○
		CH13	Ditto	fa952StatusSdiEmbOut1-2Ch13(13)	13	INTEGER	-	○
		CH14	Ditto	fa952StatusSdiEmbOut1-2Ch14(14)	14	INTEGER	-	○
		CH15	Ditto	fa952StatusSdiEmbOut1-2Ch15(15)	15	INTEGER	-	○
		CH16	Ditto	fa952StatusSdiEmbOut1-2Ch16(16)	16	INTEGER	-	○
OID: 1.3.6.1.4.1.20175.1.307.5.3.22.(SDI3-4 output audio status)								
AUDIO OUTPUT	SDI3-4 Embeded Audio Out	CH1	0: Loss 1: PCM 2: Silence 3: NON-PCM 4: PCM(Async) 5: Silence(Async) 6: NON-PCM(Async) 7: Unknown 8:BY-PASS 9:Blank 10:Disable	fa952StatusSdiEmbOut3-4Ch1	1	INTEGER	-	○
		CH2	Ditto	fa952StatusSdiEmbOut3-4Ch2	2	INTEGER	-	○
		CH3	Ditto	fa952StatusSdiEmbOut3-4Ch3	3	INTEGER	-	○
		CH4	Ditto	fa952StatusSdiEmbOut3-4Ch4	4	INTEGER	-	○
		CH5	Ditto	fa952StatusSdiEmbOut3-4Ch5	5	INTEGER	-	○
		CH6	Ditto	fa952StatusSdiEmbOut3-4Ch6	6	INTEGER	-	○
		CH7	Ditto	fa952StatusSdiEmbOut3-4Ch7	7	INTEGER	-	○
		CH8	Ditto	fa952StatusSdiEmbOut3-4Ch8	8	INTEGER	-	○
		CH9	Ditto	fa952StatusSdiEmbOut3-4Ch9	9	INTEGER	-	○
		CH10	Ditto	fa952StatusSdiEmbOut3-4Ch10	10	INTEGER	-	○
		CH11	Ditto	fa952StatusSdiEmbOut3-4Ch11	11	INTEGER	-	○
		CH12	Ditto	fa952StatusSdiEmbOut3-4Ch12	12	INTEGER	-	○
		CH13	Ditto	fa952StatusSdiEmbOut3-4Ch13	13	INTEGER	-	○
		CH14	Ditto	fa952StatusSdiEmbOut3-4Ch14	14	INTEGER	-	○
		CH15	Ditto	fa952StatusSdiEmbOut3-4Ch15	15	INTEGER	-	○
		CH16	Ditto	fa952StatusSdiEmbOut3-4Ch16	16	INTEGER	-	○
OID: 1.3.6.1.4.1.20175.1.307.5.3.23.(AES output audio status)								
AUDIO OUTPUT	AES OUT AUDIO	CH1	0: Loss 1: PCM 2: silence 3: NON-PCM 4: PCM(Async) 5: Silence(Async)	fa952StatusAesOutCh1	1	INTEGER	-	○
AUDIO OUTPUT	AES OUT AUDIO	CH1	6: NON-PCM(Async) 7: Unknown 8: notOutputSetting	fa952StatusAesOutCh1	1	INTEGER	-	○
		CH2	Ditto	fa952StatusAesOutCh2	2	INTEGER	-	○
		CH3	Ditto	fa952StatusAesOutCh3	3	INTEGER	-	○
		CH4	Ditto	fa952StatusAesOutCh4	4	INTEGER	-	○
		CH5	Ditto	fa952StatusAesOutCh5	5	INTEGER	-	○
		CH6	Ditto	fa952StatusAesOutCh6	6	INTEGER	-	○
		CH7	Ditto	fa952StatusAesOutCh7	7	INTEGER	-	○
		CH8	Ditto	fa952StatusAesOutCh8	8	INTEGER	-	○
OID: 1.3.6.1.4.1.20175.1.307.5.3.24.(Analog output audio status)								
AUDIO OUTPUT	ANALOG Out AUDIO	CH1	0: Silence 1: Out	fa952StatusAnalogOutCh1	1	INTEGER	-	○
		CH2	Ditto	fa952StatusAnalogOutCh2	2	INTEGER	-	○
		CH3	Ditto	fa952StatusAnalogOutCh3	3	INTEGER	-	○
		CH4	Ditto	fa952StatusAnalogOutCh4	4	INTEGER	-	○
OID: 1.3.6.1.4.1.20175.1.307..5.3.50(Option A loudness status)								
Loudness Option A	LOUDNESS MEAS1A	Momentary IN	-99.9～0	fa952StatusLoudness1-OpA-InMomentary	1	INTEGER	-	○
		Short Term IN	-99.9～0	fa952StatusLoudness1-OpA-InShort	2	INTEGER	-	○
		Long Term IN	-99.9～0	fa952StatusLoudness1-OpA-InLong	3	INTEGER	-	○
		Momentary OUT	-99.9～0	fa952StatusLoudness1-OpA-OutMomentary	4	INTEGER	-	○
		Short Term OUT	-99.9～0	fa952StatusLoudness1-OpA-OutShort	5	INTEGER	-	○
		Long Term OUT	-99.9～0	fa952StatusLoudness1-OpA-OutLong	6	INTEGER	-	○
		Session Time	Elapsed time	fa952StatusLoudness1-OpA-SessionTime	7	INTEGER	-	○
	LOUDNESS MEAS2A	Momentary IN	-99.9～0	fa952StatusLoudness2-OpA-InMomentary	11	INTEGER	-	○
		Short Term IN	-99.9～0	fa952StatusLoudness2-OpA-InShort	12	INTEGER	-	○

Object group	Front TITLE	Item name	Settings	Object name in MIB file	OID	Type	Write	Read
		Long Term IN	-99.9～0	fa952StatusLoudness2-OpA-InLong	13	INTEGER	-	○
		Momentary OUT	-99.9～0	fa952StatusLoudness2-OpA-OutMomentary	14	INTEGER	-	○
		Short Term OUT	-99.9～0	fa952StatusLoudness2-OpA-OutShort	15	INTEGER	-	○
		Long Term OUT	-99.9～0	fa952StatusLoudness2-OpA-OutLong	16	INTEGER	-	○
		Session Time	Elapsed time	fa952StatusLoudness2-OpA-SessionTime	17	INTEGER	-	○
OID: 1.3.6.1.4.1.20175.1.307..5.3.51(Option B loudness status)								
Loudness Option B	LOUDNESS MEAS1A	Momentary IN	-99.9～0	fa952StatusLoudness1-OpB-InMomentary	1	INTEGER	-	○
		Short Term IN	-99.9～0	fa952StatusLoudness1-OpB-InShort	2	INTEGER	-	○
		Long Term IN	-99.9～0	fa952StatusLoudness1-OpB-InLong	3	INTEGER	-	○
		Momentary OUT	-99.9～0	fa952StatusLoudness1-OpB-OutMomentary	4	INTEGER	-	○
		Short Term OUT	-99.9～0	fa952StatusLoudness1-OpB-OutShort	5	INTEGER	-	○
		Long Term OUT	-99.9～0	fa952StatusLoudness1-OpB-OutLong	6	INTEGER	-	○
		Session Time	Elapsed time	fa952StatusLoudness1-OpB-SessionTime	7	INTEGER	-	○
	LOUDNESS MEAS2A	Momentary IN	-99.9～0	fa952StatusLoudness2-OpB-InMomentary	11	INTEGER	-	○
		Short Term IN	-99.9～0	fa952StatusLoudness2-OpB-InShort	12	INTEGER	-	○
		Long Term IN	-99.9～0	fa952StatusLoudness2-OpB-InLong	13	INTEGER	-	○
		Momentary OUT	-99.9～0	fa952StatusLoudness2-OpB-OutMomentary	14	INTEGER	-	○
		Short Term OUT	-99.9～0	fa952StatusLoudness2-OpB-OutShort	15	INTEGER	-	○
		Long Term OUT	-99.9～0	fa952StatusLoudness2-OpB-OutLong	16	INTEGER	-	○
		Session Time	Elapsed time	fa952StatusLoudness2-OpB-SessionTime	17	INTEGER	-	○
OID: 1.3.6.1.4.1.20175.1.307..5.3.100(Option A Dolby status)								
Dolby Option A		AUX IN	0: loss 1: pcm 2: nonPCM 3: unknown	fa952StatusDolbyOpAAuxIn	1	INTEGER	-	○
		AUX OUT	0: pcm 1: nonPCM 2: none	fa952StatusDolbyOpAAuxOut	2	INTEGER	-	○
		Reference IN	00: Loss 01: 525/60i 02: 625/50i 04: 1080/59i 05: 1080/50i 09: 1080/24PsF 10: 1080/23.98PsF 12: 1080/59p 13: 1080/50p 20: 720/59p 21: 720/50p 29: Unknown 30: BY-PASS 31: DISABLE 32: none 33:cannotdetection	fa952StatusDolbyOpARefIn	3	INTEGER	-	○
OID: 1.3.6.1.4.1.20175.1.307..5.3.100(Option A Dolby status)								
Dolby Option B		AUX IN	0: loss 1: pcm 2: nonPCM 3: unknown	fa952StatusDolbyOpBAuxIn	1	INTEGER	-	○
		AUX OUT	0: pcm 1: nonPCM 2: none	fa952StatusDolbyOpBAuxOut	2	INTEGER	-	○
		Reference IN	00: Loss 01: 525/60i 02: 625/50i 04: 1080/59i 05: 1080/50i 09: 1080/24PsF 10: 1080/23.98PsF 12: 1080/59p 13: 1080/50p 20: 720/59p 21: 720/50p 29: Unknown 30: BY-PASS 31: DISABLE 32: none 33:cannotdetection	fa952StatusDolbyOpBRefIn	3	INTEGER	-	○

◆ TRAP List

Traps can be sent or not be sent by settings. See section 9-8-4 “TRAP SETTING” for details.

○: Available
- : Unavailable

Object	Settings	Object name in MIB file	OID	Type	Write	Read	Trap Valid	Trap Event (value)
OID:1.3.6.1.4.1.20175.1.301.6.1.(UNIT TRAP)								
FAN1	0:Normal 1:Stopped	fa952Fan1ChangedTrap	1	NOTIFICATION-TYPE	-	-	○	Change
FAN2	0: Normal 1: Stopped	fa952Fan2ChangedTrap	2	NOTIFICATION-TYPE	-	-	○	Change
Power1	-1: Not Install 0: Normal 1:Abnormal	fa952Power1ChangedTrap	11	NOTIFICATION-TYPE	-	-	○	Change
Power2	-1: Not Install 0: Normal 1: Abnormal	fa952Power2ChangedTrap	12	NOTIFICATION-TYPE	-	-	○	Change
OID:1.3.6.1.4.1.20175.1.301.6.2.(VIDEO TRAP)								
SDI 1 IN	00:Loss 01:525/60i 02:625/50i 04:1080/59i 05:1080/50i 09:1080/24PsF 10:1080/23.98PsF 12:1080/59p 13:1080/50p 20:720/59p 21:720/50p 29:Unknown 30: BY-PASS 31:Disable 32:none	fa952InSDI1ChangeTrap	1	NOTIFICATION-TYPE	-	-	○	Change
SDI 2 IN	Ditto	fa952InSDI2ChangeTrap	2	NOTIFICATION-TYPE	-	-	○	Change
Composite IN	0 : LOSS 1 : 525/60 2 : 625/50 29:Unknown 30:BY-PASS	fa952InCompositeChangeTrap	3	NOTIFICATION-TYPE	-	-	○	Change
Ref Status	00:Loss 01:525/60i 02:625/50i 04:1080/59i 05:1080/50i 09:1080/24PsF 10:1080/23.98PsF 12:1080/59p 13:1080/50p 20:720/59p 21:720/50p 29:Unknown 30: BY-PASS 31:Disable 32:none	fa952InRefChangeTrap	11	NOTIFICATION-TYPE	-	-	○	Change
SDI OUT 1/2	00:Loss 01:525/60i 02:625/50i 04:1080/59i 05:1080/50i 09:1080/24PsF 10:1080/23.98PsF 12:1080/59p 13:1080/50p 20:720/59p 21:720/50p 29:Unknown 30: BY-PASS 31:Disable 32:none	fa952OutSDI1-2ChangeTrap	21	NOTIFICATION-TYPE	-	-	○	Change
SDI OUT 3/4	Ditto	fa952OutSDI3-4ChangeTrap	22	NOTIFICATION-TYPE	-	-	○	Change
Composite OUT	0 : LOSS 1 : 525/60 2 : 625/50 30:BY-PASS	fa952OutCompositeChangeTrap	23	NOTIFICATION-TYPE	-	-	○	Change
OpA IN SEL	0: FS1 1: FS2	fa952InOpASel	4	NOTIFICATION-TYPE	-	-	○	Change
OpB IN SEL	0: FS1 1: FS2	fa952InOpBSel	5	NOTIFICATION-TYPE	-	-	○	Change
OpA OUT SEL	0: FS1 1: FS2	fa952OutOpASel	4	NOTIFICATION-TYPE	-	-	○	Change
OpB OUT SEL	0: FS1 1: FS2	fa952OutOpBSel	5	NOTIFICATION-TYPE	-	-	○	Change

Object	Settings	Object name in MIB file	OID	Type	Write	Read	Trap Valid	Trap Event (value)
OID:1.3.6.1.4.1.20175.1.301.6.3.(SDI-1-2 Audio TRAP)								
SOURCE CH1	0:Loss 1:PCM 2:PCM 48kHz 3:PCM 44.1kHz 4:PCM 32kHz 5:PCM Other 6:Silence 7:Silence 48kHz 8:Silence 44.1kHz 9:Silence 32kHz 10:Silence Other 11:NON-PCM 12:PCM(Async) 13:Silence(Async) 14:NON-PCM(Async) 15:IN 16:Unknown	fa952SDI1-2OPutAudioCh1StatusChangeTrap	1	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH2	Ditto	fa952SDI1-2OPutAudioCh2StatusChangeTrap	2	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH3	Ditto	fa952SDI1-2OPutAudioCh3StatusChangeTrap	3	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH4	Ditto	fa952SDI1-2OPutAudioCh4StatusChangeTrap	4	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH5	Ditto	fa952SDI1-2OPutAudioCh5StatusChangeTrap	5	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH6	Ditto	fa952SDI1-2OPutAudioCh6StatusChangeTrap	6	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH7	Ditto	fa952SDI1-2OPutAudioCh7StatusChangeTrap	7	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH8	Ditto	fa952SDI1-2OPutAudioCh8StatusChangeTrap	8	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH9	Ditto	fa952SDI1-2OPutAudioCh9StatusChangeTrap	9	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH10	Ditto	fa952SDI1-2OPutAudioCh10StatusChangeTrap	10	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH11	Ditto	fa952SDI1-2OPutAudioCh11StatusChangeTrap	11	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH12	Ditto	fa952SDI1-2OPutAudioCh12StatusChangeTrap	12	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH13	Ditto	fa952SDI1-2OPutAudioCh13StatusChangeTrap	13	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH14	Ditto	fa952SDI1-2OPutAudioCh14StatusChangeTrap	14	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH15	Ditto	fa952SDI1-2OPutAudioCh15StatusChangeTrap	15	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH16	Ditto	fa952SDI1-2OPutAudioCh16StatusChangeTrap	16	NOTIFICATION-TYPE	-	-	○	Change
OID:1.3.6.1.4.1.20175.1.301.6.4.(SDI-3-4 Audio TRAP)								
SOURCE CH1	0:Loss 1:PCM 2:PCM 48kHz 3:PCM 44.1kHz 4:PCM 32kHz 5:PCM Other 6:Silence 7:Silence 48kHz 8:Silence 44.1kHz 9:Silence 32kHz 10:Silence Other 11:NON-PCM 12:PCM(Async) 13:Silence(Async) 14:NON-PCM(Async) 15:IN 16:Unknown	fa952SDI3-4OPutAudioCh1StatusChangeTrap	1	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH2	Ditto	fa952SDI3-4OPutAudioCh2StatusChangeTrap	2	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH3	Ditto	fa952SDI3-4OPutAudioCh3StatusChangeTrap	3	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH4	Ditto	fa952SDI3-4OPutAudioCh4StatusChangeTrap	4	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH5	Ditto	fa952SDI3-4OPutAudioCh5StatusChangeTrap	5	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH6	Ditto	fa952SDI3-4OPutAudioCh6StatusChangeTrap	6	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH7	Ditto	fa952SDI3-4OPutAudioCh7StatusChangeTrap	7	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH8	Ditto	fa952SDI3-4OPutAudioCh8StatusChangeTrap	8	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH9	Ditto	fa952SDI3-4OPutAudioCh9StatusChangeTrap	9	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH10	Ditto	fa952SDI3-4OPutAudioCh10StatusChangeTrap	10	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH11	Ditto	fa952SDI3-4OPutAudioCh11StatusChangeTrap	11	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH12	Ditto	fa952SDI3-4OPutAudioCh12StatusChangeTrap	12	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH13	Ditto	fa952SDI3-4OPutAudioCh13StatusChangeTrap	13	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH14	Ditto	fa952SDI3-4OPutAudioCh14StatusChangeTrap	14	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH15	Ditto	fa952SDI3-4OPutAudioCh15StatusChangeTrap	15	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH16	Ditto	fa952SDI3-4OPutAudioCh16StatusChangeTrap	16	NOTIFICATION-TYPE	-	-	○	Change
OID:1.3.6.1.4.1.20175.1.301.6.5.(AES Audio TRAP)								
SOURCE CH1	0:Loss 1:PCM 2:PCM 48kHz 3:PCM 44.1kHz 4:PCM 32kHz 5:PCM Other 6:Silence 7:Silence 48kHz 8:Silence 44.1kHz 9:Silence 32kHz 10:Silence Other 11:NON-PCM 12:PCM(Async) 13:Silence(Async) 14:NON-PCM(Async) 15:IN 16:Unknown	Fa952AES-OutAudioCh1StatusChangeTrap	1	NOTIFICATION-TYPE	-	-	○	Change

Object	Settings	Object name in MIB file	OID	Type	Write	Read	Trap Valid	Trap Event (value)
OID:1.3.6.1.4.1.20175.1.301.6.5.(AES Audio TRAP)								
SOURCE CH2	Ditto	Fa952AES-OutAudioCh2tatusChangeTrap	2	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH3	Ditto	Fa952AES-OutAudioCh3StatusChangeTrap	3	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH4	Ditto	Fa952AES-OutAudioCh4StatusChangeTrap	4	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH5	Ditto	Fa952AES-OutAudioCh5StatusChangeTrap	5	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH6	Ditto	Fa952AES-OutAudioCh6StatusChangeTrap	6	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH7	Ditto	Fa952AES-OutAudioCh7tatusChangeTrap	7	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH8	Ditto	Fa952AES-OutAudioCh8StatusChangeTrap	8	NOTIFICATION-TYPE	-	-	○	Change
OID:1.3.6.1.4.1.20175.1.301.6.5.(Analog Audio TRAP)								
SOURCE CH1	0:Loss 1:PCM 2:PCM 48kHz 3:PCM 44.1kHz 4:PCM 32kHz 5:PCM Other 6:Silence 7:Silence 48kHz 8:Silence 44.1kHz 9:Silence 32kHz 10:Silence Other 11:NON-PCM 12:PCM(Async) 13:Silence(Async) 14:NON-PCM(Async) 15:IN 16:Unknown	Fa952Analog-OutAudioCh1StatusChangeTrap	1	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH2	Ditto	Fa952Analog-OutAudioCh2StatusChangeTrap	2	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH3	Ditto	Fa952Analog-OutAudioCh3StatusChangeTrap	3	NOTIFICATION-TYPE	-	-	○	Change
SOURCE CH4	Ditto	Fa952Analog-OutAudioCh4StatusChangeTrap	4	NOTIFICATION-TYPE	-	-	○	Change
OID:1.3.6.1.4.1.20175.1.301.6.7.(Dolby OpA)								
AUX Input	0: Loss 1: PCM 2: NON-PCM 3: Unknown	fa95DolbyOpAAuxInputChangedTrap	1	NOTIFICATION-TYPE	-	-	○	Change
Reference Input	00:Loss 01:525/60i 02:625/50i 04:1080/59i 05:1080/50i 09:1080/24PsF 10:1080/23.98PsF 12:1080/59p 13:1080/50p 20:720/59p 21:720/50p 29:Unknown 30: BY-PASS 31:Disable 32:none	fa95DolbyOpARefInputChangedTrap	2	NOTIFICATION-TYPE	-	-	○	Change
OID: 1.3.6.1.4.1.20175.1.301.6.8(Dolby OpB)								
AUX Input	0: Loss 1: PCM 2: NON-PCM 3: Unknown	fa95DolbyOpBAuxInputChangedTrap	1	NOTIFICATION-TYPE	-	-	○	Change
Reference Input	00:Loss 01:525/60i 02:625/50i 04:1080/59i 05:1080/50i 09:1080/24PsF 10:1080/23.98PsF 12:1080/59p 13:1080/50p 20:720/59p 21:720/50p 29:Unknown 30: BY-PASS 31:Disable 32:none	fa95DolbyOpBRefInputChangedTrap	2	NOTIFICATION-TYPE	-	-	○	Change

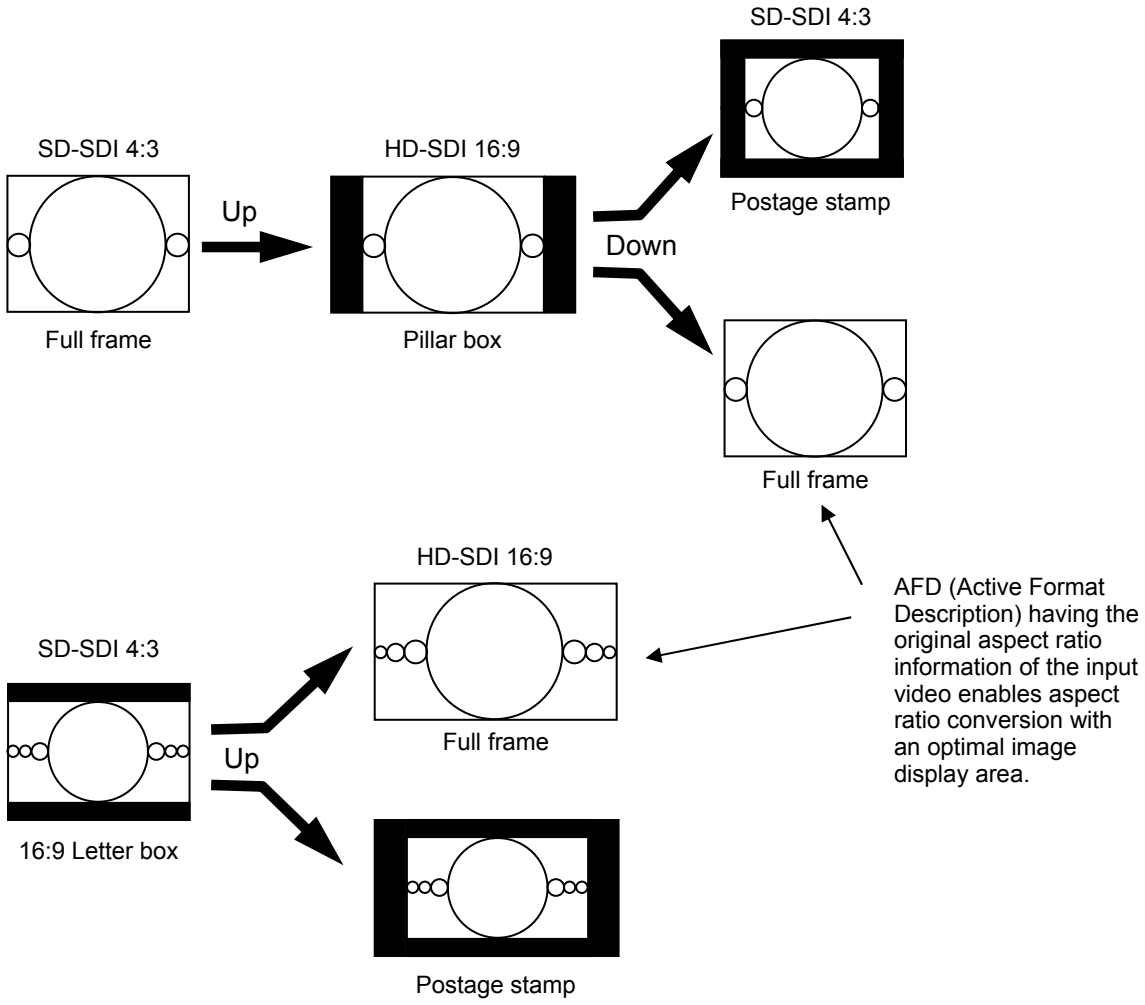
19. FA-9520 Ancillary Data Packet Name List

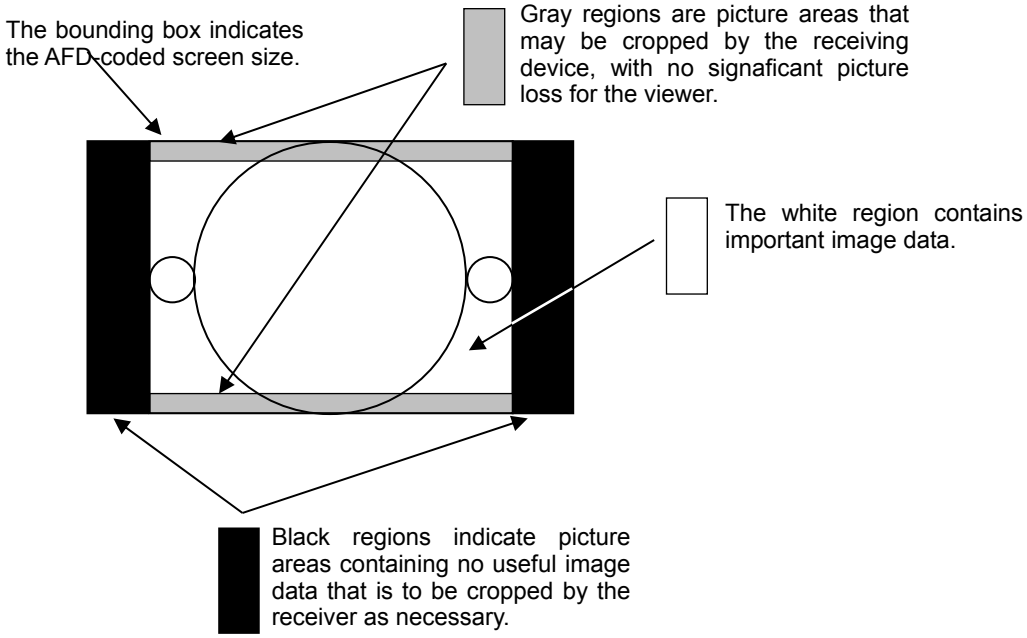
FA-9520 Indication	DID/SDID (hexadecimal)	Description
S353MMPEG(V)	08/08	MPEG recoding data, VANC space (Picture rate information)
S353M MPEG(H)	08/0C	MPEG recoding data, HANC space (Other part of recording data set)
S305M SD-SDTI	40/01	ARIB STD-B17 Serial Data Transport Interface for Television
S305M HD-SDTI	40/02	ITU-R BT.1557, SMPTE 348M for HD-SDTI
S427 Lk Enc 1	40/04	SMPTE 427 Link Encryption Message 1
S427 Lk Enc 2	40/05	SMPTE 427 Link Encryption Message 2
S427 Lk Meta	40/06	SMPTE 427 Link Encryption Metadata
S352M VPID	41/01	BTA S-004C Video Payload Identification for Digital Interfaces
S2016-3 AFD-Bar	41/05	SMPTE 2016-3 AFD and Bar Data
S2016-4 PanScan	41/06	SMPTE 2016-3 Pan-Scan Data
RP2010 SCTE 104	41/07	SMPTE 2010 ANSI/SCTE 104 messages
S2031 SCTE VBI	41/08	SMPTE 2010 DVB/SCTE VBI data
ITU-R BT.1685	43/01	ITU-R BT.1685 Inter-station control data packets
RDD8 OP47(SDP)	43/02	SMPTE RDD 8 Subtitling Distribution packet(SDP)
RDD8 OP47(Mult)	43/03	SMPTE RDD 8 Transport of ANC packet in an ANC Multipacket
S346M	43/13	Time Division Multiplexing Video Signals and Generic Data over HD-SDI
RP214 KLV(V)	44/04	SMPTE RP 214 KLV Metadata transport in VANC space
RP214 KLV(H)	44/14	SMPTE RP 214 KLV Metadata transport in HANC space
RP223 UMID	44/44	SMPTE RP 223 Packing UMID and Program Identification Label Data into SMPTE 291M Ancillary Data Packets
S2020 Aud	45/01	SMPTE 2020-1 Compressed Audio Metadata
S2020AudPr1/2	45/02	SMPTE 2020-1 Compressed Audio Metadata
S2020AudPr3/4	45/03	SMPTE 2020-1 Compressed Audio Metadata
S2020AudPr5/6	45/04	SMPTE 2020-1 Compressed Audio Metadata
S2020AudPr7/8	45/05	SMPTE 2020-1 Compressed Audio Metadata
S2020AudPr9/10	45/06	SMPTE 2020-1 Compressed Audio Metadata
S2020AudPr11/12	45/07	SMPTE 2020-1 Compressed Audio Metadata
S2020AudPr13/14	45/08	SMPTE 2020-1 Compressed Audio Metadata
S2020 AudP15/16	45/09	SMPTE 2020-1 Compressed Audio Metadata
RP215 Film Xfer	51/01	RP215 Film Codes in VANC space
ARIB TRB.18	5F/CF	Color information packets standarized in ARIB TR-B18 “Color Frame Information for Component Interface of 525/60 Television System”
ARIB B.37	1D0 ・ ・ 2DB	Closed caption data packets (for expansion) standarized in ARIB STD-B37 “Structure and Operation of Closed Caption Data Conveyed by Ancillary Data Packets”
ARIB B.37 Mob	5F/DC	Caption format used in digital television broadcasting for mobile receivers standarized in ARIB STD-B37“Structure and Operation of Closed Caption Data Conveyed by Ancillary Data Packets”
ARIB B.37 Ana	5F/DD	Analog signal closed caption data packets standarized in ARIB STD-B37 “Structure and Operation of Closed Caption Data Conveyed by Ancillary Data Packets”
ARIB B.37 SD	5F/DE	SD signal closed caption data packets standarized in ARIB STD-B37 “Structure and Operation of Closed Caption Data Conveyed by Ancillary Data Packets”
ARIB B.37 HD	5F/DF	HD signal closed caption data packets standarized in ARIB STD-B37 “Structure and Operation of Closed Caption Data Conveyed by Ancillary Data Packets”
ARIB TR-B.22	5F/E0	HD ancillary data packet for transmission standarized in ARIB TR-B22 “Operational Guidelines for Transport of the Ancillary Data for HDTV Contribution”
ARIB TRB23(1)	5F/FA	Dummy packet standarized in ARIB TR-B23 ” Operational Guidelines for Ancillary Data in Inter-Stationary Information Exchange”
ARIB TRB23(2)	5F/FB	User data 2 in user data packets standarized in ARIB TR-B23 “ Operational Guidelines for Ancillary Data in Inter-Stationary Information Exchange”

FA-9520 Indication	DID/SDID (hexadecimal)	Description
ARIB TRB23(1)	5F/FC	User data 1 in user data packets standarized in ARIB TR-B23 " Operational Guidelines for Ancillary Data in Inter-Stationary Information Exchange"
ARIBB.35ProgEx	5F/FD	Trigger signal packets for data broadcasting standarized in ARIB STD-B35 "SD Data Program Exchange Specification for Digital Broadcasting"
ARIB B.39	5F/FE	Control signal packets for inter-studio transmission standarized in ARIB STD-B39 "Structure of Inter-Stationary Control Data Conveyed by Ancillary Data Packets"
ARIB B.15	5F/FF	Resource ID packets standarized in ARIB STD-B15 "Resource Identification Conveyed by Ancillary Data Packets for 52/60 and 1125/60 Television Systems"
SMPTE 12-2	60/60	ARIB STD-B41 for time code
S334-1CDP(708)	61/01	ITU-R BT.1619, SMPTE 334-1 closed captioning (EIA-708-B)
S334-1 CEA608	61/02	ITU-R BT.1619, SMPTE 334-1 EIA-608 data
S334-1 Teletxt	61/03	World System Teletext Description Packet
S334 SDE	61/04	Subtitling Data Essence (SDE)
334/207	62/01	ITU-R BT.1619, SMPTE RP207 DTV program description
S334-1 Future	62/02	ITU-R BT.1619, SMPTE 334-1 DTV data broadcasting
S334/RP208	62/03	ITU-R BT.1619, SMPTE RP208 VBI data
RP196/LTC	64/64	Time code
RP196/VITC	64/7F	Time code
RP165EDH	1F4	SMPTE error detection indication

20. About AFD (Active Format Description)

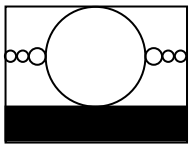
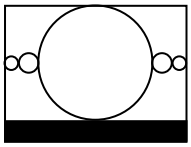
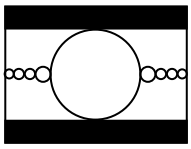
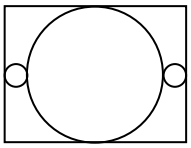
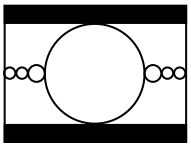
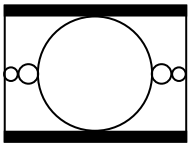
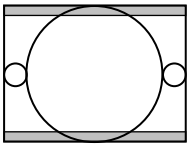
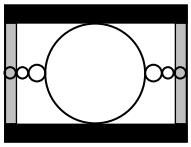
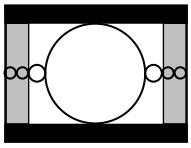
The FA-9520 can provide aspect ratio conversion according to S2016-3, RP186 VI (Video Index), or BT1119-2 WSS (Wide Screen Signalling) AFD code data in the ancillary data of input video signals. The below figure depicts example aspect ratio conversions using AFD code data.



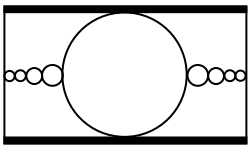
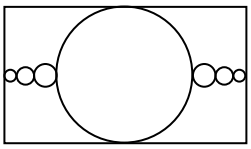
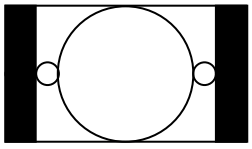
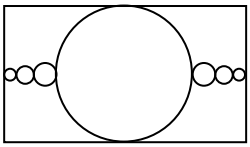
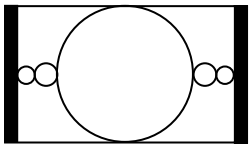
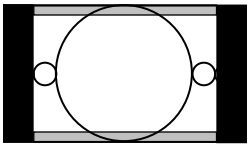
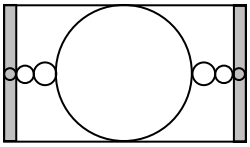
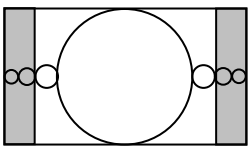


20-1. AFD Codes

◆ **AFD 4:3 code**

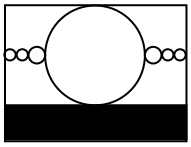
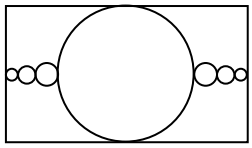
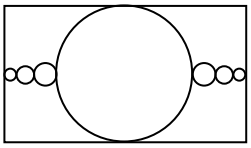
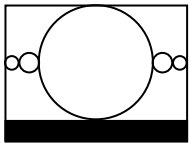
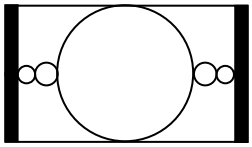
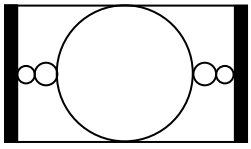
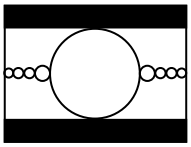
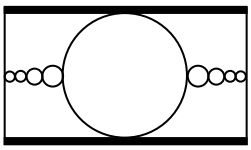
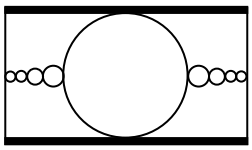
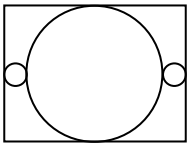
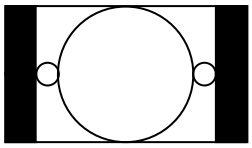
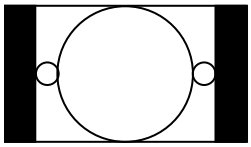
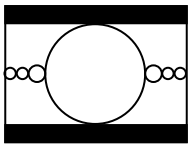
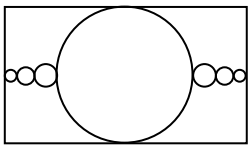
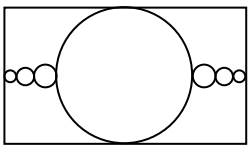
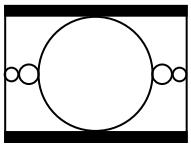
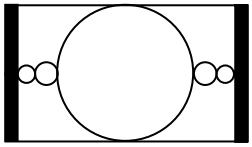
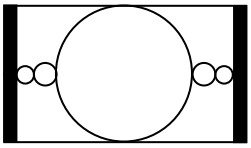
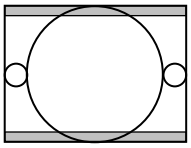
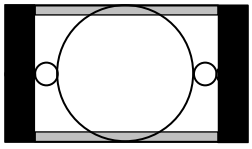
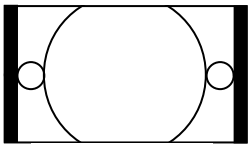
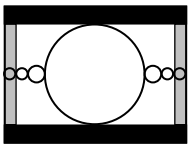
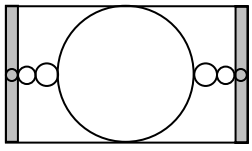
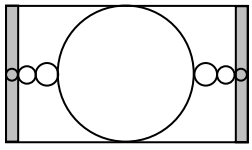
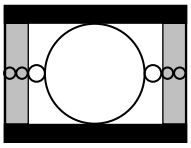
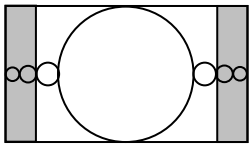
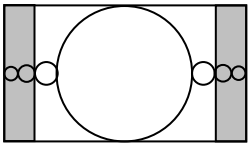
WSS name	FA-9520-specified name (VI, S2016)	illustration in a 4:3 coded frame	Description
BOX 16:9 TOP	4:3 L 16:9 T		Image with a 16:9 aspect ratio as a letterbox on top of a 4:3 coded frame.
BOX 14:9 TOP	4:3 L 14:9 T		Image with a 14:9 aspect ratio as a letterbox on top of a 4:3 coded frame.
BOX 16:9 CTR	4:3 L> 16:9		Image with an aspect ratio greater than 16:9 as a vertically centered letterbox in a 4:3 coded frame.
F 4:3	4:3 F 4:3		Image is full frame, with an aspect ratio the same as that of the 4:3 coded frame.
BOX 16:9 CTR	4:3L16:9PRTD		Image with a 16:9 aspect ratio as a vertically centered letterbox in a 4:3 coded frame.
BOX 14:9 CTR	4:3 L 14:9		Image with a 14:9 aspect ratio as a vertically centered letterbox in a 4:3 coded frame.
F 14:9 CTR PRTD	4:3 F ALT14:9		Image with a 4:3 aspect ratio and with an alternative 14:9 center in a 4:3 coded frame.
None	4:3 L ALT 14:9		Image with a 16:9 aspect ratio and alternative 14:9 center as a vertically centered letterbox in a 4:3 coded frame.
None	4:3 L ALT 4:3		Image with a 16:9 aspect ratio and alternative 4:3 center as a vertically centered letterbox in a 4:3 coded frame.

◆ **AFD 16:9 code**

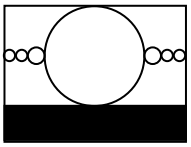
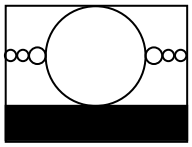
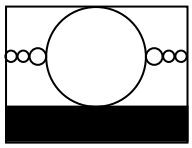
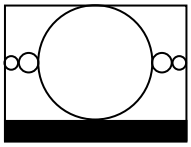
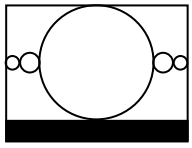
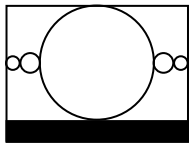
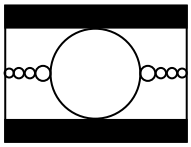
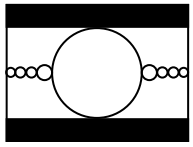
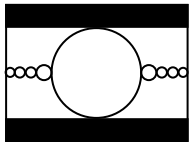
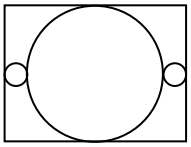
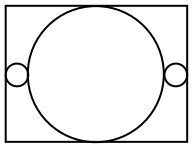
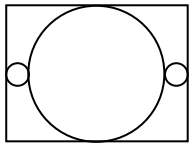
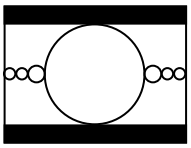
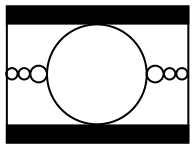
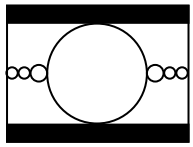
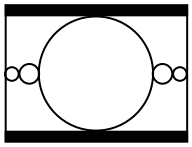
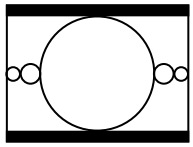
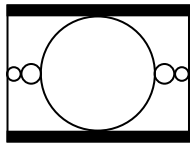
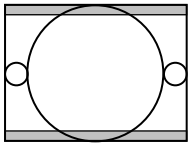
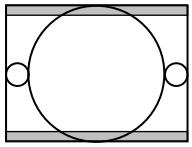
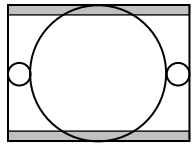
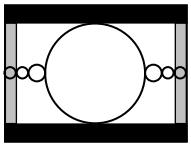
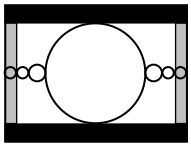
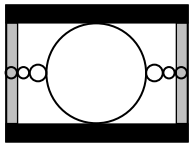
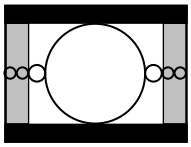
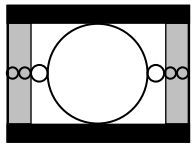
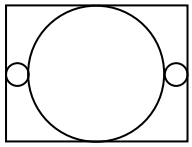
WSS name	FA-9520-specified name (VI, S2016)	Illustration in a 16:9 coded frame	Description
None	16:9 L>16:9		Image with an aspect ratio greater than 16:9 as a vertically centered letterbox in a 16:9 coded frame.
F 16:9 AMRPH	16:9 F 16:9		Image is full frame, with an aspect ratio the same as that of the 16:9 coded frame.
None	16:9 P 4:3		Image with a 4:3 aspect ratio as a horizontally centered pillarbox image in a 16:9 coded frame.
None	16:9 F PRTD		Image is full frame, with a 16:9 aspect ratio and all image areas protected.
None	16:9 P 14:9		Image with a 14:9 aspect ratio as a horizontally centered pillarbox image in a 16:9 coded frame.
None	16:9PALT14:9		Image with a 4:3 aspect ratio and alternative 14:9 centered pillarbox image in a 16:9 coded frame.
None	16:9FALT14:9		Image with a 16:9 aspect ratio and alternative 14:9 center in a 16:9 coded frame.
None	16:9 F ALT4:3		Image with a 16:9 aspect ratio and alternative 4:3 center in a 16:9 coded frame.

20-2. Aspect Ratio Conversion with AFD

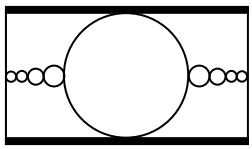
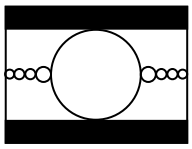
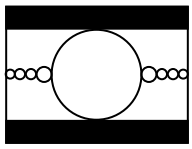
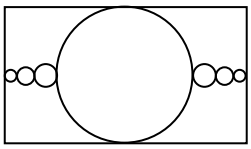
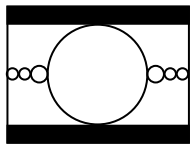
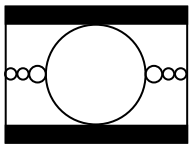
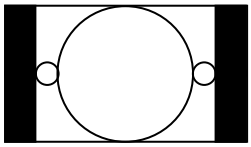
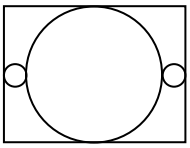
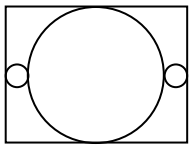
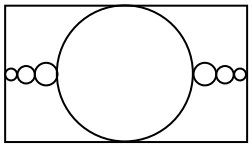
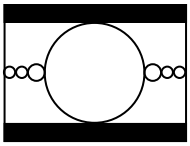
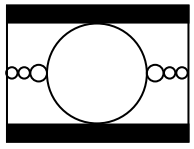
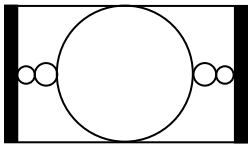
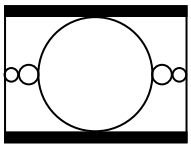
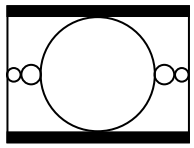
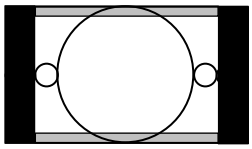
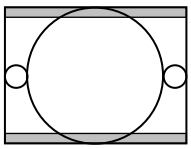
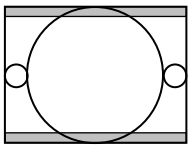
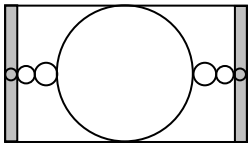
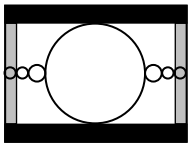
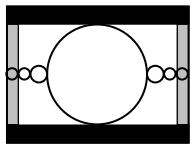
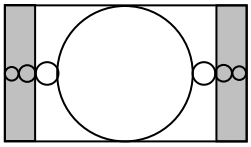
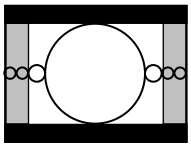
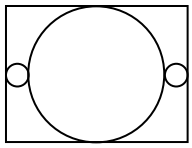
◆ **4:3 to 16:9 conversion**

Input AFD (WSS)	Input AFD (VI, S2016)	Illustration in a 4:3 coded frame	SD: AFD (16:9) conv. HD: AFD conversion	SD: AFD-ALT(16:9) conv. HD: AFD-ALT conversion
BOX 16:9 TOP	4:3 L 16:9 T			
BOX 14:9 TOP	4:3 L 14:9 T			
BOX 16:9 CTR	4:3 L> 16:9			
F 4:3	4:3 F 4:3			
BOX 16:9 CTR	4:3L16:9PRTD			
BOX 14:9 CTR	4:3 L 14:9			
F 14:9 CTR PRTD	4:3 F ALT14:9			
None	4:3 L ALT 14:9			
None	4:3 L ALT 4:3			

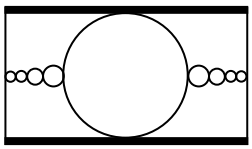
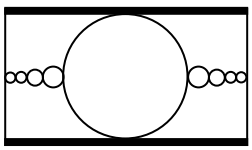
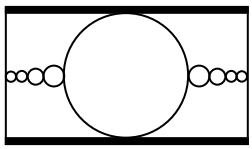
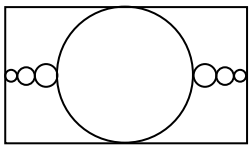
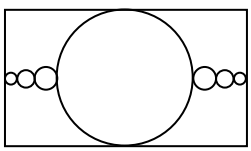
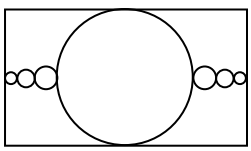
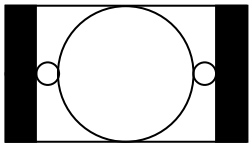
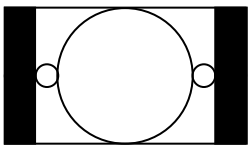
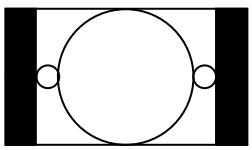
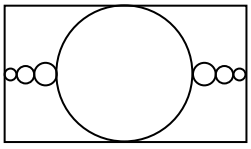
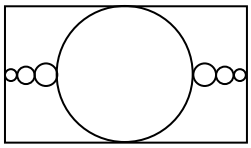
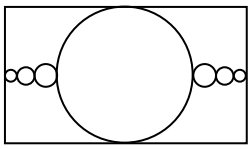
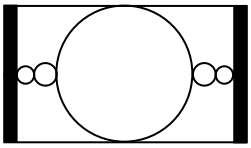
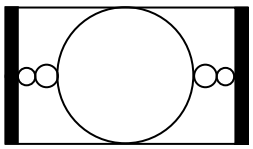
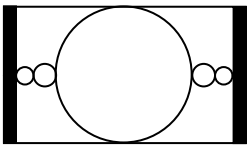
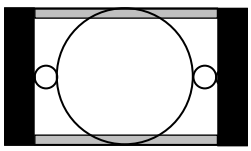
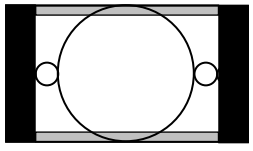
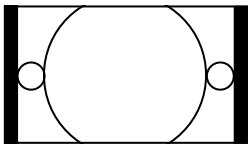
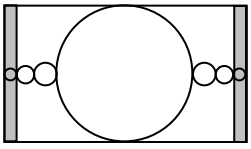
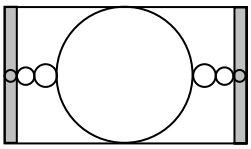
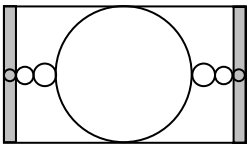
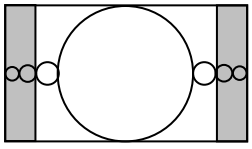
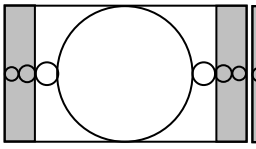
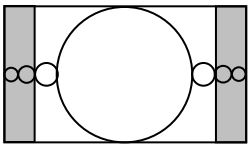
◆ **4:3 to 4:3 conversion**

Input AFD (WSS)	Input AFD (VI, S2016)	Illustration in a 4:3 coded frame	AFD (4:3) conversion	AFD-ALT (4:3) conversion
BOX 16:9 TOP	4:3 L 16:9 T			
BOX 14:9 TOP	4:3 L 14:9 T			
BOX 16:9 CTR	4:3 L> 16:9			
F 4:3	4:3 F 4:3			
BOX 16:9 CTR	4:3L16:9PRTD			
BOX 14:9 CTR	4:3 L 14:9			
F 14:9 CTR PRTD	4:3 F ALT14:9			
None	4:3 L ALT 14:9			
None	4:3 L ALT 4:3			

◆ **16:9 to 4:3 conversion**

Input AFD (WSS)	Input AFD (VI, S2016)	Illustration in a 16:9 coded frame	AFD (4:3) conversion	AFD-ALT (4:3) conversion
None	16:9 L>16:9			
F 16:9 AMRPH	16:9 F 16:9			
None	16:9 P 4:3			
None	16:9 F PRTD			
None	16:9 P 14:9			
None	16:9PALT14:9			
None	16:9FALT14:9			
None	16:9 F ALT4:3			

◆ **16:9 to 16:9 conversion**

Input AFD (WSS)	Input AFD (VI, S2016)	Illustration in a 16:9 coded frame	SD: AFD (16:9) conv. HD: AFD conversion	SD: AFD-ALT(16:9) conv. HD: AFD-ALT conversion
None	16:9 L>16:9			
F 16:9 AMRPH	16:9 F 16:9			
None	16:9 P 4:3			
None	16:9 F PRTD			
None	16:9 P 14:9			
None	16:9PALT14:9			
None	16:9FALT14:9			
None	16:9 F ALT4:3			

20-3. AFD Supported Video Formats

FA-9520 supports aspect ratio conversions according to SMPTE S2016-3, SMPTE RP186-2008VI (Video Index), and ITU-R BT1119.2 WSS(Wide-Screen Signalling) standards. AFD formats and their supported video formats are as shown in the table below.

Video Formats and AFD Support

Input video format	S2016-3	RP186-2008 VI	BT1119.2 WSS
525/60	✓	✓	
625/50	✓	✓	✓
1080/59.94i	✓		
1080/50i	✓		
1080/23.98PsF	✓		
1080/24PsF	✓		
720/59.94p	✓		
720/50p	✓		
1080/59.94p	✓		
1080/50p	✓		

20-4. AFD Based Auto Aspect Conversion Settings

◆ **AFD system settings**

To convert aspect ratios according to AFD codes, set basic operational settings in the VIDEO SYSTEM menus as follows.

- Set ANC MODE to DETAIL in ANC SET (Sec. 5-9-6).
- Specify the line to detect RP186VI or BT1119 WSS in ANC DETECT LINE (Sec. 5-6-3). The line must be correctly set for RP186VI and BT1119 WSS detection. S2016-3 data is automatically obtained from input signals. AFD data in S2016-3 is automatically obtained from the input HD-SDI signals,.
- Select an AFD type to detect for SD-SDI input signals under AFD in ANC DETECT SEL (Sec. 5-6-4).
- Select the AFD data to insert, and which output to insert the data in ANC DATA EMBED (Sec. 5-7-4). These settings are necessary when inserting AFD data into video signals to be output from CONV1 and/or 2.
- To enable devices that receive signals from FA-9520 to detect ancillary data, select the ancillary data type, output video format/s for CONV1 and/or 2 output/s, and line number into which the data is to be inserted in the ANC EMBED LINE menu (Sec. 5-7-5). The default setting should be set to the line number usually used.
- Select the operation mode when AFD input is lost in ANC LOSS SET (Sec. 5-9-7).

◆ **AFD verification**

Auto aspect ratio conversion according to AFD data cannot be performed if there is no AFD data present in the input signal. Whether the AFD data is detected can be verified in AFD IN STATUS (Sec. 5-10-20), ANC1 IN STATUS (Sec. 5-10-21), and ANC1 IN STATUS 1-2 (Sec. 5-10-22). P186VI and BT1119 WSS states that appear as **ABSENT** indicate the absence of AFD data that allows for auto conversion. For auto conversions using S2016-3, the data packet must be detected in the ANC IN STATUS1-2 menu. If no AFD data is detected, reset AFD system settings. Also, check if any AFD data is being inserted using a waveform monitor.

◆ **FS1 and FS2 operation mode settings**

- Set the AFD auto-conversion mode for CONV 1 in CONV MODE (Sec. 5-3-1).

◆ **AFD output verification**

AFD data status in FA1 and FA2 output video signals can be verified as follows:

- The ANC OUT menu (Sec. 5-10-23) allows you to verify whether and in which line the VI and WSS data has been inserted into output video signals.
- VI and WSS output data details can be seen in VI OUT (5-10-25), and WSS OUT (5-10-26).
- S2016-3 output data details can be seen in S2016 OUT (Sec. 5-10-24).
- Into which line S2016-3 is inserted can be seen inANC OUT1 (Sec. 5-10-27).

20-5. How to Insert AFD Data to Output Video Signals

FA-9520 can insert AFD data into input video signals that have no AFD data inserted.

◆ **AFD system settings**

To insert AFD data into output video signals, set basic operational settings in the VIDEO SYSTEM menus as follows.

- Set ANC MODE to DETAIL in ANC SET (Sec. 5-9-6).
- Select the AFD data to insert, and which output to insert the data in ANC DATA EMBED (Sec. 5-7-4). These settings are necessary when inserting AFD data into video signals to be output from FS1 and/or 2.
- To enable devices that receive signals from FA-9520 to detect ancillary data, select the ancillary data type, output video format/s for FS1 and/or 2 output/s, and line number into which the data is to be inserted in ANC EMBED LINE (Sec. 5-7-5). The default setting should be set to the line number usually used.

◆ **FS1 and FS2 operation mode settings**

- Set the converter operation mode in CONV MODE (Sec. 5-3-1).
- Set the specific aspect ratio under ASPECT in CONV MODE (Sec. 5-3-1). Select an aspect ratio from among 4:3 L 16:9 T to 16:9F ALT4:3 for SD-SDI output video signals from FS1/FS2. Select from among 16:9 L>16:9 to 16:9F ALT4:3 for HD-SDI output video signals from FS1/FS2.

◆ **AFD output verification**

AFD data status in FS1 and FS2 output video signals can be verified as follows:

- The ANC OUT menu (Sec. 5-10-23) allows you to verify whether and in which line the VI and WSS data has been inserted into CONV1 output video signals.
- VI and WSS output data details can be seen in VI OUT (5-10-25), and WSS OUT (5-10-26)..
- S2016-3 output data details can be seen in S2016 OUT (Sec. 5-10-24).
- Into which line S2016-3 is inserted can be seen in ANC OUT1 (Sec. 5-10-27).

20-6. AFD Code Abbreviations

◆ **SMPTE S2016-3 AFD aspect ratio table**

In a 4:3 coded frame		In a 16:9 coded frame		AFD Code
UNDEFINED	Undefined	UNDEFINED	Undefined	0000
RESERVED	Reserved	RESERVED	Reserved	0001
4:3 L 16:9 T	Letterbox 16:9 image, at top of the coded frame	16:9 F 16:9	Full frame 16:9 image, the same as the coded frame	0010
4:3 L14:9 T	Letterbox 14:9 image, at top of the coded frame	16:9 P 14:9	Pillarbox 14:9 image, horizontally centered in the coded frame	0011
4:3 L>16:9	Letterbox image with an aspect ratio greater than 16:9, vertically centered in the coded frame	16:9 L>16:9	Letterbox image with an aspect ratio greater than 16:9, vertically centered in the coded frame	0100
RESERVED	Reserved	RESERVED	Reserved	0101
RESERVED	Reserved	RESERVED	Reserved	0110
RESERVED	Reserved	RESERVED	Reserved	0111
4:3 F 4:3	Full frame 4:3 image, the same as the coded frame	16:9 F 16:9	Full frame 16:9 image, the same as the coded frame	1000
4:3 F 4:3	Full frame 4:3 image, the same as the coded frame	16:9 P 4:3	Pillarbox 4:3 image, horizontally centered in the coded frame	1001
4:3 L16:9PRTD	Letterbox 16:9 image, vertically centered in the coded frame with all image areas protected	16:9 F PRTD	Full frame 16:9 image, with all image areas protected	1010
4:3 L 14:9	Letterbox 14:9 image, vertically centered in the coded frame	16:9 P 14:9	Pillarbox 14:9 image, horizontally centered in the coded frame	1011
RESERVED	Reserved	RESERVED	Reserved	1100
4:3 F ALT14:9	Full frame 4:3 image, with alternative 14:9 center	16:9P ALT14:9	Pillarbox 4:3 image, with alternative 14:9 center	1101
4:3 L ALT14:9	Letterbox 16:9 image, with alternative 14:9 center	16:9F ALT14:9	Full frame 16:9 image, with alternative 14:9 center	1110
4:3 L ALT 4:3	Letterbox 16:9 image, with alternative 4:3 center	16:9 F ALT4:3	Full frame 16:9 image, with alternative 4:3 center	1111

◆ **SMPTE RP186-2008 VI AFD aspect ratio table**

Description		AFD Code
RESERVED	Reserved	0000
RESERVED	Reserved	0001
BOX 16:9 TOP	Box 16:9 (top)	0010
BOX 14:9 TOP	Box 14:9 (top)	0011
BOX>16:9 CTR	Box > 16:9 (center)	0100
RESERVED	Reserved	0101
RESERVED	Reserved	0110
RESERVED	Reserved	0111
AS THE CD FRM	Active format is the same as coded frame	1000
4:3 CTR	4:3 (center)	1001
16:9 CTR	16:9 (center)	1010
14:9 CTR	14:9 (center)	1011
RESERVED	Reserved	1100
4:3 WITH 14:9 PRTD	4:3 (with shoot and protect 14:9 center)	1101
16:9 WITH 14:9 PRTD	16:9 (with shoot and protect 14:9 center)	1110
16:9 WITH 4:3 PRTD	16:9 (with shoot and protect 4:3 center)	1111

◆ **ITU-R BT.1119-2 WSS aspect ratio table**

Description		AFD Code
F 4:3	full format 4:3	1000
BOX 14:9 CTR	box 14:9 center	0001
BOX 14:9 TOP	box 14:9 top	0010
BOX 16:9 CTR	box 16:9 center	1011
BOX 16:9 TOP	box 16:9 top	0100
BOX>16:9 CTR	box > 16:9 center	1101
F 14:9 CTR PRTD	full format 14:9 center shoot and protect 14:9	1110
F 16:9 AMRPH	full format 16:9 anamorphic	0111

21. About Closed Captioning

The FA-9520 supports 3 closed caption standards; CEA608 CC, S334-1 CC SD, and CEA708 CC HD.

◆ **Outline of each standard**

CEA608 CC
Closed captioning for 525/60 video signals. Closed caption data is carried in line 21 in luminance level signals. Originally used for analog composite signals. The FA-9520 can detect CEA608CC data in analog composite and SD-SDI signals. Detection in analog Y/C, and YPbPr signals is not supported.
In the same manner, insertion into analog composite and SD-SDI signals is supported. Insertion into analog Y/C and YPbPr signals is not supported.

S334-1 CC SD
Data packet closed caption standard for SD-SDI, as defined by DID and SDID, in ancillary data. The FA-9520 can detect and inset the data into 525/60 video signals.

CEA708 CC HD
Data packet closed caption standard for HD-SDI, as defined by DID and SDID, in ancillary data. The FA-9520 can detect and inset the data into 1080/59i and 720/59p video signals.
Refer to SMPTE standard documents for details.

21-1. Closed Captioning Setting Procedure

- Select an input signal type under IN SEL in the FS INPUT SELECT menu (see Sec. 5-6-1).
- If 525/60 SD-SDI signal is selected under IN SEL, specify the closed caption data type to detect in ANC DETECT SEL (Sec. 5-6-4). If the selected input signal is 1080/59i or 720/59p, closed caption data will be automatically detected in CEA708 CC HD data.
- The status of CEA608 CC closed caption data detection in input signals can be verified in the ANC1 IN STATUS menu (see Sec. 5-10-21). The status of S334-1 CC SD or CEA708 CC HD can be verified in the ANC1 IN STATUS 1-2 menu (see Sec. 5-10-22).
- To insert closed caption data into output video signals, enter the following settings, which can be separately set for converters 1 and 2.
  Set ANC MODE to DETAIL in ANC SET (Sec. 5-9-6).
  Select the converter output signal to which the data is to be inserted under EMBED in ANC DATA EMBED (Sec. 5-7-4).
- Whether closed caption data has been inserted can be verified in ANC OUT (Sec. 5-10-23) a for CEA608 CC, ANC OUT1 (Sec. 5-10-27) for S334-1 CC SD and CEA708 CC HD.
- Closed caption data auto conversion
  If CEA608 or S334-1 CC closed caption data is detected in SD-SDI input video signals, and the FS1 and/or FS2 output format is 1080/59i and/or 720/59p, the detected closed caption data will be converted to CEA708 CC HD. If EMBED is set to ENABLE for CEA708 CC HD in the ANC DATA EMBED menu (sec. 5-7-4), the converted closed caption data will be automatically inserted into the output video signal. Meanwhile, if CEA708 CC HD closed caption data is detected in the 1080/59i or 720/59p input signal, and the FS1 and/or FS2 output format is 525/60, the detected caption data will be converted to CEA608 and S334-1 CC. The converted closed caption data will be inserted into output video signals selected under EMBED in ANC DATA EMBED (Sec. 5-7-4).

22. Verification After Option Card Removal/Replacement

An alarm message described in section 22-1 Alert may appear when turning the FA-9520 on after removing or changing the location of the FA-95D-D, FA-95DE-E, FA-95AIO, or FA-95ALA option. Press the F1 UNITY button to return to the normal startup screen.
The alarm message indicates settings, set while the FA-95D-D, FA-95DE-E, FA-95AIO, or FA-95ALA option is being installed into option slots A and B, have not be retained due to the removal or change of the option or options. In such case, the settings that are only available with those options will be reset to default. See section 22-2 “Verification After Dolby Option Removal/Replacement” and correct any necessary settings, if you have removed the FA-95D-D or FA-95DE-E. See section 22-3 “Verification After FA-95AIO Removal/Replacement” and correct the necessary settings, if you have removed the FA-95AIO. See section 22-4 “Verification After FA-95ALA Removal/Replacement” and correct the necessary settings, if you have removed the FA-95ALA.
The alarm message appears only once when starting the FA-9520 after removing or changing the location of the FA-95D-D, FA-95DE-E, FA-95AIO, or FA-95ALA option.

22-1. Alert

```
 SLOT OPT CHANGED 904
----- WARNING! -----
OPTION CARD MISSING!
CHECK SETTINGS
PUSH F1 TO CONTINUE
```

22-2. Verification After Dolby Option Removal/Replacement

Reset the following menu items if the FA-95D-D option card is removed or moved.

- ASSIGN settings for CH 1 – CH 16 in the EMB1 OUT REMAP menu (Sec. 6-5-1)
- ASSIGN settings for CH 1 – CH 8 in the EMB2 OUT REMAP menu (Sec. 6-5-2)
- ASSIGN settings for CH 1 – CH 4 in the AES OUT REMAP menu (Sec. 6-5-3)
- ASSIGN settings for CH 1 – CH 4 in the ANALOG OUT REMAP menu (Sec. 6-5-4)
- ASSIGN settings for CH 1 – CH 4 in the LOUDNESS CHANNEL ASSIGNMENT menu (Sec. 6-10-2-4)

Reset the following menu items if the FA-95DE-E option is removed.

- ASSIGN settings for CH 1 – CH 16 in the EMB1 OUT REMAP menu (Sec. 6-5-1)
- ASSIGN settings for CH 1 – CH 8 in the EMB2 OUT REMAP menu (Sec. 6-5-2)
- ASSIGN settings for CH 1 – CH 8 in the AES OUT REMAP menu (Sec. 6-5-3)
- OUTPUT settings in the Dolby AUX OUT menu (Sec. 6-10-1-1)
- ASSIGN settings for CH 1 – CH 8 in the LOUDNESS CHANNEL ASSIGNMENT menu (Sec. 6-10-2-4)

22-3. Verification After FA-95AIO Removal/Replacement

Reset the following menu items if the FA-95AIO option card is removed or moved.

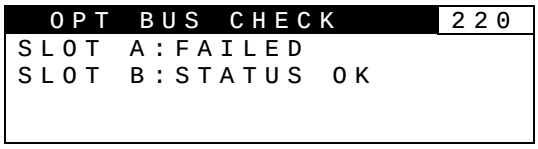
- IN SEL settings in the FS INPUT SELECT menu (Sec. 5-6-1)
- INPUT/BY-PASS settings in the GPI SETTING menu (Sec. 7-6)

22-4. Verification After FA-95ALA Removal/Replacement

Reset the following menu items if the FA-95ALA option card is removed or moved.

- ASSIGN settings for CH 1 – CH 16 in the EMB1 OUT REMAP menu (Sec. 6-5-1)
- ASSIGN settings for CH 1 – CH 8 in the EMB2 OUT REMAP menu (Sec. 6-5-2)
- ASSIGN settings for CH 1 – CH 8 in the AES OUT REMAP menu (Sec. 6-5-3)
- ASSIGN settings for CH 1 – CH 4 in the ANALOG OUT REMAP menu (Sec. 6-5-4)
- ASSIGN settings for CH 1 – CH 4 in the Dolby ENCODER INPUT menu (Sec. 6-10-1-6)

23. Expansion Slots A / B Alert



The above alert that appears after turning on the FA-9520 indicates an alarm or alarms for an option card or cards installed in the expansion slot A and/or B.
This indication appears only after powering on the FA-9520.
Indicates failure of the option card installed in the slot indicated as “FAILED”.
If this indiation appears, turn the power of the unit off immediately, and contact your service agency or distributor.

24. Specifications and Dimensions

24-1. Unit Specifications

Input Video Formats	1080/59.94p (Level-A), 1080/50p (Level-A), 1080/59.94i, 1080/50i, 1080/24PsF, 1080/23.98PsF, 720/59.94p, 720/50p, 525/60 (NTSC), 625/50 (PAL)
Output Video Formats	1080/59.94p (Level-A), 1080/50p (Level-A), 1080/59.94i, 1080/50i, 1080/24PsF, 1080/23.98PsF, 720/59.94p, 720/50p 525/60 (NTSC), 625/50 (PAL), PAL-M
Video Input	3G-SDI: 3 Gbps, HD-SDI: 1.5 Gbps or SD-SDI: 270 Mbps, 75Ω, BNC x 2 Analog Composite: 1.0 Vp-p, 75Ω, BNC x 1
Video Input (FA-95AIO option)	SDTV YPbPr: 75Ω, BNC (Y, Pb and Pr 1ea.) Y: 1.0 Vp-p Pb, Pr: 0.525 Vp-p (SMPTE level) 0.757 Vp-p (BETACAM level) SMPTE and BETACAM menu selectable Analog RGB: 1.0 Vp-p 75Ω, BNC (R, G, and B 1 ea.) Y/C: 1.0Vp-p 75Ω, BNC (Y and C 1 ea.) HDTV YPbPr: 75Ω, BNC (Y, Pb and Pr 1ea.) Y: 1.0 Vp-p Pb, Pr: 0.525 Vp-p Analog RGB: 1.0 Vp-p 75Ω, BNC (R, G, and B 1 ea.)
Video Output	3G-SDI: 3 Gbps or HD-SDI: 1.5 Gbps or SD-SDI: 270Mbps, 75Ω, BNC x 4 (2 x 2 outputs) Analog Composite: 1.0Vp-p, 75Ω, BNC x 2
Video Output (FA-95AIO option)	SDTV YPbPr: 75Ω, BNC (Y, Pb and Pr 1ea.) Y: 1.0 Vp-p Pb, Pr: 0.525 Vp-p (SMPTE level) 0.757 Vp-p (BETACAM level) SMPTE and BETACAM menu selectable Analog RGB: 1.0 Vp-p 75Ω, BNC (R, G, and B 1 ea.) Y/C: 1.0Vp-p 75Ω, BNC (Y and C 1 ea.) HDTV YPbPr: 75Ω, BNC (Y, Pb and Pr 1ea.) Y: 1.0 Vp-p Pb, Pr: 0.525 Vp-p Analog RGB: 1.0 Vp-p 75Ω, BNC (R, G, and B 1 ea.)
Video I/O Process	3 inputs (standard) or 4 inputs (maximum input) > 1 processing < 2 x 2 outputs
Video Processing	4:2:2 Digital Component
Quantization	3G/HD/SD-SDI: 10-bit Analog Composite: 12-bit
Frequency Response	
NTSC	100 kHz to 4.2 MHz: -0.5 dB to +0.5 dB, 4.2 MHz to 5.0 MHz: -1.0 dB to +1.0 dB, roll off above 5.0 MHz (NTSC, composite)
PAL	100 kHz to 4.2 MHz: -0.5 dB to +0.5 dB, 4.2 MHz to 5.5 MHz: -1.0 dB to +1.0 dB, roll off above 5.5 MHz (PAL, composite)
DG/DP	1% / 1º (composite)
S/N Ratio	60 dB (without quantization noise, composite)
Genlock Input	BB: NTSC: 0.429 Vp-p / PAL: 0.45 Vp-p; or Tri-level Sync: 0.6 Vp-p, 75Ω BNC x 1, loop-through (Terminate with 75Ω terminator, if unused.)

Synchronizer mode	Frame Sync mode, Line Sync mode, AVDL mode,
System Phase Control	
Frame Sync mode	H phase: -1/2 H to +1/2 H V phase: -1/2 frame to +1/2 frame Maximum delay: 1 frame + 1H, Minimum delay: 1H
Line Sync mode	H phase: -1/2 H to +1/2 H V phase: -1/2 frame to +1/2 frame Maximum delay: 1H +1/2 H, Minimum delay: 1/2 H
AVDL mode	H phase: -1/2 H to +1/2 H V phase: -1/2 frame to +1/2 frame Maximum delay: 5 H +1/2 H, Minimum delay: 1/2 H (HD) Maximum delay: 1 H +1/2 H, Minimum delay: 1/2 H (SD)
Video Delay	Maximum 8 frames (Frame Sync or Input Sync)
Video Processing Functions	Up/Down/Cross converter Aspect ratio converter Proc Amp Color Corrector Automatic video optimizer (AVO) Second converter (Down/Cross/Aspect ratio)
Proc Amp	Video level: 0.0% to 200.0% Chroma level: 0.0% to 200.0% Black level: -20.0% to 100.0% HUE: -179.8° to +180°
Video Clip	YP_BP_R mode RGB mode Composite mode
Color Correction	Balance mode Differential mode Sepia mode
Audio Input	
Embedded Audio	3G/HD: 16 channels (Group 1 to 4), 48 kHz, 16-bit to 24-bit, synchronous/asynchronous SD: 16 channels (Group 1 to 4), 48 kHz, 16-bit to 24-bit, synchronous only
AES/EBU	Unbalanced, 1.0 Vp-p, 75Ω, BNC x 4 for AES/EBU input/output, Maximum 4 pairs of stereo channels, 32/44.1/48 kHz, 16-bit to 24-bit
Analog Audio	Balanced or unbalanced, 4 inputs (2 stereo channels), 25-pin D-sub (female) x 1 for analog audio input/output, 600Ω or High impedance, 48 kHz, 24-bit
Audio Output	
Embedded Audio	3G/HD: 16 channels (Group 1 to 4), 48 kHz, 16/20/24-bit, synchronous/asynchronous SD: 12 channels (Group 1 to 3), 48 kHz, 16/20/24-bit, synchronous only
AES/EBU	Unbalanced, 1.0 Vp-p, 75Ω, BNC x 4 for AES/EBU input/output, Maximum 4 pairs of stereo channels, 48 kHz, 16-bit to 24-bit
Analog Audio	Balanced or unbalanced, 4 outputs (2 stereo channels), 25-pin D-sub (female) x 1 for analog audio input/output, less than 100Ω, 48 kHz, 24-bit
Audio Delay	2 ms - 1,000 ms (adjustable in 1 ms steps)
Audio Processing Functions (Set per channel)	Sampling rate converter (SRC) Gain control Down mix Channel re-mapping Channel mute
Interfaces	
Ethernet	10 Base-T / 100 Base-TX / 1000 Base-T, RJ-45 x 2

Remote (GPI)	9-pin D-sub (male) (7 terminals) x 1, IN: TTL negative logic level signal or Make contact OUT: Rated current 10mA (each terminal), Absolute maximum current 40mA

FA-95D-D/FA-95DE-E Option

Audio Input	AES/EBU Unbalanced, 1.0 Vp-p, 75Ω, BNC x 1, 48 kHz, 16-bit to 24-bit
Audio Output	AES/EBU Unbalanced, 1.0 Vp-p, 75Ω, BNC x 1, 48 kHz, 16/20/24-bit
Reference Input	BB: NTSC: 0.429 Vp-p / PAL: 0.45 Vp-p; or Tri-level Sync: 0.6 Vp-p, 75Ω, BNC x 1 (Internally 75Ω terminated)

FA-95AIO (Analog Component I/O) Option

Input Video Formats	1080/59.94i, 1080/50i, 1080/24PsF, 1080/23.98PsF, 720/59.94p, 720/50p 525/60 (NTSC), 625/50 (PAL)
Output Video Formats	1080/59.94i, 1080/50i, 1080/24PsF, 1080/23.98PsF, 720/59.94p, 720/50p 525/60 (NTSC), 625/50 (PAL), PAL-M

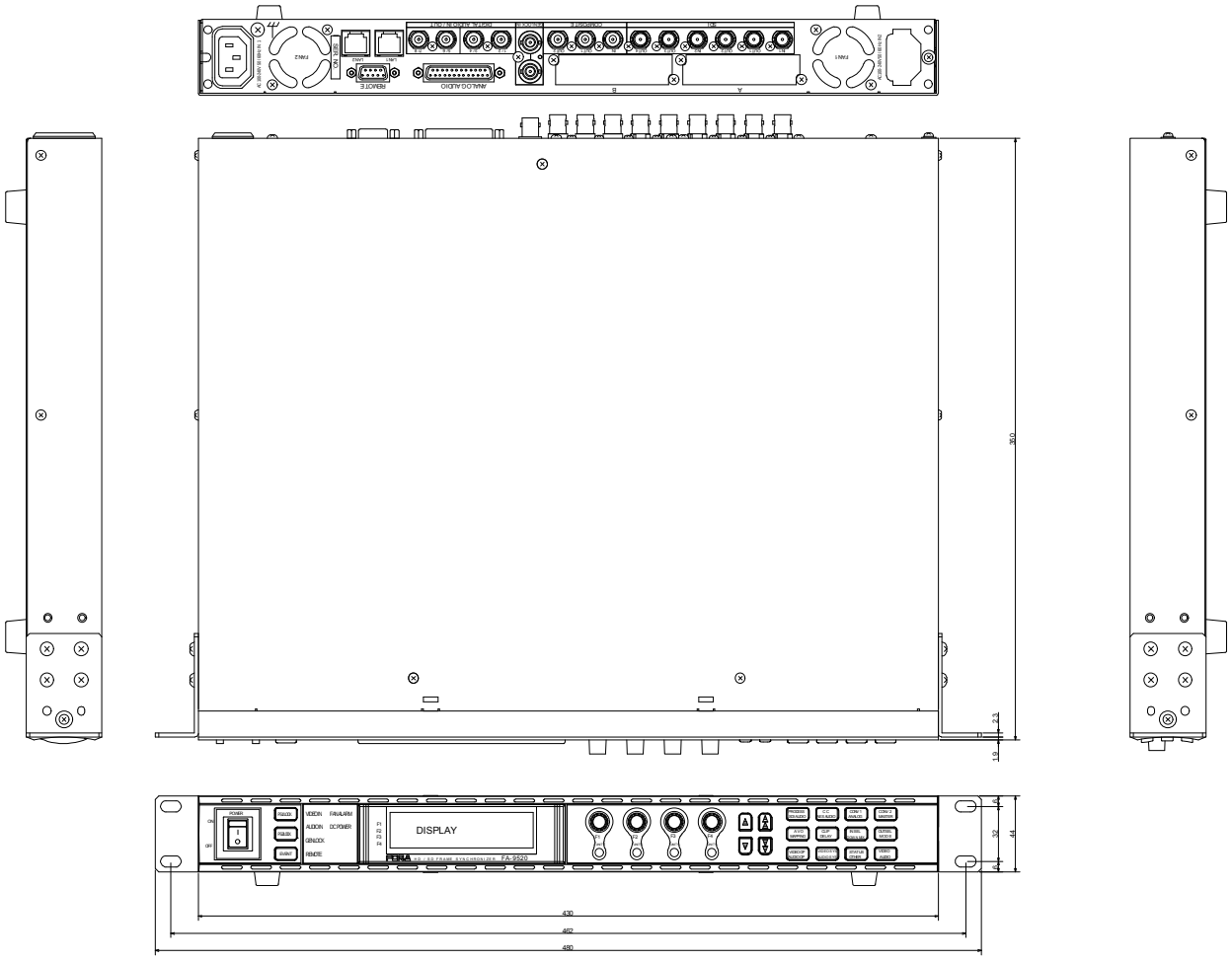
FA-95ALA (Automatic Loudness Adjustment) Option

Supported standard	ARIB TR-B32, ATSC A/85, EBU-R128, ITU-R BS.1770

Temperature	0ºC to 40ºC
Humidity	30% to 90% (no condensation)
Power	100 VAC - 240 VAC ±10%, 50/60 Hz
Power Consumption	FA-9520: 60 VA (59 W) (at 100 - 120 VAC) 62 VA (56 W)(at 220 - 240 VAC) with FA-95PS: 60 VA (59 W) (at 100 - 120 VAC) 70 VA (59 W)(at 220 - 240 VAC) Add the amount of power consumption of options installed: FA-95D-D/DE-E: 4 VA (4 W) (at 100 - 120 VAC) 5 VA (5 W)(at 220 - 240 VAC) FA-95D-D/DE-E: 6 VA (6 W) (at 100 - 120 VAC) 7 VA (7 W)(at 220 - 240 VAC) FA-95AIO: 8 VA (9 W) (at 100 - 120 VAC) 9 VA (9 W)(at 220 - 240 VAC) FA-95ALA: 8 VA (9 W) (at 100 - 120 VAC) 9 VA (9 W)(at 220 - 240 VAC)
Dimensions	430 (W) x 350 (D) x 44 (H) mm
Weight	3.0 kg (without options) FA-95D-D/DE-E: 0.3 kg FA-95AIO: 0.3 kg (with a connection cable PC-3307-1) FA-95ALA: 0.2 kg FA-95PS: 0.3 kg (without AC cord)
Consumables	(Recommended replacement timespans) Power unit (within 5 years) Cooling fan: P-1437 (FAN 1 and FAN 2) (within 6 years)
Accessories	Operation manual, AC cord, rack mount brackets
Options	◇FA-95PS: Redundant power supply unit ◇FA-95DACBL: Digital audio expansion connector cable ◇FA-95CO: Changeover function (FA-9500 mode function) ◇FA-95D-D: Dolby E/Dolby Digital decoder ◇FA-95DE-E: Dolby E encoder ◇FA-95AIO: Analog component I/O card ◇FA-95ALA: Automatic Loudness Adjustment ◇FA-95RU: Remote control unit ◇FA-10DCCRU: Remote control unit for color correction

24-2. External Dimensions

(All dimensions in mm)



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Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

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