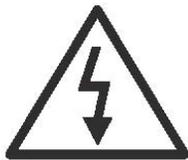




INSTALLATION MANUAL

CT-SAW860 Audio/Video Modulator

IMPORTANT INFORMATION



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING : TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DO NOT OPEN THE CABINET, REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

PACKAGE CONTENTS

This package contains:

- One CT-SAW860SAW-Filtered Audio/Video Modulator
- One CT-SAW860 Installation Manual

PRODUCT DESCRIPTION

The **CT-SAW860** is an all solid-state audio/video modulator that provides a modulated video and aural RF carrier output on a fixed channel from 54MHz to 860MHz. The modulator accepts standard polarity video at a 0.7-2.5 Vp-p level from video sources such as a satellite receiver, demodulator, TV camera, DVD player or video tape recorder. The unit provides high quality video, color, and audio signals on any unused channel within a closed circuit MATV, SMATV, or CATV system. For easy operation, all level controls are located on the front panel.

SPECIFICATIONS

CT-SAW860

SAW-Filtered Audio/Video Modulator Specifications (Typical)

RF	
1.Output Channels	TV VHF: 2-13, UHF: 14-69, CATV: 2-127
2.Output Level	+55 dBmV (minimum)
3.Output Level Range	13 dB
4.A/V Carrier Ratio	-7dB to -22dB
5.Spurious Output	-60 dB below video carrier (@A/V carrier ration -15 dB)
6.Frequency Accuracy/Stability	±5 KHz
7.Output Impedance	75 Ohms
8.Output Return Loss	9 dB
VIDEO	
1.Video Input Level	0.5 Vp-p minimum @87.5% Modulation
2.Differential Gain	<5% (10 to 90% APL)
3.Differential Phase	<5° (10 to 90% APL)
4.Hum and Noise	-60 dB @87.5% Modulation
5.Visual Carrier to Noise Ratio	60 dB @4 MHz BW
6.Frequency Response	±0.8 dB (30 Hz to 4.2 MHz)
AUDIO	
1.Input Level	0.5 Vp-p for ±25 KHz Deviation
2.Input Impedance	600 Ohms Unbalanced
3.Pre-Emphasis	75 µSec
GENERAL	
1.Power Input Range	120 VAC, 60 Hz
2.Operating Temperature	32 °F ~ 122 °F
3.Connectors	All "F" Type
MECHANICAL	
1.Dimensions	19" (W) x 1.75" (H) x 2.25" (D)
2.Weight	4.3 lbs

INSTALLATION AND OPERATION

NOTE TO SYSTEM INSTALLER

System installer must adhere to Article 820-40 of the NEC that provides guidelines for proper grounding and specifies that the cable ground shall be connected to *the grounding system of the building*, as close to the point of cable entry as practical.

1. UNPACKING and HANDLING

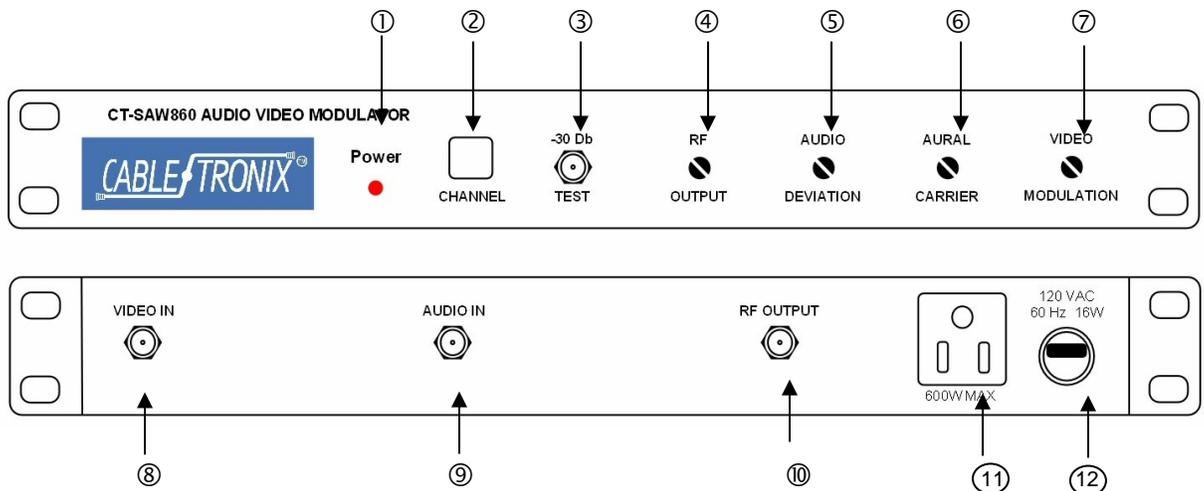
Each unit is shipped with all equipment assembled, and factory tested.

Ensure that all accessories are removed from the container before discarding packing material

2. MECHANICAL INSPECTION

Inspect the front and rear of the equipment for shipping damage. Make sure the equipment is clean, and no connectors are broken, damaged, or loose. If equipment appears to be damaged or defective please contact us at 1-610-429-1511 for assistance.

3. PRODUCT DIAGRAM



- | | | |
|----|---------------------------|---------------------------------------------------------------------------------------------------------------|
| 1 | Power | "Power-On" indicator light |
| 2 | Channel | Preset Channel |
| 3 | Output Test | The input signal is tapped down -30dB for monitoring. Test port must be terminated when not in use |
| 4 | Output Level | Simultaneously adjusts amplitude of aural and visual carriers |
| 5 | Audio Level | Adjusts for 25KHz peak deviation |
| 6 | Aural Level | Controls amplitude of aural RF carrier to change aural/video ratio |
| 7 | Video Level | Adjusts depth of modulation when video level is greater than 1.5Vp-p terminated signal |
| 8 | Video Input | F-connector accepts a video signal from a source such as a satellite receiver, demodulator, or DVD player |
| 9 | Audio Input | F-connector accepts audio signal from a video source such as a satellite receiver, demodulator, or DVD player |
| 10 | RF Output | The modulated output signal is available for distribution from the F-connector |
| 11 | Convenience Outlet | Allows looping of power among units |
| 12 | Power Cord | For 120VAC, 60Hz |

4. HARDWARE CONNECTIONS

- a. The CT-SAW860 is designed for installation in a standard 19" ELA rack.
- b. Connect a 75ohm coaxial cable with F-connectors from the video source's Audio Output port to the CT-SAW860's Audio Input port.
- c. Connect a 75ohm coaxial cable with F-connectors from the video source's Video Output port to the CT-SAW860's Video Input port.
- d. Connect a 75ohm coaxial cable with F-connectors from the CT-SAW860's RF Output port to the headend combiner.
- e. Connect the CT-SAW860 to an appropriate power source capable of powering this device. Be certain that power source is capable of handling the load if the CT-SAW860 and other equipment are being powered by it.

5. CHANNEL SELECTION

The CT-SAW860 is a fixed frequency modulator and units are pre-programmed for a single given channel at the factory. No channel selection is available from the unit.

6. ADJUSTMENT

- a. After installation and completing all hardware connections power the unit and wait 20 minutes before making the following adjustments.
- b. For testing purposes no more than 15dB from the **RF Output** should be going to a TV or RF input monitor. Use an attenuator to reduce the signal level if testing with an RF Input monitor. Individual CT-SAW860 setup and level settings can be tested from the **RF Output** port. However, system level testing should be done from the combiner.
- c. With a nominal 1 Vp-p video source connected, adjust the **VIDEO LEVEL** control fully clockwise. The circuit will automatically set the unit for 87.5% modulation over an input level of 0.5 to 1.5 volts peak-to-peak. If the video input is greater than 1.5Vp-p, adjust the **VIDEO LEVEL** for correct percentage of modulation (87.5%). If test equipment is not available then adjust for proper picture contrast when viewed on a TV monitor and compare with known Off-Air broadcast picture quality.
- d. With audio source connected, adjust **AUDIO LEVEL** control on the front panel for 25 KHz deviation. Instead of an audio modulation meter, use a TV set and adjust for equal volume as compared to a known Off-Air broadcast. Monitor for a few minutes to assure the maximum volume does not over modulate, which can cause picture distortion.
- e. During field maintenance of the headend the CT-SAW860's **Output Test** port can be used for taking unit measurements. However, note the output from the port is padded down -30 dB and must be taken into consideration when adjusting levels.

8. TROUBLESHOOTING

- a. Ensure you are using quality multiple shielded cables with quality radial or compression F-connectors.
- b. Ensure the F-connector's center conductor is making solid contact with the C-SAW860's **Video Input, Audio Input, and RF Output** ports.
- c. If the CT-SAW860 is receiving power but no signal, check to be sure the video and/or audio input cables are securely connected with their respective Video Output and Audio Output ports on the video source and the Video Input and Audio Input ports on the CT-SAW860. Also ensure the cable is securely connected at the CT-SAW860's **RF Output** port and the combiner's input ports.
- d. When taking measurements it is always best to use a quality signal level meter. For initial individual CT-SAW860 setup measurements may be taken from the unit's RF Output port. System level measurements, however, should be taken from the combiner's output. For field maintenance, the CT-SAW860's Output Test port may be used. However, note that port is padded down -30dB that must be taken into consideration when determining individual unit level settings and output.
- e. Further troubleshooting assistance can be found on-line at www.northamericancable.com and www.cabletronix.com in addition to support from Cabletronix sales engineers at 1-610-429-1511.

This is a notice to inform you that content passing thru this device may contain strong language or depictions of violence, sex or substance abuse. This unit contains no parental control features. Parental discretion is advised