

SM - 192 DMX LIGHTING CONTROLLER

OWNERS MANUAL

May 19, 2009

MAIN FEATURES

192 DMX Channels
30 Scene Banks of 8 programmable scenes each
6 Programmable chases with up to 240 steps each
8 Faders for output level adjustment
Built-in microphone for Music Auto-Run
AUTO mode controlled by TAP SYNC and SPEED
MIDI control through MIDI interface
4 digit LED display
Blackout Function
Fade Time control
Power Input: +9 - +12VDC, 300mA minimum
Power Connector: 2.1mm, Center Pin Positive
Dimensions: 482 x 132 x 73 mm
Weight: 2.5Kg

GENERAL DESCRIPTION

The SM-192 is a fixture (or scanner) oriented DMX controller. It can control up to 12 fixtures of 16 DMX channels each. The unit can also be used to control conventional dimmer packs. The SM-192 includes 30 banks of user programmable scenes. Each bank can contain up to 8 scenes. There are also 6 programmable chases. Each chase may contain up to 240 steps. Scene banks can be automatically run like chases.

FIXTURE CHANNEL ASSIGNMENTS

Each fixture is permanently assigned a 16 channel block of DMX addresses. The table below shows the assignments.

Fixture #	Channel
1	1-16
2	17-32
3	33-48
4	49-64
5	65-80
6	81-96
7	97-112
8	113-128
9	129-144
10	145-160
11	161-176
12	177-192

The fixtures must be set to accommodate these DMX assignments. This is usually done using DIP switches on the fixture. Refer to the fixture manual for exact instructions for this procedure. This information is sometimes shown on a tag or chart on the fixture. If you set multiple fixtures to the same addresses then they will respond to the SM-192 as one fixture.

FIXTURE FUNCTIONS

You will need to know which channel within a fixture is assigned to each fixture function (Pan, Tilt, Color, Dimming, etc.). This information is normally given in the fixture manual.

DMX CONNECTIONS

Any system using DMX control should be connected together as a chain of devices. In other words the control cable should proceed from the controller to the first fixture and then to other fixtures in a continuous "daisy chain" fashion. Most fixtures have a DMX IN and a DMX OUT connector to be used to connect the chain. The control cable should NOT be split into a multiple run star arrangement with a cable running from the controller directly to each fixture.

DMX CONNECTOR PIN ASSIGNMENTS

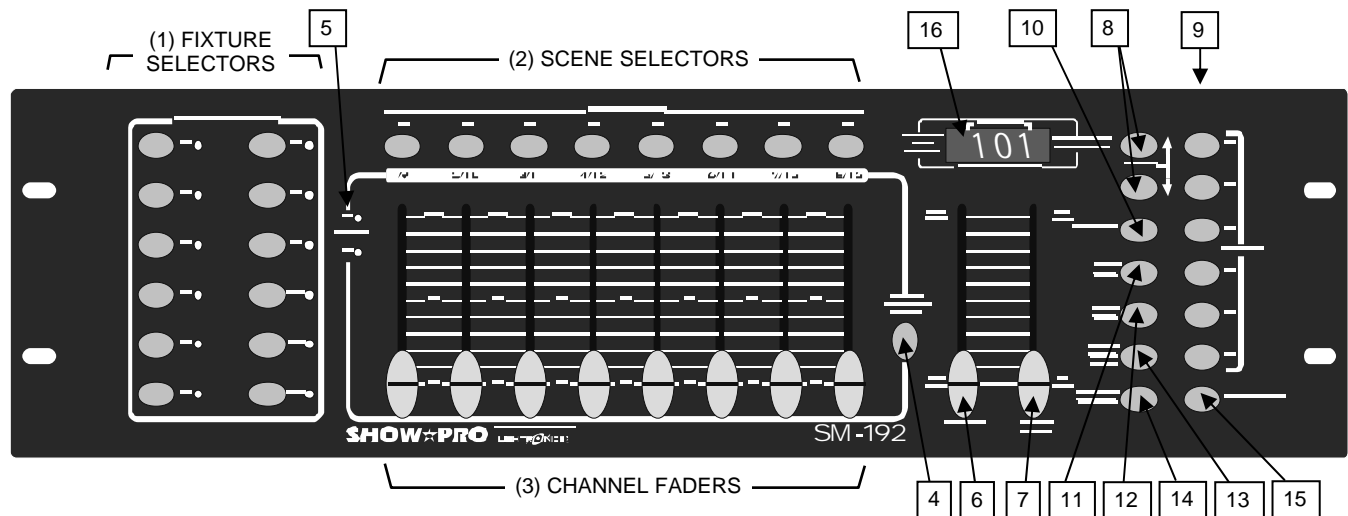
There are two different connectors which can be used for DMX control. They are both XLR type connectors. Some units use 3 pin connectors. Others use 5 pin connectors. The SM-192 transmits from a 3 pin female connector on the back edge of the unit. If your fixtures use 5 pin connectors then you can make up an adapter cable to accommodate this.

There are some fixtures using a reversed signal scheme. In this case the DATA - and DATA + pins are reversed. The SM-192 has a reversing switch on the back edge to handle this situation. The table below shows the pin assignments for both normal and reversed operation.

PIN #	NORMAL	REVERSED
1	DMX COMMON	DMX COMMON
2	DMX DATA -	DMX DATA+
3	DMX DATA +	DMX DATA -
4	NOT USED	NOT USED
5	NOT USED	NOT USED

DMX TERMINATION

A DMX chain should be terminated at the last fixture (and ONLY the last fixture) on the chain. This is done by installing a commonly available 1/4 Watt, 120 Ohm resistor across the DATA - and DATA + wires at the last fixture. If you have only a few fixtures very close together and a very short run to the controller then you may be able to operate without the terminator.



CONTROLS & FUNCTIONS

1 Fixture (Scanners) Selectors: Used to select one or more of the 12 fixtures which can be controlled by the SM-192. Each fixture is a block of 16 DMX channels. The selectors are used in both programming and manual modes

2 Scene Selectors: Selects a scene in the current scene bank for programming or playback. The scene currently selected is shown on the DISPLAY.

3 Channel Faders: Adjusts output level of a DMX channel.

4 PAGE SELECT A/B: Selects fader page A or page B. Page A is channels 1-8 of the selected fixture. Page B is channels 9 - 18.

5 Active Page Indicator: Shows which page has been selected by the Page Select A/B button.

6 Speed Fader: Adjusts the speed of auto triggered scenes and chases. The display shows the setting (in seconds) when this fader is used.

7 Fade Time Fader: Adjusts the fade time for scenes and chases. The display shows the setting (in seconds) when this fader is used

8 Bank Buttons (↑ or ↓): Selects a scene bank. The third and fourth display digits show the currently active bank number (01-30). Also used for during some chase programming operations

9 Chase Selectors: Selects a chase for programming or playback.

10 PROGRAM: Switches unit into programming mode to create and record scenes and chases. Hold for 3 seconds to toggle program mode ON and OFF. The display has a flashing indicator mark which shows when the program mode is active. A BLACKOUT condition is invoked when exiting the program mode. Push BLACKOUT to turn blackout off.

11 MIDI/ADD:

MIDI: Toggles MIDI mode ON and OFF and selects MIDI address.

ADD: Records a chase step or a scene setting in program mode.

12 AUTO/DEL:

AUTO: Toggles Activation of Auto-Run triggering for chases or scenes. The display has an indicator mark showing when the auto mode is active.

DEL: Deletes scenes, complete banks of scenes, chase steps or complete chases in program mode.

13 MUSIC/BANK COPY:

MUSIC: Toggles activation of Music Auto-Run. It uses an internal microphone to synchronize chases or scenes to music. The display has an indicator showing when the music trigger mode is active.

BANK COPY: Copies the contents of a scene bank to another bank in program mode.

14 TAPSYNC/DISPLAY:

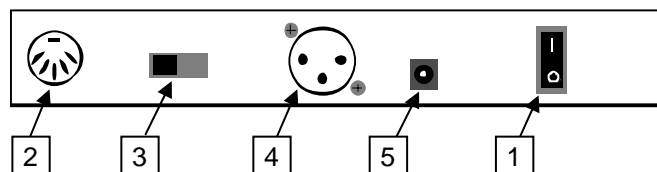
TAPSYNC: Controls speed of scenes or chases. Tap it several times at the rate you want the chase or scenes to run at. This as an alternative to using the SPEED Fader. The display shows the results (in seconds) when this button is used.

DISPLAY: Switches the display between STEP and BANK. In other modes it switches the DMX output level display between 00-225 and 0%-100%.

15 BLACKOUT: Disables all DMX channel output. Blackout toggles On/Off.

16 LED Display: Shows the active scene and bank number, current chase and step number, fader level settings, and contains other indicators for various functions. When adjusting faders the display shows the current level setting. This can be switched between showing the level as 0 - 255 or showing it as 0% - 100% by pushing TAPSYNC/DISPLAY.

REAR PANEL CONTROLS



1 Power Switch: Turns controller ON/OFF. Can be used with other buttons to erase scenes and chases.

2 MIDI IN Connector: Used to receive MIDI data..

3 DMX Polarity Switch: Selects the polarity of DMX output. Shown above in NORMAL position. See DMX CONNECTOR PIN ASSIGNMENTS.

4 DMX OUT Connector: Main control signal output to fixtures and other DMX receiving devices.

5 DC Input Connector: Provides connection for the external power supply. DC 9V-12V, 300mA Min..

OPERATION

When the SM-192 is powered on it is in its MANUAL mode. No fixtures are selected. All chases are OFF. Auto scene triggering is OFF.

MANUAL FIXTURE OPERATION

To control a fixture manually - Push the desired fixture (SCANNERS) button. The fixture indicator will light, and the channel faders are enabled. If the fixture has more than 8 channels you must use PAGE SELECT A/B to access channels 9 - 16. You can select more than one fixture and control them together if applicable. To deselect a fixture - push its selector button again.

PROGRAMMING SCENES

There are a total of 30 scene banks. Only one can be selected at a time. Each bank contains 8 scenes which are user programmable.

ALL SCENE RECORD, EDIT, DELETE, AND COPY FUNCTIONS ARE DONE IN THE PROGRAM MODE.

Hold down PROGRAM for about 3 second to activate program mode. The display PROGRAM indicator will flash continuously when program mode is active.

RECORD A SCENE

1. Push a SCANNERS button to select a fixture. You can select more than one to control several at once.
2. Adjust the appropriate faders to set the desired output level for each channel.
3. Deselect the fixture and select another one. Your settings for the first fixture will remain in active. You can now adjust output levels again but for a different fixture.
4. Repeat steps 2 and 3 until all settings for all desired fixtures have been made.
5. Push MIDI/ADD.
6. Select desired bank to store the scene using BANK UP or BANK DOWN.
7. Push a SCENES button (1 - 8) to complete the recording. The display will flash briefly indicating that recording is complete.
8. Deselect the fixtures by pushing the appropriate SCANNERS buttons.
9. Exit from the program mode by holding down PROGRAM for about 3 seconds.

EDIT A SCENE

1. Select desired bank to store the scene in using BANK UP or BANK DOWN.
2. Select desired scene within the bank by pushing its SCENES button (1 - 8).
3. Select the fixture(s) to be affected by pushing the associated SCANNERS buttons.
4. Adjust the appropriate faders to set the desired output level for each channel.
5. Push MIDI/ADD.
6. Push the SCENES button used in step 2 to store the edited scene. The display will flash briefly to indicate that recording is complete.
7. Deselect any fixtures you have used during editing and exit from PROGRAM mode.

COPY FIXTURE SETTINGS

You can copy the settings of a fixture to another while programming a scene.

1. While a fixture is selected, hold its SCANNERS button down.
2. Push the SCANNERS button of the fixture to copy the fixture settings to.

COPY A SCENE

You can copy the contents of a scene to another scene in the same or different bank.

1. Select the bank holding the scene you want to copy from using BANK UP or BANK DOWN.
2. Select desired scene within the bank by pushing its SCENES button (1 - 8).
3. Push MIDI/ADD.
4. Select the bank which you want to copy to using BANK UP or BANK DOWN.
5. Push the SCENES button for the scene to copy to. The display will flash briefly indicating that the copy has been completed.

COPY A BANK OF SCENES

This will copy the entire contents of a scene bank to another bank.

1. Select the bank you want to copy FROM using BANK UP or BANK DOWN.
2. Push MIDI/ADD.
3. Select the bank you want to copy TO using BANK UP or BANK DOWN.
4. Push MUSIC/BANK COPY. The display will flash briefly indicating that the copy has been completed.

DELETE A SCENE

This will set all channels of all fixtures associated with the scene to zero output level.

1. Select the bank which contains the scene you want to delete using BANK UP or BANK DOWN.
3. Hold down AUTO/DEL and push the SCENES button (1 - 8) for the scene to be deleted. The display will flash briefly indicating that the deletion is complete.

DELETE ALL SCENES IN A BANK

1. Select the bank to be deleted using BANK UP or BANK DOWN.
2. Hold down AUTO/DEL and push MUSIC/BANK COPY. The display will flash briefly indicating the deletion is complete.

CLEAR ALL SCENES

This will delete ALL scenes in ALL banks.

1. Turn OFF the SM-192.
2. Hold down PROGRAM and BANK DOWN while turning the power back on.
3. Keep the buttons held down for a few seconds until the display flashes briefly.

PROGRAMMING CHASES

The SM-192 contains 6 user programmable chases. Each chase may include up to 240 steps.

EACH CHASE STEP CONSISTS OF A SCENE WHICH HAS ALREADY BEEN RECORDED.

A chase step can use any scene in any bank. Any scene can be used in multiple chase steps and multiple chases.

ALL CHASE RECORD, EDIT, DELETE, AND COPY FUNCTIONS ARE DONE IN THE PROGRAM MODE.

Hold down PROGRAM for about 3 second to activate program mode. The display PROGRAM indicator will flash continuously when program mode is active.

RECORD A CHASE

1. Select any chase (1 - 6) by pushing the applicable CHASE button.
2. Select the scene bank which contains the scene to be used for the chase step using BANK UP or BANK DOWN.
3. Select the scene to be used for the chase step by pushing its SCENES button (1 - 8).
4. Push MIDI/ADD. The display will flash several times indicating recording of the step.
5. Repeat instruction steps 2 through 4 above as many times as needed to record additional steps in the selected chase. You can record up to 240 steps.
6. Exit from the program mode by holding down PROGRAM for about 3 seconds.

COPY A SCENE BANK TO A CHASE

This will copy the contents of a scene bank into a chase.

1. Select the bank you want to copy from using BANK UP or BANK DOWN.
2. Select the chase you want to copy it TO by pushing its CHASE selector button.
3. Push MUSIC/BANK COPY
4. Push MIDI/ADD. The display will flash briefly indicating that the copy is completed.

INSERT A STEP INTO A CHASE

1. Select a chase (1 - 6) by pushing the applicable CHASE button.
2. Push TAPSYNC/DISPLAY. The display will show the current chase and step.
3. Use BANK UP or BANK DOWN to advance to the step BEFORE the step you want to insert.
4. Push MIDI/ADD. The display shows the next step.
5. Push the SCENES button (1 - 8) for the scene you want to insert. Use BANK UP or BANK DOWN if the scene to be inserted is in a different bank.
6. Push MIDI/ADD. The display will flash briefly indicating that the insertion is complete.

DELETE A STEP IN A CHASE

1. Select a chase (1 - 6) by pushing the applicable CHASE button.
2. Push TAPSYNC/DISPLAY
3. Use BANK UP or BANK DOWN to advance to the step you want to delete.
4. Push AUTO/DEL. The display will flash briefly indicating that the step is deleted.

DELETE A COMPLETE CHASE

1. Hold down the CHASE button for the chase you want to delete.
2. Push AUTO/DELETE. The display will flash briefly indicating that the chase has been deleted.
3. Release both buttons.

CLEAR ALL CHASES

This will delete ALL steps of ALL chases. It does not clear scenes.

1. Turn OFF the SM-192.
2. Hold down the BANK DOWN button AND the AUTO/DEL button while turning the SM-192 power back ON. Keep the buttons held down for a few seconds until the display flashes several times.
3. Release both buttons.

OPERATING SCENES

When the SM-192 is turned on it is in the manual scene mode with bank 1 scene 1 active.

ACTIVATE A SCENE MANUALLY

1. Turn off PROGRAM mode, AUTO, MUSIC, and all chases.
2. Select the desired scene bank using BANK UP or BANK DOWN.
3. Push the SCENES button for the scene you want to activate.

RUN A BANK OF SCENES AUTOMATICALLY

The scene Auto-Run function will cycle through a bank of scenes continuously. The speed and scene fade time can be controlled by operator. The speed is controlled by the TAPSYNC button or the SPEED fader. The fade time is controlled by the FADE TIME fader. Scenes can also be synchronized to music or MIDI note triggering.

1. Select the desired scene bank using BANK UP or BANK DOWN.
2. Push AUTO/DEL. The AUTO TRIGGER indicator on the display will light and scene Auto-Run will begin cycling.
3. You can adjust the speed and fade time as needed. If you set a speed faster than the fade time then the scenes will advance before the fade is complete.
4. You can switch to another bank at any time using BANK UP and BANK DOWN.
5. Push AUTO/DEL to stop Auto-Run. The AUTO TRIGGER indicator on the display will go OFF.

RUN SCENES AUTOMATICALLY WITH MUSIC SYNC

The SM-192 has an internal microphone which can be used to Auto-Run scenes with music synchronization.

SCENE MUSIC AUTO-RUN

1. Push MUSIC/BANK COPY. The MUSIC TRIGGER indicator on the display will light. and Music Auto-Run will begin in the currently selected scene bank.

2. You can switch to a different scene bank using BANK UP or BANK DOWN.
3. Push MUSIC/BANK COPY to stop Music Auto-Run.

OPERATING CHASES

Chases can be run in several ways including Manual, Auto-Run, and Music Auto-Run.

MANUAL CHASE OPERATION

This is used to manually step through a chase. It is done in program mode and is useful when creating or editing chases.

1. Enter the program mode.
2. Select a chase (1 - 6) by pushing the applicable CHASE button.
3. Push TAP/SYNC. The display will show the chase and step numbers and the display STEP indicator will light.
4. Use the BANK UP and BANK DOWN buttons to cycle through the chase steps.
5. When finished, exit from the program mode by holding down PROGRAM for approx. 3 seconds.

RUN A CHASE AUTOMATICALLY

The chase Auto-Run function will continuously cycle a chase. Multiple chases can be run together and will run in the order selected. The speed and fade time can be controlled by operator. Speed is controlled by the TAP SYNC button or the SPEED fader. Fade time is controlled by the FADE TIME fader.

1. Select a chase (1 - 6) by pushing the applicable CHASE button. You can select more than one.
2. Push AUTO/DEL. The AUTO TRIGGER indicator in the display will light and the chase(s) will run.
3. You can adjust the speed and fade time as needed.
4. Push AUTO/DEL to stop chase Auto-Run. The display AUTO TRIGGER indicator will go OFF.

NOTE: If you turn off all chases before you turn off Auto-Run then the SM-192 will revert to scene Auto-Run in the last accessed scene bank.

CHASE MUSIC AUTO-RUN

The SM-192 has an internal microphone which can be used to Auto-Run chases with music synchronization.

1. Select a chase (1 - 6) by pushing the applicable CHASE button. You can select more than one.
2. Push MUSIC/BANK COPY. The MUSIC TRIGGER indicator on the display will light, and Music Auto-Run will begin.
3. Push AUTO/DEL to stop chase music Auto-Run. The display indicator in the display will go OFF.

MIDI OPERATIONS**MIDI CONTROL ACTIVATION**

1. Hold down MIDI/ADD for about 3 seconds. The third and fourth digits of the display will begin to flash indicating that MIDI Control is ON and will show the current MIDI channel.

MIDI Control is turned OFF by the same procedure.

MIDI CHANNEL SELECTION

You can change the MIDI channel (1 - 16) when MIDI Control is ON using BANK UP and BANK DOWN.

MIDI RUN

The SM-192 uses MIDI "NOTE ON" commands to execute scene and chase function. You might have to transpose a MIDI keyboard to send the correct notes.

The table below shows the SM-192 functions which can be controlled by MIDI.

MIDI NOTE	FUNCTION
00 - 07	Bank 1 Scenes 1 - 8 ON/OFF
08 - 15	Bank 2 Scenes 1 - 8 ON/OFF
16 - 23	Bank 3 Scenes 1 - 8 ON/OFF
24 - 31	Bank 4 Scenes 1 - 8 ON/OFF
32 - 39	Bank 5 Scenes 1 - 8 ON/OFF
40 - 47	Bank 6 Scenes 1 - 8 ON/OFF
48 - 55	Bank 7 Scenes 1 - 8 ON/OFF
56 - 63	Bank 8 Scenes 1 - 8 ON/OFF
64 - 71	Bank 9 Scenes 1 - 8 ON/OFF
72 - 79	Bank 10 Scenes 1 - 8 ON/OFF
80 - 87	Bank 11 Scenes 1 - 8 ON/OFF
88 - 95	Bank 12 Scenes 1 - 8 ON/OFF
96 - 103	Bank 13 Scenes 1 - 8 ON/OFF
104 - 111	Bank 14 Scenes 1 - 8 ON/OFF
112 - 119	Bank 15 Scenes 1 - 8 ON/OFF
120 - 125	CHASES 1 - 6 ON/OFF
126	BLACKOUT

The banner features the text "SHOW☆PRO" on the left and right sides, flanking a central dark rectangle containing the word "WARRANTY" in large, white, bold, sans-serif capital letters.

SHOW☆PRO WARRANTY

All **SHOW☆PRO** products are warranted for a period of TWO YEARS from the date of purchase against defects in materials and workmanship.

This warranty is subject to the following restrictions and conditions:

- A) If service is required, you may be asked to provide proof of purchase from an authorized Lightronics dealer.
- B) This warranty is valid only for the original purchaser of the unit.
- C) This warranty does not apply to damage resulting from abuse, misuse, accidents, shipping, and repairs or modifications by anyone other than an authorized Lightronics service representative.
- D) This warranty is void if the serial number is removed, altered or defaced.
- E) This warranty does not cover loss or damage, direct or indirect arising from the use or inability to use this product.
- F) Lightronics reserves the right to make any changes, modifications, or updates as deemed appropriate by Lightronics to products returned for service. Such changes may be made without prior notification to the user and without incurring any responsibility or liability for modifications or changes to equipment previously supplied. Lightronics is not responsible for supplying new equipment in accordance with any earlier specifications.
- G) This warranty is the only warranty either expressed, implied, or statutory, upon which the equipment is purchased. No representatives, dealers or any of their agents are authorized to make any warranties, guarantees, or representations other than expressly stated herein.
- H) This warranty does not cover the cost of shipping products to or from Lightronics for service.
- I) Lightronics Inc. reserves the right to make changes as deemed necessary to this warranty without prior notification.

