

# **THE SCROLLER**

## **INSTRUCTION MANUAL**

### **7" MODEL**

Analog 7030-A  
Digital 7030-D

### **10" MODEL**

Analog 7100-A  
Digital 7100-D

### **8 LIGHT MODEL**

Analog 16020-A  
Digital 16020-D

### **9 LIGHT MODEL**

Analog 16030-A  
Digital 16030-D

### **Wybron, Inc.**

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## 1. INTRODUCTION

SCROLLER is a self-contained rolling color changer that slides easily into the gel frame holder of your fixture. Its 11 color capacity affords the lighting designer new economy and versatility, particularly when time and space are limited.

This manual gives step-by-step instructions for preparation, setup and operation of the SCROLLER. If you have operated a SCROLLER before and wish to skip the details, you will find a convenient summary at the end of the manual. SECTION 7 (Page 9).

Throughout this manual, directions are referenced to the front of the unit. The `front' is the side open to the rollers (the `back' is the side that mounts on the fixture). The terms `right' and `left' assume that you are facing the front of the unit.

## 2. THEORY OF OPERATION

The SCROLLER is unique from other rolling color changers in that it has no predetermined frame size for the gel. You can divide the total required length of the gelstring into sections of any configuration you like.

### Analog Models

The control voltage to program the SCROLLER is 0 - 10V DC, normally available from your lighting control board. Changing this voltage moves the SCROLLER rollers and allows you to position the gelstring.

Deciding on the width of each color gel frame in the gelstring depends in part on whether you will use a manual or a memory control board.

With a manual board, positioning the gelstring is always up to the operator. To make it easier for the operator, you may want to make each gel frame wider than normal. This will make setting the sliders quicker and less exacting.

A Memory board has the advantage of precise repeatability - therefore, you can use the most narrow color gel frames possible to give you the widest selection of colors.

## Digital Models

The digital control signal to program the SCROLLER is DMX-512, normally available from your lighting control board. Changing this signal moves the SCROLLER rollers and allows you to position the gelstring.

The SCROLLER has a DMX option which will receive USITT DMX-512. The SCROLLER responds to dimmer information for positioning the gelstring. Using the push-wheel switches, set the desired address on the SCROLLER. Each output connector is buffered to prevent loading your controller or to prevent degradation of the signal with any units. This also means power must be supplied to the unit for the buffer to work.

With power on and a DMX-512 signal to the SCROLLER, you should be able to control the position of the gel. To assist you in making sure that the signal is good there are three LEDs on the DMX Input Panel. The first LED is Power, to let you know from a distance that power is present at the SCROLLER. The second LED is labeled Input and tells you that the SCROLLER is receiving coherent signals. The third LED labeled Address Match indicates that the controller is transmitting an address and data that match the selected address on the SCROLLER. It is possible to have the input LED lit and not have an address match. If this is the case make sure you have set an address within the range of your controller.

### 3. GELSTRING PREPARATION

The gelstring is a series of precisely cut gel frames, joined together side-by-side to create a sequence of colors. The two end gels are called 'leader' and 'trailer', and are 5 inches wide to allow for proper attachment to the rollers (8" and 7 mls. thick for 8 and 9 light SCROLLERS). NOTE: Custom gelstrings may be ordered, to your color specifications, from ColorExpress by Wybron.

However, when preparing your own gelstrings, first you must determine how many colors you would like in the gelstring. The usable length for SCROLLER 7 is 108", for SCROLLER 10 the usable length is 153", for

8 light SCROLLER is 220", and for 9 Light SCROLLER it is 253". If you want to use the maximum amount of frames, 11, then for SCROLLER 7 divide 108" by 11 to yield 9 13/16" width for each frame. For SCROLLER 10 divide 153" by 11 to yield 13 15/16" width for each frame. For 8 Light SCROLLER divide 220" by 11 to yield 20" width for each. For 9 Light SCROLLER divide 253" by 11 to yield 23" width for each frame.

The 11 (or fewer) gel frames are labeled alphabetically from right to left, A through K.

NOTE: All gelstrings must be the correct working length with the correct length leaders and trailers. If the gelstring is short, the unit will run off the end. If the gelstring is too long, the unit will work properly, but will never locate colors beyond the working length. Also, the unit may be damaged by turning the rollers too far in trying to install a gelstring that is too long. For further details, contact Wybron Inc.

#### Installing the Gelstring

1. Loosen the panel fasteners and remove SCROLLER front cover. (N/A for 8 & 9 Light)
2. Connect the SCROLLER to a switched power strip for convenience during gelstring installation. Do not use a Dimmer!
3. Apply power, and full control signal, to the SCROLLER to allow its rollers to move to frame `K' position.
4. Mark the top center of the (left) drive roller. Hold the drive roller firmly in place and switch off the power.
5. Using your hand, turn the drive roller 1 1/8 turns to the right and hold. 1 1/2 turns for 8 & 9 light SCROLLER.
6. Center the left end of the gelstring trailer edge (frame `K') on the top of the drive roller between roller flanges.
7. Tape the end of the leader to the roller. Always place the tape perpendicular to and in the center of the gel. This allows the gelstring to right itself if it isn't positioned precisely. NOTE: Be sure to use masking tape, or any other strong tape. Do not use duct tape as it is too thick, and do not use drafting tape as it is not tacky enough.
8. Turn the drive roller to the left to center the `K' frame.

9. Ensure that the bottom edge of the gelstring is seated properly on the bottom of the roller. The gelstring should be as close to the bottom of the roller as possible without scraping or damaging it.
10. Unroll, to the right, part of the gelstring and lay it across the SCROLLER unit
  
11. Locate the toothed neoprene roller belt at the top of the unit. Wind the whole gelstring onto the drive roller by manually moving the belt to the left. Guide the gel with your other hand while winding tightly onto the left drive roller.
12. When the entire gelstring is wound, hold the bottom of the drive roller and pull the gelstring to the right taut, but not too tight.
13. Now the spring tensioning device in the right-hand roller must be set.
14. Mark the top center of the right roller.
15. While holding the gelstring leader edge firmly with the left hand, turn the right roller to the left 2 - 2 1/2 turns. (5 turns for 8 & 9 Light SCROLLER)
16. Tape the edge of the gelstring leader to the center of the right roller. Again, place the tape perpendicular to and in the center of the gel. Do not over tighten the spring as this will weaken the spring and not hold the gel any tighter.
17. Apply power. The gelstring will return to frame `K`.
18. Now run the control signal to 0 to allow the gelstring to return to frame `A`. If frame `A` is not quite centered, apply control signal and return to frame `K`.
19. Adjust centering by either moving the trailer edge of frame `K` slightly to the left of to the right of top center and re-tape.
20. Again reduce control signal and allow the gelstring to return to frame `A`. Frame `A` should now center within the SCROLLER window.
21. The gelstring will be taut and should spring back when pushed against with your finger.
22. Replace SCROLLER front cover and tighten screws securely. (N/A for 8 & 9 Light SCROLLER).

#### 4. MOUNTING AND OPERATION

##### Installing the Mounting Plate

The SCROLLER 7 is shipped with your choice of mounting plate (7 1/2" or 10") and with the screws necessary to attach the plate to the SCROLLER's back. Please use the supplied screws as they are treated with an anti-vibration compound to keep them from loosening.

### Safety Cable

Attached to the back and right-hand side of the SCROLLER is a safety cable. Attach this cable to the pipe or truss from which your light is hung.

### Attaching the Control Cable (Analog Models)

The control signal from the controller to the SCROLLER requires a 3-wire microphone cable terminated with a standard XLR connector. Pin 3 is the 'hot' conductor and Pin 2 is the 'ground' from your control board. Pin 1 is the 'shield', and is normally connected at the controller end of the cable.

It is possible to run more than one SCROLLER on a control channel, but it is hard to tell the maximum number because of the wide diversity of controllers available to operate the SCROLLER.

Also, if you have any situations that require high accuracy in gelstring positioning, we recommend that the units involved each have an individual control channel. 'In' and 'Out' jacks are available for ganging more than one unit to one control channel.

### (Digital Models)

The control signal from the controller to the SCROLLER requires a 5-wire cable terminated with a standard XLR-5 Pin connector. Wiring is specified by the USITT DMX-512 Standard. Pin 3 is the data true signal and Pin 2 is the data complement from your control board. Pin 1 is the common, and Pins 4 and 5 are wired through the SCROLLER.

## 5. AC POWER AND OPERATION

Plug the AC power cord into a 110-120V (50/60Hz) full cycle non-dim circuit. The power requirement for the SCROLLER is 1/2 amp at 110-120V continuous power. This voltage runs the fans and motors. The unit should never be driven from a dimmer. Severe damage will result, not covered by product warranty.

Also guard against line voltages lower than 105V as the SCROLLER will

not run properly below this level.

Ensure that the power supply is stable, as the internal circuitry can be damaged by unreliable power.

For units that will be operated on nonstandard voltage or frequency, please contact Wybron, Inc. for special transformers to accommodate these needs.

## 6. ADDITIONAL CONSIDERATIONS

The potential for creative uses of the SCROLLER has been multiplied by eliminating the standard indexing of rolling color changers. The SCROLLER is particularly effective when used with pattern projections on ellipsoidal spotlights or Scene Machines. It is easy to program split gels by setting the channel controlling the SCROLLER at a fractional reading.

The SCROLLER mounting plate allows you to position the unit with the gelstring rolling either horizontally or vertically. However, best operating conditions are with the vent louvers at the top position.

The extreme light weight of the SCROLLER will allow shinbusters to be focused and locked without additional braces or a 14" crescent wrench.

Color changing speed will occur at the rate of change of the control console, so extremely slow scans can be easily executed with timed crossfades.

## 7. SUMMARY OF INSTRUCTIONS

Control Signal  
(Analog Models)

Standard control voltages from a control board (0-10V DC) are used to control the position of the gelstring in the SCROLLER. Avoid higher voltages to prevent possible damage to the SCROLLER.

The input connector is wired as follows:

Pin 1 = Shield

Pin 2 = Ground from control board

Pin 3 = 0-10V DC from control board

(Digital Models)

Standard control signals from a control board (DMX-512) are used to control the position of the gelstring in the SCROLLER.

The input connector is wired as follows:

Pin 1 = Common

Pin 2 = Complement Data from control board

Pin 3 = True Data from control board

Pin 4 = Wired through

Pin 5 = Wired through

Each output is buffered to prevent loading in multi-unit installations. If power fails to an individual unit, a relay drops out and passes signal around the buffer.

### Setting the Address

The address for each unit is set by operating the push-wheel switches to the desired address. Valid addresses are 001 to 512. All 3 LEDs must be lit before the SCROLLER will work. (See Section 2 for a complete description of the LEDs)

### Power

Power for the SCROLLER is AC and available in models of 100VAC (90-110VAC), 115VAC (105-130VAC) and 230VAC (210-250VAC) at 50/60Hz. Avoid voltages outside each model's respective range. Small gauge power extension cords, if run long distances, can cause the voltage to drop below desired levels.

### Safety

The SCROLLER will easily slide into the gel frame holders of most luminaries. Always use a safety cable when hanging the SCROLLER.

SCROLLER accessories are available from:

Wybron, Inc.  
4830 List Drive  
Colorado Springs, CO 80919  
(719)548-9774

Model

7" Scroller  
10" Scroller  
8 Light Scroller  
9 Light Scroller,

Model Application

Source four, Shakespere

Source Four, 2K

8 Light

3K, 4K, 5K

4-Light, 9Light

FarCyc., SkyCyc.