

TechMaster Control Console

Owner's Manual



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RECEIVING YOUR EQUIPMENT

As soon as you have received your equipment, open the boxes and examine the contents. If the equipment in the carton does not agree with your order or the packing slip, contact the factory immediately and we will be happy to help you. If any damage is noted, contact the carrier immediately to file a claim for damages. You can be sure that when the equipment left the factory it was in good condition, thoroughly tested, and properly packed.

FEATURES

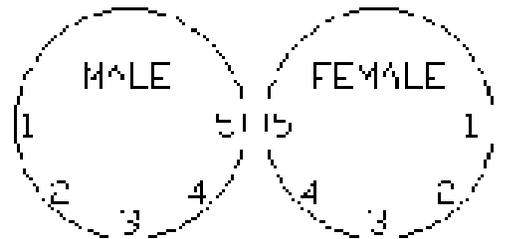
The TechMaster is a lighting control console with standard DMX-512 output. The console is arranged in standard two scene configuration with a switch to single scene mode. A special *hold mode* button adds a *virtual second scene* to single scene mode. The console includes a grandmaster slider, black-out button, split dipless crossfaders and programmable chase.

SETUP AND CONNECTION

Proper connection of electronic lighting control equipment is very important. The TechMaster has been designed to make it as simple as possible. The TechMaster must be connected to the dimmer pack through a control cable. The cable uses five pin XLR connectors for standard DMX control. The connectors are wired according to the diagram at right.

Plug the male end of the control cable into the female connector on the TechMaster. Plug the female end of the control cable into the dimmer pack.

Adjust the grandmaster control to full (up position), both crossfaders to the up position, and the SS/2S switch to the 2S (2 scene) position. Plug the power supply ("wall wart") into the console and a wall outlet. As the channel one, scene X (top left channel control) is adjusted up, the instrument plugged into dimmer one should come up. If not, refer to the Troubleshooting section.



5 PIN XLR CONNECTORS

PIN	FUNCTION
1	COMMON
2	DATA
3	DATA
4	N/C
5	N/C

OPERATION

The console is arranged in standard two scene configuration. The term "two scene" refers to an arrangement in which light levels for the next look are preset without affecting the look presently on stage. At the appropriate time the board operator crossfades from the look on stage to the preset look.

The channel sliders are arranged in two scenes called X and Y. With the crossfaders both pushed to the top of the slots, the X scene is active and channel levels set on the X scene appear on stage. Levels for the next look may be set in the Y scene without affecting levels on stage. At the appropriate time, the operator slides the crossfaders to the bottom of the slots, and the Y scene becomes active and the look set in the Y scene appears on stage. Levels for a new look may then be set in the X scene.

A show is typically run as a series of crossfades from the X scene to the Y scene and back again, but there are additional controls available to "finesse" the production. The grandmaster slider affects all channels proportionally and is used to fade to black or up from black. The blackout button is used for a sudden blackout: all lights on stage go out and the LED flashes red, reminding the operator to press the button again to leave blackout mode, preferably with the grandmaster slider down so the lights can fade up smoothly from black.

Although the crossfaders are generally run up and down together, they may be split in either of two directions. When split with the X fader up and the Y fader down, both scenes are active and "pile on", i.e. the higher of the levels set in either scene takes precedence. When split with the X fader down and the Y fader up, both scenes are inactive and the stage fades to black. Splitting the crossfaders enables the operator to produce uneven fade rates or introduce a delay in the fade from one scene to the next.

The SS/2S switch toggles the controller from two scene to single scene mode. The switch is only read on power up, so be sure to remove power before changing the switch and apply power after changing the switch. In single scene mode, the number of control channels is doubled. For example, on the TM-TS12/24 the top row is channels 1-12 and the bottom row is channels 13-24. The hold button adds a *virtual second scene* so the operator can crossfade from one look to another even in single scene mode. Here is an example:

1. Remove power from controller.
2. Set the SS/2S switch to the SS position.
3. Push the crossfaders to the top of the slots.
4. Apply power to the controller.
5. Set light levels on the top & bottom rows of sliders.
6. Press the hold button. Note how the LED shines.
7. Set new light levels. Note how the look on stage does not change.
8. Slowly run the crossfaders to the bottom of the slots. Watch the levels change from one look to the next. At the end, the hold LED goes out.
9. Press the hold button again, lighting the hold LED. Set new light levels. The stage look does not change.
10. Slowly run the crossfaders to the top of the slots. Watch the levels change from one look to the next. At the end, the hold LED goes out.

The console features a user programmable chase. In a chase, lamps are lit *in sequence* according to the chase program. The level of the chase can be set with the *chase level* control. If manual faders are set to light some lamps at a particular level, the chase *piles on* that level (the higher of the chase level or the channel level takes precedence). Note also that the chase level is affected by the grand master and blackout controls. In addition to the level of the chase, the speed of the chase can be varied with the front panel *chase rate* control. If either the chase rate or level is set to zero, the chase is suspended and will start again when the level and rate are above zero.

The chase includes three chase modes. These are *forward* (green LED), *reverse* (red LED), and *build* (yellow LED). Pressing the chase mode button switches from chase off to each of these

modes. *Forward* executes the chase sequence in the order it was programmed. *Reverse* executes the chase in the reverse order it was programmed. *Build* executes the chase in the order it was programmed, but leaves each lamp on after it is brought up in the chase until the chase sequence is completed. Once the chase sequence is completed, all lamps in the chase go out. The chase *builds* bringing up more and more lamps, then they all go out.

To record a chase, set all channel sliders at zero (a chase cannot be recorded if a channel slider is not at zero). Press the chase record button (which then lights red). Press the *bump* button for each channel of the chase sequence in the order of the chase. Press the chase record button again (the red LED goes out). The chase has been recorded.

If you want a particular lamp to stay on longer than the others in the chase sequence, press that bump button twice during the chase record, recording that channel twice. If you want a *pause* in the chase where no lamps are on (assuming you are not in *build* mode), press the blackout button at the appropriate time in the chase.

If you accidentally press the chase record button, press it again (turning off the red LED). As long as no other buttons were hit in the chase record, the old recorded chase is maintained.

To restore the default chase (all channels in order), press the *chase record* button, then press the *chase mode* button. The default chase will be loaded and start executing.

A chase can include up to 255 steps. The chase is held in capacitor backed RAM. The programmed chase is held for about one week after power removal.

EXPANDING THE SYSTEM

The Techmaster is a modular system that can be expanded to 256 (two scene) or 512 (single scene) channels. Units can be returned to the factory for expansion.

6 - TROUBLESHOOTING

The TechMaster is simple and reliable. In the event that things do go wrong, there are a few possibilities to check before a trip to the factory for repairs.

If lights don't come on:

1. Check the power to the console. The SS/2S switch should have one LED lit at all times.
2. Check the grandmaster slider, crossfaders, and blackout button. Remove power from the controller, check the setting of the SS/2S switch, then apply power again.
3. Check the power to the dimmers. Be sure that the loads are plugged in and don't have burnt out lamps. Check that all test switches and breakers are set properly. Look at the fuses.
4. Examine the control cables. Check that they are continuous, undamaged, and wired correctly. Ring them out to be sure.

5. Check that the dimmers are set for the correct control input. Check the dimmer status LED to see if it indicates a valid control input.

If they do anything else:

1. Put in a DMX termination plug. Try an opto-isolator. Try moving the console to the dimmer and connecting the two with a short DMX cable.
2. Swap cables and circuit cards one by one to see if the problem follows the part.
3. Examine the console for signs of abuse or damage, particularly the sliders. Sliders that feel gritty are responsible for flickering on that channel.
4. Examine the control cables. Check that they are continuous, undamaged, and wired correctly. Ring them out to be sure.
5. Check the power input wiring on the dimmer packs.
6. Check the load output wiring.
7. Dimmers that do not dim usually have shorted triacs or solid state relays. The dimmer will have to come in to have the part replaced.

TROUBLESHOOTING

Dove Systems technicians are generally available between 8AM and 5PM Pacific time for phone support at (805)541-8292. Please have a specific description of the problem, preferably from personnel who were on-site at the time. If at all possible, **bring the telephone into the theatre** and have the equipment at hand.

Do not open the unit for examination. Dove Systems cannot provide phone support, replacement parts, or schematics for component-level testing. The TechMaster is a microcontroller based product running proprietary software. Unauthorized repair on this product shall void the warranty, and the buyer may be charged for subsequent factory repair, even if the product is defective.

If it is necessary to send the unit to the factory, please ship it freight prepaid, with a note describing the specific complaint. Include the shipping address, a daytime telephone number, and the date the unit is required back. It is helpful to call the factory beforehand for a Return Materials Authorization (RMA) number. **VERY IMPORTANT: PLEASE ENCLOSE A NOTE DESCRIBING THE PROBLEM--EVEN IF YOU HAVE CONTACTED THE FACTORY BY PHONE.**

Send to: Service Dept
 Dove Systems
 3563 Sueldo Street, Suite E
 San Luis Obispo, California, 93401
 (805)541-8292

LIMITED WARRANTY

The manufacturer agrees that its products shall be free from defects in material or workmanship over a period of one year from date of shipment from the factory. Said warranty will not apply if equipment is used under conditions of service for which it is not specifically intended. The manufacturer is not responsible for damage to its apparatus through improper installation, physical damage, or poor operating practice.

If any device is found unsatisfactory under the warranty, the buyer should notify the manufacturer, and after receipt of shipping advice, buyer may return it directly to Dove Systems, San Luis Obispo, CA, shipping prepaid. Such equipment will be replaced or put in proper operating condition, free of all charges except transportation. The correction of any defects by repair or replacement by the manufacturer shall constitute fulfillment of all obligations to the purchaser. Manufacturer does not assume responsibility for unauthorized repairs to its apparatus, even though defective.

Manufacturer shall not be liable for any consequential damage in case of any failure to meet the conditions of any warranty of shipping schedule, nor will claims for labor, loss of profits, repairs, or other expenses incidental to replacement be allowed.

No other representation, guarantees or warranties, expressed or implied, are made by the manufacturer in connections with the manufacture and sale of its equipment. This warranty is non-transferable and applies to the original buyer only.

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