Film-Tech

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www.film-tech.com

Component
Engineering

4237 24th Ave. West
Seattle, WA 98199-1214

Phone:
(206) 284-9171

FAX:
(206) 286-7452

QX-10 Cue Expander

Installation and Operating Instructions

The QX-10 Cue Expander is intended for use with Component Engineering's FM-35 or FM-37 Film Monitor system. The FM-35 and FM-37 are each capable of reading three cue foil patches on the film (Outboard, Center and Inboard). If more than these three cues are wanted, the QX-10 will expand the three into seven outputs. This is done by treating the three cues as elements of a 3 Bit Binary Code, and decoding those three bits into the eight possible states. One of these states is "0", which leaves seven other states that are translated into seven relay contact closures. Which cue foil patches or patch combinations produce these outputs is shown on the accompanying diagrams. There will be more about cueing after the installation instructions.

There are terminal strips for connection to the Film Monitor assembly, to a host automation system or power supply, and to the seven circuits to be controlled. The box has four grommetted holes for wire entry, or be removing a grommet, a 1/2" conduit fitting can be installed.

Terminate the 15 conductor cable from the Film Monitor following the color code printed on the circuit board. Connect a voltage source of from 12 to 30 Volts D.C. to the "+" and "-" terminals. See the FM-35 instructions for just what the supply should be. The contacts from the Film Monitor's "Film Presence" and "Film Motion" relays are on the same terminal strip as the D.C. connections, and should be connected to the host automation system as needed. All that remains is to connect the seven outputs.

All of the outputs are relay contacts (rated at 500mA) and are isolated from each other so that there won't be a problem if you want to switch, say, a sound system with one set and a light dimmer with another set. In order to save board space and terminal strip cost, only the Normally Open portions of the relay contacts are brought out. However, should you have an occasional need for a Normally Closed set, there is a way to do it. Note that right between the relays and the terminal strip there is, in the circuit board traces, what appears to be the symbol for a SPDT switch. Well, it is a SPDT switch. Cut the Normally Open trace and install a jumper to the Normally Closed pad and it is done.

About Cueing

The foil patches required for this system are just like the ones normally used for the FM-35. This means that they are simply little squares of 3/16" or 1/4" aluminum foil tape in the appropriate position. You may perforate them with your splicer if you like, but it really isn't necessary. The foil may be on either the emulsion of the base side of the film. You can even put the foil patch under splicing tape, and in some cases a good location is right on the splice line between two parts of your program. This works well for sound change cues, and helps you to remember to remove the cues when you break-down the print.

Please consult the accompanying diagram and note that the foil which operates Cue 1 is just a single outboard patch, Cue 2 is a single center patch, but Cue 3 is the combination of an outboard and a center patch. The diagram shows this as one continuous piece of cue tape because it is easier to apply, but two discrete patches could be used, particularly if you wish to avoid a sound track thump. Cues 4,5,6, and 7 are handled in like fashion. Remember that Cue 5 must omit the center patch, or it will read as Cue 7.

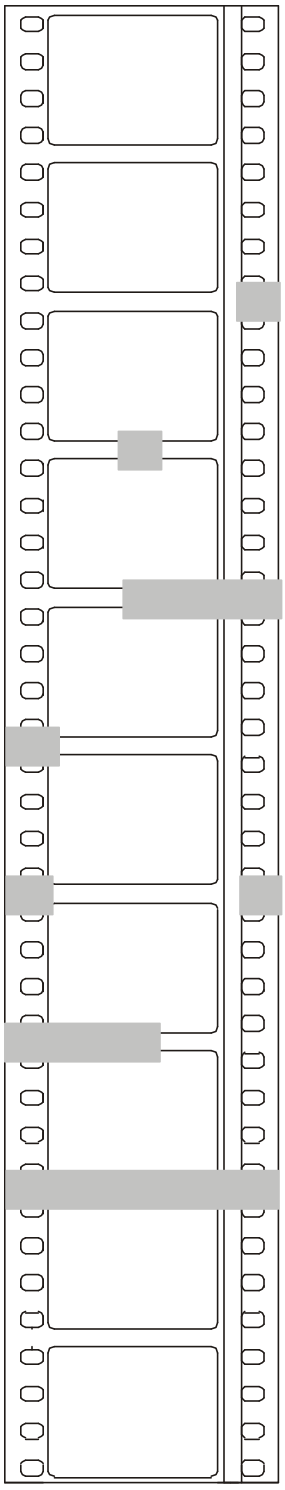
Also remember that the center patches must be in the center of the film, not the center of the picture area.

All of the patches for any given cue should be on the same frame line. If they are displaced linearly along the film over more than one frame, they will not be read correctly. In other words, the system waits for about 1/24 second before it decides that it has all the information it needs in order to actuate a relay. Only one cue can be programmed at a time, but successive cues (e.g., a sound change and a lens change) can be applied as close together as one foot. That's only 2/3 second.

Which cue to use for which function is strictly up to you. It is simply a matter of how you wish to assign them and wire up your system. When you make your choices you might want to consider such things as making the most frequently needed functions the easiest ones to apply; try to avoid center cues for functions likely to be wanted while picture is Which cue to use for which function is strictly up to on the screen; for sound changes you may want to use patterns which do not cover the track, however, the thump caused by the cue tape is usually less objectionable that the pop caused by some splicers. Among the enclosed sketches you will find some suggested possible schemes. There are also some blanks by which your projectionist can note and post your scheme.

Theatre Name SAMPLE

Screen Number 1 Date 5/12/95



Intermission

Mono Sound

Lights Full Down

Lights to Half

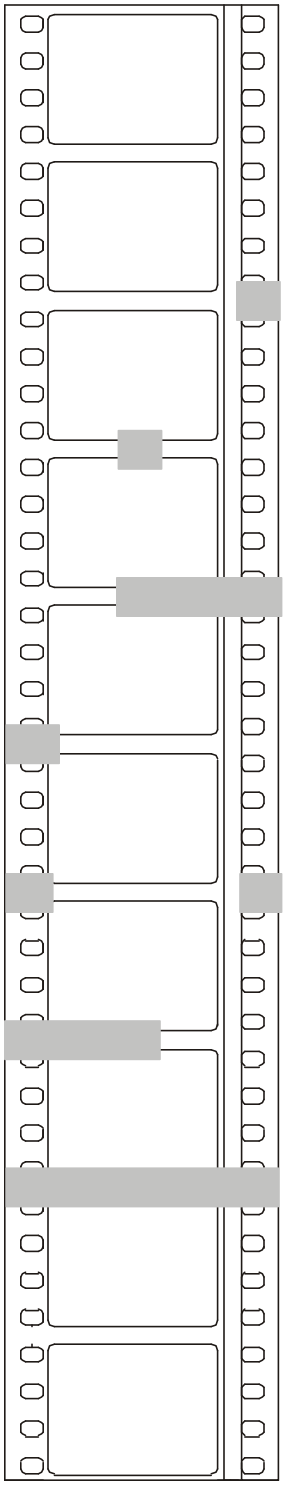
Digital Sound

Lens Change

Stereo Sound

Theatre Name _____

Screen Number _____ Date _____



QX-10 Circuit Board