Film-Tech

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These manuals are designed to facilitate the exchange of information related to cinema projection and film handling, with no warranties nor obligations from the authors, for qualified field service engineers.

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WWW.FILM-TECH.COM
**STANDARD SYSTEM FEATURES**

- Projector Drive Motor
- Xenon Lamphouse
- Changeover Dowser
- Exciter Lamp
- House Light Dimmer
- Non-Sync Source
- Audio Processor
- Lights Up Early for House Light Dimmer
- Full Remote Control Capability
- User Assigned Option Circuits
- Optional Curtain Control
- Interlock Ready

**MANUAL CONTROL Switches PROVIDED FOR:**

- Projector Drive Motor
- Xenon Lamp
- Exciter Lamp
- Changeover Dowser
- House Light Dimmer
- Option

**STANDARD SYSTEM SEQUENCE OF OPERATIONS**

**A. SHOW START**

1. Changeover CLOSE
2. Motor & Lamp ON
3. Non-Sync OFF
4. House Lights DIM
5. Changeover OPEN
6. Exciter ON
7. Audio Film

**B. INBOARD CUE - House Light Dimmer (MID) or UP**
C. OUTBOARD CUE

1. House Light Dimmer (UP)
2. Changeover CLOSE, Exciter OFF, Audio Non-Sync
3. Motor & Lamp OFF
   (Selectable, as C.O. Closes or as Film Runs thru)
4. Non-Sync ON

INSTALLATION INSTRUCTIONS

GENERAL - The Kelmar Standard Automation has been designed as an economical control system to meet the needs of the modern cinema as well as an ideal retro-fit system for existing installations.

The Kelmar Standard Automation is contained in one rugged, compact steel enclosure with dimensions as follows:

- WIDTH = 12” (305mm)
- HEIGHT = 19” (482mm)
- DEPTH = 6 1/2” (165mm)

The Standard Automation Cabinet should be mounted on the FRONT WALL of the Projection Room, Below the Observation Port, with the TOP of the cabinet 3'-9” A.F.F. (Above Finished Floor).

The Standard Automation System has a readily removable interior so that the Chassis-and Control panel may be removed as a unit by removing the 2 screws at the top of the Control Panel and Loosening 2 nuts below the chassis. This permits installation of the back-box, conduits and wires without damage to the Automation assembly.

The Backbox should be connected to the Projection Room Wireduct with 3 or 4 3/4" conduit stubs or 3/4" offset nipples. Remove the knockouts in the bottom of the Backbox, place on top of the wireduct and trace the openings. The wireduct can then be punched to suit the Backbox.

Pull in and tag all wires. Re-install the chassis and control panel, tighten the 2 nuts that secure the chassis to the Backbox. Terminate the wires to the terminal strips. Terminal Strip TB-1, that is mounted on the chassis is used for ALL line voltage power circuits. The P.C. Board terminal strips; TB-2, TB- 3 are intended for Low-voltage control circuits only (Less than 30 Volts RMS). If devices to be controlled have line voltage control, slave relays should be added to isolate the device from the Automation.
Please refer to the termination schedules for connection. Most circuits are dry contact circuits, the circuit type is indicated on the termination schedule.

Remote indicator light circuits have a 12 VAC Output, these are provided for connection to optional remote control/status systems that are available from Kelmar Systems Inc.

**Kelmar Systems Inc. offers upgrade modules for use with the Standard Automation to provide; Show Start Timer, Curtain Control, and Interlock.**

**NON-SYNC CONTROL** - Dry Circuit terminals TB2-15 and TB2-16 are provided to control a Kelmar Non-Sync Fade-In module where intermission music is from a central source. This circuit provides a contact closure when the Projector motor is Off.

**HOUSE LIGHT DIMMER CONTROL** - The Standard Automation has been designed to control a 3 position dimmer, UP-MID-DOWN. Connect the Dimmer to Terminals at TB3 as indicated on the termination schedule. A 2 position dimmer may be used, connect the UP control to TB3-3 and TB3-4, DOWN control to TB3-2.

**OPTIONAL SWITCHING CIRCUITS** - There are 3 Optional switching circuits that may be user assigned at installation time. In addition, Switch S8 is a SPDT center off control switch that terminates at terminal strip TB-S. This switch can be user assigned to act as a manual switch for the optional control circuits or used as desired for control of a different device.

“A Option” circuit is intended to control an Audio processor. The processor should be connected to terminals TB1-14, TB1-15, TB1-16. Connect the feed to TB1-14, “film” to TB1-15 and “Non-Sync” to TB1-16. As the C.O. Dowser Opens at the start of the show, the processor will be set to Film, and as the C.O. Dowser closes at the end of the show, the processor will be set to Non-Sync. Refer to instructions with processor.

“B Option” circuit may be used for a Curtain, Curtain Light Dimmer or a Wall Wash dimmer. This circuit provides a long contact closure as the Automation Timer cycles. If a curtain is to be used, it is suggested that the optional Kelmar #7895 P.C. Board be added to the “D Logic” circuit. Refer to this section of instructions.

“C Option” circuit provides a contact closure as the Inboard Cue (Lights Up) is detected. This circuit may be used to control a Curtain or Wall dimmer or as a signal that the end of the show is coming up.

“D Logic” circuit is for use with the Optional #7895 Curtain Control P.C. Board. This board mounts in the bottom of the enclosure (Mounting holes are provided) and provides control for a screen curtain. “D Logic” is **NOT A DRY CIRCUIT AND SHOULD ONLY BE USED WITH THE KELMAR #7895.**
“D Logic” Circuit - continued CONNECT AS FOLLOWS:

<table>
<thead>
<tr>
<th>#7895 Term. No.</th>
<th>Auto. Term. No.</th>
<th>Function:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TB3-13</td>
<td>12 VAC</td>
</tr>
<tr>
<td>3</td>
<td>TB3-11</td>
<td>Open Logic</td>
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<tr>
<td>4</td>
<td>TB3-12</td>
<td>Close Logic</td>
</tr>
<tr>
<td>5-6</td>
<td>TB5-1*</td>
<td>Curtain Control Feed **</td>
</tr>
<tr>
<td>9</td>
<td>TB5-2*</td>
<td>Curtain Open **</td>
</tr>
<tr>
<td>10</td>
<td>TB5-3*</td>
<td>Curtain Close **</td>
</tr>
</tbody>
</table>

* S8 assigned as Manual Curtain Switch
** Connection to Curtain Motor

FORMAT CONTROL - The Standard Automation requires 2 cue functions for operation; Inboard is for Lights Up and Outboard is for Show End. The “Center” detector is available for use with Format or Audio as a user assigned function. This circuit is available on the Detector Interface P.C. Board.

As Projector, Xenon Lamps, etc., may vary, refer to instructions furnished with these units for interface information.

For assistance with terminations CONTACT:

Kelmar Systems Inc.
284 Broadway
Huntington Station, New York 11746
Phone (631) 421-1230
FAX (631) 421-1274

OPERATION INSTRUCTIONS

CONTROL PANEL - The Standard Automation control panel is divided into 2 sections: Automation Control and Manual Control. The Manual Control section contains switches that can be used to operate each device separately for testing, or Manual Operation. The Automation Control section is to be used for Normal Automation Operation.
The Automation Section Contains controls as follows:

**PB-1 START** - Used to Start the Show. Press the Start button, the Automation will cycle. The following sequence will happen; C.O. Dowser CLOSE, Timer will cycle, Motor ON, Xenon Lamp ON, Dimmer DOWN after 7 seconds; C.O. Dowser OPEN, Exciter Lamp ON.

As Inboard Cue is Detected; Dimmer MID.

As Outboard Cue is Detected; Timer Cycle, Dimmer UP, after 7 seconds, C.O. Dowser CLOSE, Exciter Lamp OFF. As film runs out; Motor OFF, Lamp OFF, Non-Sync ON.

**PB-2 STOP** - Used to Stop the show. This button is NOT in the circuit (Active) for the first 5 seconds after the Start button is pressed. If it is necessary to Stop the show during this 5 second period, turn the Automation OFF with Power switch S2 and then back on. PB-2 Stop button will shut OFF Projector Motor and Lamp, Timer will cycle an Auto. Intermission cycle. Alarm output is activated at the remote.

**S1 MODE** - Used to select shut down of the Projector Motor and Lamp. In the Normal position, the Motor and Lamp will turn off as the film runs through and the Failsafe arms drop. In the Auto-Stop position, the Motor and Lamp will turn Off as the C.O. Dowser Closes. This is used with a continuous loop film system or other similar film delivery system. This function may also be used where there is more than 1 show on a platter disc and an Intermission is desired red.

**S2 POWER ON/OFF SWITCH** - Turns the power of the Automation section ON or OFF. Switch is illuminated when power is ON. This switch is normally left in the ON position and the power to the Automation is turned off at the Projection Room Circuit Breaker panel. As power is turned ON, the STOP button will also illuminate indicating power to the system.

**INDICATOR LIGHTS** - The Standard Automation has 2 illuminated pushbutton switches which contain 2 Indicator Lights each. These lights indicate the Status, function and operation of the system.

The Start Button contains a “Timer Cycle” Light (TOP) which is illuminated whenever the cam timer is energized. The RUN light (Bottom) is illuminated when the Motor and Lamp are running on Automation. As the Start Button is pressed, both lights should come on, the Cycle light will go OFF after the timer has stopped (30 seconds).
The STOP button contains the Stop (TOP) light which is illuminated when the Automation Power Switch is ON and the Motor and Lamp are OFF. This operates opposite of the RUN light in the START Button, only 1 is illuminated at a time. The FAULT Light (BOTTOM) indicates the position of the Failsafe arms. When either of the arms are down, the Fault light is illuminated. This serves as a check that the film is threaded properly through the FAILSAFE and that the platter take-up tension has been set. The Automation WILL NOT START OR CYCLE if the Fault light is illuminated. This is a built-in safety interlock circuit that prevents the show from Starting and then Stopping.

**CUE PLACEMENT** - There are 2 film cues used with the Standard Automation: INBOARD Lights Up and OUTBOARD = Show End.

The INBOARD Cue should be located on the film, Inboard Side (Opposite sound track) at the start of the credits.

The OUTBOARD Cue (Soundtrack side) should be located 7 seconds prior to the last frame of the show. This is between 12 and 13 feet.

**PROBLEM ? -** If the system DOES NOT operate as outlined above, check for power and make certain that all circuit breakers are turned ON. Use the manual switch to test each device, if the manual switch turns the device on and off but the Automation does not, there may be a problem in the Automation section. The Manual switches function at all times and do not require that the power switch to the Automation be ON. Please be certain what the nature of the problem is prior to calling for service. The Standard Automation system has been designed for simple service. Relays are interchangeable. Check the power fuse if the Indicator Lights do not come on as the power is turned ON.
TB1 FIELD TERMINATIONS

TB1-1 120 VAC FEED TO THIS UNIT
TB1-2 120 VAC NEUTRAL FEED TO THIS UNIT
TB1-3 GROUND
TB1-4 PROJECTOR MOTOR IN [DRY CIRCUIT]
TB1-5 PROJECTOR MOTOR OUT
TB1-6 LAMP CONTROL IN [DRY CIRCUIT]
TB1-7 LAMP CONTROL OUT
TB1-8 C.O. DOWSER FEED [DRY CIRCUIT]
TB1-9 C.O. DOWSER OPEN
TB1-10 C.O. DOWSER CLOSE
TB1-11 C.O. DOWSER CLOSE NORMALLY CLOSED [SPECIAL]
TB1-12 EXCITER LAMP IN [DRY CIRCUIT]
TB1-13 EXCITER LAMP OUT
TB1-14 "A OPTION" SWITCHING-FEED
TB1-15 "A OPTION" SWITCHING- (C.O.OPEN)
TB1-16 "A OPTION" SWITCHING- (C.O.CLOSE)
TB1-17 12 VAC CONSTANT
TB1-18 GROUND - SWITCHING COMMON (DENOTES TIME OF COMMAND)
TB2 FIELD TERMINATIONS

TB2-1  OUTBOARD CUE DETECTOR INPUT  N.O. CIRCUIT TO GROUND
TB2-2  INBOARD CUE DETECTOR INPUT  N.O. CIRCUIT TO GROUND
TB2-3  FAILSAFE  N.O. CIRCUIT TO GROUND
TB2-4  GROUND — SWITCHING COMMON
TB2-5  REMOTE START “1” [CYCLE]  2 POLE N.O. CIR. TO GND,
TB2-6  REMOTE START “2” [C.O. CLOSE]
TB2-7  REMOTE STOP  N.O. CIRCUIT TO GROUND
TB2-8  REMOTE RUN INDICATOR  12 VAC
TB2-9  REMOTE STOP INDICATOR  12 VAC
TB2-10 REMOTE FAULT INDICATOR  12 VAC
TB2-11 REMOTE ALARM OUTPUT  12 VAC
TB2-12 HOLD FOR INTERLOCK  N.C. CIRCUIT TO GROUND
TB2-13 12 VAC CONSTANT
TB2-14 GROUND — SWITCHING COMMON
TB2-15 NON-SYNC IN  [DRY CIRCUIT]
TB2-16 NON-SYNC OUT

Refer to Page 13 for Cue Detector Cable Hook up
TB3 FIELD TERMINATIONS

TB3-1  HOUSE LIGHTS CONTROL - FEED  (DRY CIRCUIT)
TB3-2  HOUSE LIGHTS CONTROL - (SHOW START)
TB3-3  HOUSE LIGHTS CONTROL - (INBOARD CUE)
TB3-4  HOUSE LIGHTS CONTROL - (SHOW END)
TB3-5  "B OPTION" SWITCHING - FEED
TB3-6  "B OPTION" SWITCHING - (SHOW START)  N.O. [DRY CIRCUIT]
TB3-7  "B OPTION" SWITCHING - (SHOW END)  N.O. [DRY CIRCUIT]
TB3-8  "C OPTION" SWITCHING - FEED  (INBOARD CUE)
TB3-9  "C OPTION" SWITCHING - OUT  N.O. [DRY CIRCUIT]
TB3-10 GROUND - SWITCHING COMMON
TB3-11 "D LOGIC" OPTION - (C.O. OPEN) **
TB3-12 "D LOGIC" OPTION - (SHOW END) **
TB3-13 12 VAC CONSTANT **

**FOR OPTIONAL CURTAIN CONTROL MODULE
REFER TO INSTRUCTIONS FOR USE
(DETONES TIME OF COMMAND)

TB5 OPTION SWITCH TERMINATION

TB5-1  OPTION SWITCH FEED
TB5-2  OPTION SWITCH UP
TB5-3  OPTION SWITCH DOWN
TB4 INTERNAL P.C. BOARD INTERFACE TERMINATION FOR REFERENCE ONLY - NO FIELD TERMINATIONS

TB4-1 12 VAC FEED

TB4-2 GROUND-SWITCHING COMMON-FEED

TB4-3 START”1”[CYCLE]

TB4-4 START “2” [C.O. CLOSE] [2 POLE N.O. CIR. TO GROUND]

TB4-5 STOP [N.O.TO GROUND]

TB4-6 RUN INDICATOR [K9COIL], [PB-1]

TB4-7 STOP INDICATOR [PB-2]

TB4-8 FAULT INDICATOR [PB-2]

TB4-9 CYCLE INDICATOR [K8 COIL], [PB-1]

TB4-10 HOLD INPUT FROM K11

TB4-11 LIGHTS SWITCH FEED [S6]

TB4-12 LIGHTS SWITCH UP [S6]

TB4-13 LIGHTS SWITCH DOWN [S6]

TB4-14 HOLD FOR EXCITER RELAY [K12]

TB4-15 C.O. OPEN RELAY COIL [K10]

TB4-16 C.O. CLOSE RELAY COIL [K11]
<table>
<thead>
<tr>
<th>No.</th>
<th>FUNCTION/DESIGNATION</th>
<th>TYPE</th>
<th>LOCATION</th>
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<tbody>
<tr>
<td>K1</td>
<td>START</td>
<td>4PDT</td>
<td>P.C.BOARD</td>
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<tr>
<td>K2</td>
<td>SHOW START</td>
<td>4PDT</td>
<td>P.C. BOARD</td>
</tr>
<tr>
<td>K3</td>
<td>SHOW END</td>
<td>4PDT</td>
<td>P.C. BOARD</td>
</tr>
<tr>
<td>K4</td>
<td>HOLD</td>
<td>4PDT</td>
<td>P.C. BOARD</td>
</tr>
<tr>
<td>K5</td>
<td>FAILSAFE/STOP</td>
<td>4PDT</td>
<td>P.C. BOARD</td>
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<tr>
<td>K6</td>
<td>ALARM</td>
<td>4PDT</td>
<td>P.C. BOARD</td>
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<td>K7</td>
<td>INBOARD CUE</td>
<td>4PDT</td>
<td>P.C. BOARD</td>
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<td>K8</td>
<td>TIMER CYCLE</td>
<td>4PDT</td>
<td>CHASSIS</td>
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<tr>
<td>K9</td>
<td>POWER</td>
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<td>CHASSIS</td>
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<td>K10</td>
<td>C.O. OPEN</td>
<td>3PDT</td>
<td>CHASSIS</td>
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<tr>
<td>K11</td>
<td>C.O. CLOSE</td>
<td>3PDT</td>
<td>CHASSIS</td>
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<tr>
<td>K12</td>
<td>EXCITER</td>
<td>3PDT</td>
<td>CHASSIS</td>
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### SWITCHES

<table>
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<tr>
<th>Automation Designation</th>
<th>Function</th>
<th>Type</th>
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<tbody>
<tr>
<td>F1</td>
<td>Main Fuse</td>
<td>3 AMP</td>
</tr>
<tr>
<td>PB-1</td>
<td>Start</td>
<td>2POLE, 2LIGHT</td>
</tr>
<tr>
<td>PB-2</td>
<td>Stop</td>
<td>1POLE, 2LIGHT</td>
</tr>
<tr>
<td>S1</td>
<td>Mode</td>
<td>SPST</td>
</tr>
<tr>
<td>S2</td>
<td>Power On/Off</td>
<td>SPST</td>
</tr>
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**Manual Control:**

<table>
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<tr>
<th>Manual Control</th>
<th>Function</th>
<th>Type</th>
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<tr>
<td>S3</td>
<td>Manual Motor</td>
<td>SPST</td>
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<tr>
<td>S4</td>
<td>Manual Exciter</td>
<td>SPST</td>
</tr>
<tr>
<td>S5</td>
<td>Manual Lamp</td>
<td>SPST</td>
</tr>
<tr>
<td>S6</td>
<td>Manual Lights</td>
<td>SPDT, MOMENTARY ON-OFF-ON</td>
</tr>
<tr>
<td>S7</td>
<td>Manual C.O.</td>
<td>SPDT, MOMENTARY ON-OFF-ON</td>
</tr>
<tr>
<td>S8</td>
<td>Option</td>
<td>SPDT, MOMENTARY ON-OFF-ON</td>
</tr>
</tbody>
</table>
CUE DETECTOR CABLE
FAILSAFE WIRES
HOOK UP HERE

CUE DETECTOR CABLE
PROXIMITY DETECTOR
POWER AND OUTPUT WIRES
HOOK UP HERE

2-3 Cue Decoder
Board
SEE INSTRUCTIONS
FOR UDH-2-2335/2H

Prox Input
PC 7910
TB1-1  120 VAC FEED TO THIS UNIT
TB1-2  120 VAC NEUTRAL FEED TO THIS UNIT
TB1-3  GROUND
TB1-4  PROJECTOR MOTOR IN
TB1-5  PROJECTOR MOTOR OUT
TB1-5  LAMP CONTROL IN
TB1-7  LAMP CONTROL OUT
TB1-8  C.O. DOWSER FEED
TB1-9  C.O. DOWSER OPEN
TB1-10 C.O. DOWSER CLOSE
TB1-11 C.O. DOWSER CLOSE NORMALLY CLOSED
TB1-12 EXCITER LAMP IN
TB1-13 EXCITER LAMP OUT
TB1-14 "A OPTION" SWITCHING-FEED
TB1-15 "A OPTION" SWITCHING- (C.O.OPEN)
TB1-16 "A OPTION" SWITCHING- (C.O.CLOSE)
TB1-17 12 VAC CONSTANT
TB1-18 GROUND - SWITCHING COMMON
Parts needed to add the Cross Cue Function to a Series IV Automation:

1. 4 Pole Relay with a 12 Volt AC Coil
2. Single Pole Double Throw Toggle Switches

Parts needed to add the Remote Status to a Series IV Automation for interface to Kelmar 9558 Remote Status:

1. 4 Pole Relay with a 12 Volt AC Coil
2. 1N4004 Diodes

User Optional CROSS CUE CIRCUIT

Remote Status Interface Circuit for Kelmar 9558 Remote Status Indicator
Series IV Automation Schematic

- Proj. Run Cycle
- Project Stop Fault
- Automation Start
- Auto-Stop
- Normal Mode
- Motor
- Lamp
- Exciter
- Lights Option
- ON
- OFF
- Dim
- Bright
- Close Dowser

CUE DETECTOR CABLE
FAILSAFE WIRES
HOOK UP HERE

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PROXIMITY DETECTOR
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TB1-16 "A OPTION" SWITCHING- (C.O.CLOSE)
TB1-17 12 VAC CONSTANT
TB1-18 GROUND - SWITCHING COMMON

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<tr>
<th>SWITCH</th>
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<td>POWER</td>
<td>1811.1102</td>
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<td>START</td>
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<td>STOP</td>
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**TM-3 CAM TIMER**

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<tr>
<th>I.D.</th>
<th>FUNCTION</th>
<th>CAM SETTINGS</th>
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<tbody>
<tr>
<td>TM-1</td>
<td>CYCLE</td>
<td>DROP @ 100 LIFT @ 5</td>
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<tr>
<td>TM-2</td>
<td>HOLD #1, ALARM SET</td>
<td>DROP @ 20 LIFT @ 35</td>
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<tr>
<td>TM-3</td>
<td>HOLD #2</td>
<td>DROP @ 85 LIFT @ 95</td>
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<tr>
<td>TM-4</td>
<td>CHANGEOVER PULSE</td>
<td>DROP @ 25 LIFT @ 25</td>
</tr>
<tr>
<td>TM-5</td>
<td>HOUSE LIGHTS</td>
<td>DROP @ 20 LIFT @ 35</td>
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</tbody>
</table>
Parts needed to add the Cross Cue Function to a Series IV Automation:

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