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<u>**CHRISTIE AM8**
AUTOMATION SYSTEM</u>

The CHRISTIE AM8 Deluxe Automation provides all the functions necessary for today's multiplex theater operation.

System Highlights:

1. Console mounted Automation Unit.

2. Built-in SYNC Operation for 2 or more AM8. For more than 2 AM8 interlocked, see optional SYNC I/L package. *(See Note "A".)*

3. Remote Status System Interface.

4. Sloped Control Panel to prevent accidental switch actuation.

<u>**BASIC SYSTEM FEATURES CONTROL OF:**</u>

*   Projector Drive Motor
*   Xenon Lamphouse
*   Changeover Dowser
*   Exciter Lamp
*   Dolby Audio System *(or similar)*
*   House Light Dimmer
*   Stage Light Dimmer
*   Screen Curtain
*   Non-Sync *(dry and 120 VAC Output)*
*   Lights up early for House Light Dimmer
*   Built-in Alarm
*   Full Remote Control Capability
*   Curtain Slide Projector *[Option #]*
*   Fire Alarm System Interface *(Shutdown, House Light Panic ON)*

<u>**BUILT-IN CUE ENHANCEMENT SYSTEM PROVIDES:**</u>

*   Improved Cue Detector Sensitivity
*   Extended Duration Output Pulse
*   Self Diagnostic with MAN. CUE SWITCH & LED'S

MANUAL CONTROL SWITCHES PROVIDED FOR:

*   Projector Drive Motor
*   Xenon Lamp
*   Exciter Lamp
*   Changeover Dowser
*   Inboard, Cross Cue
*   House Light Dimmer
*   Stage Light Dimmer
*   Curtain
*   Lens/Masking Switch
*   Option #1
*   Option #2

BASIC SYSTEM SEQUENCE OF OPERATIONS:

A.   SHOW START:

    1.   Changeover CLOSE
    2.   Motor & Lamp ON
    3.   Non-Sync OFF
    4.   House Lights *[MID]* or DOWN
    5.   Stage Lights OFF
    6.   Changeover OPEN; Exciter ON
    7.   Dolby MONO

SHOW START SEQUENCE Continued

B.   CROSS FRAME CUE:

    1.   House Light Dimmer DOWN
    2.   Lens/Masking SCOPE or FLAT to Pre-select
    3.   Audio System MONO or STEREO to Pre-select

C.   INBOARD CUE:

1. House Light Dimmer *[MID]* or UP

D. OUTBOARD CUE:

1. House Light Dimmer*[UP]*
2. Stage Light Dimmer UP
3. Changeover CLOSE, Exciter OFF, Option #1 ON
4. Motor & Lamp OFF *(Selectable, as C.O. Closes or as Film Runs thru)*
5. Non-Sync ON
6. Dolby Non-Sync

[   ]   *DENOTES DIMMER POSITION WITH 3 POSITION DIMMER (with MID position)*

Note "A"

For multiple auditoriums, a Sync Selector Unit is available to SYNC 4 or 6 Automations in any of 4 different combinations. The Sync Selector Units may be ganged together for 8, 12, or 16 auditoriums, permitting any 4 SYNC operations at once.

CHRISTIE AM8
DELUXE CONSOLE
AUTOMATION-INSTALLATION INSTRUCTIONS*

The KELMAR DELUXE CONSOLE AUTOMATION is contained in one console mounted unit with dimensions as follows:

WIDTH	=	19"
HEIGHT	=	7"
DEPTH	=	14-1/2"

Refer to Riser Diagram *(Drawing No. 1309),* for the wires required between the Deluxe Automation and the various devices to be controlled. Verify the devices to be controlled, for example: is there a Curtain and a Masking motor?

Verify if the Automations will be INTERLOCKED or not, if they are to be interlocked, verify how any and where the SYNC SELECTOR MODULE*(S)* should be located. Refer to Instructions included with the SYNC MODULE and the SYN SELECTOR MODULE for Installation Details.

Verify what kind and type of REMOTE control system will be installed. The KELMAR DELUXE CONSOLE AUTOMATION can be used with the KELMAR DELUXE AUTOMATION REMOTE CONTROL or with the KELMAR REMOTE STATUS SYSTEM.

The KELMAR DELUXE AUTOMATION REMOTE CONTROL provides Remote operation of the: START and STOP buttons, Mode, ALARM Light and buzzer, Run Light, Fault Light , Stop Light.

The KELMAR REMOTE STATUS SYSTEM is available in 4, 6, and 8 Auditorium Modules, with or without an Alarm Latch, and provides PROJ. RUN, FAULT, and ALARM LIGHT and BUZZER for each Automation, and a RESET button for the Latch module.

Since the KELMAR DELUXE AUTOMATION can be used with a variety of Projectors, Audio System, Xenon Lamps, Dimmers etc. Consult the instructions furnished with the device for terminations. The KELMAR DIMMERS include an interface schedule for the automations terminations.

ALL CONTROL CIRCUITS *(except the 120 VAC Non-Sync term. 12, 13)* ARE DRY SWITCH CONTROL CIRCUITS.

For assistance with terminations **CONTACT: CHRISTIE, INC.**

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CHRISTIE AM8
DELUXE CONSOLE
AUTOMATION CUE PLACEMENT

GENERAL: The KELMAR DELUXE CONSOLE AUTOMATION utilizes 3 different Cues:

INBOARD CUE   -   Emulsion Side

OUTBOARD CUE   -   Emulsion side

CROSS CUE   -   Base Side, Across Frame Line

CUES ARE TO BE USED AS FOLLOWS:

CROSS CUE: Directs Automation to Pre-Selected "Feature" Mode Format. Switches S11 and S12, and Dimmer Down.

INBOARD CUE: Lights up early. *(Dimmer MID).*

OUTBOARD CUE: Show End. *(Dimmer UP).*

CUE PLACEMENT:

FOR PRESENTATION WITH SHOW START TRAILERS AND 1 FEATURE:

1.   Place a CROSS FRAME CUE between the show start Trailers and the Feature. This Cue should be placed 2' - 6" BEFORE the Feature.

2.   Place an INBOARD CUE at the START of the CREDITS.

3.   Place an OUTBOARD CUE 10' - 6' BEFORE the LAST frame of the show.

SET Switches S11 and S12 to Feature Format

SET Switch S14 to NORMAL

FOR PRESENTATION WITH 2 FEATURES: *(NO INTERMISSION BETWEEN FEATURES)*

1.   Place a CROSS FRAME CUE between the show start Trailers and the Feature. This Cue should be placed 2' -6" BEFORE the FEATURE.

2.   Place an INBOARD CUE at the START of the CREDITS *(Feature 1).*

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3.   Place a CROSS FRAME CUE 2' - 6" BEFORE Feature 2.

4.   Place an INBOARD CUE at the START of the CREDITS *(Feature 2).*

5.   Place an OUTBOARD CUE 10' - 6" BEFORE the LAST frame of the show *(Feature 2).*

SET Switches S11 and S12 to Feature 1 Format

RE-SET switches S11 and S12 during Feature 1 to Feature 2 Format.

SET switch S14 to NORMAL.

FOR PRESENTATIONS WITH 2 FEATURES *(INTERMISSION BETWEEN FEATURES):*

1.   Place a CROSS FRAME CUE between the show start trailers and the feature. This cue should be 2' - 6" BEFORE feature 1.

2.   Place an INBOARD CUE at the START of the CREDITS feature 1.

3.   Place an OUTBOARD CUE 10' - 6" BEFORE the END of feature 1.

4.   Place a CROSS FRAME CUE 25' - 0" AFTER the START of feature 2.

5.   Place an OUTBOARD CUE 10' -6" BEFORE the END of feature 2.

SET Switches S11 and S12 to feature 1 Format.

Switch S14 to AUTO-STOP

AFTER FEATURE 1

RE-SET Switches S11 and S12 to Feature 2 Format.

RE-SET Switch S14 to NORMAL.

RE-START AUTOMATION FOR FEATURE 2

GENERAL:

A CROSS CUE provides Lens/Masking and Audio Output from selector switches S11 and S12 and also a Dimmer Down Command. S11 and S12 have center OFF positions, if there is no format change, these switches may be left in the CENTER OFF position. An INBOARD CUE provides a Dimmer MID Command. If it is desired, to raise and Lower the House Lights, cue the show accordingly.

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CHRISTIE AM8
DELUXE CONSOLE
AUTOMATION-RELAY SCHEDULE

GENERAL:

There are two kinds of relays used in the KELMAR DELUXE CONSOLE AUTOMATION. The small relays are 4 pole double throw 12 VAC and the large relays are 3 pole double throw 12 VAC.

RELAYS ARE PLUG IN STYLE AND MAY BE INTERCHANGED.

PRINTED CIRCUIT BOARD RELAYS:

K1   START RELAY 4PDT, LATCHES via. TM2, Activated by Start Button or Interval Timer, Provides 120 VAC to timer motor, output to Latch K2 and K3 and 12 VAC to Latch K5 Hold relay. Drops out as TM2 opens. Will not activate with K6 activated *(failsafe down)*.

K2   START LATCH RELAY 4PDT, LATCHES via TM3, Activated by K1, energizes K7 ALARM LATCH, Connects TM2 to Interlock plug, Connects TM4 to K11. Drops out as TM3 opens.

K3   SHOW START RELAY 4PDT, LATCHES via TM3, Activated by K1, Switches C. O. Pulse from TM5 to K14 or K15. Switches Stage and House Light Dimmer circuits for Show Start. Drops out as TM3 opens.

K4　　　SHOW END RELAY 4PDT, LATCHES via TM3, Activated by OUTBOARD CUE Relay K17 via S14. Provides 120 VAC to timer motor, switches stage and house Lights Dimmer circuits to Show End. Drops out as TM3 opens

K5　　　HOLD RELAY 4PDT, LATCHES via K6, Activated by K1, stays Latched until K6 activates, Opens Non-Sync Circuit when Latched, provides 12 VAC to POWER relay K12, and K9, K10 and term. 34.

K6　　　FAILSAFE RELAY 4PDT, Activated by Failsafe Micro Switch or Stop button. Drops out K5, provides 12 VAC to Fault Light, switches ground to Auto Intermission Circuit.

K7　　　ALARM RELAY 4PDT, LATCHES via K11. Activated by K1, switches fault voltage to Alarm circuit, connects Auto Intermission Circuit. Drops out when K11 opens.

K8　　　AUTO STOP RELAY 4PDT, LATCHES via TM3. Activated by OUTBOARD CUE Relay K17 via S14. Energizes K4, connects Auto Stop circuit from K11 to K6.
　　　　　Drops out as TM3 opens.

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K9　　　CROSS CUE RELAY 4PDT, MOMENTARY, Activated by CROSS CUE, *(term. #28)* provides switching Logic to Pre-Select switches S11 and S12. Provides Dimmer Output to terminal 66, Latches K19 relay.
　　　　　Will only activate with K5 Latched.

K10　 INBOARD CUE RELAY 4PDT, MOMENTARY, Activated by INBOARD CUE, *(term. #27)* provides Dimmer output to terminal 67.
　　　　　Will only activate with K5 Latched.

K11　　C.O. CLOSE LOGIC RELAY 4PDT, MOMENTARY, Activated by TM5 via K3 or TM4 via K2, or terminal 32. Provides Hold for; Interlock *(term. #38)*, Alarm Relay K7, and Exciter relay K13.
　　　　　Provides Auto Stop Logic to K8.

K14　　C.O. OPEN RELAY 3PDT MOMENTARY, Activated by TM5 via K3. Provides C.O. Open, Logic to K13, and provides a MONO Audio Pulse *(term. #46).*

K15　　C.O. CLOSE RELAY 3PDT MOMENTARY, activated by TM5 via K3 or TM4 via K2, or terminal 32. Provides C.O. Close *(term. #60)* C.O.N.C. *(term. #61)*, NON-SYNC *(term. #48),* and AUTO FLAT to board switch S1.

K16　　DIMMER OPTION RELAY 4PDT *(OPTIONAL)*

K17　　OUTBOARD CUE RELAY 4PDT MOMENTARY, Activated by OUTBOARD CUE, provides cue Logic to S14, and Curtain Close *(term. #44).*

K18   CURTAIN OPEN RELAY 4PDT MOMENTARY, Activated by TM5 via K3, provides Curtain Open Logic *(term. #43)*.

K19   FEATURE LATCH RELAY 4PDT LATCHES via K9, provides Logic to PL-2 feature L.E.D. Stays Latched until K5 opens.
   Will not activate unless K5 is latched.

CHASSIS MOUNTED RELAYS:

K12   POWER RELAY 3PDT LATCHES activated when K5 Latched. Switches Motor *(term. #54, #55)* and Lamp *(term. #56, #57).* Activated as long as K5 Latched.

K13   EXCITER RELAY 3PDT LATCHES via K11, Switches Exciter *(term. #62, 63)* and Option #1 *(term. #74, #75).* Activated by K14, drops out when K11 opens.

K20   FIRE ALARM INTERFACE RELAY Activated by grounding term. 20 *(F/A SYSTEM)*; closes terminals 21, 22 *(Dimmer panic on);* Activates K6 Failsafe relay.

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CHRISTIE AM8
DELUXE CONSOLE
AUTOMATION-CONTROL PANEL SWITCH SCHEDULE

AUTOMATION CONTROL SWITCHES:

SWITCH   **FUNCTION**

PB - 1   AUTOMATION START BUTTON, press to START show with Automation. Button Lights to indicate that PROJECTOR is running.

   PLEASE NOTE: Automation WILL NOT START WITH FAILSAFE DOWN.

PL - 1   TIMER CYCLE LIGHT - Indicates that cam Timer is in CYCLE. Will Light after start button is pressed or OUTBOARD CUE has been detected.

PB - 2   AUTOMATION STOP/RESET BUTTON, press to STOP show while running Automation. Top Light indicates that PROJECTOR is NOT Running, Button Light indicates

that the FAILSAFE is DOWN *(FAULT). The Automation WILL NOT START if the "Fault" Lights is ON.*

S11   AUDIO FEATURE PRE-SELECT *(CROSS CUE)* - Pre-set to MONO or STEREO or Feature Format activated by CROSS CUE, or S13.

S12   LENS/MASKING FEATURE PRE-SELECT *(CROSS CUE)* - Pre-set to SCOPE or FLAT for Feature Format activated by *Cross Cue*, or 13.

S4   MANUAL CUE SWITCH - Used to MANUALLY provide an INBOARD or CROSS CUE. INBOARD position provides House Dimmer MID Output, CROSS position provides FEATURE pre-selects of S11 and S12. Use to RE-START the Show after a Film Break, or special showings.

S14   SHOW END MODE used to select the Function of the OUTBOARD CUE to either NORMAL, the projector shuts off after the tail runs through, or AUTO-STOP *(Mid-Platter Intermission) the projector shuts off as the C.O. Closes).*

PL - 2   FEATURE MODE L.E.D., Lights after CROSS CUE has been detected or Manually advanced by S13.

S15   POWER ON-OFF SWITCH, Turns Power to Automation Unit ***ON or OFF.***

PB - 3   SYNC I/L ON-OFF *(Part of sync I/L option)*

PB - 4   SYNC I/L RE-START *(Part of sync I/L option)*

S1   MANUAL MOTOR, Turns Projector Motor ON or OFF Manually. Leave in AUTO position for Automation Operation.

S2   MANUAL LAMP SWITCH, Turns Xenon Lamp ON or OFF Manually. Leave in AUTO position for Automation Operation.

S3   MANUAL C.O., Opens or Closes CHANGEOVER Manually, ***PLEASE NOTE: S3 Will Not Close C.O. If A Normally Closed,*** energized while OPEN C.O. is used (*term. #61).* However, a Normally Closed C.O. will function properly with Automation.

S4   MANUAL EXCITER SWITCH, used to turn EXCITER LAMP ON or OFF Manually. Leave in AUTO position for Automation Operation.

S5   MANUAL HOUSE DIMMER, Controls DIMMER Manually, Connected to *Terminals #64, #66, and #68.*

S6   MANUAL STAGE DIMMER, Controls STAG DIMMER Manually, Connected to *Terminals #69, #70 and #71.*

S7   MANUAL CURTAIN, Controls CURTAIN Manually, Connected to *Terminals #42, #43 and #44.*

S8   MANUAL LENS/MASKING SWITCH, Manually controls LENS, Changer or MASKING connected to *Terminals #23, #24 and #25.*

S9   *OPTION #1* Used for Light Curtain, or Intermission Slide Projector Control; *In ON position the device will be ON at all times, In OFF, it will be OFF at all times, In AUTO it will go OFF as the C.O. OPENS and come ON as the C.O. CLOSES.*

Leave in AUTO position for Automation Operation.

S10   *OPTION #2* User assigned, not wired as shipped.

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CHRISTIE AM8
DELUXE CONSOLE
AUTOMATION TERMINATIONS

1.   120 VAC FEED TO THIS UNIT *   * FOR SYNC. I/L OPERATION*

2.   120 VAC NEUTRAL FEED TO THIS UNIT   *ALL AUTOMATION*

3.   GROUND *[SWITCHING COMMON]*   *MUST BE ON THE*

4.   MOTOR FEED *(120 VAC TO C; B;)*   *SAME PHASE.*

5.   PROJECTOR DRIVE MOTOR

6. XENON LAMP

7. XENON LAMP

8. C; O; FEED *(120 VAC TO C; B;)*

9. C; O; OPEN COIL

10. C; O; CLOSE COIL

11. C; O; NORMALLY CLOSED *[CINEMECCANICA]*

12. EXCITER *[INPUT FROM EXCITER SUPPLY]*

13. EXCITER LAMP

14. HOUSE DIMMER FEED

15. HOUSE DIMMER SHOW START *[MID]*

16. HOUSE DIMMER CROSS CUE *[DOWN]*

17. HOUSE DIMMER INBD, CUE *[MID]*

18. HOUSE DIMMER SHOW END *[UP]*

19. STAGE DIMMER FEED

20. STAGE DIMMER UP

21 STAGE DIMMER DOWN

22. SCREEN PROJECTOR FEED *[LIGHT CURTAIN]*

23. SCREEN PROJECTOR

24. NON-SYNC *(DRY)*

25. NON-SYNC *(DRY)*

26. GROUND *[SWITCHING COMMON]*

27. AUDIO SWITCHING FEED

28. AUDIO SWITCHING MONO

29. AUDIO SWITCHING STEREO

30. AUDIO SWITCHING NON-SYNC

31. OUTBOARD CUE ROLLER

32. INBOARD CUE ROLLER

33. CROSS CUE ROLLER

34. FAILSAFE MICRO SWITCH

35. GROUND *[SWITCHING COMMON]*

36. REMOTE AUTOMATION START -*(1 POLE N; O; BUTTON)*

37. REMOTE C.O. CLOSE *[FOR USE WITH SS-2000 I/L]*

38. REMOTE STOP BUTTON - *(1 POLE N; O; BUTTON)*

39. REMOTE PROJ. RUN LIGHT *(12 VAC OUT, PROJ. RUNNING AUTO)*

40. REMOTE PROJ. STOP LIGHT *(12 VAC OUT, PROJ. STOPPED AUTO)*

41. REMOTE FAULT LIGHT *(12 VAC OUT, FAILSAFE DOWN)*

42. REMOTE ALARM OUTPUT *(12 VAC OUT, FILM BREAK)*

43. HOLD FOR I/L *[FOR USE WITH SS-2000 I/L]*

44. 12 VAC CONSTANT

45. GROUND [SW. COMM.

    ]STRAP, (REMOVE FOR SYNC OPERATION)

46. C.O. CLOSE LOGIC

47.   K20 COIL *(FIRE ALARM INTERFACE)*

48.   CURTAIN CONTROL FEED

49.   CURTAIN CONTROL OPEN

50.   CURTAIN CONTROL CLOSE

51.   HOUSE DIMMER PANIC FEED

52.   LENS/ or MASKING CONTROL FEED

53.   LENS/ or MASKING CONTROL FLAT

54.   LENS/ or MASKING CONTROL SCOPE

55.   HOUSE DIMMER PANIC ON

56.   GROUND *[SW. COMM.]*

57.   START LOGIC OUT

] STRAP, REMOVE FOR USE WITH #86010 ONLY

58.   START CIRCUIT IN

59.   NON-SYNC 120 VAC OUT

60.   NON-SYNC 120 VAC OUT *(NEUTRAL)*

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KELMAR #85020-3 DELUXE
AUTO SYNC OPTION INSTRUCTIONS*

GENERAL:

The KELMAR #85020-3 SYNC OPTION is an OPTIONAL Interlock system, to allow running one print in several auditoriums a the same time. It may be used with the KELMAR DELUXE AUTOMATION or Automation must have the #85020-3 Sync Option 2. Automations may be interfaced so that the print can be run in 2 auditoriums at one time. For more than 2, a SYNC SELECTOR MODULE is available in 4 or 6 Auditorium modules which permits interlocking any 4 combinations of auditoriums as required.

See instructions with SYNC SELECTOR MODULE. These instructions are for 2 Automation Systems.

SYNC SELECTOR MODULE PART NUMBERS ARE AS FOLLOWS:

> **85028-4**   *4 Auditorium Sync Selector Module*
>
> **85028-6**   *6 Auditorium Sync Selector Module*
>
> **#85020-3 SYNC MODULE** - *For Interlock each Automation requires a*

#85020-3 SYNC MODULE**.** The Sync Module is comprised of:

Sync Module Chassis

*Sync Control Illuminated Pushbutton***

*Sync Control MAN. CUE SYNC I/L (Re-Start) Button*** *

* *MOUNTED ON AUTOMATION CONTROL PANEL*

** *PROVIDED ON CONTROL PANEL OF ALL NEW AUTOMATIONS.*

INSTALLATION:

The KELMAR #85020-3 SYNC OPTION is the updated version of the #85020-1 SYNC OPTION. It may be used with the new style KELMAR DELUXE AUTOMATION, CHRISTIE AM7 or with earlier KELMAR AUTOMATION units.

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The #85020-3 may be installed in the KELMAR DELUXE AUTOMATION system at the factory if it was ordered with the Automation System, or it may be readily added in the field.

Installation in the field requires mounting the components and plugging them in.

Check the Automation System control panel, right side. On the NEW style there is 1 hole in the panel for the SYNC OPTION. For an OLDER style systems, the re-start button will have to be added. The re-start button is a 1 pole NORMALLY OPEN pushbutton. Install the re-start button in the control panel hole provided and connect the Brown and White/Green wires. If there is no hole or wires, mount the button wherever it is convenient and connect to the automation in accordance with *KELMAR Drawing No.1296*

FIELD INSTALLATION of the #85020-3;

Mount the Sync Module Chassis to the button of the KELMAR cabinet, or to the chassis side bracket of the CHRISTIE AM7 *(Mounting holes provided)* with the 2-#6/32 x 3/8" screws and nuts provided so the nuts are on the inside of the cabinet, or inside the chassis of the AM7. Remove the relays from their sockets to gain access to the nuts.

The #85020-3 Chassis should be located so that the relays face the front of the KELMAR cabinet or UP on the AM7.

Mount the SYNC CONTROL ILLUMINATED as follows:

Snap out the Black Hole plug on the Control Panel. Insert the plug of the Sync Control Button through the front of the control panel. Locate the button so that the protector hinge is at the top. Press the button firmly into the control panel.

Route the wire from the Sync Control Button BEHIND the KELMAR main automation chassis. Plug the Sync Control Button plug into the mating plug on the Sync Module Chassis. For the AM7, route the wire to the SYNC MODULE chassis and coil up the slack.

Remove Jumper Plug P1 from the main chassis and plug in the harness of the Sync Module Chassis.

DO NOT DISCARD JUMPER PLUG IT MAY BE REQUIRED FOR SERVICE OR TESTING IN THE FUTURE. LEAVE JUMPER PLUG IN THE AUTOMATION CABINET.

Remove the STRAP on the KELMAR Automation Terminal Strip between *(term. #14 - #15)*.
For CHRISTIE AM7, remove STRAP between *(term. #45 - #46)*.

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INTERFACE:

Refer to Drawing No. 1296 for Interface information.

It is MODULE is to be used, refer to instructions and interface drawing furnished with the SYNC SELECTOR MODULE. These instructions are for 2 automations.

BOTH AUTOMATION SYSTEMS MUST BE ON THE SAME PHASE FOR SYNC OPERATION. If systems are out of PHASE a shutdown will occur as the failsafes are paralleled.

For 2 Automation systems, connect as called for on *Drawing No. 1296*. Please note that the red wire is connected at ONE system ONLY. PHASE TEST AT OPPOSITE AUTOMATION.

EMERGENCY STOP BUTTON:

A 1 pole NORMALLY CLOSED Emergency Stop button may be added. This button is provided on the SYNC SELECTOR MODULES. Remove the jumper on the SYNC MODULE chassis between *(terminals #4 - #5)* and connect 1 side of the button to 4, the other side to 5.

PHASE TEST: *(FOR 2 SYSTEMS):*

Requires the use of an A.C. Voltmeter, 30 Volt Scale, both Automation turned ON. Take readings between the RED wire KELMAR Terminal 13, or the RED wire and AM7 terminal 44. The reading should be 0. If it is 24 Volts, one of the units is out of phase. Relocate the A.C. supply to the automation unit until proper phasing is achieved. Re-Test with the RED wire until reading is 0.

TESTING: *After both units are installed and wired and Phase test has been completed, Test the system as follows:*

1.   Tie up both FAILSAFE arms for testing.

2.   Lift Button Protector and TURN ON BOTH SYNC UNITS by pressing button IN. WHEN THE BUTTON IS " IN " THE SYNC SYSTEM IS " ON " and the YELLOW Light in the button is Lit.

3.   Press any Automation START Button, both C.O. Dowsers should close and both machines should start.

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4.   Simulate an OUTBOARD CUE at each Automation. As the CUE is detected, the Automation should go through Show Start Cycle The BLUE Light in the SYNC CONTROL button should

come ON, indicating that SYNC MODULE RELAY K3 is energized and the Failsafe is connected to the parallel bus.

5.   After BOTH SYNC Lights are ON, press a STOP Button, Both machines should shut down, and go into an INTERMISSION Cycle.

6.   After Both Automation timers have stopped cycling, Re-Start by pressing any Automation START Button as in 3. Go around and press each MAN CUE SYNC I/L *(Re-Start)* button, the Automation Time should cycle as the
          Re-Start button is pressed.

7.   After BOTH SYNC Lights are ON and Automation Timers have stopped cycling, go around and simulate an OUTBOARD CUE at each Automation. The Automation will go through Intermission Cycle, as the C.O. closes, the SYNC Light in the SYNC CONTROL will go OFF indicating the Failsafe is no Longer Paralled.

8.   Drop the Failsafe, that machine will STOP, the other will continue to run. Repeat at the other automation.

9.   Turn OFF Sync Selector buttons by pressing IN and allowing them to come back OUT, OFF position, YELLOW Light OFF.

THIS COMPLETES THE SYSTEM TEST

OPERATION:

For SYNC *(INTERLOCK)* Operation, a Foil CUE must be placed on the LEADER of the Show, OUTBOARD SIDE so that it is detected 7 seconds *(approximately 10.5 feet)* AHEAD of the first frame of the Show.

Do Not Use Mylar Leader For Sync Operation, Damage To Equipment Can Result.

IF IT NECESSARY TO STOP THE SYNC I/L SYSTEM AS SOON AS IT HAS STARTED *(prior to CUE being detected).* Use the Emergency Stop Button or TURN OFF THE SYNC I/L SELECTOR SWITCHES.

It is suggested that the SYNC I/L system be started from the second machine.

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Thread the film through the system. Turn on the SYNC CONTROL by pressing buttons IN, " ON " *[YELLOW Light ON].* Place the "SHOW END MODE" switches in the "NORMAL" position. Press any START button. As the OUTBOARD CUE is detected, that automation will cycle a Show Start, putting the Show on the Screen. At the END of the Show the normal OUTBOARD CUE will cycle the Automations into an Intermission cycle. As the C.O. Closes, the SYNC Light in the Sync Control Button will go out. As the tail runs through, that machine will shut down while the other keeps running.

FILM BREAK:

If there is a film break while running Interlock, the Automations will cycle into an Intermission Mode. Repair the film break and Re-Thread the film through the System. Press ANY START button, after the machines are up to speed, go around and press the MAN. CUE SYNC I/L *(Re-Start)* buttons on each Automation to put the show back on the screen.

To return to normal operation after running Interlock, turn OFF each Sync Module by pressing the SYNC CONTROL Button. The button will come back out, "OFF".*[YELLOW Light OFF].*

IN CASE OF DIFFICULTY:

Remove Sync plug from Automation Chassis and install jumper plug. If problem persists, the problem is with the Automation, if the problem goes away, it may be in the Sync Module.

The MAN. CUE SYNC I/L Button is only active with the SYNC ON and after the START Button is pressed, prior to the cue being detected. Once the BLUE Light comes ON the MAN. CUE SYNC I/L Button is no longer in the circuit.

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