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INSTRUCTION MANUAL

SPA-7

AUTOMATION CONTROLLER

Rev. 6-92



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OPERATION AND INSTALLATION MANUAL
Strong SPA-7 Automation System
June, 1992

SYSTEM SPECIFICATION

PROJECTION BOOTH FUNCTIONS:

Projector & Lamphouse ON/OFF; Exciter Lamp ON/OFF; Changeover OPEN/CLOSE; Film Sound MONO/STEREO/SPECIAL; Lens & Masking FLAT/SCOPE/SPECIAL.

AUDITORIUM FUNCTIONS:

Curtain OPEN/CLOSE; "Curtain Call" (Optional); House Lights FULL UP/HALF DOWN/FULL DOWN/HALF UP; Stage Lights FULL UP/FULL DOWN. "Curtain Call" closes and re-opens the curtains between Trailers and the Feature.

OTHER FEATURES:

Remote Station Compatible allowing Remote START/STOP with Remote Alarm.

Interlocked Operation: SPA-7's may be interlocked by only four wires between controllers. Interlocked operation permits projection of one platter-loaded print in two or more projectors.

Format selectable by rotary switches on control panel. TRAILER Format allows choice of MONO - STEREO - SPECIAL; LENS/MASKING selections are FLAT - SCOPE - SPECIAL.

Manual Overrides for all functions.

Normal Open/Normal Closed Contacts for Slide Projector.

CUEING:

Place cueing tape on the edge of the SOUNDTRACK side of the film at (1) the END of the TRAILERS prior to the start of the feature, (2) the START of the CREDITS at the end of the feature, and (3) near the END of the CREDITS, at the point where curtain closure begins. Some experimentation will determine the best location for each cue.

If operating in interlocked (sync) mode, an additional cue is required at the start of the trailers. See Section 3.0 following.

1.0 PRODUCT OVERVIEW

The Strong SPA-7 Automation has been designed to provide a reliable, cost effective method of automating projection booth and auditorium functions. The SPA-7 will control the following Booth Functions:

- A. Projector Motor
- B. Xenon Lamphouse
- C. Exciter Lamp Supply
- D. Auto Lens/Aperture Changer
- E. Sound Format
- F. Changeover

In addition, it will control the following Auditorium Functions:

- A. House and Stage Lights
- B. Curtain
- C. "Curtain Call" (Optional)
- D. Masking

1.1 SPA-7 CONTROL PANEL

The SPA-7 Control Panel can be broken down into four basic sections, as follow:

1. Power Switch and Indicator Light.
2. Trailer and Show Format Selector Switches, and Indicator Lights to give visual indication of Show Status: TRAILER, SHOW, CREDIT and END OF SHOW.
3. Operating Switches: RUN, STOP, MANUAL CUE, RESUME, BYPASS, ALARM, and SYNC.
4. Manual Override Switches for Booth and Auditorium Functions.

2.0 NORMAL OPERATIONS

In Consoles which are received pre-wired from the factory, initial set-up and operation are quite simple.

Before power-up, the SPA-7 must be configured for the desired presentation. This is done by means of jumpers on the Main Board. Positions of the jumpers set the following parameters:

2.0 NORMAL OPERATIONS (con't.)

Jumper Settings

W-2 is used only if the optional "Curtain Call" board is installed. If this board is used, the jumper on **W-1** is used to **disable** "Curtain Call" if the optional board is installed, but not to be used.

When the **W-1** jumper is between **1 & 2**, "Curtain Call" is **disabled**; when placed between **2 & 3**, "Curtain Call" is **enabled**.

W-3 makes Light Outputs **maintained** rather than **pulsed**. For **maintained** light contacts, place jumper on **W-3**.

W-4 selects mode of shutdown. When **no** jumper is in place, the projector motor and the xenon lamphouse will continue to run until the failsafe switch detects film run-out. With the jumper in place, the motor and lamp will shut down at the END OF SHOW Cue, and this mode could be used for a double feature presentation.

Once the jumpers have been installed, the unit may be powered up. This is done by depressing the POWER switch on the SPA-7 front panel; the POWER light will glow to indicate that the unit is powered up. There are two timers on the Main Board which must be set. The first timer is labeled **TMR1**. **TMR1** controls the length of time required for an automatic turret to cycle through a lens change. If **no** autoturret is used, set **TMR1** to (3) seconds. **TMR2** is set to the length of time required for the curtains to close. If the optional "Curtain Call" feature is used, set the time for curtain closure, and add (1) second. Once both timers have been set, select TRAILER and SHOW Formats.

When the RUN button is depressed, the SPA-7 will immediately cycle equipment to the selected status under TRAILER Format. The choices are MONO, STEREO, or SPECIAL Sound, and FLAT, SCOPE, or SPECIAL Picture Formats. The House Lights will go to HALF DOWN state, and the Stage Lights will go FULL DOWN. The TRAILER L.E.D. will light to indicate the the SPA-7 is in the TRAILER Format.

When the SPA-7 detects the first cue, it will advance to the SHOW Format settings. SHOW Formats are selected the same as TRAILER Formats **with one exception**: If TRAILER and SHOW Picture Formats are the same (FLAT and FLAT, SCOPE and SCOPE), the LENS/MASKING switch should be set to the "SAME" position. This eliminates a lens changing cycle. The House Lights will go to FULL DOWN, and the SHOW L.E.D. will indicate that the SPA-7 is in SHOW Format.

When the SPA-7 detects the second cue, the House Lights will go to the HALF UP state for the credits. The CREDIT L.E.D. will light to indicate that the SPA-7 is in CREDIT mode.

2.0 NORMAL OPERATIONS (con't.)

When the SPA-7 detects the third cue, the following occurs: If curtains are being used, and TMR2 is set properly, the curtains will begin to close, and House and Stage Lights will go FULL UP. When TMR2 times out, the picture changeover douser will close, and Sound will switch to NON-SYNC. The projector motor and the lamphouse will shut down as determined by the setting of the W-4 jumper. When the motor and lamp are shut down, the "AUX." projector relay (if used) will be engaged.

3.0 INTERLOCKED OPERATION ("SYNC")

Before interlocked operation can be implemented, refer to the Installation section of this manual for instructions for wiring the SPA-7 for this type of operation. The four wires required for synchronous operation are SYNC START, SYNC RESUME, SYNC FAILSAFE, and GROUND.

Once this wiring is completed, operations are the same as in non-interlocked mode, except as stated below. Prior to start-up, make certain all machines to be interlocked are set to the same Format and all have SYNC buttons depressed; the red L.E.D. will light to indicate that a machine is in Interlocked mode.

When running in interlocked mode, the SPA-7 requires the addition of one extra cue at the beginning of the film. When the RUN button is depressed, all motors and lamps will start, House and Stage Lights will react normally, but all other functions will not take place until the first cue is detected. Once the first cue is detected, the SPA-7 will run as if in non-interlocked mode. The exact placement of the first cue will require some initial experimentation to correctly time the douser opening.

If for any reason a STOP button on any interlocked machine is pressed, or if a film break occurs, all interlocked machines will bring House Lights FULL UP, and all machines will shut down. The ALARM will sound, and the STOP light will glow at the machine at which the break occurred. The ALARM may be reset by depressing the ALARM button on the SPA-7 front panel. Operation may be resumed by pressing the RESUME button on any interlocked SPA-7. The show will be restarted exactly where it was stopped. To avoid start-up delay (TMR1), depress the BYPASS button on each interlocked machine, and then press any RESUME button. When BYPASS is depressed, the douser opens and the sound begins immediately.

At the end of the film, each motor and lamp will shut down as individual failsafe switches detect film run-out.

SPA-7 TERMINATION SCHEDULE

P1-1	End of Show L.E.D.	P4-9	Lens FEED
P1-2	SHOW L.E.D.	P4-10	Sync RESUME
P1-3	SCOPE Mask	P4-11	Mask FEED
P1-4	FLAT Mask	P4-12	"Special" Mask
P1-5	Curtain OPEN	P4-13	FLAT Mask
P1-6	+12 V.	P4-14	SCOPE Mask
P1-7	Curtain CLOSE		
P1-8	Curtain FEED	P5-1	Alarm
P1-9	CREDIT L.E.D.	P5-2	Alarm FEED
P1-10	TRAILER L.E.D.	P5-3	"Special" Sound
P1-11	"Special" Mask	P5-4	STEREO
P1-12	Mask FEED	P5-5	MONO
		P5-6	Sound FEED
P2-1	Fault OUT	P5-7	Houselights HALF DOWN
P2-2	RUN L.E.D.	P5-8	Houselights HALF UP
P2-3	End of Show	P5-9	Houselights DOWN
P2-4	Remote Power Fused	P5-10	Houselights FEED
P2-5	Remote RETURN	P5-11	Houselights UP
P2-6	Remote START	P5-12	Stagelights UP
P2-7	Remote STOP	P5-13	Stagelights FEED
P2-8	Sync Failsafe	P5-14	Stagelights DOWN
P2-9	Failsafe IN		
P2-10	Cue	P6-1	SCOPE Lens
		P6-2	FLAT Lens
P3-1	START	P6-3	"Special" Lens
P3-2	RESUME	P6-4	Stagelights DOWN
P3-3	Alarm CANCEL	P6-5	Stagelights COMMON
P3-4	Remote Power Fused	P6-6	Stagelights UP
P3-5	Remote RETURN	P6-7	Houselights UP
P3-6	Remote START	P6-8	Houselights COMMON
P3-7	Remote STOP	P6-9	Houselights DOWN
P3-8	Sync Failsafe	P6-10	Sound/Trailer
P3-9	SYNC	P6-11	Sound/Show
P3-10	Ground	P6-12	Lens/Show
P3-11	FAULT L.E.D.	P6-13	Lens/Trailer
P3-12	+12 V.	P6-14	Lens COMMON
		P6-15	SCOPE Control
P4-1	Curtain OPEN	P6-16	FLAT Control
P4-2	Curtain FEED	P6-17	"Special" Lens Control
P4-3	Curtain CLOSE	P6-18	Stereo
P4-4	"Special" Lens	P6-19	Mono
P4-5	FLAT Lens	P6-20	"Special"
P4-6	Non-Sync	P6-21	SAME
P4-7	Non-Sync FEED	P6-22	Ground
P4-8	SCOPE Lens		

TERMINATION SCHEDULE (con't.)

P7-1 Motor
P7-2 Motor FEED
P7-3 Lamp
P7-4 Lamp FEED
P7-5 (no connection)
P7-6 C/O COMMON
P7-7 C/O OPEN
P7-8 (no connection)
P7-9 Exciter
P7-10 Exciter FEED
P7-11 (no connection)
P7-12 C/O CLOSE
P7-13 Aux. Proj. N.O.
P7-14 Aux. Proj. COMMON
P7-15 Aux. Proj. N.C.

P8-1 Motor
P8-2 Motor FEED
P8-3 Lamp
P8-4 Lamp FEED
P8-5 (no connection)
P8-6 C/O COMMON
P8-7 C/O OPEN
P8-8 (no connection)
P8-9 Exciter
P8-10 Exciter FEED
P8-11 (no connection)
P8-12 C/O CLOSE

INTERCONNECTIONS

Motor	P1-1	TB1-18
Motor FEED	P1-2	TB1-19
Lamp	P1-3	TB1-16
Lamp FEED	P1-4	TB1-17
C/O COMMON	P1-6	TB1-13
C/O OPEN	P1-7	TB1-12
Exciter	P1-9	TB1-14
Exciter FEED	P1-10	TB1-15
C/O CLOSE	P1-12	TB1-11
Aux. Proj. N.O.	P1-13	TB1-8
Aux. Proj. COMMON	P1-14	TB1-10
Aux. Proj. N.C.	P1-15	TB1-9
Curtain OPEN	P2-1	TB1-6
Curtain FEED	P2-2	TB1-7
Curtain CLOSE	P2-3	TB1-5
"Special" Lens	P2-4	TB2-1
FLAT Lens	P2-5	TB2-3
Non-Sync	P2-6	TB2-6
Non-Sync FEED	P2-7	TB2-7
SCOPE Lens	P2-8	TB2-2
Lens FEED	P2-9	TB2-4
Sync RESUME	P2-10	TB3-5
Mask FEED	P2-11	TB1-4
"Special" Mask	P1-12	TB1-1
FLAT Mask	P2-13	TB1-3
SCOPE Mask	P2-14	TB1-2
Chassis Ground	P2-15	
Alarm	P3-1	TB3-11
Alarm FEED	P3-2	TB3-12
"Special" Sound	P3-3	TB2-8
Stereo	P3-4	TB2-9
Mono	P3-5	TB2-10
Sound FEED	P3-6	TB2-11
Houselights HALF DOWN	P3-7	TB2-16
Houselights HALF UP	P3-8	TB2-15
Houselights DOWN	P3-9	TB2-17
Houselights FEED	P3-10	TB2-19
Houselights UP	P3-11	TB2-18
Stagelights UP	P3-12	TB2-13
Stagelights FEED	P3-13	TB2-14
Stagelights DOWN	P3-14	TB2-12
Chassis Ground	P3-15	

INTERCONNECTIONS (con't.)

Fault OUT	P4-1	TB3-19
Remote SHOW ON	P4-2	TB3-18
Remote END OF SHOW	P4-3	TB3-17
Remote POWER	P4-4	TB2-16
Remote RETURN	P4-5	TB3-15
Remote START	P4-6	TB3-14, 3
Remote STOP	P4-7	TB3-13
Sync Failsafe	P4-8	TB3-4
Failsafe IN	P4-9	TB3-10
Cue IN	P4-10	TB3-9
Chassis Ground	P4-11	

TERMINAL BOARD CONNECTIONS

TB1-19	Projector Feed	TB2-8	"Special" Sound
TB1-18	Projector	TB2-7	Non-Sync Feed
TB1-17	Lamp Feed	TB2-6	Non-Sync
TB1-16	Lamp	TB2-5	(Spare)
TB1-15	Exciter Feed	TB2-4	Lens Feed
TB1-14	Exciter	TB2-3	Lens Flat
TB1-13	Changeover Feed	TB2-2	Lens Scope
TB1-12	Changeover Open	TB2-1	Lens "Special"
TB1-11	Changeover Close		
TB1-10	Aux. Projector Feed	TB3-19	Remote Fault
TB1-9	Aux. Projector N.C.	TB3-18	Remote Show On
TB1-8	Aux. Projector N.O.	TB3-17	Remote End of Show
TB1-7	Curtain Feed	TB3-16	+12 V.DC (.5 A. Max.)
TB1-6	Curtain Open	TB3-15	Remote Return
TB1-5	Curtain Close	TB3-14	Remote Start
TB1-4	Mask Feed	TB3-13	Remote Stop
TB1-3	Mask Flat	TB3-12	Alarm Feed
TB1-2	Mask Scope	TB3-11	Alarm
TB1-1	Mask "Special"	TB3-10	Failsafe In
		TB3-9	Cue In
TB2-19	Houselights Feed	TB3-8	(Spare)
TB2-18	Houselights Up	TB3-7	(Spare)
TB2-17	Houselights Down	TB3-6	Ground
TB2-16	Houselights Half Down	TB3-5	Sync Resume
TB2-15	Houselights Half Up	TB3-4	Sync Failsafe
TB2-14	Stagelights Feed	TB3-3	Sync Start
TB2-13	Stagelights Up	TB3-2	(Spare)
TB2-12	Stagelights Down	TB3-1	(Spare)
TB2-11	Sound Processor Feed		
TB2-10	Mono		
TB2-9	Stereo		





