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INSTRUCTION MANUAL

STRONG SPA-5
AUTOMATION SYSTEM

Issue 10-85

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A member of the Strong International team

SPA-5 AUTOMATION

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STRONG SPA-5 AUTOMATION

SYSTEM DESCRIPTION:

THE STRONG SPA-5 AUTOMATION SYSTEM UTILIZES SOLID STATE TIMING TO CONTROL VIRTUALLY ANY FUNCTION DESIRED IN THE MODERN PROJECTION BOOTH. THE BASIC SYSTEM CONTROLS ALL THE FOLLOWING FUNCTIONS:

(A) PROJECTOR
(B) LAMP
(C) CHANGEOVER
(D) NON-SYNC SOUND
(E) EXCITER LAMP
(F) HOUSELIGHT CONTROL

THE BASIC SYSTEM COMES COMPLETE WITH A PROGRAM SELECTION FEATURE FOR INTERMISSION STOP FOR LONG FEATURES OR SPLIT SHOWS. THE BASIC SYSTEM ALSO INCORPORATES TWO VERY IMPORTANT STANDARD FEATURES IN THAT THE HOUSELIGHT CONTROL IS GIVEN A RAISE PULSE IF A FILM SHOULD BREAK AND THE SYSTEM HAS A BUILT-IN ALARM LOGIC CIRCUIT THAT WILL DISABLE THE ALARM CIRCUIT IF THE SYSTEM GOES THROUGH A NORMAL SHUTDOWN. EACH SYSTEM COMES COMPLETE WITH A COMBINATION SPLIT FILM FAILSAFE/DOUBLE CUE DETECTOR.

A UNIQUE ADVANTAGE OF THE SPA-5 AUTOMATION IS THAT IT IS EXPANDABLE EITHER AT THE FACTORY OR IN THE FIELD TO ACCOMMODATE DESIRED PRESENTATION FORMATS. ALL OF THESE OPTIONS CAN BE INCORPORATED IN THE BASIC SPA-5 AUTOMATION PACKAGE RATHER THE UNIT BE WALL MOUNTED, CONSOLE MOUNTED OR IN THE VIP PACKAGE...THE OPTIONS FOR THE SPA-5 ARE AS FOLLOWS:

SD-2 DIMMER

THIS PROVIDES FOR TWO COMPLETE CIRCUITS OF 2000 WATTS EACH FOR CONTROL OF BOTH HOUSE AND STAGE LIGHTS. THE CONTROL MODULE FOR THE SOLID STATE DIMMER IS MOUNTED ON THE SPA-5 MAIN CHASSIS AND THE POWER MODULES ARE LOCATED NEAR THE POWER DISTRIBUTION PANEL TO MINIMIZE HIGH VOLTAGE WIRING. THE SD-2 HAS BUILT-IN LOGIC TO ALLOW FOR A HALF-LIGHT LEVEL ON THE HOUSELIGHTS DURING PREVIEWS AND CREDITS. IF THE SD-2 DIMMER IS ORDERED WITH THE SPA-5 AUTOMATION, STRONG WILL ALSO PROVIDE AT NO CHARGE A SOUND MODULE WITH THE SYSTEM. DIMMER CIRCUITS CAN BE EXPANDED IN INCREMENTS OF 2000 WATTS AT A NOMINAL CHARGE.

SD-1 DIMMER

THIS PROVIDES FOR ONE COMPLETE CIRCUIT OF 2000 WATTS FOR CONTROL OF HOUSE-LIGHTS. THE CONTROL MODULE FOR THE SOLID STATE DIMMER IS MOUNTED ON THE SPA-5 MAIN CHASSIS AND THE POWER MODULE IS LOCATED NEAR THE POWER DISTRIBUTION PANEL TO MINIMIZE HIGH VOLTAGE WIRING. THIS DIMMER IS ALSO CAPABLE OF HALF-LIGHT LEVELS PROVIDING YOU UTILIZE A SOUND MODULE IN THE SPA-5. THE DIMMER CIRCUIT IS EXPANDABLE IN INCREMENTS OF 2000 WATTS AT A NOMINAL CHARGE.

INTERLOCK MODULE

THIS MODULE ALLOWS INTERLOCKING OF TWO OR MORE MACHINES FOR SYNCHRONOUS OPERATION. THIS MODULE PLUGS DIRECTLY INTO THE SPA-5 CHASSIS ON THOSE MACHINES WHERE INTERLOCKING IS DESIRED. ONE UNIQUE FEATURE OF STRONG'S SPA-5 INTERLOCK SYSTEM IS THAT ONLY THREE WIRES NEED BE RUN BETWEEN THE INDIVIDUAL SYSTEMS. ONE MODULE IS REQUIRED FOR EACH SYSTEM WHERE INTERLOCKING IS DESIRED. IN MULTIPLEX OPERATIONS DIFFERENT AUDITORIUMS CAN BE PROGRAMMED FOR INTERLOCKING AS REQUIRED BY MERELY SELECTING THE INTERLOCK PROGRAM ON THOSE SYSTEMS DESIRED.

SOUND MODULE

THIS MODULE PROVIDES AUTOMATIC SWITCHING LOGIC TO STEREO PROCESSORS FOR SWITCHING FROM MONO TO STEREO AND BACK. THIS SAME MODULE MUST ALSO BE UTILIZED FOR HALF-LIGHT LOGIC AND FORMAT CHANGE MODULE OPERATION. WHEN INSTALLED IN THE SPA-5 CHASSIS, THIS MODULE TAKES NORMAL INBOARD CUE LOGIC AND PLACES IT ON THE OUTBOARD (SOUNDTRACK) SIDE OF THE FILM. MONO/STEREO LOGIC ONLY ACTIVATES IF SO PROGRAMMED ON THE AUTOMATION PROGRAM SELECTOR PANEL.

FORMAT MODULE

THIS MODULE PROVIDES AUTOMATIC SWITCHING LOGIC TO BOTH PROJECTOR AND MASKING FOR CHANGING FROM FLAT TO SCOPE AND BACK. THIS MODULE IS NOT REQUIRED WHEN USING BALLANTYNE LA-100 OR SIMPLEX TU2000 LENS CHANGER SYSTEMS AS THIS LOGIC IS BUILT INTO THE PROJECTOR. THE TIMING FUNCTION ON THIS MODULE IS ADJUSTABLE TO ACCOMMODATE VARIOUS PROJECTOR TURRET REQUIREMENTS. FORMAT CHANGE LOGIC ONLY ACTIVATES IF SO PROGRAMMED ON THE AUTOMATION PROGRAM SELECTOR PANEL.

CURTAIN MODULE

THIS MODULE PROVIDES AUTOMATED OPERATION OF THE AUDITORIUM CURTAINS. IT ALSO ALLOWS FOR A "CURTAIN CALL", IF SO PROGRAMMED, WHICH WILL CLOSE AND THEN REOPEN THE CURTAINS AT THE START OF THE MAIN FEATURE. THE TIMING CIRCUIT ON THIS MODULE IS ADJUSTABLE TO INDIVIDUAL CURTAIN TIMING REQUIREMENTS. UTILIZATION OF THE "CURTAIN CALL" FEATURE REQUIRES A CROSS-CUE (ACROSS THE FILM) AND UPGRADING THE FAILSAFE TO A TRIPLE PICK-OFF AT A NOMINAL CHARGE. "CURTAIN CALL" LOGIC ONLY ACTIVATES IF SO PROGRAMMED ON THE AUTOMATION PROGRAM SELECTOR PROGRAM.

INSTALLATION INSTRUCTIONS

AUTOMATION

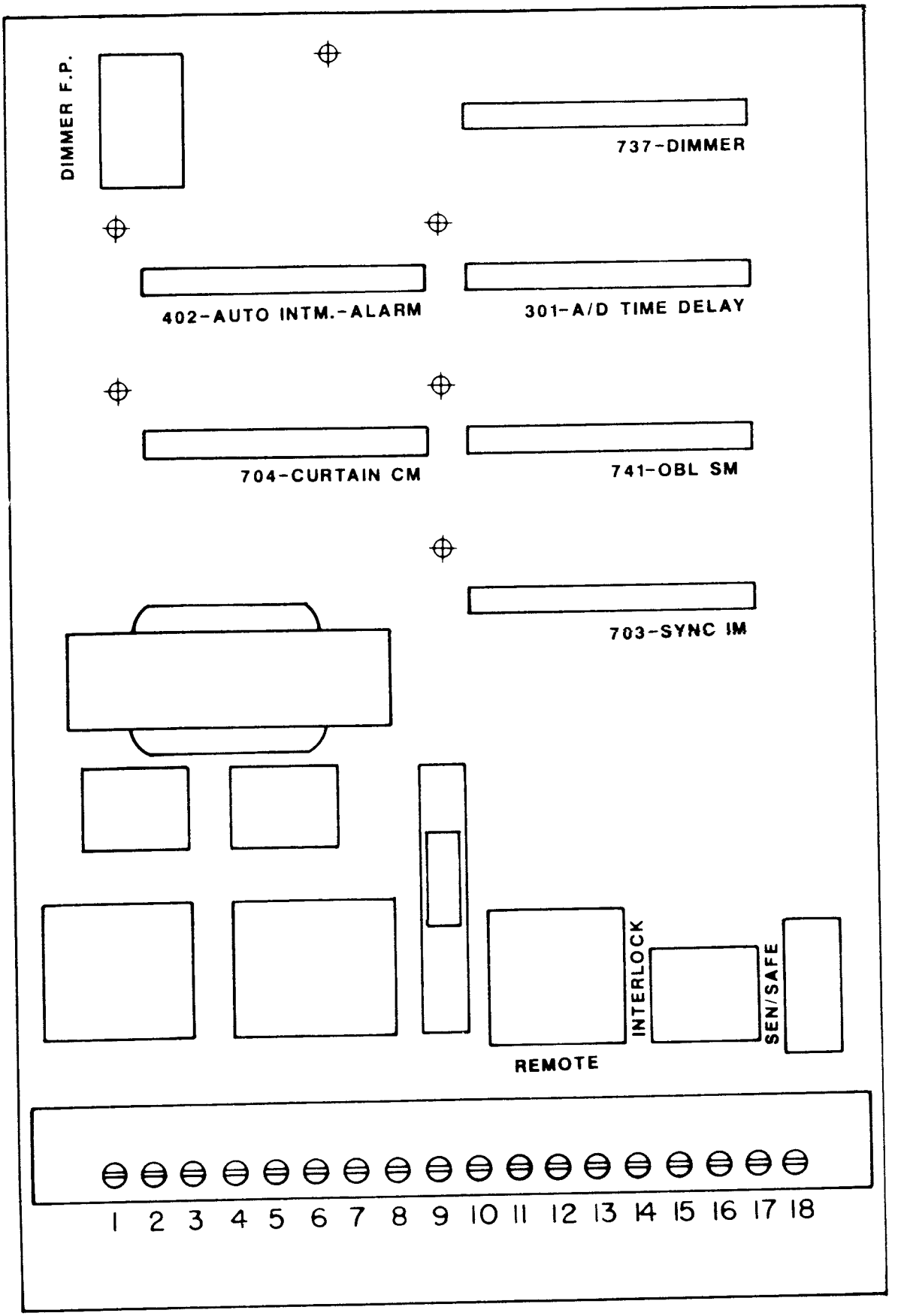
WHEN ORDERED IN CONJUNCTION WITH THE HIGHLIGHT CONSOLE OR VIP, THE SPA-5 COMES INSTALLED IN THE UNIT ITSELF AND DOES NOT REQUIRE MOUNTING. THE WALL MOUNT VERSION OF THE SPA-5 MUST BE MOUNTED SECURELY ON THE WALL PREFERABLY WITH THE 1/4-20 LAG SCREWS. THE FRONT LEFT PANEL AND CONTROL PANEL SHOULD BE REMOVED FOR MOUNTING THE MAIN FRAME OF THE UNIT TO THE WALL.

NOTE: DO NOT REMOVE WIRES FROM THE BACK OF THE SWITCHES; THE SWITCH HARNESS HAS A FIVE FOOT UMBILICAL TO FACILITATE INSTALLATION. THE LOCATION OF THE WALL MOUNT MAIN FRAME SHOULD BE ON THE OPERATING SIDE OF THE PROJECTOR AND CLOSE TO THE PORTHOLE FOR VIEWING PURPOSES. IT IS ALSO A GOOD IDEA TO REMOVE THOSE ELECTRICAL KNOCKOUTS THAT YOU WILL USE FOR CONNECTIONS TO TERMINAL BOARDS ONE AND TWO ON THE UNIT PRIOR TO MOUNTING THE UNIT ON THE WALL.

ONCE THE WALL MOUNT SYSTEM IS MOUNTED, OR THE HIGHLIGHT OR VIP CONSOLES ARE IN PLACE, YOU MUST NEXT INSTALL THE CIRCUIT BOARDS IN THE SPA-5. THE UNITS ARE SHIPPED WITH THE CIRCUIT BOARDS REMOVED TO ELIMINATE EXCESSIVE VIBRATION AND SHOCK ON THE BOARD COMPONENTS. WHEN UNPACKING THE CIRCUIT BOARDS IT IS A GOOD PRACTICE TO INSPECT THEM FOR LOOSE COMPONENTS. TO INSTALL THE CIRCUIT BOARDS [REFER TO DRAWING ON THE FOLLOWING PAGE]:

(1) MAKE CERTAIN POWER IS "OFF"
(2) REMOVE 6-32 SCREWS FROM SPA-5 MAIN CHASSIS THAT ARE LOCATED ALONG SIDE OF EDGE CARD CONNECTORS
(3) INSTALL LABELED CIRCUIT BOARDS IN CORRESPONDING LABELED EDGE CARD CONNECTORS
(4) SECURE CIRCUIT BOARDS IN PLACE USING 6-32 SCREWS THROUGH THE INDIVIDUAL BOARDS "L" MOUNTING BRACKET
(5) CHECK CINCH-JONES PLUGS ON MAIN CHASSIS TO ASCERTAIN THEY ARE SECURELY PLUGGED IN

THE AUTOMATION SYSTEM IS NOW READY FOR WIRING. REFER TO THE CORRECT WIRING CONNECTION DIAGRAM FOR THE TYPE OF UNIT YOU ARE INSTALLING (HIGHLIGHT, VIP, WALL MOUNT.)



⊕ - PCB HOLD DOWN SCREW HOLE

AUTOMATION/SD SERIES DIMMER

IF THE SPA-5 AUTOMATION IS USED IN CONJUNCTION WITH STRONG'S "SD" SERIES DIMMERS, YOU MUST ALSO MOUNT THE SYSTEMS POWER MODULE(S). THESE SHOULD BE LOCATED AS NEAR AS PRACTICAL TO THE POWER DISTRIBUTION PANEL FOR THE INDIVIDUAL AUDITORIUMS. THIS WILL MINIMIZE HIGH VOLTAGE WIRE RUNS. TO MOUNT THE POWER DISTRIBUTION MODULE, REMOVE THE FOUR 10-32 SCREWS THAT SECURE THE FRONT COVER ON THE MODULE. AS WITH THE WALL MOUNT AUTOMATION, IT IS ALSO EASIER TO REMOVE THOSE ELECTRICAL KNOCKOUTS THAT WILL BE USED PRIOR TO MOUNTING THE BOX. SECURE THE POWER MODULE(S) TO THE WALL USING 1/4-20 LAG BOLTS. CONNECT THE WIRES TO THE POWER MODULE AS SHOWN ON THE SD-1 OR SD-2 DIMMER POWER MODULE WIRING DIAGRAM. RE-INSTALL POWER MODULE COVER USING FOUR EACH 10-32 SCREWS.

NOTE #1 THE POWER MODULES AND CONTROL BOARD ARE FACTORY SET FOR PHASE SHIFTING. TO SIMPLIFY INSTALLATION MATCH THE POWER MODULE(S) SERIAL NUMBER(S) TO THE CONTROL BOARD'S SERIAL NUMBER(S).

NOTE #2 THE AUTOMATION SYSTEM MUST BE ON THE SAME ELECTRICAL LEG OR PHASE AS THE LIGHT CIRCUIT YOU WISH TO CONTROL.

DESCRIPTION OF CONTROLS

SYSTEM CONTROLS

POWER: THIS SWITCH WHEN ENERGIZED PROVIDES 115VAC TO THE AUTOMATION SYSTEM.

START: THIS SWITCH WHEN ILLUMINATED INDICATES THAT THERE IS FILM LOADED IN THE FAILSAFE/CUE DETECTOR. WHEN PRESSED THIS SWITCH STARTS THE AUTOMATION SEQUENCE.

F.S. DEFEAT: THIS SWITCH WHEN ENERGIZED DEFEATS THE FAILSAFE. THIS FUNCTION IS USED PRIMARILY FOR TESTING THE SYSTEM WITHOUT FILM IN THE PROJECTOR. IT SHOULD NOT BE ENERGIZED WHILE SHOWING THE MOVIE AS THE FAILSAFE WILL NOT DETECT A SPLIT OR BROKEN FILM.

STOP: THIS SWITCH WHEN ILLUMINATED INDICATES THAT THERE IS NO FILM LOADED IN THE FAILSAFE/CUE DETECTOR. WHEN PRESSED THIS SWITCH SHUTS THE AUTOMATION SYSTEM DOWN.

MANUAL CONTROLS

PROJECTOR: THIS SWITCH WHEN ENERGIZED BYPASSES THE AUTOMATION AND PROVIDES 115VAC TO THE PROJECTOR.

EXCITER: THIS SWITCH WHEN ENERGIZED BYPASSES THE AUTOMATION AND PROVIDES POWER TO THE EXCITER LAMP SUPPLY.

I.B. CUE: THIS SWITCH WHEN PRESSED PROVIDES AN INBORAD CUE TO THE AUTOMATION. IT IS USED FOR TESTING THE SYSTEM OR TO PROVIDE A CUE SHOULD ONE FORGET TO CUE THE FILM.

O.B. CUE: THIS SWITCH WHEN PRESSED PROVIDES AN OUTBOARD CUE TO THE AUTOMATION. IT IS USED FOR TESTING THE SYSTEM OR TO PROVIDE A CUE SHOULD ONE FORGET TO CUE THE FILM.

MANUAL CONTROLS

C.O. OPEN: THIS SWITCH WHEN PRESSED OPENS THE PROJECTOR CHANGEOVER. IT IS USED FOR MANUAL OPERATION OF THE SYSTEM...CAUTION:...DO NOT HOLD IN!

C.O. CLOSE: THIS SWITCH WHEN PRESSED CLOSES THE PROJECTOR CHANGEOVER. IT IS USED FOR MANUAL OPERATION OF THE SYSTEM...CAUTION:...DO NOT HOLD IN!

CURTAIN OPEN: (OPTION) THIS SWITCH WHEN PRESSED PROVIDES A COMMAND TO THE CURTAIN MOTOR TO OPEN THE CURTAINS.

CURTAIN CLOSE: (OPTION) THIS SWITCH WHEN PRESSED PROVIDES A COMMAND TO THE CURTAIN MOTOR TO CLOSE THE CURTAINS.

LAMP: (ONLY ON WALL MOUNT VERSIONS) THIS SWITCH WHEN ENERGIZED PROVIDES A CLOSURE FOR THE LAMP CIRCUIT, BYPASSING THE AUTOMATION.

PROGRAM CONTROLS

INTERMISSION: THIS SWITCH WHEN ENERGIZED COMMANDS THE AUTOMATION TO GO INTO AN INTERMISSION MODE AFTER IT SEES AN INBOARD CUE. WHEN IN THE NORM POSITION THE AUTOMATION GOES THROUGH A NORMAL END OF SHOW SHUTDOWN.

CURTAIN CALL: (OPTION) THIS SWITCH WHEN ENERGIZED PROVIDES THE LOGIC TO THE OPTIONAL CURTAIN MODULE FOR A CURTAIN CALL UPON RECEIVING A CROSS-CUE. USED IN CONJUNCTION WITH OPTIONAL CURTAIN MODULE.

STEREO: (OPTION) THIS SWITCH WHEN ENERGIZED PROVIDES THE LOGIC TO OPTIONAL SOUND MODULE FOR A SOUND PROGRAM CHANGE UPON RECEIVING AN OUTBOARD CUE. USED IN CONJUNCTION WITH OPTIONAL SOUND MODULE.

PROGRAM CONTROLS

FORMAT: (OPTION) THIS SWITCH WHEN ENERGIZED PROVIDES THE LOGIC TO THE OPTIONAL FORMAT MODULE FOR A FORMAT CHANGE, BOTH LENS AND MASKING, UPON RECEIVING AN OUTBOARD CUE. USED IN CONJUNCTION WITH OPTIONAL FORMAT MODULE.

SYNC: (OPTION) THIS SWITCH WHEN ENERGIZED PROVIDES LOGIC TO THE OPTIONAL INTERLOCK MODULE FOR OPERATION OF TWO OR MORE MACHINES IN SYNCHRONOUS OPERATION. USED IN CONJUNCITON WITH OPTIONAL INTERLOCK MODULES.

AUTOMATION CUE PROCEDURE

THE METHOD ONE USES TO CUE THE AUTOMATION DEPENDS UPON THE ACTUAL CONFIGURATION OF THE AUTOMATION AND WHAT PROGRAM PRESENTATION IS DESIRED. IF THE SPA-5 AUTOMATION IS PURCHASED WITHOUT A SOUND MODULE THE CUE IS PLACED ON THE INBOARD (NON-SOUND TRACK) SIDE OF THE FILM. IF THE SYSTEM IS PURCHASED WITH A SOUND MODULE SOME CUES ARE PLACED ON THE OUTBOARD (SOUNDTRACK) SIDE OF THE FILM. THE ONLY TIME A CROSS-CUE WILL BE UTILIZED IS IN CONJUNCTION WITH A CURTAIN MODULE AND A CURTAIN CALL PROGRAM SELECTION.

ALL SPA-5 AUTOMATION SYSTEMS HAVE THE FOLLOWING FUNCTIONS IN COMMON:

START SWITCH

WHEN DEPRESSED THIS SWITCH:

(A) STARTS THE PROJECTOR
(B) STARTS THE LAMP
(C) PULSES THE CHANGEOVER CLOSE CIRCUIT
(D) PROVIDES DIMMER LOGIC (SEE CONFIGURATION)
(E) STARTS THE SOLID STATE TIMER

AFTER THE AUTOMATION TIMER TIMES OUT (APPROXIMATELY SEVEN SECONDS) THE FOLLOWING OCCUR:

(A) THE CHANGEOVER OPENS
(B) NON-SYNC SOUND SHUTS OFF
(C) EXCITER LAMP TURNS ON

STOP SWITCH

WHEN DEPRESSED THIS SWITCH:

(A) SHUTS OFF THE PROJECTOR
(B) SHUTS OFF THE LAMP
(C) CLOSES THE CHANGEOVER
(D) PROVIDES LIGHTS-UP LOGIC
(E) TURNS ON NON-SYNC SOUND
(F) SHUTS OFF EXCITER LAMP

INBOARD CUE

WITH THE SYSTEM PROGRAMMED IN THE "NORMAL" AUTOMATION MODE THE FOLLOWING EVENTS WILL OCCUR WHEN THE CUE TAPE PASSES THROUGH THE CUE DETECTOR ASSEMBLY:

(A) DIMMER LOGIC IS PROVIDED TO RAISE HOUSE (AND STAGE) LIGHTS TO THE FULL "UP" POSITION

AFTER APPROXIMATELY SEVEN SECONDS THE FOLLOWING OCCUR:

(A) THE DOWSER CLOSES
(B) NON-SYNC SOUND TURNS ON
(C) EXCITER LAMP SHUTS OFF

WHEN THE FILM RUNS OUT OF THE PROJECTOR AND THE FAILSAFE DROPS, THE FOLLOWING OCCUR:

(A) THE PROJECTOR SHUTS OFF
(B) THE LAMP SHUTS OFF

INBOARD CUE

WITH THE SYSTEM PROGRAMMED IN THE "INTERMISSION" MODE THE FOLLOWING EVENTS WILL OCCUR WHEN THE CUE TAPE PASSES THROUGH THE CUE DETECTOR ASSEMBLY:

(A) DIMMER LOGIC IS PROVIDED TO RAISE HOUSE (AND STAGE) LIGHTS TO THE FULL "UP" POSITION

AFTER APPROXIMATELY SEVEN SECONDS THE FOLLOWING OCCUR:

(A) THE PROJECTOR SHUTS OFF
(B) THE LAMP SHUTS OFF
(C) THE CHANGEOVER CLOSES
(D) NON-SYNC SOUND TURNS ON
(E) EXCITER LAMP SHUTS OFF

FILM BREAK

IF AND WHEN THE FILM SHOULD SPLIT OR BREAK AND THE FAILSAFE DROPS, THE FOLLOWING OCCUR:

(A) THE PROJECTOR SHUTS OFF
(B) THE LAMP SHUTS OFF

FILM BREAK (CONT.)

(C) THE CHANGEOVER CLOSES

(D) PROVIDES "LIGHTS UP" LOGIC

(E) TURNS ON NON-SYNC SOUND

(F) THE EXCITER LAMP SHUTS OFF

(G) FILM BREAK ALARM LOGIC IS PROVIDED

ALARM CIRCUIT

THE SPA-5 AUTOMATION IS DESIGNED IN SUCH A MANNER THAT IF AN INBOARD CUE IS DETECTED (WHICH INDICATES A NORMAL SHUTDOWN) THE ALARM CIRCUIT LOGIC FOR THE SPAR-(X) IS DEFEATED.

S P E C I A L P R O G R A M S

THE MOST COMMONLY USED SPECIAL AUTOMATION PROGRAMS ARE SOUND SWITCHING AND THE AUDITORIUM HALF-LIGHT FEATURE USED IN CONJUNCTION WITH STRONG'S "SD" SERIES DIMMERS. BOTH OF THESE SPECIAL PROGRAMS ALONG WITH THE FORMAT CHANGE PROGRAM REQUIRES THE UTILIZATION OF A SOUND MODULE WHICH WHEN SELECTED IS USED FOR SOUND SWITCHING. RATHER SELECTED OR NOT THIS CARD CONTAINS THE OUTBOARD CUE LOGIC THAT IS REQUIRED FOR SPECIAL PROGRAMS THAT CAN BE INCORPORATED IN THE SPA-5 AUTOMATION.

STEREO

WHEN THIS SWITCH IS ENERGIZED THE SPA-5 AUTOMATION WILL PROVIDE A SWITCH CLOSER FOR THE STEREO PROCESSOR WHEN THE FIRST OUTBOARD CUE (SOUNDTRACK) PASSES THROUGH THE CUE DETECTOR. THIS CLOSER IS FOR SWITCHING THE STEREO PROCESSOR FROM MONO TO STEREO. AT THE END OF THE FEATURE AND SYSTEM SHUTDOWN, THE SYSTEM PROVIDES LOGIC TO AUTOMATICALLY SWITCH BACK TO THE MONO MODE. IF THE PRESENTATION DOES NOT REQUIRE SOUND SWITCHING (I.E., MONO PRINT) ONE NEED ONLY LEAVE THE "STEREO" SWITCH IN THE DE-ENERGIZED POSITION. WHEN THE SOUND SWITCHING FUNCTION IS PROGRAMMED IT IS INDICATED BY AN ILLUMINATED "AMBER" STEREO SWITCH.

HALF-LIGHT

THIS FEATURE IS USED IN CONJUNCTION WITH THE SD-1 OR SD-2 STRONG DIMMER. THIS FEATURE DIFFERS FROM THE OTHER SPA-5 "SPECIAL PROGRAMS" IN THAT IT NEED NOT BE SELECTED. HOWEVER, IT DOES REQUIRE THAT THE SPA-5 HAVE A SOUND MODULE INSTALLED AS THIS FEATURE UTILIZES OUTBOARD CUE LOGIC. THIS FEATURE IS DESIGNED TO BRING THE HOUSLIGHTS TO A HALF LEVEL AT SHOW START TO ACCOMMODATE LATE ARRIVING CUSTOMERS DURING PRE-FEATURE PREVIEWS AND TO RAISE THE LIGHTS AT THE SHOW'S END TO A HALF LEVEL DURING THE FEATURE'S CREDITS. IT CAN BE USED IN CONJUNCTION WITH EITHER STRONG'S SD-1 (HOUSE-LIGHT) OR STRONG'S SD-2 (HOUSE AND STAGE LIGHT) DIMMERS. THE SEQUENCE LOGIC IS AS FOLLOWS:

START...SWITCH IS DEPRESSED

SD-1 - HOUSELIGHTS DOWN TO HALF LEVEL

SD-2 - HOUSELIGHTS DOWN TO HALF LEVEL
STAGELIGHTS DOWN TO DIM LEVEL

1ST OUTBOARD CUE

SD-1 - HOUSELIGHTS DOWN TO DIM LEVEL

SD-2 - HOUSELIGHTS DOWN TO DIM LEVEL

2ND OUTBOARD CUE

SD-1 - HOUSELIGHTS UP TO HALF LEVEL

SD-2 - HOUSELIGHTS UP TO HALF LEVEL

1ST INBOARD CUE

SD-1 - HOUSELIGHTS UP TO BRIGHT LEVEL

SD-2 - STAGE LIGHTS UP TO HOUSELIGHT LEVEL
THEN BOTH HOUSE AND STAGE LIGHTS
COME UP TO BRIGHT LEVEL AT SAME
SPEED RATE

NOTE: A SOUND MODULE MUST BE INSTALLED IN THE SYSTEM TO OBTAIN THE HALF-LIGHT FEATRUES OF THE "SD" SERIES DIMMERS.

FORMAT

WHEN THIS SWITCH IS ENERGIZED THE SPA-5 AUTOMATION WILL PROVIDE SWITCH CLOSURES FOR AUTOMATIC LENS/APERTURE CHANGERS AND MASKING MOTORS WHEN THE FIRST OUTBOARD CUE (SOUNDTRACK) PASSES THROUGH THE CUE DETECTOR. AT THE END OF THE FEATURE AND SYSTEM SHUTDOWN, THE SYSTEM RETURNS THE LENS/APERTURE CHANGER AND MASKING TO ITS ORIGINAL STARTING POSITION. IF THE PRESENTATION DOES NOT REQUIRE FORMAT CHANGING (I.E., FLAT PREVIEWS, FLAT MAIN FEATURE) ONE NEED ONLY LEAVE THE "FORMAT" SWITCH IN THE DE-ENERGIZED POSITION. WHEN THE FORMAT SWITCHING FUNCTION IS PROGRAMMED IT IS INDICATED BY AN ILLUMINATED AMBER "FORMAT" SWITCH.

CURTAIN

WHEN THE SPA-5 AUTOMATION IS EQUIPPED WITH A CURTAIN MODULE IT ALLOWS YOU TO SELECT ONE OR TWO DIFFERENT CURTAIN FUNCTIONS. THE NORMAL CURTAIN MODULE OPERATION OPENS THE CURTAINS WHEN THE "START" SWITCH IS DEPRESSED AND CLOSES THE CURTAIN WHEN THE INBOARD CUE PASSES THROUGH THE CUE DETECTOR SIGNIFYING THE END OF THE FEATURE. THE CURTAIN MODULE FEATURE ALSO ALLOWS FOR THE UTILIZATION OF A SPECIAL EFFECTS PRESENTATION CALLED A "CURTAIN CALL" WHICH WHEN ENERGIZED WILL BE INDICATED BY AN ILLUMINATED AMBER LIGHT IN THE "CURTAIN CALL" SWITCH. WHEN THIS FUNCTION IS PROGRAMMED INTO THE AUTOMATION THE CURTAINS WILL CLOSE AND THEN REOPEN WHEN A CROSS CUE (ACROSS THE FILM) PASSES THROUGH THE TRIPLE PICK-OFF CUE DETECTOR. THIS FEATURE OF THE CURTAIN MODULE PORTION OF THE AUTOMATION ALLOWS FOR A HIGHLIGHTING EFFECT AT THE START OR FINISH OF THE MAIN PRESENTATION. IF THE "CURTAIN CALL" FEATURE IS NOT DESIRED THEN THE "CURTAIN CALL" SWITCH IS LEFT IN THE DE-ENERGIZED (NON-ILLUMINATED) POSITION AND YOU NEED NOT UPGRADE TO THE TRIPLE PICK-OFF CUE DETECTOR.

NOTE: "CURTAIN CALL" FEATURE REQUIRES TRIPLE PICK-OFF CUE DETECTOR/FAILSAFE ASSEMBLY AND A CROSS-CUE ON THE FILM.

INTERLOCK OR SYNCHRONOUS MACHINE OPERATION

THE SPA-5 AUTOMATION SYSTEM IS DESIGNED FOR MULTIPLE SYSTEM INTERLOCKING WHICH MEANS THAT YOU CAN INTERLOCK AN INFINITE NUMBER OF MACHINES PROVIDING THEY CONTAIN THE INTERLOCK MODULE IN THE SYSTEM. THE STRONG SPA-5 INTERLOCK SYSTEM IS UNIQUE IN THE FACT THAT YOU ARE NOT LIMITED AS TO WHICH SYSTEMS THAT YOU DESIRE TO INTERLOCK. IF THE SYSTEM CONTAINS AN INTERLOCK MODULE AND THAT MODULE IS INTERCONNECTED TO THE OTHER SYSTEM (OR SYSTEMS) WHICH ALSO CONTAIN AN INTERLOCK MODULE THESE SYSTEMS CAN BE OPERATED SYNCHRONOUSLY BY DEPRESSING THE "SYNC" SWITCH ON THE AUTOMATION PROGRAMMER OF THE DESIRED SYSTEMS. WHEN THE SWITCH IS DEPRESSED IT IS INDICATED BY THE ILLUMINATION OF AN AMBER LIGHT IN THE "SYNC" SWITCH.

EXAMPLE: IN A SIX-PLEX THEATRE EQUIPPED WITH (6) STRONG SPA-5 AUTOMATION SYSTEMS, ALL WITH INTERLOCK MODULES, YOU CAN INTERLOCK ANY OR ALL OF THE AUDITORIUMS BY ENERGIZING THE "SYNC" SWITCH ON THOSE SYSTEMS WHERE YOU DESIRE TO RUN THE SAME FEATURE.

THE INTERLOCKING WIRING OF THE AUDITORIUMS IS ALSO UNIQUE TO STRONG'S SPA-5 IN THAT ONLY THREE INTERCONNECTING WIRES ARE REQUIRED BETWEEN AUDITORIUMS. IT IS A GOOD IDEA TO INSTALL THESE WIRES IN THE NEW AUDITORIUMS, EVEN IF INTERLOCKING IS NOT ANTICIPATED WHEN THE THEATRE OPENS. AS AUDITORIUM SEATING REQUIREMENTS CHANGE FOR FILM BOOKING MINIMUMS YOU NEED ONLY ADD THE INTERLOCK MODULES AND WALL ROLLERS TO INCREASE YOUR CAPACITY FOR CERTAIN FILMS.

INTERLOCK SEQUENCE

A. TO OPERATE MACHINES IN THE INTERLOCKED OR SYNCHRONOUS MODE YOU MUST FIRST ENERGIZE THE "SYNC" SWITCH ON THOSE MACHINES WHICH YOU ARE INTERLOCKING. THOSE SYSTEMS WHICH ARE SELECTED WILL BE DESIGNATED AS SUCH BY AN ILLUMINATED AMBER "SYNC" SWITCH.

B. PLACE AN INBOARD CUE AT THE START OF THE FILM JUST AFTER (OR PAST) WHERE THE FILM EXITS THE CUE DETECTOR ON THE SOUNDHEAD. THIS INBOARD CUE ACTS AS A START SIGNAL TO THE OTHER INTERLOCKED MACHINES.

C. SPLICE SUFFICIENT LEADER ON THE FILM TO ROUTE TO THE VARIOUS MACHINES WHICH ARE TO BE INTERLOCKED.

NOTE: SPLICE THE LEADER IN FRAME

D. TO START THE FEATURE PRESS THE START SWITCH ON THE FIRST AUDITORIUM'S AUTOMATION SYSTEM. ALL PROJECTORS AND LAMPS WILL START AND THE FIRST MACHINE WILL BE ON THE SCREEN AFTER THE TIMER TIMES OUT. SUBSEQUENT MACHINES WILL BE ON THE SCREEN APPROXIMATELY SEVEN SECONDS AFTER THE MACHINE'S CUE DETECTOR SENSES THE INBOARD CUE THAT WAS PLACED ON THE LEADER IN STEP "B".

E. SHUTDOWN WILL BE IN THE NORMAL SEQUENCE AND ALL PROGRAM CUE INSTRUCTIONS WILL BE AS NORMAL.

SPA-5 AUTOMATION LOGIC

NORMAL AUTOMATION PROGRAM

	SELECTED	START	→7 SEC.	CROSS CUE	OUTBRD. CUE	→7 SEC.*	OUTBRD. CUE	INBRD. CUE	→7 SEC.	RUN-OUT
PROJECTOR		ON								OFF
LAMPHOUSE		ON								OFF
CHANGEOVER		PULSE CLOSE	PULSE OPEN		PULSE CLOSE	PULSE OPEN			PULSE CLOSE	
HOUSELIGHTS		HALF DOWN			FULL DOWN		HALF UP	FULL UP		
STAGELIGHTS		FULL DOWN						FULL UP		
NON SYNC		STAYS ON	OFF						ON	
EXCITER			ON						OFF	
SOUND	YES		MONO			STEREO			MONO	
	NO									
CURTAIN	YES	OPEN		CLOSE	OPEN			CLOSE		
	NO									
FORMAT	YES				CHANGE				CHANGE	
	NO									

INTERMISSION STOP AUTOMATION PROGRAM

	SELECTED	START	→7 SEC.	CROSS CUE	OUTBRD. CUE	→7 SEC.*	OUTBRD. CUE	INBRD. CUE	→7 SEC.
PROJECTOR		ON							OFF
LAMPHOUSE		ON							OFF
CHANGEOVER		PULSE CLOSE	PULSE OPEN		PULSE CLOSE	PULSE OPEN			PULSE CLOSE
HOUSELIGHTS		HALF DOWN			FULL DOWN		HALF UP	FULL UP	
STAGELIGHTS		FULL DOWN						FULL UP	
NON SYNC		STAYS ON	OFF						ON
EXCITER			ON						OFF
SOUND	YES		MONO			STEREO			MONO
	NO								
CURTAIN	YES	OPEN		CLOSE	OPEN			CLOSE	
	NO								
FORMAT	YES				CHANGE				
	NO								

*ADJUSTABLE TIMING CIRCUIT

SPECIAL FUNCTIONS	SELECTED	LIGHT
STEREO	IN	YES
CURTAIN CALL	IN	YES
FORMAT	IN	YES

NOTE: System must incorporate Stereo Module (S.M.) for outboard cue logic and Dimmer (SD-2) for light logic.

S P A R

STRONG SPA-5 REMOTE CONTROL/STATUS SYSTEM

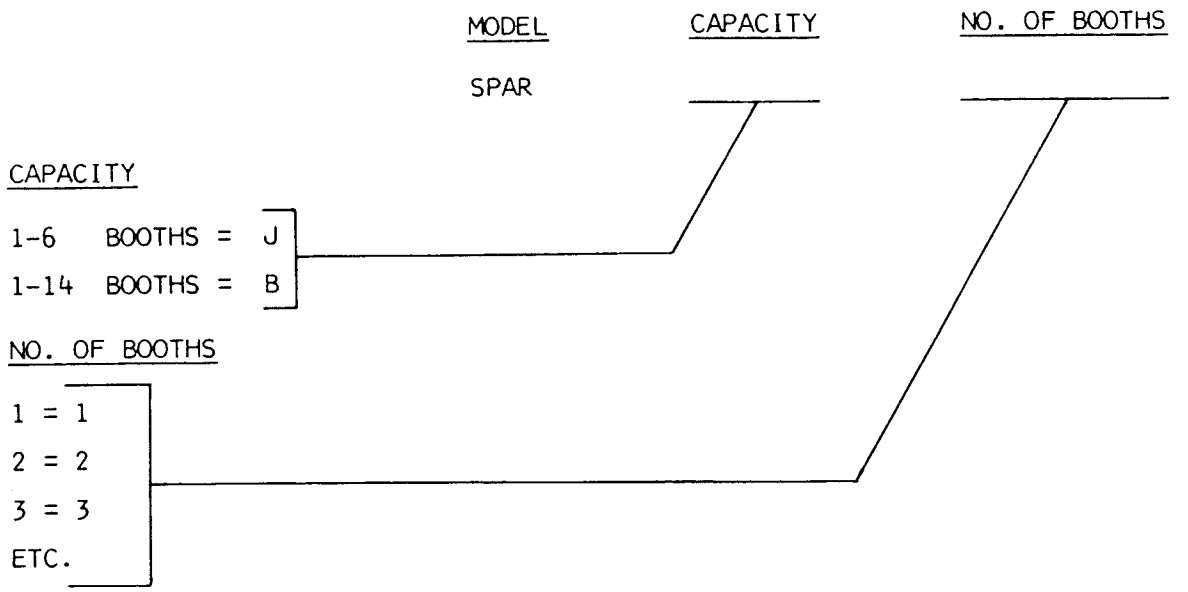
SYSTEM DESCRIPTION

STRONG'S SPAR IS A MULTIPURPOSE REMOTE CONTROL BOOTH STATUS SYSTEM THAT IS USED IN CONJUNCTION WITH STRONG'S SPA-5 AUTOMATION SYSTEM. DEPENDING ON WHICH MODEL IS ORDERED, THE SYSTEM WILL CONTROL AND PROVIDE SYSTEM STATUS OF ONE THROUGH SIX AUDITORIUMS OR ONE THROUGH FOURTEEN AUDITORIUMS AS REQUIRED. AS IS STRONG'S SPA-5 AUTOMATION, THE SPAR SYSTEM IS A BUILDING BLOCK TYPE SYSTEM WHICH MEANS THAT IF YOU ONLY DESIRE TO REMOTE FOUR AUDITORIUMS, YOU ONLY PAY FOR A FOUR STATION REMOTE.

THE SPAR COMES COMPLETE WITH A REMOTE START SWITCH AND REMOTE STOP SWITCH FOR EACH BOOTH AND INCLUDES A PROJECTOR LOADED (FAILSAFE-UP) AND A PROJECTOR UNLOADED (FAILSAFE-DOWN) INDICATOR. EACH BOOTH REMOTE ALSO CONTAINS AN ALARM LIGHT WHICH IS ILLUMINATED IN CONJUNCTION WITH THE SOUNDING OF A COMMON SONALERT SHOULD THE FILM BREAK OR THE FAILSAFE DROP WITHOUT SEEING AN INBOARD CUE WHICH SIGNIFIES THE NORMAL END OF SHOW. THE SPAR SONALERT ALSO INCORPORATES AN INDIVIDUAL SYSTEM VOLUME CONTROL.

THE SPAR UNIT IS WALL OR CEILING MOUNTED AND CAN BE USED IN PARALLEL WITH OTHER SPAR UNITS. AN EXAMPLE OF THIS WOULD BE ONE OR TWO UNITS IN SPLIT BOOTHS INDICATING THE OTHER BOOTH'S STATUS AND A MASTER UNIT IN THE MANAGER'S OFFICE.

ORDERING INFORMATION



EXAMPLE: A SEVEN PLEX WITH 3 AUDITORIUMS ON ONE SIDE OF BUILDING AND 4 IN ANOTHER AREA AND WANTING REMOTE IN MANAGER'S OFFICE AS WELL AS REMOTE IN 3 AUDITORIUM SIDE FOR THE 4 AUDITORIUM SIDE AND REMOTE IN 4 AUDITORIUM SIDE FOR THE 3 AUDITORIUM SIDE WOULD ORDER:

(1) EACH SPAR-J-3

(1) EACH SPAR-J-4

(1) EACH SPAR-B-7

DESCRIPTION OF CONTROLS

START - THIS SWITCH WHICH IS A MOMENTARY PUSH BUTTON SERVES (2) FUNCTIONS:

1) WHEN ILLUMINATED THIS SWITCH INDICATES THAT THERE IS FILM LOADED IN THE PROJECTOR AND THE FAILSAFE IS IN THE "UP" OR LOADED POSITION.

2) WHEN THIS SWITCH IS DEPRESSED IT WILL START THE AUTOMATION CYCLE IN THE SAME MANNER AS PUSHING THE "START" SWITCH ON THE AUTOMATION.

DESCRIPTION OF CONTROLS (CONT.)

STOP - THIS SWITCH WHICH IS A MOMENTARY PUSH BUTTON SERVES (2) FUNCTIONS:

1) WHEN ILLUMINATED THIS SWITCH INDICATES THAT FILM IS NOT LOADED IN THE PROJECTOR AND THE FAILSAFE IS IN THE "DOWN" OR UNLOADED POSITION.

2) WHEN THIS SWITCH IS DEPRESSED IT WILL STOP THE SYSTEM IN THE SAME MANNER AS PUSHING THE "STOP" SWITCH ON THE AUTOMATION.

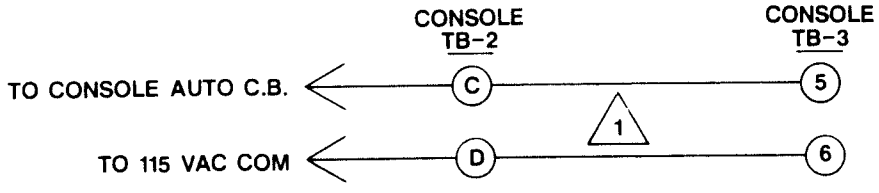
ALARM - THIS INDICATOR LIGHT WILL ILLUMINATE IN CONJUNCTION WITH THE SPAR SONALERT SOUNDING. THE PURPOSE OF THIS LIGHT IS TO INDICATE IN WHICH SYSTEM OR BOOTH THE ALARM CONDITION EXISTS.

MASTER SONALERT - THIS AUDIBLE ALARM WILL SOUND WHEN THERE IS A FILM BREAK OR THE FAILSAFE DROPS DOWN PRIOR TO THE AUTOMATION SENSING AN INBOARD CUE WHICH SIGNIFIES THE NORMAL END OF SHOW. UPON HEARING THE ALARM ONE NEED ONLY OBSERVE WHICH ALARM LIGHT IS ILLUMINATED TO RECOGNIZE IN WHICH BOOTH THE PROBLEM EXISTS.

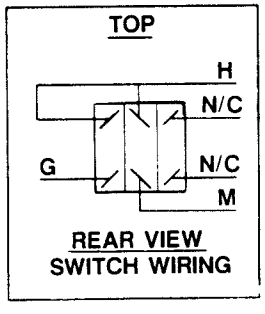
MASTER VOLUME - THIS CONTROL IS USED TO SET THE SPAR SONALERT VOLUME TO THE DESIRED LEVEL.

SPA-5 WIRING DIAGRAMS

1. AUTOMATION POWER (CONSOLE MOUNT)
2. PROJECTOR MOTOR (CONSOLE MOUNT)
3. AUTOMATION POWER (WALL MOUNT)
4. DIMMER (NON "SD" MODEL)
5. SD-2 DIMMER
6. PROJECTOR MOTOR (WALL MOUNT)
7. SD-1 DIMMER
8. CURTAIN
9. FORMAT CHANGE (WALL MOUNT)
10. STEREO SWITCHING
11. INTERLOCK (MULTIPLE MACHINE)
12. NON-SYNC SOUND
13. LAMPHOUSE IGNITION (CONSOLE MOUNT)
14. EXCITER LAMP (WALL MOUNT) OPTION 2
15. LAMPHOUSE IGNITION (WALL MOUNT)
16. PULSED CHANGEOVER
17. EXCITER LAMP (CONSOLE MOUNT) OPTION 2
18. EXCITER LAMP (CONSOLE MOUNT) OPTION 1
19. "SPAR" REMOTE
20. EXCITER LAMP (WALL MOUNT) OPTION 1
21. FAILSAFE/CUE DETECTOR
22. FORMAT CHANGE (WALL MOUNT)



1 FOR REFERENCE ONLY - SPA-5 COMES FACTORY PREWIRED WHEN ORDERED WITH STRONG CONSOLE.



POWER	WHEN ENGAGED THIS SWITCH IS ILLUMINATED RED AND PROVIDES 115 VAC FROM TERMINAL 5 TO THE AUTOMATION SYSTEM.

SPA5-1

UNLESS OTHERWISE SPECIFIED TOLERANCES
DECIMALS .005
FRACTIONAL 1/64
ANGLES 30'
BREAK SHARP EDGES .010 MAX x 45°

SYMBOLS	
▱	FLATNESS
//	PARALLELISM
⊥	PERPENDICULARITY
⌯	SYMMETRY
REF ANSI Y 14.5 1977	

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Omaha, Nebraska 68102
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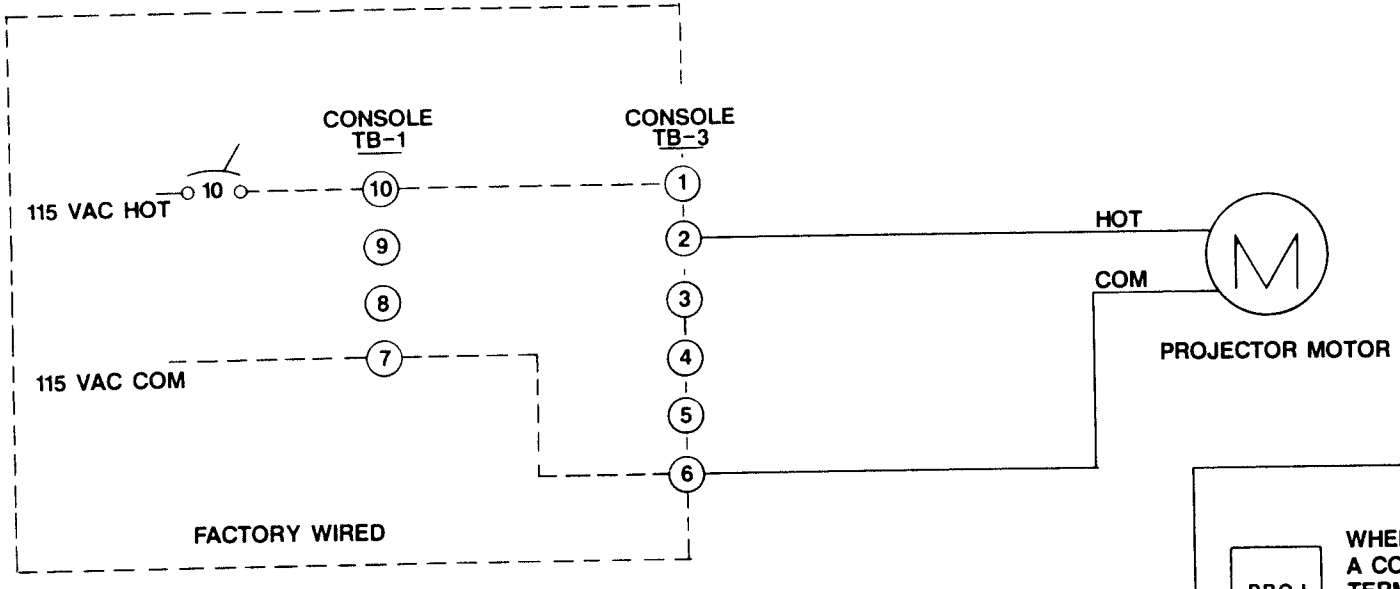
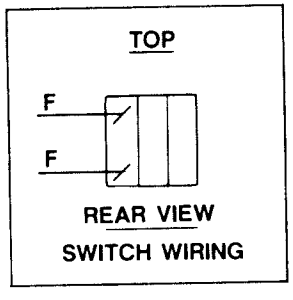
MATERIAL N/A	DESCRIPTION SPA-5 CONSOLE MOUNT AUTOMATION POWER CIRCUIT 1				DRAWING NO SPA5-1
FINISH N/A	SCALE N/A	DRAWN BY BD / 9/11/85	CHECKED BY BB / 9/11/85	PROJECT NO 122E	CODE NO N/A

DRAPHIX INC 194862-00



PROJ	WHEN ENGAGED THIS SWITCH PROVIDES A COMPLETED CIRCUIT BETWEEN TERMINAL 1 AND 2 PROVIDING MANUAL OPERATION OF THE PROJECTOR.

SPA5-2



UNLESS OTHERWISE SPECIFIED TOLERANCES	SYMBOLS
DECIMALS .005	FLATNESS
FRACTIONAL 1/64	PARALLELISM
ANGLES 2°	PERPENDICULARITY
BREAK SHARP EDGES .010 MAX X 45°	SYMMETRY
	REF ANSI Y 14.5 1977

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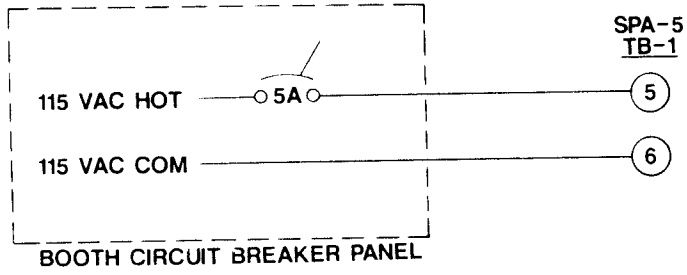
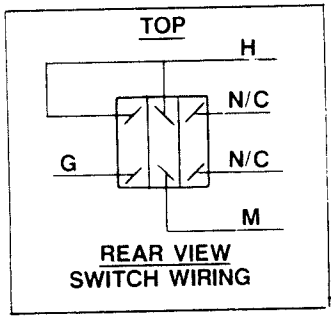
MATERIAL	DESCRIPTION				DRAWING NO.
N/A	SPA-5 CONSOLE MOUNT PROJECTOR MOTOR CIRCUIT WIRING				SPA5-2
FINISH	SCALE	DRAWN BY	CHECKED BY	PROJECT NO.	CODE NO.
N/A	N/A	BD 9/11/85	BB 9/11/85	122E	N/A

DRAPHIX INC 194862-00



POWER

WHEN ENGAGED THIS SWITCH IS ILLUMINATED RED AND PROVIDES 115 VAC FROM TERMINAL 5 TO THE AUTOMATION SYSTEM.



SPA5-3

UNLESS OTHERWISE SPECIFIED TOLERANCES	SYMBOLS
BREAK SHARP EDGES .010 MAX x 45°	FLATNESS
	PARALLELISM
	PERPENDICULARITY
	SYMMETRY
	REF. ANSI Y 14.5 1973

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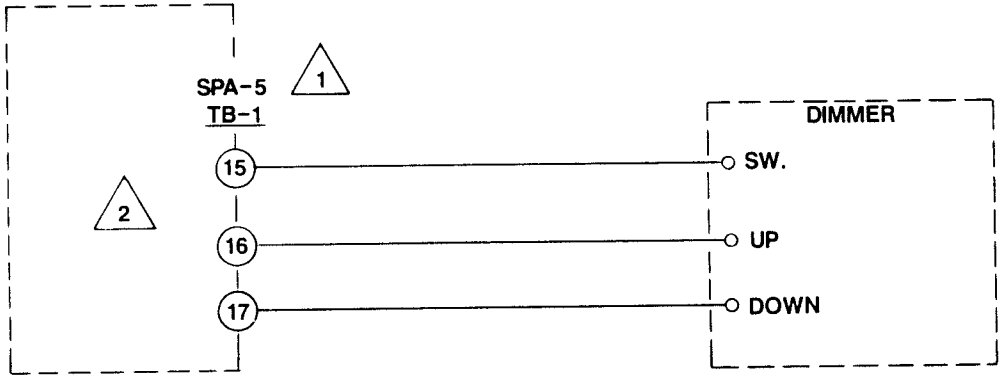
MATERIAL	DESCRIPTION	DRAWING NO
N/A	SPA-5 WALL MOUNT AUTOMATION POWER CIRCUIT	SPA5-3

FINISH	SCALE	DRAWN BY	CHECKED BY	PROJECT NO	CODE NO
N/A	N/A	BD 9/11/85	BB 9/11/85	122E	N/A

DRAPHIX INC 194862-00



SPA5-4

NOTES

1. WIRES ARE CONNECTED TO TB-3 ON CONSOLE.

2. WHEN SPA-5 IS ORDERED WITHOUT A STRONG MODEL "SD" SERIES DIMMER, A JUMPER PLUG IS INSTALLED TO PERMIT THIS CIRCUIT FUNCTION.

3. THIS DRAWING DEPICTS THE USE OF A DIMMER OTHER THAN STRONG'S MODEL "SD" SERIES.

UNLESS OTHERWISE SPECIFIED TOLERANCES	SYMBOLS
DECIMALS .00	FLATNESS
FRACTIONAL 1/64	PARALLELISM
ANGLES °	PERPENDICULARITY
BREAK SHARP EDGES .010 MAX X 45°	SYMMETRY
	REF ANSI Y 14.5 1973

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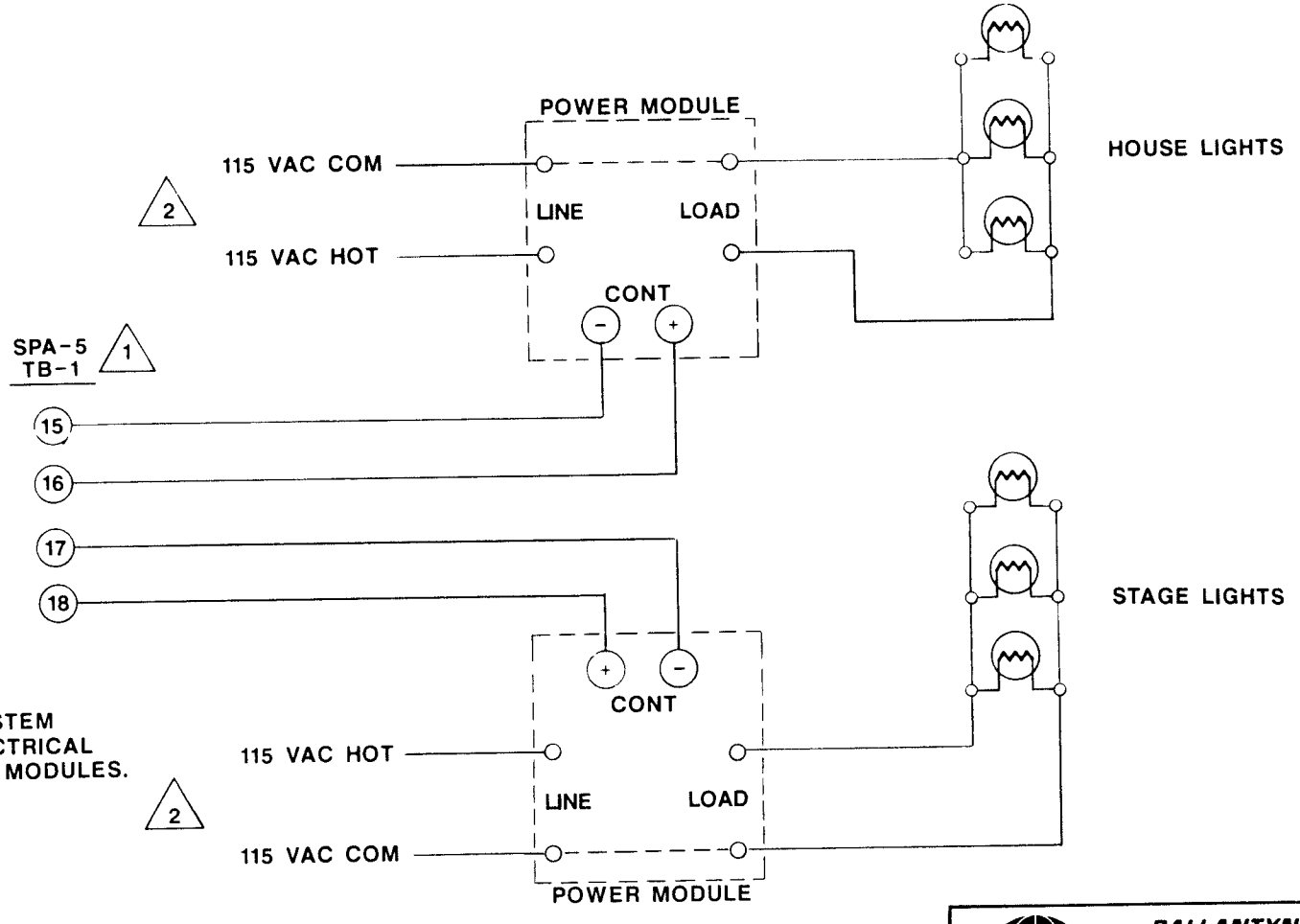
MATERIAL N/A	DESCRIPTION SPA-5 NON MODEL "SD" DIMMER WIRING 3				DRAWING NO SPA5-4
FINISH N/A	SCALE N/A	DRAWN BY BD 9/11/85	CHECKED BY BB 9/11/85	PROJECT NO 122E	CODE NO N/A

DRAPHIX INC 194862-00



2

NOTES

1 WIRES ARE CONNECTED TO TB-3 ON CONSOLE.

2 SPA-5 AUTOMATION SYSTEM MUST BE ON SAME ELECTRICAL PHASE AS SD-2 POWER MODULES.

SPA5-5

MATERIAL N/A	DESCRIPTION SPA-5 MODEL SD-2 DIMMER CIRCUIT					DRAWING NO SPA5-5
FINISH N/A	SCALE N/A	DRAWN BY BD 9/11/85	CHECKED BY BB 9/11/85	PROJECT NO 122E		CODE NO N/A

UNLESS OTHERWISE SPECIFIED TOLERANCES

SYMBOLS

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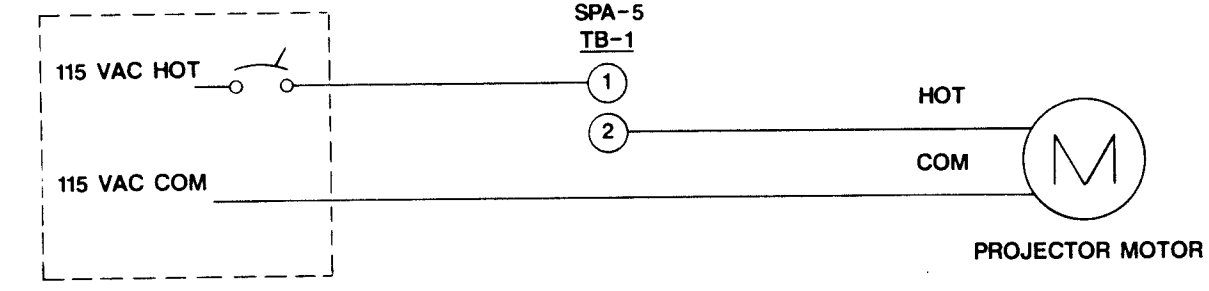

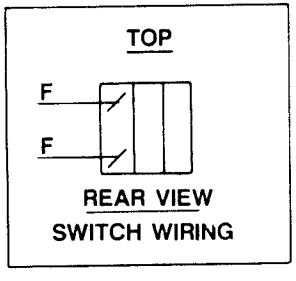

PROJ

WHEN ENGAGED THIS SWITCH PROVIDES A COMPLETED CIRCUIT BETWEEN TERMINALS 1 AND 2 PROVIDING MANUAL OPERATION OF THE PROJECTOR.

SPA5-6

UNLESS OTHERWISE SPECIFIED TOLERANCES	SYMBOLS
DECIMALS .005	FLATNESS
FRACTIONAL 1/64	// PARALLELISM
ANGLES 2°	⊥ PERPENDICULARITY
BREAK SHARP EDGES .010 MAX X 45°	⌯ SYMMETRY
	REF ANSI Y 14.5 1977

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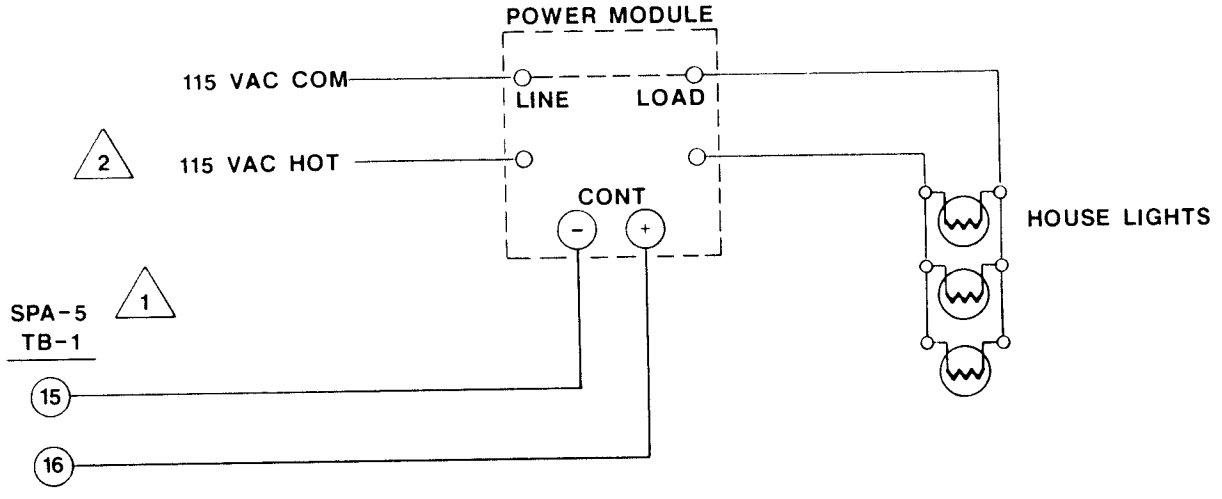
MATERIAL	DESCRIPTION				DRAWING NO
N/A	SPA-5 WALL MOUNT PROJECTOR MOTOR CIRCUIT WIRING				SPA5-6
FINISH	SCALE	DRAWN BY	CHECKED BY	PROJECT NO	CODE NO.
N/A	N/A	BD 9/11/85	BB 9/11/85	122E	N/A

DRAPHIX INC 194862-00



SPA5-7

NOTES

1. WIRES ARE CONNECTED TO TB-3 ON CONSOLE.

2. SPA-5 AUTOMATION SYSTEM MUST BE ON SAME ELECTRICAL PHASE AS SD-1 POWER MODULE

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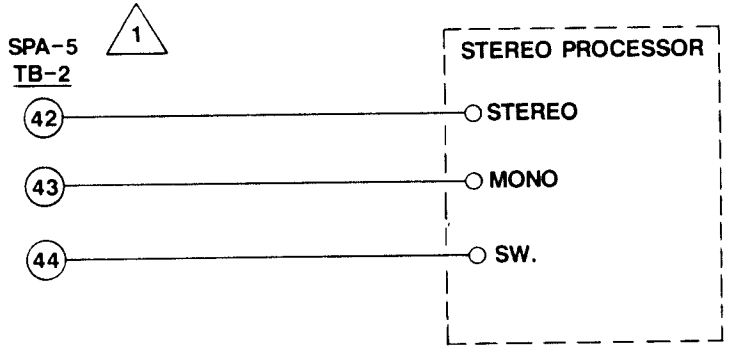
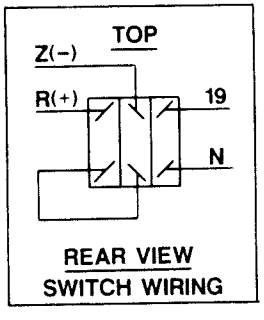
UNLESS OTHERWISE SPECIFIED TOLERANCES
DECIMALS .01
FRACTIONAL 1/64
ANGLES 1°
BREAK SHARP EDGES .01 MAX x 45°

SYMBOLS
⏥ FLATNESS
// PARALLELISM
⊥ PERPENDICULARITY
⌯ SYMMETRY
REF ANSI Y14.5 1973

MATERIAL N/A	DESCRIPTION SPA-5 MODEL SD-1 DIMMER CIRCUIT				DRAWING NO SPA5-7
FINISH N/A	SCALE N/A	DRAWN BY BD / 9/11/85	CHECKED BY BB / 9/11/85	PROJECT NO 122E	CODE NO N/A

GRAPHIX INC 194862-00





STEREO

THIS SWITCH WHEN ENERGIZED WILL BE ILLUMINATED AMBER AND PROVIDES AUTOMATED SOUND SWITCHING WHEN THE SYSTEM SENSES THE FIRST OUTBOARD CUE.

SPA5-10

NOTES

1. WIRES ARE CONNECTED TO TB-4 ON CONSOLE.
2. STEREO OPTION REQUIRES A STEREO MODULE TO OPERATE.

UNLESS OTHERWISE SPECIFIED TOLERANCES	SYMBOLS
DECIMALS .005	FLATNESS
FRACTIONAL 1/64	PARALLELISM
ANGLES °	PERPENDICULARITY
BREAK SHARP EDGES .010 MAX X 45°	SYMMETRY
	REF ANSI Y14.5 1973

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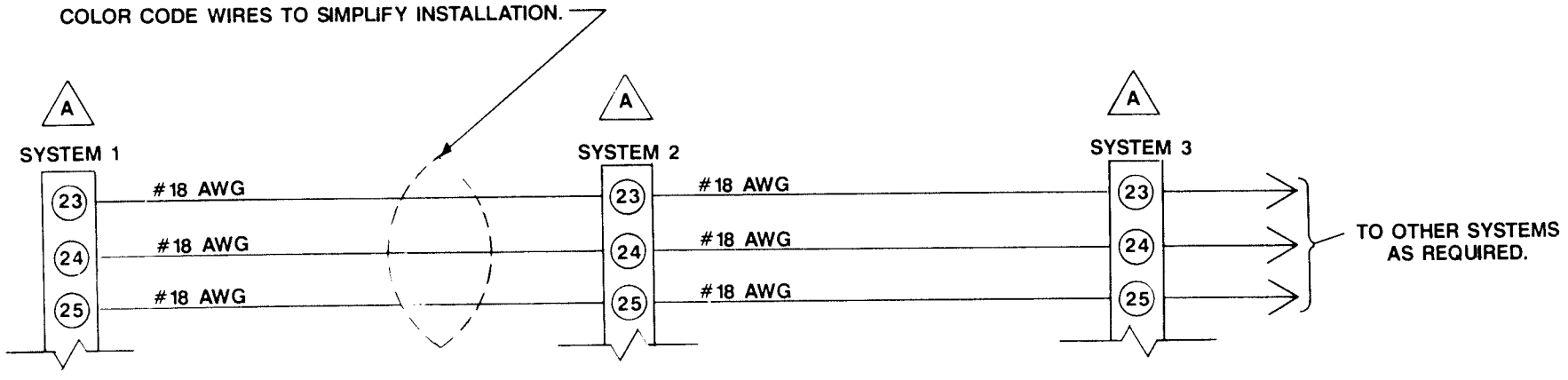
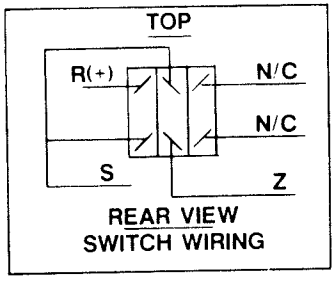
MATERIAL	DESCRIPTION	DRAWING NO
N/A	SPA-5 STEREO SWITCHING CIRCUIT WIRING 2	SPA5-10

FINISH	SCALE	DRAWN BY	CHECKED BY	PROJECT NO	CODE NO
N/A	N/A	BD 9/11/85	BB 9/11/85	122E	N/A

DRAPHIX INC 19486Z-00





REAR VIEW
SWITCH WIRING

NOTES

(A) TERMINALS 23, 24, AND 25 ARE LOCATED ON TERMINAL BOARD TWO ON WALL MOUNT VERSIONS AND TERMINAL BOARD FOUR ON CONSOLE MOUNT VERSION OF THE SPA-5.

(B) EACH SPA-5 REQUIRES AN INTERLOCK MODULE TO INTERLOCK.

SYNC

WHEN ENGAGED ON THE INDIVIDUAL SPA-5 AUTOMATION SYSTEM, THIS SWITCH IS ILLUMINATED AMBER AND INTERLOCKS THE SYSTEM WITH THOSE OTHER SYSTEMS THAT ARE ALSO SELECTED.

SPA5-11

UNLESS OTHERWISE SPECIFIED TOLERANCES	SYMBOLS
BREAK SHARP EDGES	FLATNESS
	PARALLELISM
	PERPENDICULARITY
	SYMMETRY

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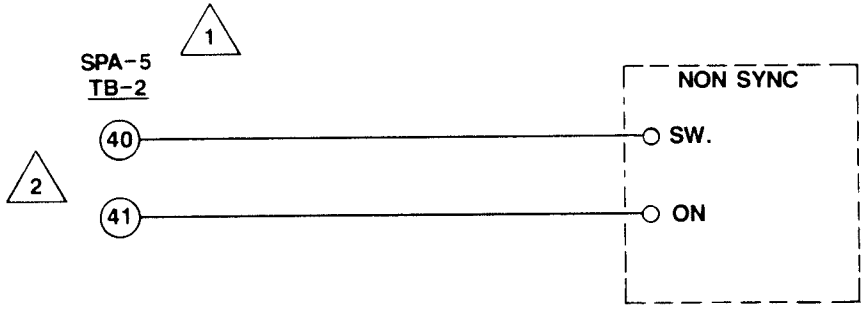
MATERIAL N/A	DESCRIPTION SPA-5 AUTOMATION INTERLOCK WIRING				DRAWING NO SPA5-11
FINISH N/A	SCALE N/A	DRAWN BD 9/11/85	CHECKED BB 9/11/85	PROJECT NO 122E	CODE NO N/A

DRAPHIX INC 19486Z-00



SPA5-12

NOTES

1. WIRES CONNECTED TO TB-4 ON CONSOLE.

2. DRY CONTACTS THAT ARE COMPLETED WHEN EXCITER LAMP IS OFF - NOT EFFECTED BY MANUAL OPERATION OF LAMP.

UNLESS OTHERWISE SPECIFIED TOLERANCES
DECIMALS .005
FRACTIONAL ± 1/64
ANGLES 1°
BREAK SHARP EDGES .010 MAX x 45°

SYMBOLS
FLATNESS
PARALLELISM
PERPENDICULARITY
SYMMETRY
REF ANSI Y 14.5 1977

STRONG INTERNATIONAL

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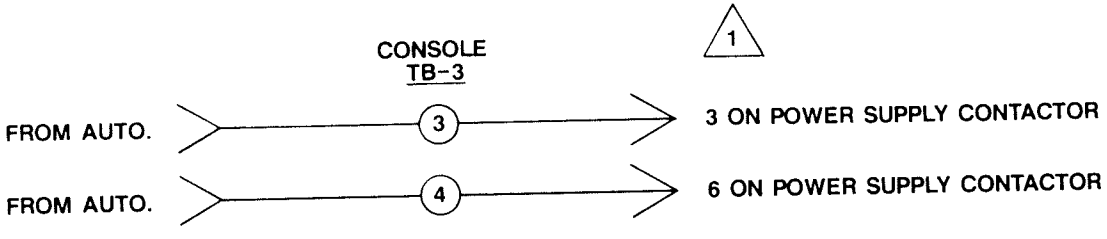
MATERIAL N/A	DESCRIPTION SPA-5 NON SYNC SOUND WIRING CIRCUIT				DRAWING NO. SPA5-12
FINISH N/A	SCALE N/A	DRAWN BD 9/11/85	CHECKED BY BB 9/11/85	PROJECT NO. 122E	CODE NO. N/A

DRAPHIX INC 194862-00



SPA5-13

NOTES

1 FOR REFERENCE ONLY - SPA-5 COMES FACTORY PREWIRED WHEN ORDERED WITH STRONG CONSOLE.

UNLESS OTHERWISE SPECIFIED TOLERANCES	SYMBOLS
DECIMALS .005	FLATNESS
FRACTIONAL ±1/64	PARALLELISM
ANGLES 2°	PERPENDICULARITY
BREAK SHARP EDGES .010 MAX X 45°	SYMMETRY
	REF ANSI Y14.5 1973

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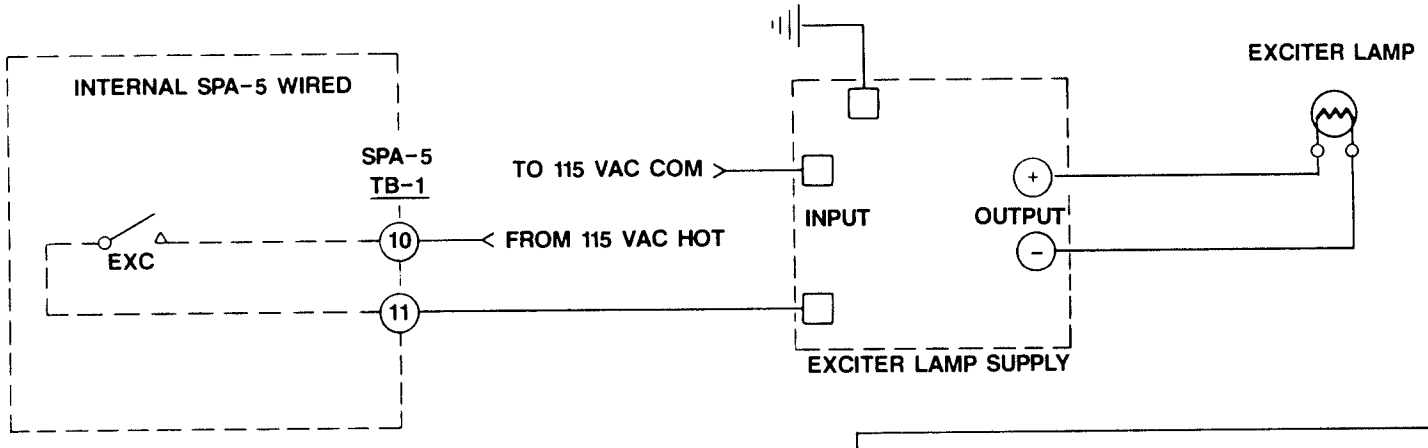
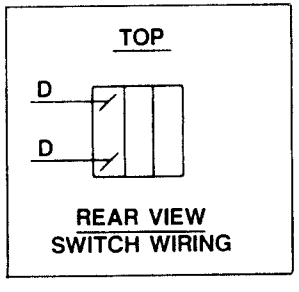
MATERIAL N/A	DESCRIPTION SPA-5 CONSOLE MOUNT LAMP CIRCUIT WIRING 1				DRAWING NO SPA5-13
FINISH N/A	SCALE N/A	DRAWN BY BD 9/11/85	CHECKED BY BB 9/11/85	PROJECT NO 122E	CODE NO N/A

DRAPHIX INC 104862-00



EXC	THIS SWITCH WHEN ENERGIZED PROVIDES A COMPLETED CIRCUIT BETWEEN TERMINALS 10 AND 11 PROVIDING MANUAL OPERATION OF THE EXCITER LAMP.

SPA5-14



OPTION 2

INPUT SWITCHING

UNLESS OTHERWISE SPECIFIED TOLERANCES	SYMBOLS
DECIMALS .005	FLATNESS
FRACTIONAL 1/64	PARALLELISM
ANGLES °	PERPENDICULARITY
BREAK SHARP EDGES .010 MAX X 45°	SYMMETRY
	REF. ANSI Y14.5 1972

STRONG INTERNATIONAL

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Omaha, Nebraska 68102
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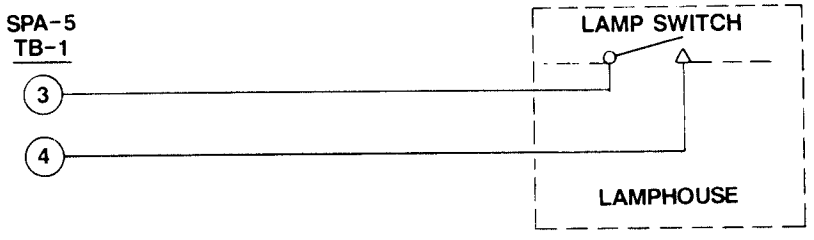
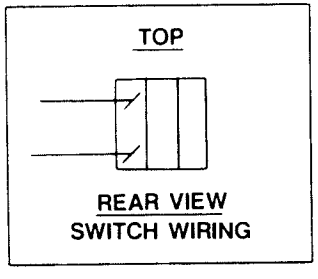
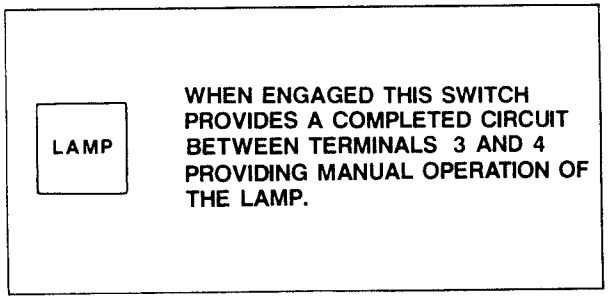
MATERIAL	DESCRIPTION				DRAWING NO
N/A	SPA-5 WALL MOUNT EXCITER LAMP CIRCUIT				SPA5-14
FINISH	SCALE	DRAWN BY	CHECKED BY	PROJECT NO	CODE NO
N/A	N/A	BD 9/11/85	BB 9/11/85	122E	N/A

DRAPHIX INC 194862-00







NOTE: THIS DRAWING DEPICTS A TYPICAL LAMPHOUSE CONNECTION. REFER TO INDIVIDUAL LAMPHOUSE MANUAL FOR MANUFACTURER'S INSTRUCTIONS FOR AUTOMATING LAMP CIRCUIT. TERMINALS 3 AND 4 ARE DRY CONTACT CLOSURE.

SPA5-15

UNLESS OTHERWISE SPECIFIED TOLERANCES	SYMBOLS
DECIMALS .005 FRACTIONAL 1/64 ANGLES	FLATNESS
BREAK SHARP EDGES .010 MAX X 45°	PARALLELISM
	PERPENDICULARITY
	SYMMETRY
	BEND ANSI Y14.5 1973

STRONG INTERNATIONAL

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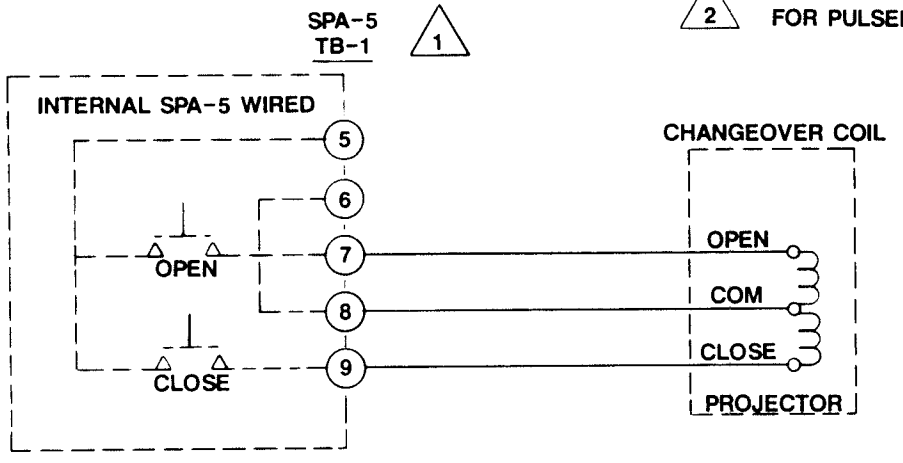
1712 Jackson Street
Omaha, Nebraska 68102
402 342-4444 Telex 484481
A member of the Strong International team

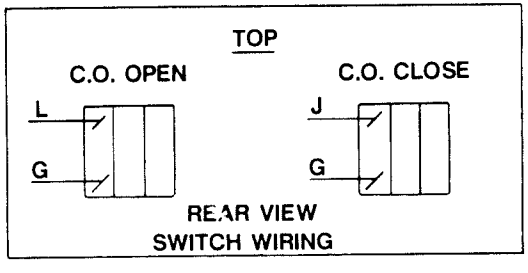
MATERIAL	DESCRIPTION				DRAWING NO
N/A	SPA-5 WALL MOUNT LAMP CIRCUIT WIRING				SPA5-15
FINISH	SCALE	DRAWN BY	CHECKED BY	PROJECT NO	CODE NO
N/A	N/A	BD 9/11/85	BB 9/11/85	122E	N/A

DRAPHIX INC 194862-00

NOTES

1. WIRES ARE TO BE CONNECTED TO TB-3 ON CONSOLE.
2. FOR PULSED TYPE (ZIPPER) CHANGEOVER CIRCUITS





C.O. OPEN	THIS SWITCH WHEN DEPRESSED PROVIDES 115 VAC TO TERMINAL 7 TO MANUALLY OPERATE CHANGEOVER OR DOWSER TO OPEN.
C.O. CLOSE	THIS SWITCH WHEN DEPRESSED PROVIDES 115 VAC TO TERMINAL 9 TO MANUALLY OPERATE CHANGEOVER OR DOWSER TO CLOSE.

CAUTION - DO NOT HOLD SWITCHES IN.

SPA5-16

UNLESS OTHERWISE SPECIFIED TOLERANCES	SYMBOLS
DECIMALS .00X	FLATNESS
FRACTIONAL 1/64	PARALLELISM
ANGLES 2°	PERPENDICULARITY
BREAK SHARP EDGES .010 MAX X 45°	SYMMETRY
	REF ANSI Y 14.5 1977

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MATERIAL N/A	DESCRIPTION SPA-5 CHANGEOVER CIRCUIT WIRING - PULSED TYPE 2				DRAWING NO SPA5-16
FINISH N/A	SCALE N/A	DRAWN BY BD 9/11/85	CHECKED BY BB 9/11/85	PROJECT NO 122E	CODE NO N/A

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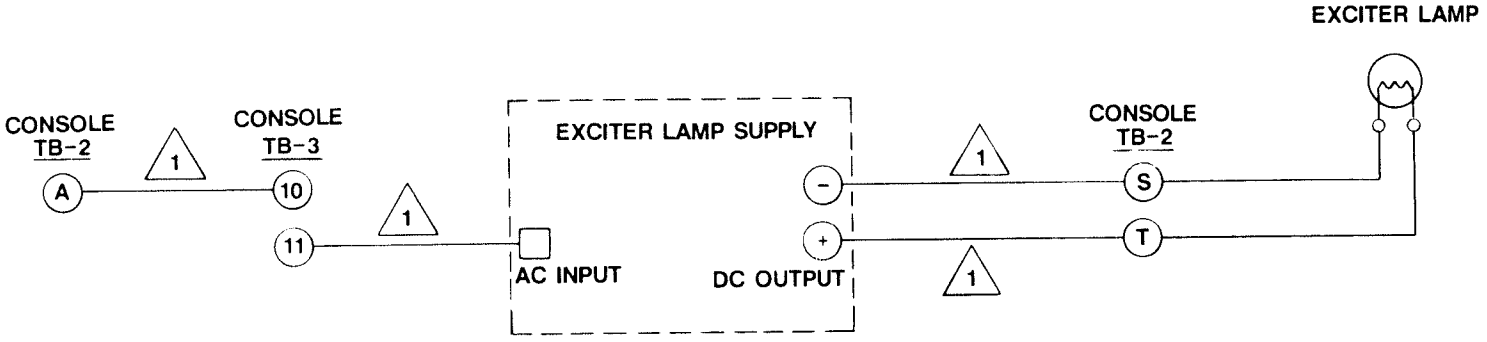

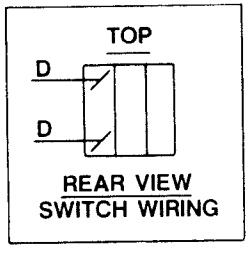

EXC

THIS SWITCH WHEN ENERGIZED PROVIDES A COMPLETED CIRCUIT BETWEEN TERMINALS 10 AND 11 PROVIDING MANUAL OPERATION OF THE EXCITER LAMP.

SPA5-17

OPTION 2

INPUT SWITCHING

NOTES

1. WHEN CONSOLE IS ORDERED WITH STRONG SS-50 SOUND AND SPA-5 THESE WIRES COME FACTORY WIRED.

UNLESS OTHERWISE SPECIFIED TOLERANCES	SYMBOLS
DECIMALS .00°	FLATNESS
FRACTIONAL 1/64	PARALLELISM
ANGLES 2°	PERPENDICULARITY
BREAK SHARP EDGES .010 MAX x 45°	SYMMETRY
	REF ANSI Y 14.5 1972

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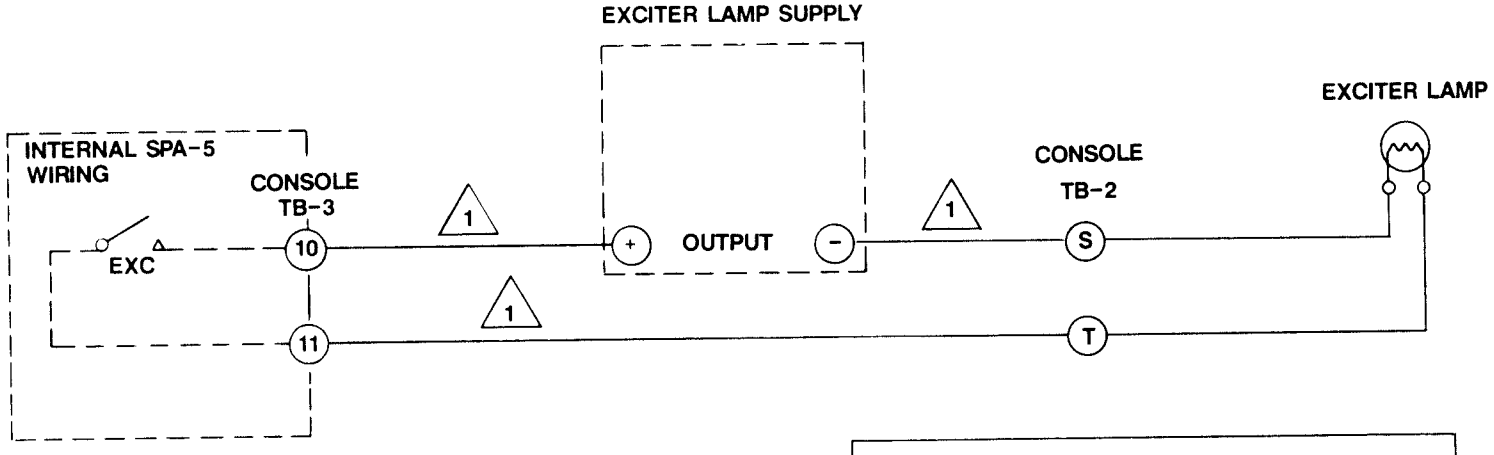
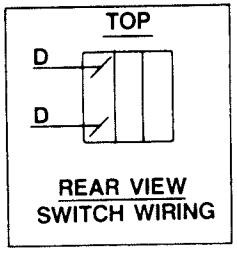
MATERIAL	DESCRIPTION	DRAWING NO
N/A	SPA-5 CONSOLE MOUNT EXCITER LAMP CIRCUIT	SPA5-17

FINISH	SCALE	DRAWN BY	CHECKED BY	PROJECT NO.	CODE NO.
N/A	N/A	BD 9/11/85	BB 9/11/85	122E	N/A

DRAPHIX INC 194862-00



EXC	THIS SWITCH WHEN ENERGIZED PROVIDES A COMPLETED CIRCUIT BETWEEN TERMINALS 10 AND 11 PROVIDING MANUAL OPERATION OF THE EXCITER LAMP.



NOTES

1 WHEN CONSOLE IS ORDERED WITH STRONG SS-120 SOUND AND SPA-5 THESE WIRES COME FACTORY WIRED.

OPTION 1

OUTPUT SWITCHING

SPA5-18

UNLESS OTHERWISE SPECIFIED TOLERANCES	SYMBOLS
DECIMALS .005	FLATNESS
FRACTIONAL 1/64	PARALLELISM
ANGLES 1°	PERPENDICULARITY
BREAK SHARP EDGES .010 MAX x 45°	SYMMETRY
	REF ANSI Y14.5 1977

STRONG INTERNATIONAL

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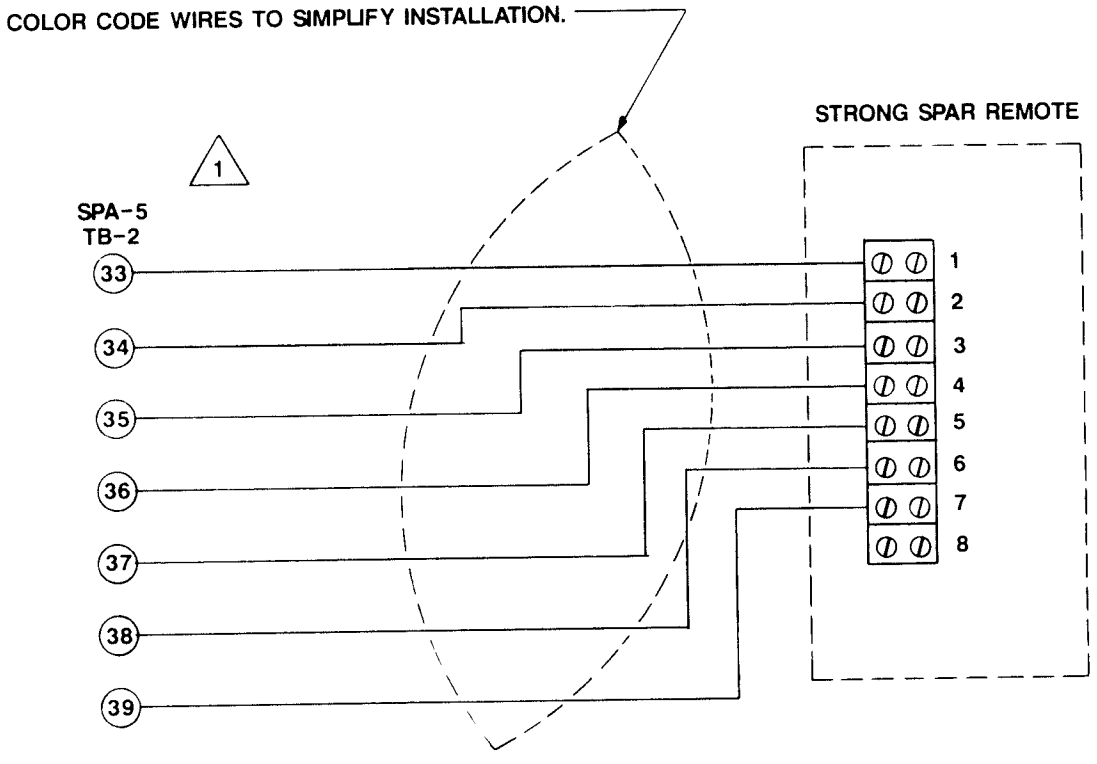
MATERIAL	DESCRIPTION				DRAWING NO.
N/A	SPA-5 CONSOLE MOUNT EXCITER LAMP CIRCUIT				SPA5-18
FINISH	SCALE	DRAWN BY	CHECKED BY	PROJECT NO	CODE NO
N/A	N/A	BD / 9/11/85	BB / 9/11/85	122E	N/A

DRAPHIX INC 194862-00



NOTES

1 WIRES ARE CONNECTED TO TB-4 ON CONSOLE.

SPA5-19

UNLESS OTHERWISE SPECIFIED TOLERANCES DEC MAT'S .005 FRACTIONAL ±1/64 ANGLES ±	SYMBOLS
BREAK SHARP EDGES .010 MAX x 45°	FLATNESS
	PARALLELISM
	PERPENDICULARITY
	SYMMETRY
	REF ANSI Y 14.5 1973

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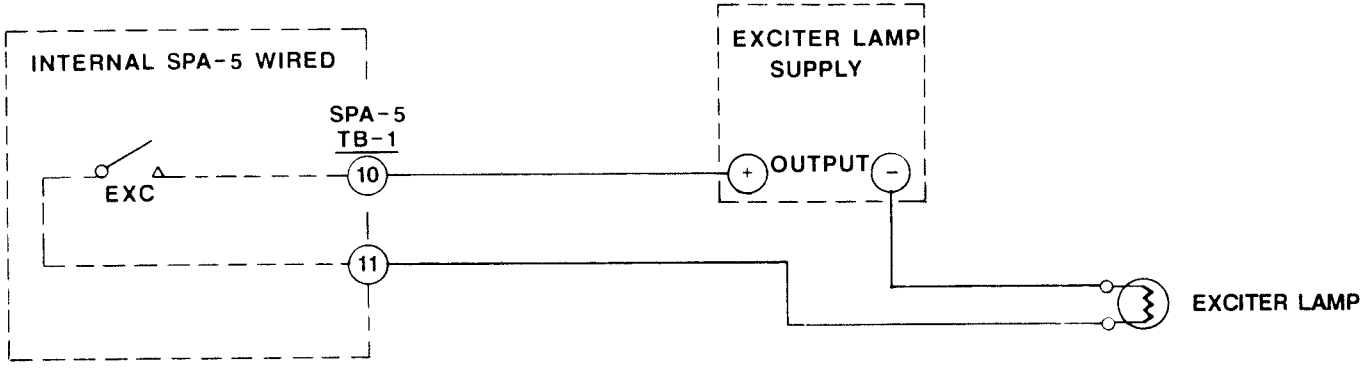
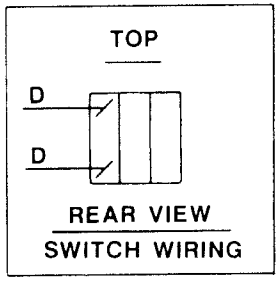
MATERIAL	DESCRIPTION	DRAWING NO
N/A	SPA-5 MODEL "SPAR" REMOTE CIRCUIT WIRING	SPA5-19

FINISH	SCALE	DRAWN BY	CHECKED BY	PROJECT NO	CODE NO
N/A	N/A	BD 9/11/85	BB 9/11/85	122E	N/A

DRAPHEX INC 194862-00





EXC	THIS SWITCH WHEN ENERGIZED PROVIDES A COMPLETED CIRCUIT BETWEEN TERMINALS 10 AND 11 PROVIDING MANUAL OPERATION OF THE EXCITER LAMP.

OPTION 1

OUTPUT SWITCHING

SPA5-20

UNLESS OTHERWISE SPECIFIED TOLERANCES
DECIMALS .005
FRACTIONAL 1/64
ANGLES 2°
BREAK SHARP EDGES .010 MAX X 45°

SYMBOLS	
▱	FLATNESS
//	PARALLELISM
⊥	PERPENDICULARITY
⌯	SYMMETRY
REF ANSI Y 14.5 1972	

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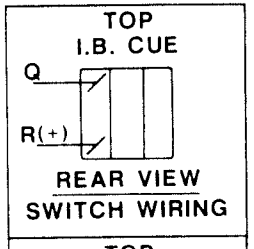
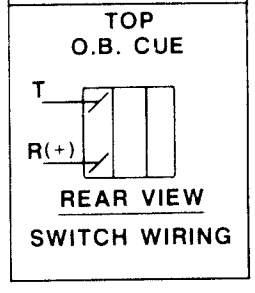
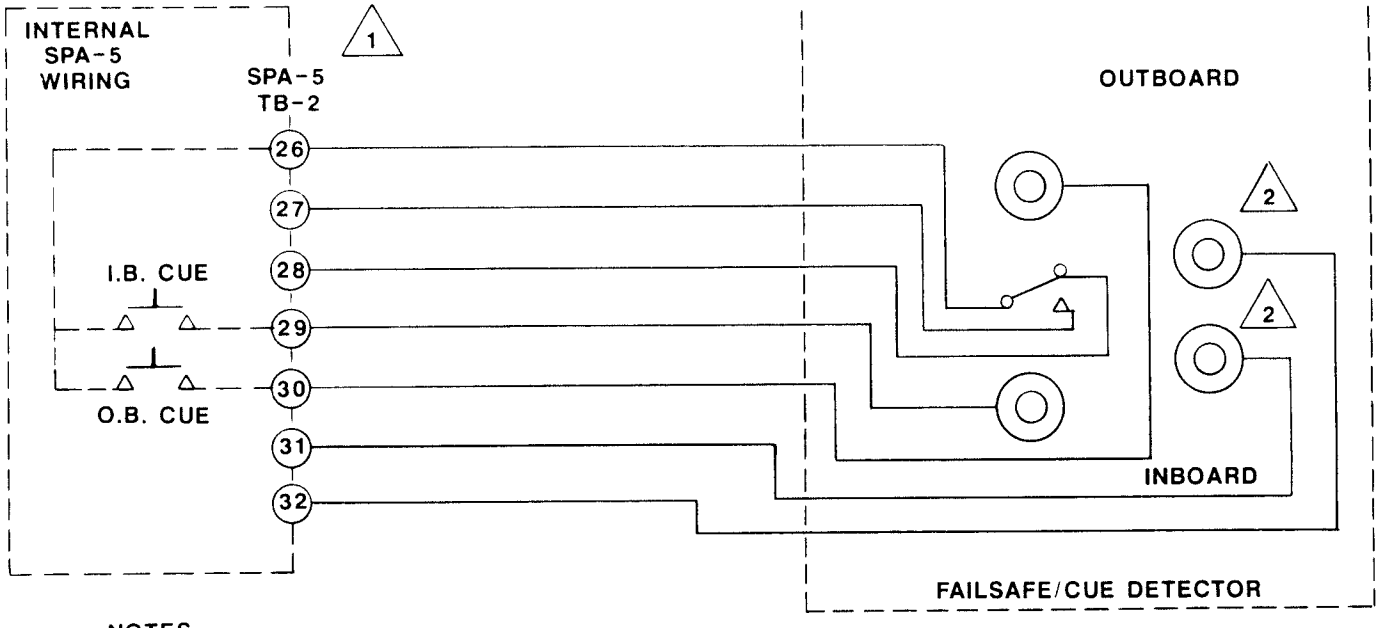
MATERIAL	DESCRIPTION				DRAWING NO
N/A	SPA-5 WALL MOUNT EXCITER LAMP CIRCUIT				SPA5-20
FINISH	SCALE	DRAWN BY	CHECKED BY	PROJECT NO	CODE NO
N/A	N/A	BD 9/11/85	BB 9/11/85	122E	N/A

DRAPHIX INC 194862-00







SPA5-21

NOTES

1. WIRES ARE CONNECTED TO TB-4 ON CONSOLE.

2. ONLY USED IN CONJUNCTION WITH CURTAIN CALL MODULE AND TRIPLE PICK-OFF.

I.B. CUE	WHEN DEPRESSED THIS SWITCH PROVIDES A MANUAL INBOARD CUE.
O.B. CUE	WHEN DEPRESSED THIS SWITCH PROVIDES A MANUAL OUTBOARD CUE.

UNLESS OTHERWISE SPECIFIED TOLERANCES
DECIMALS .005
FRACTIONAL 1/64
ANGLES 2°
BREAK SHARP EDGES .010 MAX X 45°

SYMBOLS	
▱	FLATNESS
//	PARALLELISM
⊥	PERPENDICULARITY
⌯	SYMMETRY
REF ANSI Y 14.5 1977	

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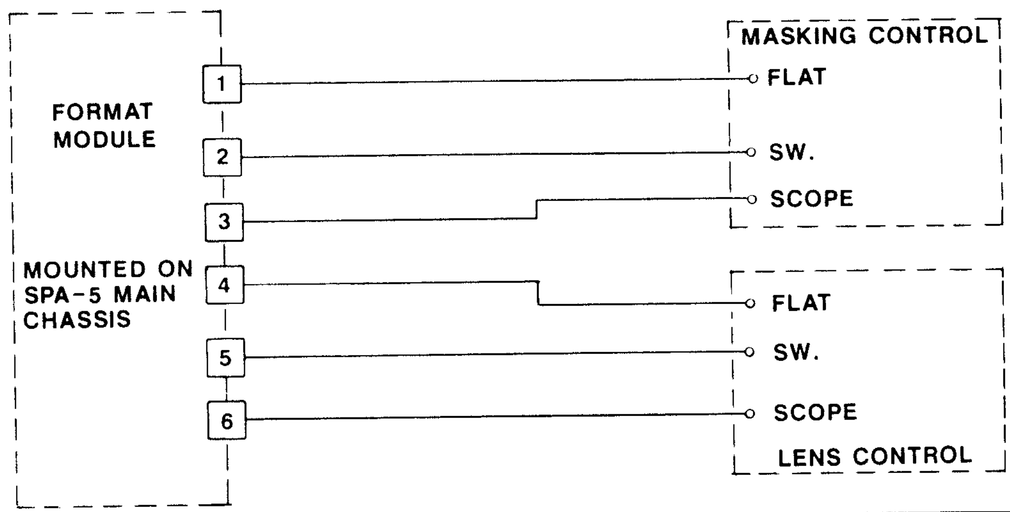
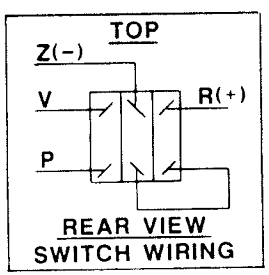
MATERIAL N/A	DESCRIPTION SPA-5 FAILSAFE/CUE DETECTOR CIRCUIT				DRAWING NO SPA5-21
FINISH N/A	SCALE N/A	DRAWN BY BD 9/11/85	CHECKED BY BB 9/11/85	PROJECT NO 122E	CODE NO N/A

DRAPHIX INC 194862-00

NOTES

△1 FORMAT OPTION REQUIRES A FORMAT MODULE TO OPERATE.





FORMAT — THIS SWITCH WHEN ENERGIZED WILL BE ILLUMINATED AMBER AND PROVIDES A FORMAT CHANGE WHEN THE SYSTEM SENSES THE FIRST OUTBOARD CUE.

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MATERIAL: N/A	DESCRIPTION: SPA-5 WALL MOUNT FORMAT CHANGE CIRCUIT WIRING △1				DRAWING NO: SPA5-22
FINISH: N/A	SCALE: N/A	DRAWN BY: BD / 9/11/85	CHECKED BY: BB / 9/11/85	PROJECT NO: 122E	CODE NO: N/A

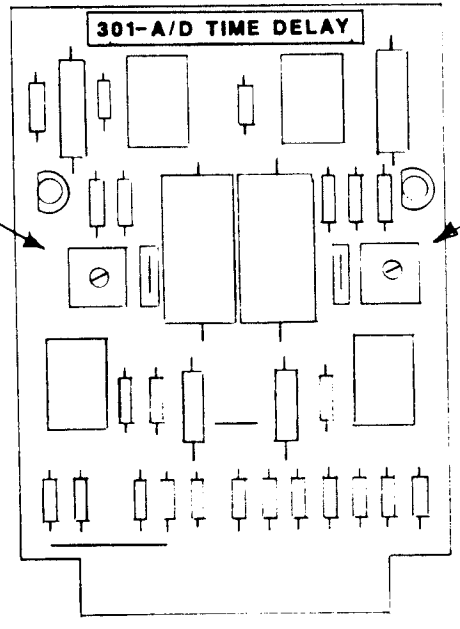
SPA5-22

START/STOP CIRCUIT TIMING ADJUSTMENTS -- SPA-5 AUTOMATION

START CIRCUIT TIMING POTENTIOMETER

TURN CLOCKWISE TO INCREASE

TIMING FOR DOWSER OPEN



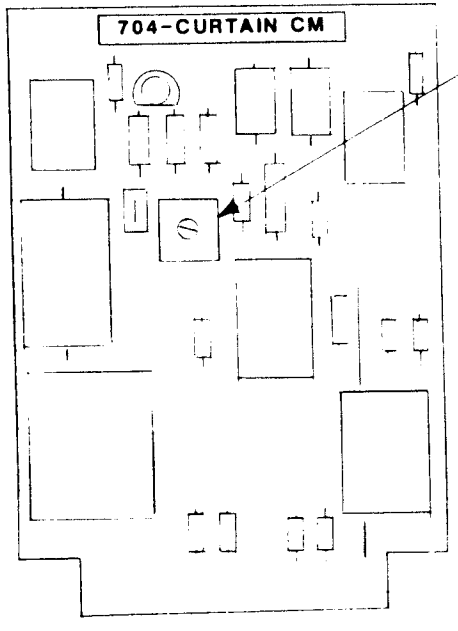
STOP CIRCUIT TIMING POTENTIOMETER

TURN CLOCKWISE TO INCREASE

TIMING ON END OF SHOW CUE

TIMING ADJUSTMENT

CURTAIN SIGNAL TIMING ADJUSTMENTS -- SPA-5 AUTOMATION



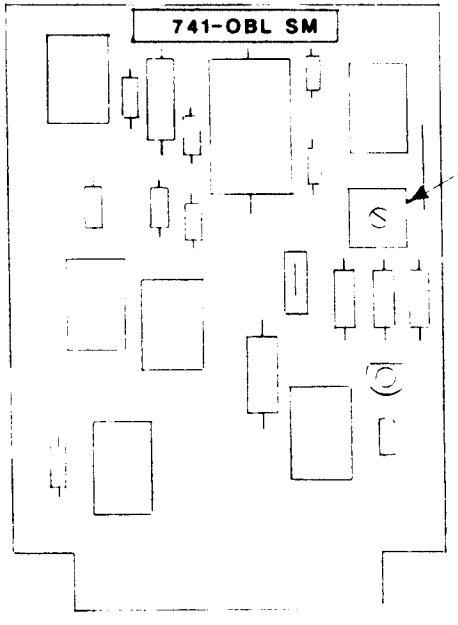
CURTAIN SIGNAL TIMING POTENTIOMETER

TURN CLOCKWISE TO INCREASE

LENGTH OF CURTAIN SIGNAL

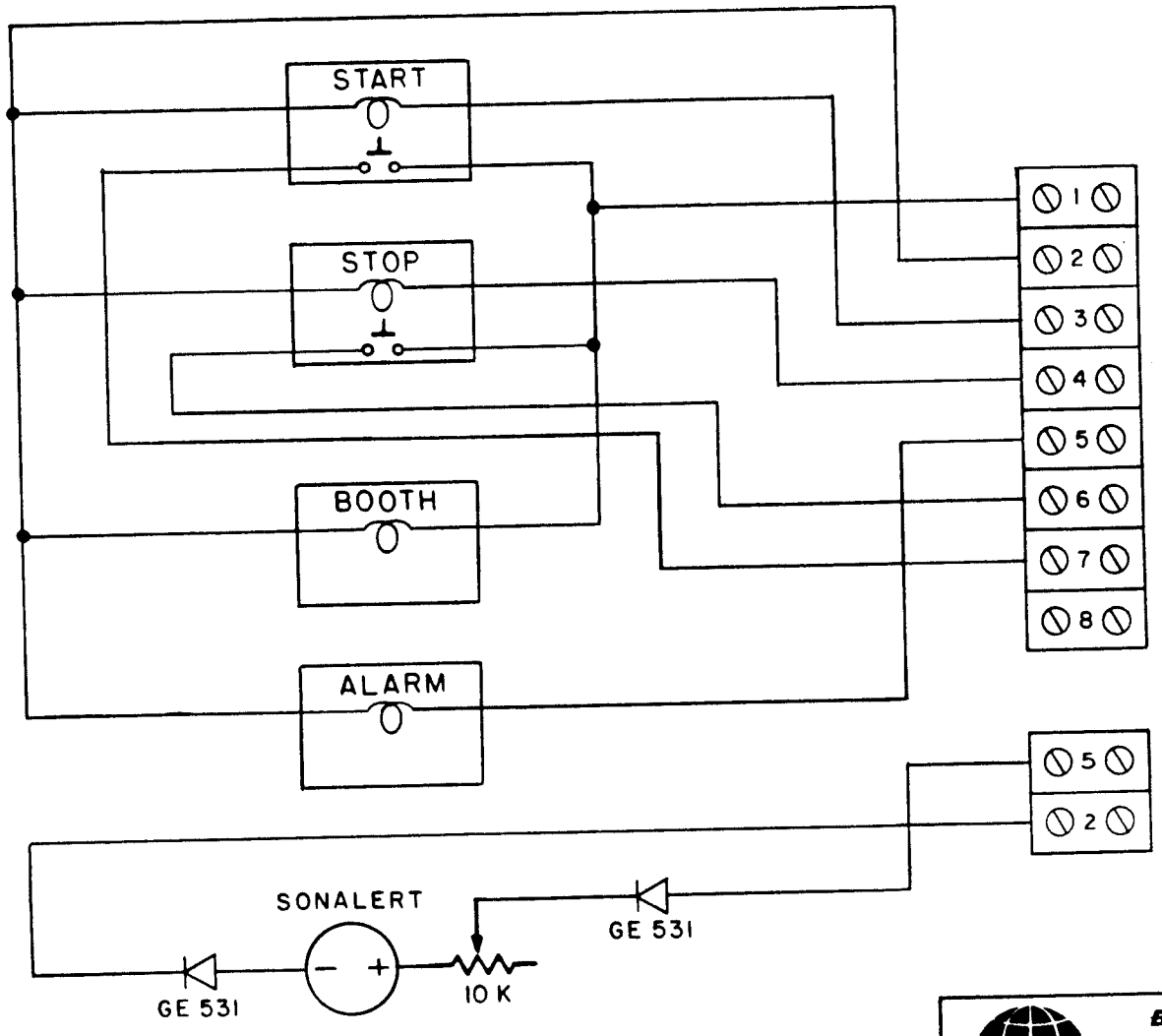
TIMING ON PULSE CIRCUIT

FORMAT CHANGE TIMING CIRCUIT ADJUSTMENTS -- SPA-5 AUTOMATION



FORMAT CHANGE TIMING POTENTIOMETER
TURN CLOCKWISE TO INCREASE
LENS CHANGE TIMING

NOTE: ALL BULBS 28 VOLTS



5596

UNLESS OTHERWISE SPECIFIED TOLERANCES	SYMBOLS
DECIMALS .005	FLATNESS
FRACTIONAL 1/64	PARALLELISM
ANGLES 2°	PERPENDICULARITY
BREAK SHARP EDGES .010 MAX X 45°	SYMMETRY
	REF ANSI Y 14.5 1977

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MATERIAL N/A	DESCRIPTION SPAR WIRING DIAGRAM (TYP)				DRAWING NO. 5596
FINISH N/A	SCALE FULL	DRAWN BY RDD 12.2.85	CHECKED BY /	PROJECT NO.	CODE NO. N/A

SPECIAL INSTRUCTIONS FOR UNITED ARTISTS

SPA-5 AUTOMATION SYSTEMS

PAGE #6 I.B. CUE: THIS SWITCH IS NOT PROVIDED IN UNITED ARTISTS' CONFIGURATION SPA-5 AUTOMATION.

PAGE #6 Q.B. CUE: THIS SWITCH IS NOT PROVIDED IN UNITED ARTISTS' CONFIGURATION SPA-5 AUTOMATION.

PAGE #7 CURTAIN CALL: THIS SWITCH IS NOT PROVIDED IN UNITED ARTISTS' CONFIGURATION SPA-5 AUTOMATION

AUTOMATION CUE PROCEDURE: ON UNITED ARTISTS' CONFIGURATION SPA-5 AUTOMATIONS, ALL INBOARD CUES ARE OUTBOARD CUES AND ALL OUTBOARD CUES ARE INBOARD CUES.

SPA-5 FAILSAFE/CUE DETECTOR CIRCUIT: ON UNITED ARTISTS' CONFIGURATION AUTOMATIONS, THE INBOARD AND OUTBOARD CUE DETECTOR CONNECTS ARE INBOARD TO TERMINAL 30 AND OUTBOARD TO TERMINAL 29.

AUTOMATION SWITCHES
FOR
UNITED ARTISTS

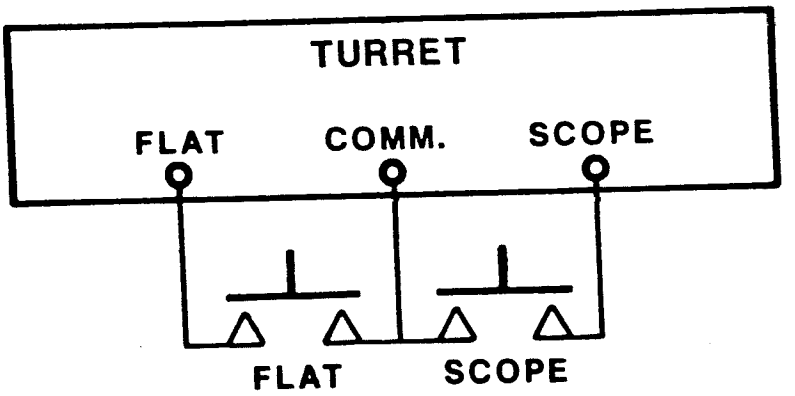
DO NOT INSTALL

1. I.B. CUE SWITCH
2. O.B. CUE SWITCH
3. CURTAIN CALL SWITCH

DO INSTALL

1. FLAT SWITCH
2. SCOPE SWITCH

WIRE TO FORMAT MODULE AS BELOW



USING THE SPA-5 WITH A D.M. MODULE

THE D.M. MODULE IS USED FOR SWITCHING OF DOLBY CP-55 AND CP-200 PROCESSORS.

FACTORY WIRING PROCEDURE

(1) MOUNT D.M. MODULE IN CABINET USING (2) EACH 8-32 X 1/2 F.H. PAN SCREWS WITH NUTS AND LOCK WASHERS. MOUNT IN CLOSE PROXIMITY TO SPA-5 MAIN CHASSIS.

(2) SOLDER VIOLET/WHITE WIRE FROM D.M. MODULE TO CORRESPONDING VIOLET/WHITE WIRE ON COIL OF P.O. RELAY ON SPA-5 MAIN CHASSIS.

(3) CONNECT WHITE/GREEN WIRE FROM D.M. MODULE WITH CORRESPONDING WHITE/GREEN WIRE ON INTERMISSION SWITCH ON SPA-5 CONTROL PANEL.

(4) DISCONNECT TAPE AND TIEBACK IN HARNESS GREEN AND GREEN/BLACK WIRES THAT ARE ON TERMINALS 40 AND 41 THAT ARE CURRENTLY IN REMOTE HARNESS.

(5) CONNECT BLACK WIRE FROM D.M. MODULE TO TERMINAL 34.

(6) CONNECT SLATE (GRAY) WIRE FROM D.M. MODULE TO TERMINAL 38.

(7) CONNECT GREEN WIRE FROM D.M. MODULE TO TERMINAL 40.

(8) CONNECT ORANGE WIRE FROM D.M. MODULE TO TERMINAL 41.

(9) CONNECT BLUE WIRE FROM D.M. MODULE TO TERMINAL 44.

(10) TIE SWITCH WIRING TAG TO TERMINAL 44.

USING THE SPA-5 WITH A MOTORIZED DIMMER SYSTEM

METHOD #1

CAN BE UTILIZED IF NOT USING CURTAINS...(MUST HAVE CURTAIN MODULE)

(A) CONNECT SWITCH LEG FROM DIMMER TO TERMINAL BOARD 1 - TERMINAL 13.

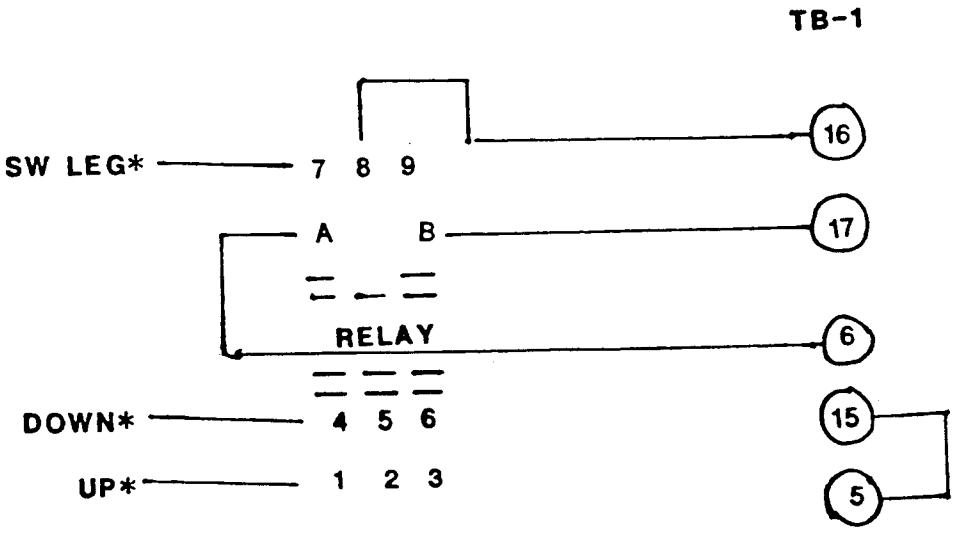
(B) CONNECT LOWER SIGNAL TO TERMINAL BOARD 1 - TERMINAL 12.

(C) CONNECT RAISE SIGNAL TO TERMINAL BOARD 1 - TO TERMINAL 14.

(D) ADJUST SIGNAL TIME BY ADJUSTING POTENTIOMETER ON 704 CURTAIN C.M. CURCUIT BOARD.

METHOD #2

REQUIRES INSTALLATION OF A LATCHING RELAY WITH SOCKET AVAILABLE FROM STRONG.



*FIELD CONNECTIONS FOR DIMMER