

FILM-TECH

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SERIES-1E AUTOMATION —

User's Manual



The BIG SKY SERIES-1E Automation.

Thank you for selecting the BIG SKY SERIES-1E Automation. This Manual will provide the user and installer with technical information needed to install and operate this controller. For all other equipment (projector, readers, etc.), please refer to the appropriate manuals.

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BIG SKY SERIES-1E Automation Features and Specifications:

- Single projector automation unit(16mm, 35mm or 35/70mm)
(Dual machine system is available)
- Mounts in the BIG SKY C2000 Console, or as a stand-alone, wall-mounted unit.
- Easily programmable functions, including projector, sound , lights, masking, etc.
- Additional programming and control options available through optional microprocessor boards.
- RS-485 3 wire status and field programmable addressing.
- Two wire interlock allows for control of multiple screens.
- Modular circuit board design allows makes servicing simple.
- Standard failsafe system automatically shuts projector off, should the film break or twist.
- Random cue-reading capability.
- Manual switches for by-pass operation of all main functions.
- Tested and approved to U.L. standards.
- Wall box dimensions:19"w x 18"h x 4.5"d, 25lbs.
- Console mount dimensions: 19"w x 7"h x 7"d.

Automation Layout:

Pictured below is a photograph of the SERIES-1E Automation, indicating major components, switches, and controls.



Power Switch

Manual By-Pass Switches

Installation notes and directions:**Upon receipt of this automation:**

- Inspect for any possible damage, missing parts, accessories, and manuals
- Check that all wiring and connection diagrams for this installation are included
- Check that all connection information on all peripheral equipment is included on the diagrams.

Proper Installation and Safety Procedures:

- Be sure all peripheral equipment used in conjunction with this automation is correctly wired to the interface board.
- If this is a wall mounted unit, make sure the box is securely attached to the wall or cabinet. Also make sure all conduit and wiring adheres to any and all applicable building or electrical codes.
- When replacing parts, be sure to use the same type, size, and rating as the original to maintain proper ratings.
- Manually check all functions and operation of connected equipment with their own controls and automation manual switches. Once all equipment is verified to be working properly, then use the automation functions.

Operation:

- After safety procedures and installation are complete, turn the power on.
- Refer to pages 7 - 14 of this manual for operating procedures.

Problems:

If problems occur, first consult the troubleshooting section contained in this manual or refer to the schematics in the last section of this manual.

Front Panel Operation:

Start Mode:

You may select the mode in which you wish the automation to operate, by positioning the "START MODE" switch in "NORMAL" or "INTERLOCK".

To set the automation for full functioning, (including starting the motor, all other projector, and initial auditorium functions), set the switch to the NORMAL MODE position, indicated by a green LED, and press the START button.

To start only the motor, position the switch in the INTERLOCK position, indicated by a yellow LED. When the START button is pressed, the automation will check the position of the interlock control line. If there is no problem (if the line is not held to ground), the automation will start the motor only. Once a single cue is sensed, the automation will start the lamp, all other projector functions and switch into full operation. For complete details on the interlock, see the operating instructions found on pages 11 - 12 of this manual.

Start/Stop:

You are able to start, stop, or resume operation of the automation at any time. Should you wish to add an unscheduled intermission, simply press the STOP button to pause the unit and press the START button to restart the unit. The automation will restart and on C/O open will pulse the last active cue line which will reset the auditorium to the last known state. Pressing the stop button will also re-set the alarm in the event of a failsafe. The stop button also terminates the interlock showend line delay.

Showend Mode

You may select the operation of the automation when entering showend mode with the Showend button. By setting this button to the RUN mode, when the showend cue is sensed, the automation will close the dowser, turn off the lamp and the exciter supply and provide the auditorium functions selected on the function matrix for this cue. The projector motor will continue to run until the film runs out and the failsafe drops.

When the Showend Mode is set to INTERMISSION and the cue is sensed, the automation will execute all projector and house functions as well as stopping the motor. The automation may be restarted manually or automatically through the use of an intermission timer after the intermission.

Interlock Feed-Through:

As mentioned earlier the interlock buss is a pair of wires daisy chained between all the machines in the complex. The buss consists of one signal wire and a ground. The "Interlock feed through" button allows the operator to separate portions of the buss into smaller interlocked groups. For example, if you have 4 machines and wanted to interlock machines 1-2 and 3-4 to run 2 different prints, you would turn off the feed through on machine #2 which would separate the output of machine #2 from the input on machine #3. This would effectively make 2 separate smaller busses. If the complex is larger, this may be done for multiple pairs throughout the complex. The feed through indicator is on when the feed through is active.

Indicators:

The mode in which the automation is operating is visually indicated by colored LED indicators as follows:

Start Indicator: LED display: Green

This indicator is illuminated anytime the automation is running normally. Should this unit be interlocked, and another machine in the system has a film break, this indicator will blink; indicating that there is a problem in the system which needs to be fixed.

Stop indicator: LED display: Red

This indicator is illuminated anytime the unit is stopped by any means and for any reason. Illuminates for film breaks and when the STOP button is pressed. The stop indicator flashes when stopped and interlock showend line delay is active.

Interlock Indicator: LED display: Yellow

This indicator is illuminated when the interlock start mode is selected.

Normal Indicator: LED display: Green

This indicator is illuminated when the normal start mode is selected.

Intermission Indicator: LED display: Yellow

This indicator is illuminated when the showend-intermission mode is selected.

Run Indicator: LED display: Green

This indicator is illuminated when the showend-run mode is selected.

Interlock feed Through Indicator: LED display: Yellow

If this indicator is illuminated, the interlock bus continues on the next machine. If this indicator is not on, the buss terminates at this unit.

Manual Switches:

Manual switches are located on the front panel of the automation. Should you desire to bypass the automation for certain functions, or in the event of an automation failure, these switches may be used. They do not require the automation to be powered up for use.

Normal Mode Operation:

Power Up:

When the power switch is turned on, a pulse will be provided to the power-up line (line one) on the function matrix. The auditorium will be configured to the functions selected on that line.

All cues should be placed on the film according to the automation mode, and function selections for presentation desired.

Thread the projector with the academy leader in the aperture between the seven and eight foot mark. When the film is properly threaded through the failsafe, the automation will be ready to START. (The automation will NOT start if the failsafe is down.)

Show Start:

Once the START button is pressed, the green LED will illuminate and a pulse will occur on line-two of the function matrix. The functions you have selected will take place, as well as the following sequence of events:

1. Projector motor will start, and the exciter lamp will come on.
2. Xenon lamp will ignite
3. After seven seconds, the projector changeover will open, and a pulse will be provided to line three of the function matrix. The functions selected on that line will take place and the projector will continue to run until a programmed intermission or until the end of the show.
4. Automation is in FEATURE mode. Cues corresponding to the remaining seven cue lines may be placed on the film at this time to accommodate sound, lighting or masking format changes. For more detailed information on cue line/matrix line configuration, refer to the chart on page 14 as well as the Matrix information in the schematic section.

OPERATIONAL NOTES:

START MATRIX LINE:

The start matrix line pulse occurs only the first time the start button is pressed until the "showend cue". If the automation is stopped and restarted for any reason before showend, this line will not be pulsed. The start pulse will only occur on the initial press of the start button for the current presentation.

C/O OPEN MATRIX LINE PULSE

The C/O open matrix line will be pulsed on initial C/O open if no cues have yet been activated. If the automation is stopped for any reason and then restarted after cues have been activated, the last cue line that was activated will be repulsed on C/O open. This may be used as a "QUASI" cue memory and will allow the operator to automatically reset the auditorium to the last known state before the unscheduled stop.

SHOWEND :

The Showend function is selected in the same way as the cue functions. The pushbutton labeled "SHOWEND" is used to select the line where the automation will switch into the SHOWEND mode. When in cue setup mode, an illuminated "SHOWEND" LED indicates that the current line is selected for the SHOWEND function.

Two modes, RUN and INTERMISSION, are provided in the SHOWEND mode. They are selectable by an alternate action pushbutton on the front panel.

RUN mode:

If the automation is in the RUN mode, a cue detected on the line designated for SHOWEND will turn off the Xenon lamp and exciter supply, close the dowsers and pulse all the auditorium functions that have been selected on that cue line. The motor will continue to run until the film runs out of the projector and the failsafe drops. The red STOP LED will illuminate.

INTERMISSION mode:

If the automation is in the INTERMISSION mode, a SHOWEND cue on the film will simultaneously stop the motor, turn off the Xenon lamp and exciter, close the dowsers and pulse all the auditorium functions that have been selected on the cue line.

Restart:

To restart the presentation, you may use an optional intermission timer, or simply press the START button. Either way, the chain of events is the same as in the SHOW START sequence.

Remote Operation:

Follow all the same instructions as front panel operation.

FILM BREAK:

If the film should break during operation, the machine will shut down, Xenon lamp and exciter lamp will turn off, the house lights will come up, the nonsync will turn on and the curtain will close. The alarm will sound on the machine with the film break as well as any connected status panel in the system.

Should this occur:

1. Press the STOP button to reset the alarm
2. After repairing the film, press the START button to continue the show.
3. The auditorium functions will return to the configuration designated by the last cue.

Interlock Mode Operation:

Power Up:

When the power switch is turned on, a pulse will be provided to the power-up line (line one) on the function matrix. The auditorium will be configured to the functions selected on that line.

All cues should be placed on the film according to the automation mode, function selections, and presentation desired.

Thread the projector with the academy leader. Line the "startall" cue (1 cue tape) just before the first projector. When the film is properly threaded through the failsafe, the automation will be ready to START. (The automation will NOT start if the failsafe is down.)

Show Start:

Once the START button is pressed, the green LED will illuminate and the machine will check the status of the interlock buss. The interlock is now established in this unit. Press the START buttons on each machine interlocked in the chain. After the last START button has been pressed, the motors will all start. All units are now in the "interlock start-motor-only mode."

Interlock "Startall" Cue:

Once the motors have started, the interlock "startall" cue (one cue tape) will trigger each automation in the following sequence of events:

1. The "start line," line two on the matrix, will be pulsed
2. Xenon lamp will ignite
3. After seven seconds, the picture changeover will open,
The exciter will turn on, and a pulse will be provided to line three of the function matrix. The functions selected on that line will take place and the projector will continue to run until a programmed intermission or until the end of the show.

The automation is now in the FEATURE mode. Cues corresponding to the remaining seven programmable cue lines may be placed on the film at this time to accommodate sound, lighting or masking changes.

SHOWEND :

The Showend function is selected in the same way as the cue functions. The pushbutton labeled "SHOWEND" is used to select the line where the automation will switch into the SHOWEND mode. When in cue setup mode, an illuminated "SHOWEND" LED indicates that the current line is selected for the SHOWEND function.

Two modes, RUN and INTERMISSION, are provided in the SHOWEND mode. They are selectable by an alternate action pushbutton on the front panel.

RUN mode:

If the automation is in the RUN mode, a cue detected on the line designated for SHOWEND will turn off the Xenon lamp and exciter supply, close the dowsers and pulse all the auditorium functions that have been selected on that cue line. The INTERLOCK status is now suspended for this unit. The motor will continue to run until the film runs out of the projector and the failsafe drops. The red STOP LED will begin to flash (this indicates a delay period before activating the interlock control line). In three minutes following the SHOWEND failsafe, the INTERLOCK output pulls the buss to the ground. This delay allows for all machines in the chain to react to the disengagement from the buss before returning to the pre-show status where the buss is pulled to the ground.

NOTE: The automation will not start during the “Interlock Line Delay”. If early start is desired, pressing the stop button will abort the delay. Press the stop button on “ALL” the machines in the connected group and start the system normally.

IMPORTANT!: If any of the machines in the group are left in the delay mode, the rest of the machines will start normally. Be sure to abort the delay in all the connected machines.

INTERMISSION Mode:

The INTERMISSION mode is not recommended when the automation is running interlock, as an intermission cue placed on the film will send all the interlocked machines into a “wait” state. Unlike the SHOWEND-RUN mode, the machines will not restart, but continue to run from the point at which they stopped.

Film Break:

If the film should break during operation, the machine will shut down, Xenon lamp and exciter lamp will turn off, the house lights will come up, the nonsync will turn on and the curtain will close. The alarm will sound on the machine which has encountered the film break as well as any status panels connected to the system. Operation on all machines will be suspended, the auditoriums corresponding to these machines will be configured as above and the START indicator will begin to flash. This indicates that these machines are waiting for the film to be repaired and the system restarted.

Should a break occur:

1. Press the STOP button ONLY on the machine which had the film break, to reset the alarm.
2. After repairing the film, press the START button ONLY on the machine which had the film break.
3. When the C/O opens, the auditorium functions will return to the configuration designated by the last cue.

Remote Operation:

If the system is to be operated from a remote unit, follow all the same instructions as front panel operation.

OPERATIONAL NOTES:**START MATRIX LINE:**

The start matrix line pulse occurs only the first time the start button is pressed until the “showend cue”. If the automation is stopped and restarted for any reason before showend, this line will not be pulsed until the next presentation.

C/O OPEN MATRIX LINE PULSE

The C/O open matrix line will be pulsed on initial C/O open if no cues have yet been activated. If the automation is stopped for any reason and then restarted after cues have been activated, the last cue line that was activated will be repulsed on C/O open. This may be used as a “QUASI” cue memory and will allow the operator to automatically reset the auditorium to the last known state before the unscheduled stop.

Optical Cue Operation:

You may determine what is controlled by the automation and how it is achieved through the features of the Optical Cue. For cue line/matrix line configurations, refer to the charts located at the end of this section. Please note that the BIG SKY SERIES-1E Automation has been exclusively designed to work with BIG SKY optical cue tape. Certain standard functions, such as curtain close, lights bright and non-sync sound have been hard-wired into the automation in the event of a film break. If the automation is stopped, the auditorium will be reset to the proper configuration “corresponding to the last cue that occurred” when the C/O reopens.

The cueing is accomplished in what is referred to as “RANDOM” mode. The tapes are placed on the film on consecutive frame lines. The tapes are then counted and the proper cue line is pulsed according to the final count.

NOTE: If the operator wants to take full advantage of the “QUASI” cue memory, they should be sure to determine “ALL” the “CUE CONTROLLED” functions that would be needed at each cue position to properly reset the auditorium after an unscheduled stop.

Cue/Matrix Charts:

1. Cue line activation corresponding to number of cue tapes:

Cue Random Mode

Cue-1 One cue tape
 Cue-2 Two cue tapes
 Cue-3 Three cue tapes
 Cue-4 Four cue tapes
 Cue-5 Five cue tapes
 Cue-6 Six cue tapes
 Cue-7 Seven cue tapes

2. Cue line/matrix line configuration:

Cue line #:	=	Matrix line #:
1		4
2		5
3		6
4		7
5		8
6		9
7		10

Auxiliary relay / Fire function & C/O type setup

There are several basic internal functions on the automation that can be programmed for operation with different types of equipment or to users preferences. The variants of operation are explained below. See drawing #ADIPSW_A2000-E.SCH for full explanations of jumper settings.

Auxiliary relay

The auxiliary relay may be programmed to turn off either at the press of the start button or when the C/O dowser opens through use of the jumper labeled S8.

The relay may also be programmed to turn on directly after the showend failsafe or after an adjustable delay by using S7 to select yes or no delay and if selected, R7 to adjust the delay.

C/O type setting

The Changeover dowser can be selected for latch or zipper operation by using the jumper labeled S10.

If zipper is selected, the C/O open and close relays are both normally open and pulse closed to activate the dowser.

If latch type is selected, the close relay is not used and the open relay is turns on and stays on to hold the dowser up. (The manual switch can be modified to an on/off type switch to accommodate this type of dowser.)

Fire sound function settings

The sound function that occurs in the event of a fire input can be programmed by use of the jumper labeled S9.

If the complex uses a public address system to make announcements, the sound can be programmed to MUTE in the event of a fire.

If the complex uses the theatre speakers, the sound can be pulsed to Nonsync.

See drawing #ADIPSW_A2000-E.SCH for full explanations of jumper settings.

Cue matrix setup

On the REV.E version of the A-2000 Automation, the cue matrix is setup through use of buttons that select the "Setup mode, select the matrix line to be programmed, clear or activate functions for each line as well as saving the function data to non volatile memory. Please see drawing #MATRIX SETUP_A-2000-E.SCH for full information.

RS-485 Status system and Automation address setup.

The REV.E version of the Series-1 Automation uses an RS-485 based system for communications with remote status panels. The status panels can be mounted in the console as part of a filler panel just under the automation or on the wall in a dedicated box. The system consists of as many Automations as there are auditoriums as well as the number of status panels specified by the customer. The system is a "Master" / "slave" type system where all the Automations are slaves and all but one of the status panels are slaves. The master Status panel initializes communications by poling the automations continuously. If the signal corresponds to the local address of the automation, the automation places it's status on the buss which is read and displayed by all the status panels.

The Automation is easily field addressed by a dip switch labeled "SB2" "BASE ADDRESS" on the automation board. See drawing #REV-E base address settings.sch for full addressing information.

The wiring consists of Belden #9842 - 24 gage 2-twisted pair with shield or equivalent. The orange and orange/white carry the differential data signal, the blue-blue/white twisted pair are connected to the DC common of the device and the shield is grounded to chassis. Use the following drawings for information on the wiring of the different configurations of the status system:

For LEDSTAT2 status panel wiring see Dwg #LEDSTAT2 status panel wiring.sch

For RS-485 wiring in the A-2000-E see Dwg. #A-2000 Rev-E 485 wiring.sch

For LEDSTAT2 in console see Dwg. #LEDSTAT2 wiring in console.sch

For wall mount status wiring see Dwg. #485 Status panel wiring.sch

Parts List:

The following is a listing of frequently ordered spare parts available for the SERIES-1E Automation. They may be ordered through your dealer. For parts not listed, or for more information, please contact your dealer, or BIG SKY directly.

SKU	DESCRIPTION
APANEL-E	Front panel complete w/circuit board
A552-PSA-4012	12V, 3.4AMP power supply
3AG-2AMP	2AMP fuse
AK1-K10	High-power relays
AK11-K21	DPDT low-power (DIP) relays
A-2000 REV.E	Main Relay Board
A1020	Bag cue tape (280 cues in each bag)

CTERM Automation Interface Terminal Board: (Rev. C)

The CTERM automation interface board is used in both the console and wall-mounted automations. It's function is to provide a connection point for all automation functions between the automation (and console, if installed), and all peripheral equipment. When used in a console, AC power and projector function connectors are not installed. These functions are wired directly from the Automation to the High-Power board. The DB-25 connectors are only installed with the QUICK-CONNECT, or other remote system used with the console. Each terminal specific function is labeled on the CTERM board. Drawing CTERM-C.SCH shows all board connections.

TB-1 Sound and Light outputs from automation:

Connections to CTERM board from automation via 40 conductor ribbon cable for all light and sound remote control functions.

TB-2 Dimmer and Sound switching Barrier Terminals:

User interface / wiring point for Dimmer and Sound remote control. All switching is low-voltage (ground, TTL, etc), 1 amp max.

Dimmer functions include bright, dim, half-light, panic, and switching common terminals. Refer to the D4000 Dimmer wiring drawing, or wiring instructions for the dimmer used.

Sound remote switching must be connected according to the remote automation control of the specific sound processor used. The SERIES-1E automation provides relay pairs with connected commons. The relays are labeled for generic sound switching but may be used for any purpose. If more than one pair of relays are used, the commons must be wired together, depending on which and how many sound functions are used, for correct control. Also, all relay contacts are programmed for momentary action as default, if latching outputs are desired, contact Big Sky. The relay activation can be programmed to accommodate specific equipment.

Refer to SERIES-1E Automation Board Schematic drawing #A-2000-E.SCH for specific relay connection information.

TB-3 Projector / High Power outputs from automation:

Connections to CTERM board from automation for all projector, curtain, and format functions. When in a C2000 Console, only the curtain and masking connections are present.

TB-4 Projector, Curtain, Masking switching Barrier Terminals:

User interface / wiring point for projector, curtain, and masking functions. When in a C2000 Console, only the curtain and masking functions are present. All projector functions are accessed and wired from the High-Power board TB-11. Turret, Curtain, and Masking relay contacts are momentary, and all high-power relay contacts are rated at 250V, 10A maximum. Refer to equipment wiring diagrams, and specific job wiring diagrams, for connection information.

TB-5 Automation Remote Input / Outputs:

Connections to CTERM board via 20 conductor ribbon cable from automation for all automation remote functions, including indicators, control, interlock, fail-safe, etc.

TB-6 Automation Remote / Cue Detector & Fail Safe / Interlock Barrier Terminals:

User interface / wiring point for all Automation remote controls. Connections for interlock, remote status panels, fire systems, and all remote automation functions are accessed here. Refer to the schematics and manuals provided for all connections of remote control, emergency, and status equipment.

TB-7 and F-1 Automation Power:

Power connections from source, through fuse, and to automation power supply. Connections are only used when Automation is in own enclosure for wall mounting.

P1 and P2 DB-25 Connectors:

Only used for QUICK-CONNECT, or other Theater console wiring system. Connections are made via DB-25 computer-style connectors and cables.

These connectors are removed when Automation is mounted in wall box.

Equipment List:

The SERIES-1E Automation is one of a series of motion picture projection equipment and accessories available from BIG SKY Industries. A complete line of automations, lighting controls, consoles, projectors, sound equipment, platter systems, lamphouses, power supplies and ignitors, film guidance hardware and accessories are available. For product specifications, pricing and ordering information, contact your dealer.

Consoles:

C2000 2K console
C3000 3K console
C4000 4K console
C7000 5-7K console

Deluxe consoles:

C2000D 2K extended console
C3000D 3K extended console

Console options:

Rotron blower w/air vane switch
Additional breakers
Prewire sound in deluxe consoles
Prewire projector
Time-delay circuit for blowers
Main Contactor

Automations:

A2000 Matrix automation
A2108 8-screen remote
A2116 16-screen remote
A2124 24-screen remote

Automation options/accessories:

Clock timer
Optical failsafe w/micro-switch failsafe
Sensing tape, optical

Lighting controls:

D4000 Single-channel 4k Dimmer
D4400 Dual-channel 4k Dimmer

Projectors:

E15M Ernemann 15 Projector/manual
E15A Ernemann 15 projector/auto.
ESRD Dolby Digital Reader
E15 Ernemann 15 Complete System

Sound Equipment:

S1000 sound Rack; 40 rack
S1200 Sound Rack; 40 rack, blower, contactor, receptacles
S1400 Sound Rack; X1200 plus pre-wire for custom comp.
S2000 Monitor Panel

Film Guidance Hardware:

FH1000 Arms w/platter guidance hardware
FH1100 Wall-mount guidance hardware
FH1200 Wall-mount fixed roller
FH1300 Swing-arm accumulator
FH1400 Roller on bar

Platter Systems:

P3350 3-Deck Platter System
P3700 3-Deck Platter System
P5350 5-Deck Platter System
PMT35 35MM Make-Up Table
PMT70 35/70 MM Make-Up Table

Platter Accessories:

P1350 35mm Payout Head
P1700 70mm Payout Head
P1351 35mm Take-Up Ring
P1701 70mm Take-Up Ring

Lamphouses:

L2000 1-2000w Lamphouse
L3000 2-3000w Lamphouse
L4000 3-4000w Lamphouse
L7000 5-7000w Lamphouse

Power Supplies & Ignitors:

N3X75 IREM 2000 watt power supply
N3X7595 IREM 3000 watt power supply
N3X95150 IREM 4000 watt power supply
N3X180 IREM 7000 watt power supply
N3X10K IREM 10,000 watt power supply
AFU200 Auxiliary Filter Unit
AS16D40M IREM Ignitor
ASN700A IREM ignitor, low-noise

Replacement Parts:

C1050 10.5" Dichroic Reflector
C1060 13.5" Dichroic Reflector
C1070 12" Glass Dichroic Reflector

Warranty:

All BIG SKY products and accessories are warranted against malfunction or failure due to defects in workmanship or materials for a period of one year from the date of shipment. If a problem occurs during the warranty period, the unit will be repaired or replaced (at BIG SKY's option) without charge for materials or labor. This limited warranty does not cover products that have been altered, abused, modified or operated in other than specified conditions.

Our limited warranty does not cover damages resulting from accident, misuse or abuse, lack of responsible care, or failures not attributable to manufacturing defects. BIG SKY Industries, Inc. makes no warranties, express or implied, including warranties of merchantability or fitness for a particular purpose. Final warranty decisions are to be made by BIG SKY Industries only.

RETURN POLICY: Factory authorization **MUST** be obtained before returning any product. A 15% restocking charge will be issued on unused equipment (in original box) that is returned for credit. Credit is issued to the dealer's account only.

WARRANTY SHIPPING: All returns **MUST** be shipped freight pre-paid by the dealer. Equipment returned without a factory return authorization (RA) will be refused. RA number must be written clearly on the shipping box. If air freight is requested by the dealer, the difference between air and ground charges will be billed to the dealer.

Technical assistance:

Troubleshooting guide: If the automation does not operate properly, first check the following troubleshooting guide to help determine the cause. If, after checking the guide, the problem is not located, contact your dealer or an authorized theatre equipment service person.

Problem:

Solution:

Automation does not turn on

- When in a console, check that Automation breaker is turned on
- Check that external breakers are turned on
- Check that Automation power switch on front panel is turned on
- Check for loose or missing wires
- Check for blown or missing fuses

Automation won't start

- Check fail-safe of film tension sensor for 'on' position; reset if needed
- Check no buttons are stuck or broken
- Check for correct operating mode (normal, interlock)

Automation doesn't read cues

- Check film for presence and/or placement of cues on film
- Check and adjust sensitivity adjustment of cue detector
- Check power feed, wiring and connections of cue detector from automation

Automation doesn't control peripheral equipment

- Check for disconnected, loose, missing or damaged cables
- Check for mis-wired control wiring
- Check for loose or missing relays in automation
- Check that peripheral equipment is turned 'on', and in 'auto' mode
- Check that function is selected on corresponding matrix cue line.
- Check for missing or damaged cues on film
- Check for loose solder connections on interconnect board

Factory assistance and information:

If you have checked the troubleshooting guide on the previous page and are still having problems with operation, contact your theatre equipment dealer. If you are unable to resolve your problem quickly or easily, contact BIG SKY Industries' Engineering Department at:

BIG SKY Industries, Inc.
1475 Park Ave
Alpha, NJ 08865

Tel. (908)454-6344
Fax (908)454-6373

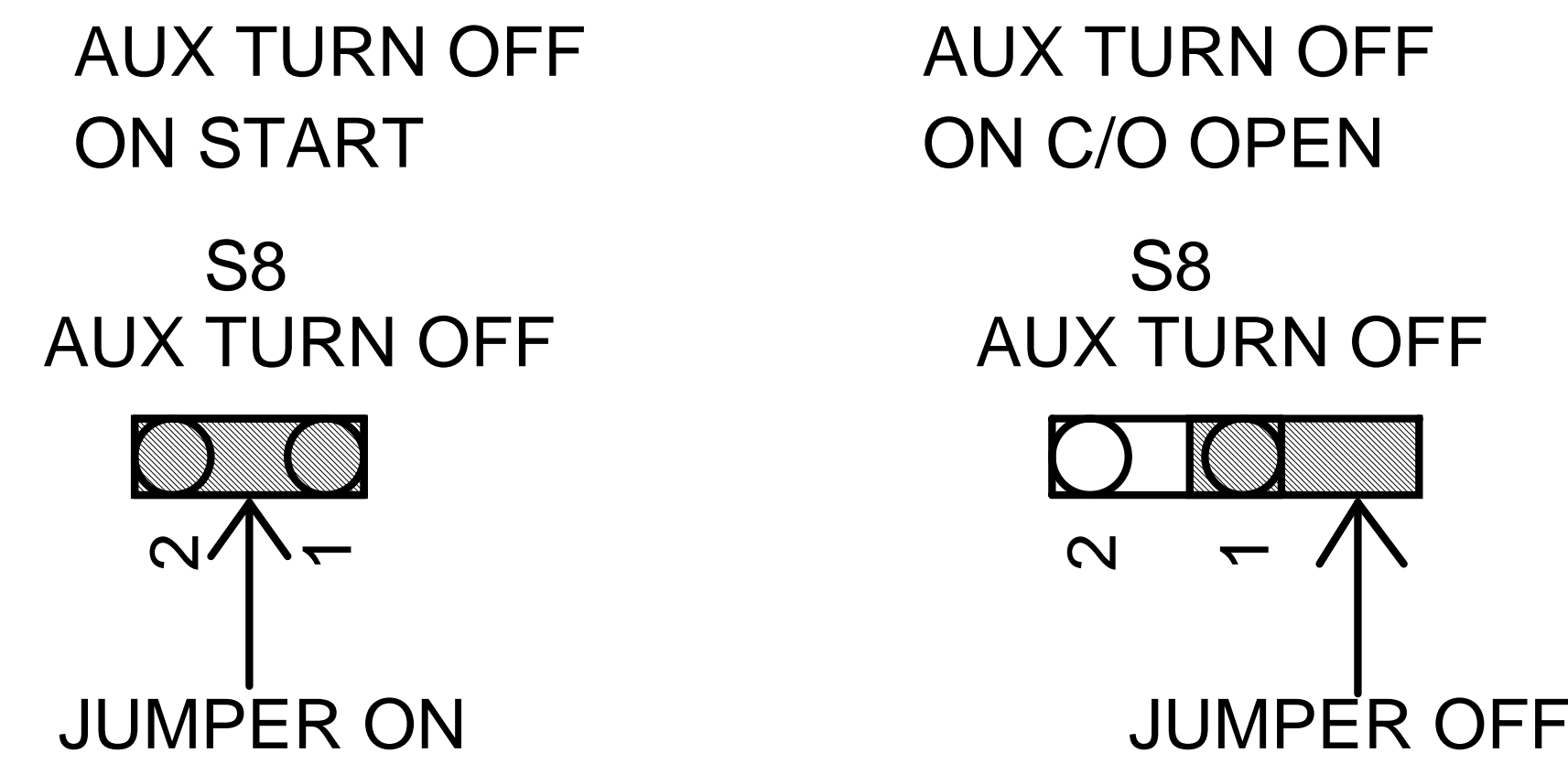
Hours: Monday-Friday
8:30a.m.-5:00p.m. (EST)

Additional product information is also available by visiting our web site at:

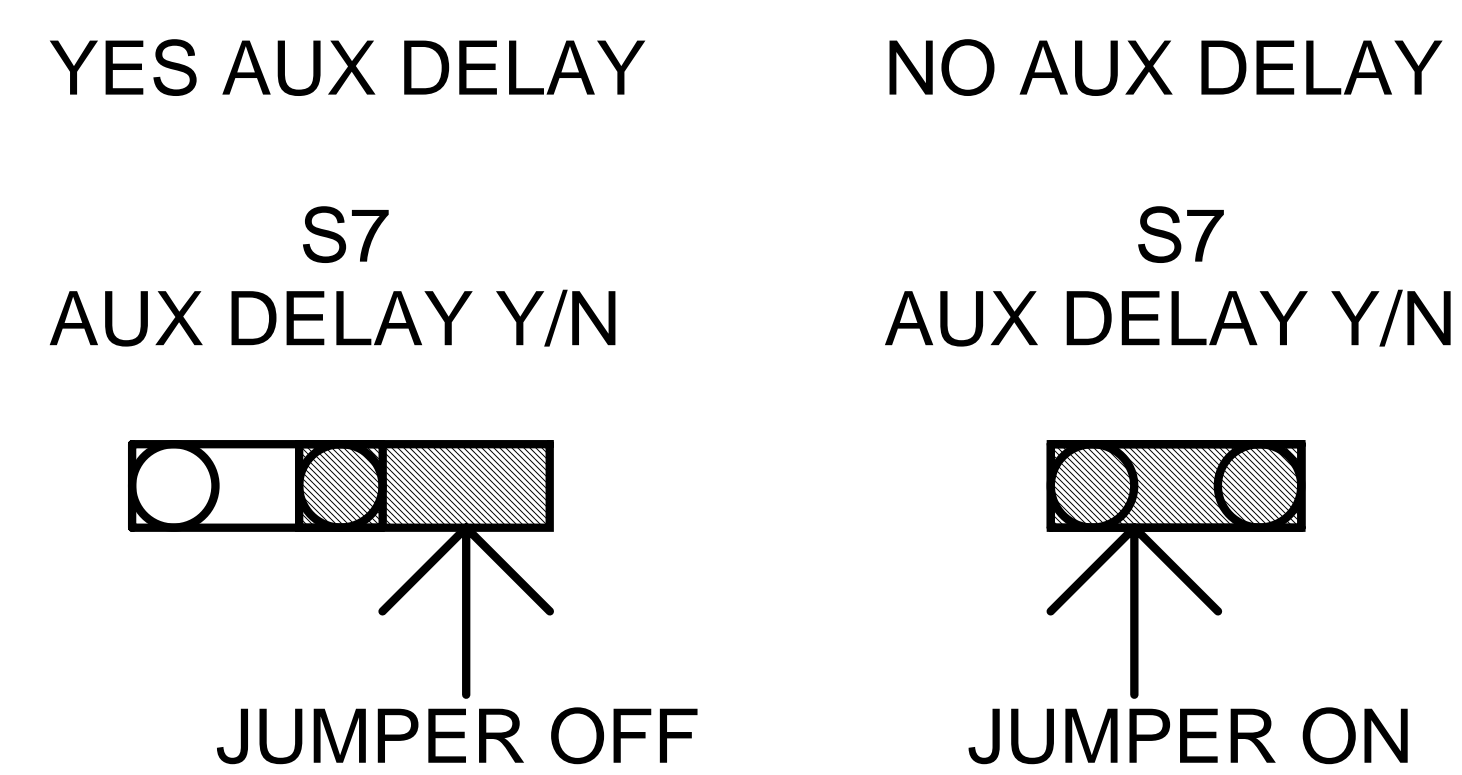
www.bigskyindustries.net

AUXILIARY RELAY, FIRE & CHANGOVER FUNCTION SETUP

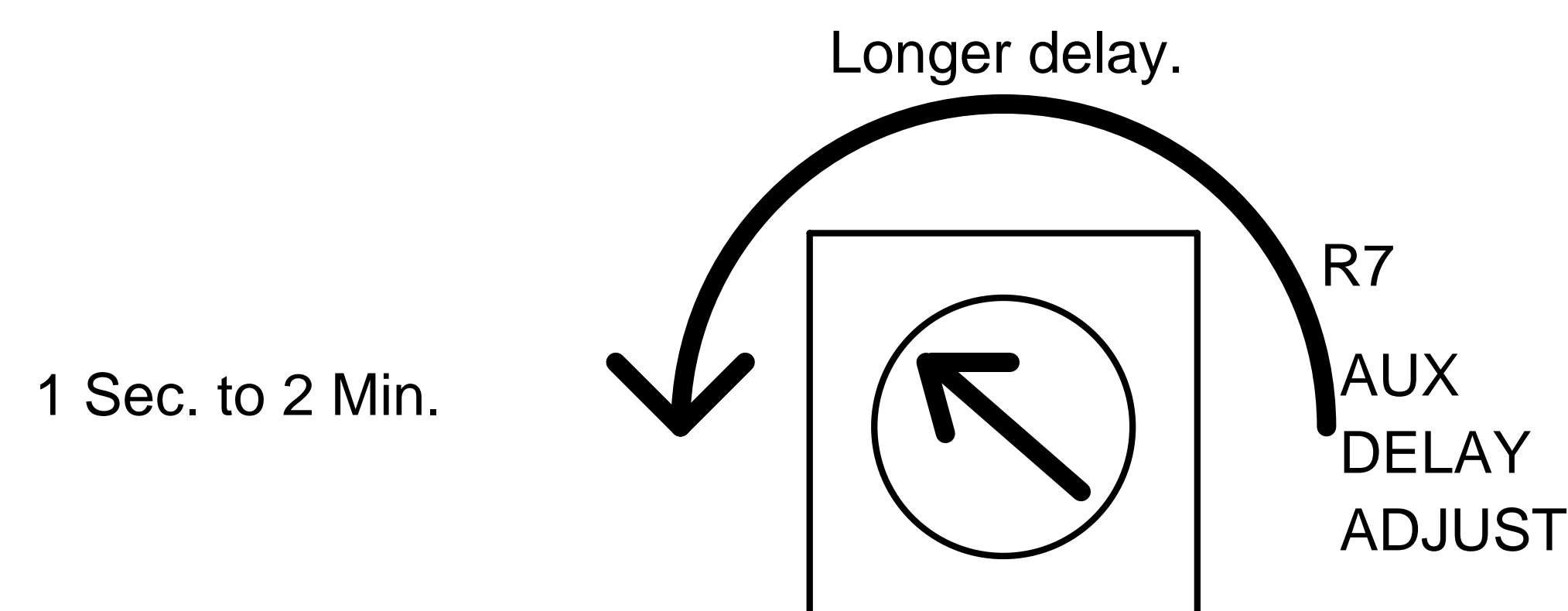
SW8 - Aux. Relay Turn Off Mode Select



S7 - Aux. Relay Turn On Delay Select

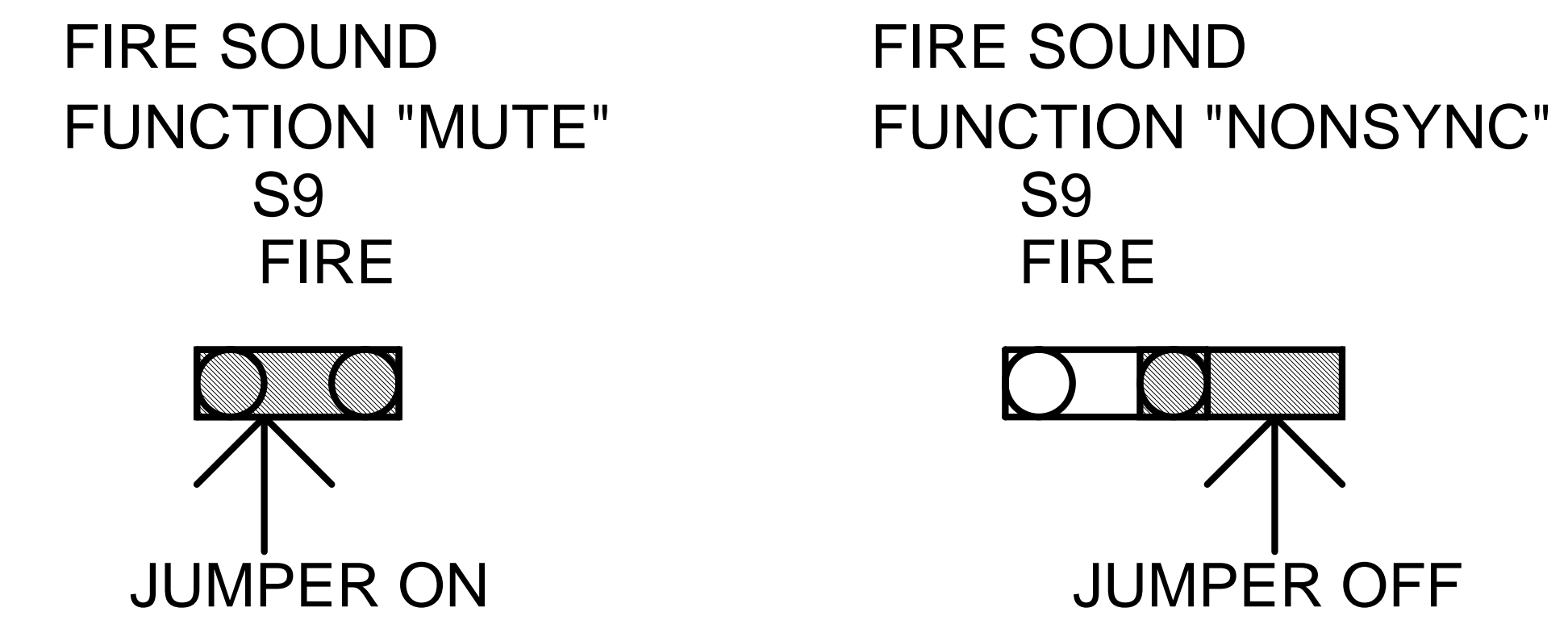


R7 - Aux. Relay On Delay Adjust



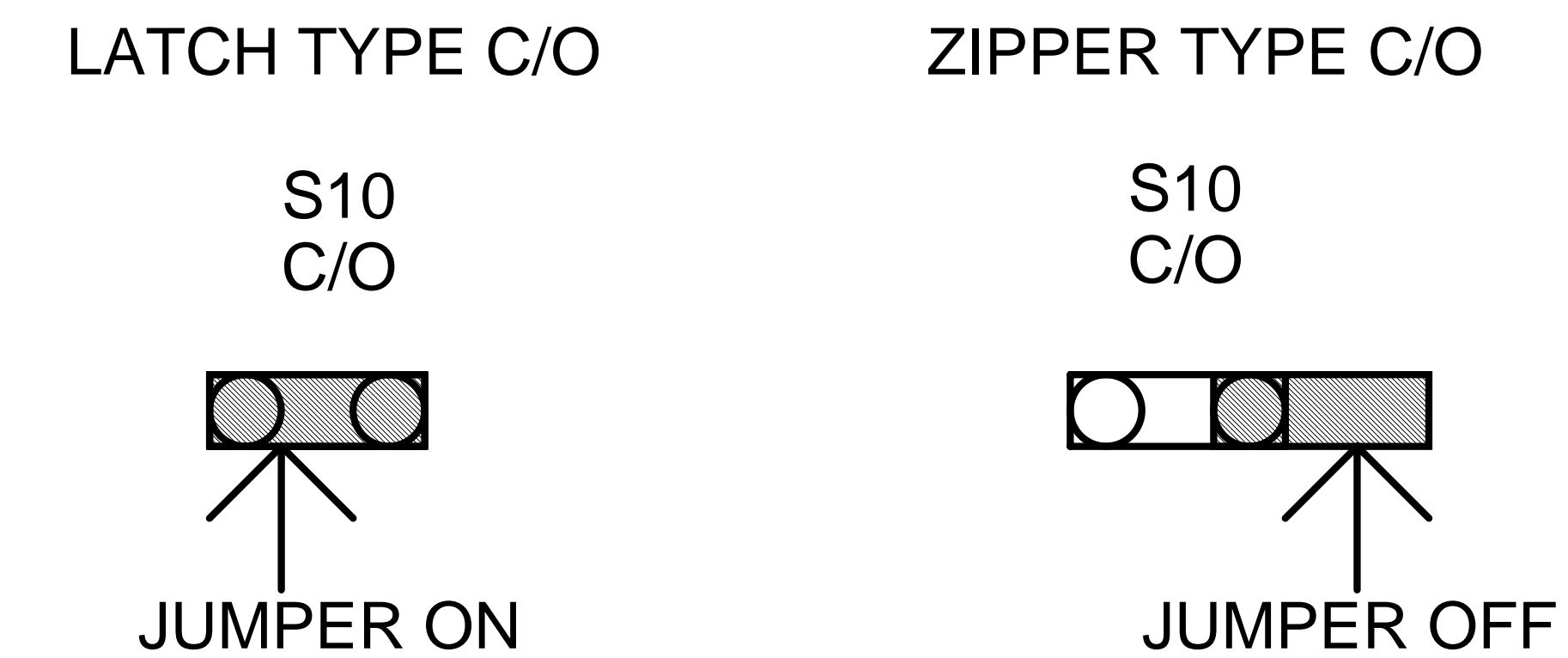
IF DELAY IS SELECTED, USE THIS POT TO ADJUST FOR DESIRED DELAY.

S9 - Fire Alarm Function Select



USE THIS HEADER TO SELECT WHAT SOUND FUNCTION WILL OCCUR IN THE EVENT OF A FIRE ALARM INPUT. IF THE FIRE SYSTEM HAS IT'S OWN PUBLIC ADDRESS SPEAKERS, SELECT THE "MUTE" FUNCTION. IF THE FIRE SYSTEM USES THE THEATRE SPEAKERS FOR PUBLIC ADDRESS, SELECT THE "NONSYNC" FUNCTION. THE DIMMER ALWAYS GOES TO PANIC ON FIRE INPUT.

S10 - C/O Function Select

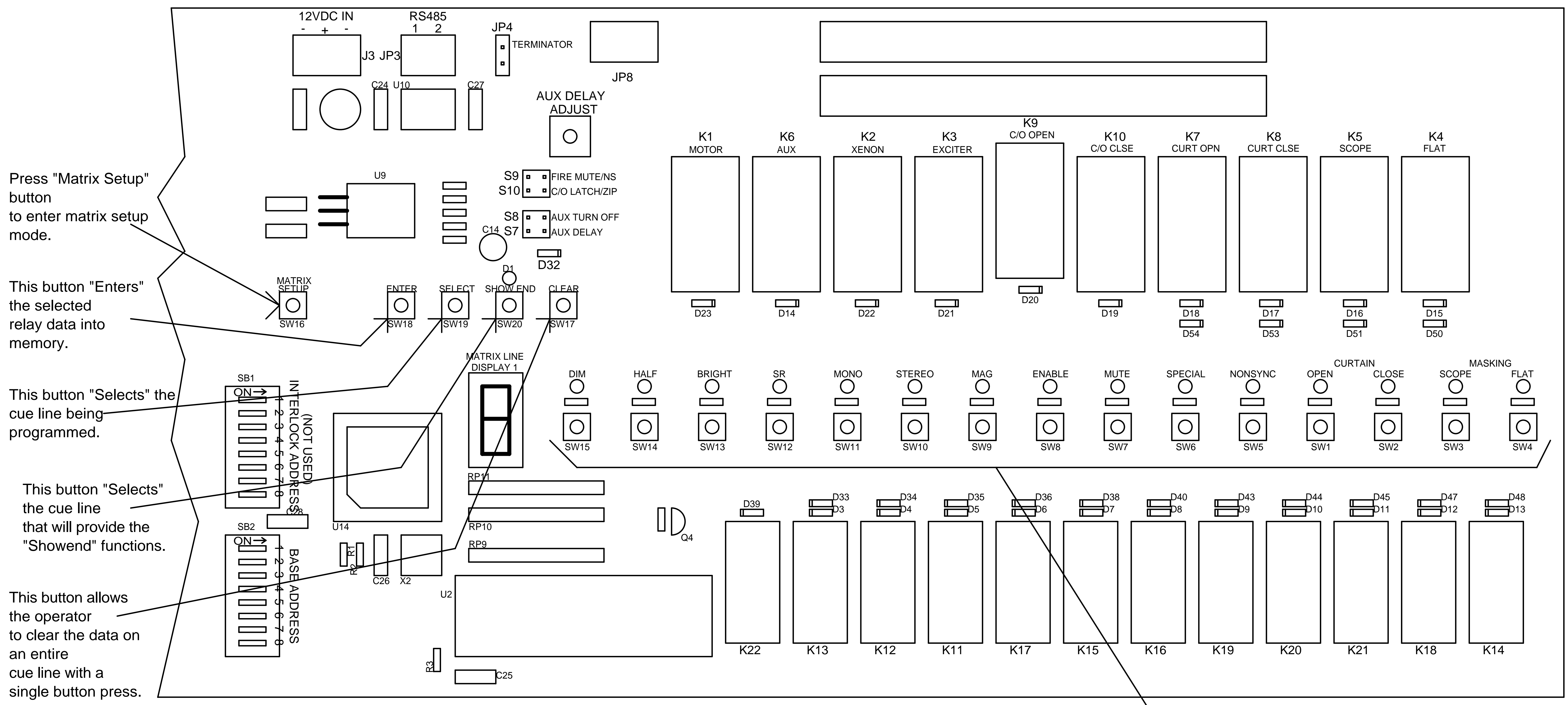


USE THIS HEADER TO SELECT WHAT TYPE OF C/O CONTROL IS NECESSARY FOR THE PROJECTOR BEING USED.

IF THE LATCH TYPE C/O IS USED, THE CLOSE RELAY IS NOT USED AND THE OPEN RELAY TURNS ON AND STAYS ON TO HOLD UP THE DOWSER.

IF A ZIPPER C/O IS USED, THE OPEN AND CLOSE RELAYS ARE BOTH NORMALLY OPEN AND PULSE CLOSED TO ACTIVATE THE C/O.

BIG SKY INDUSTRIES INC.		
259 CENTER ST. PHILLIPSBURG N.J. 08865		
Title AUX RELAY / FIRE / C/O FUNCTION SETUP		
Size A	Document Number ADIPSW_A2000-E.SCH	Rev -
Date: Wednesday, March 31, 2004	Sheet 1	of 1



Press "Matrix Setup" button to enter matrix setup mode.

This button "Enters" the selected relay data into memory.

This button "Selects" the cue line being programmed.

This button "Selects" the cue line that will provide the "Showend" functions.

This button allows the operator to clear the data on an entire cue line with a single button press.

On the REV.E version of the Series-1 Automation, the cue setup is accomplished by means of pushbuttons that select the matrix setup mode, select the matrix line to be programmed, select the active functions for each matrix line as well as saving the programmed cue data to EE-Prom non volatile memory.

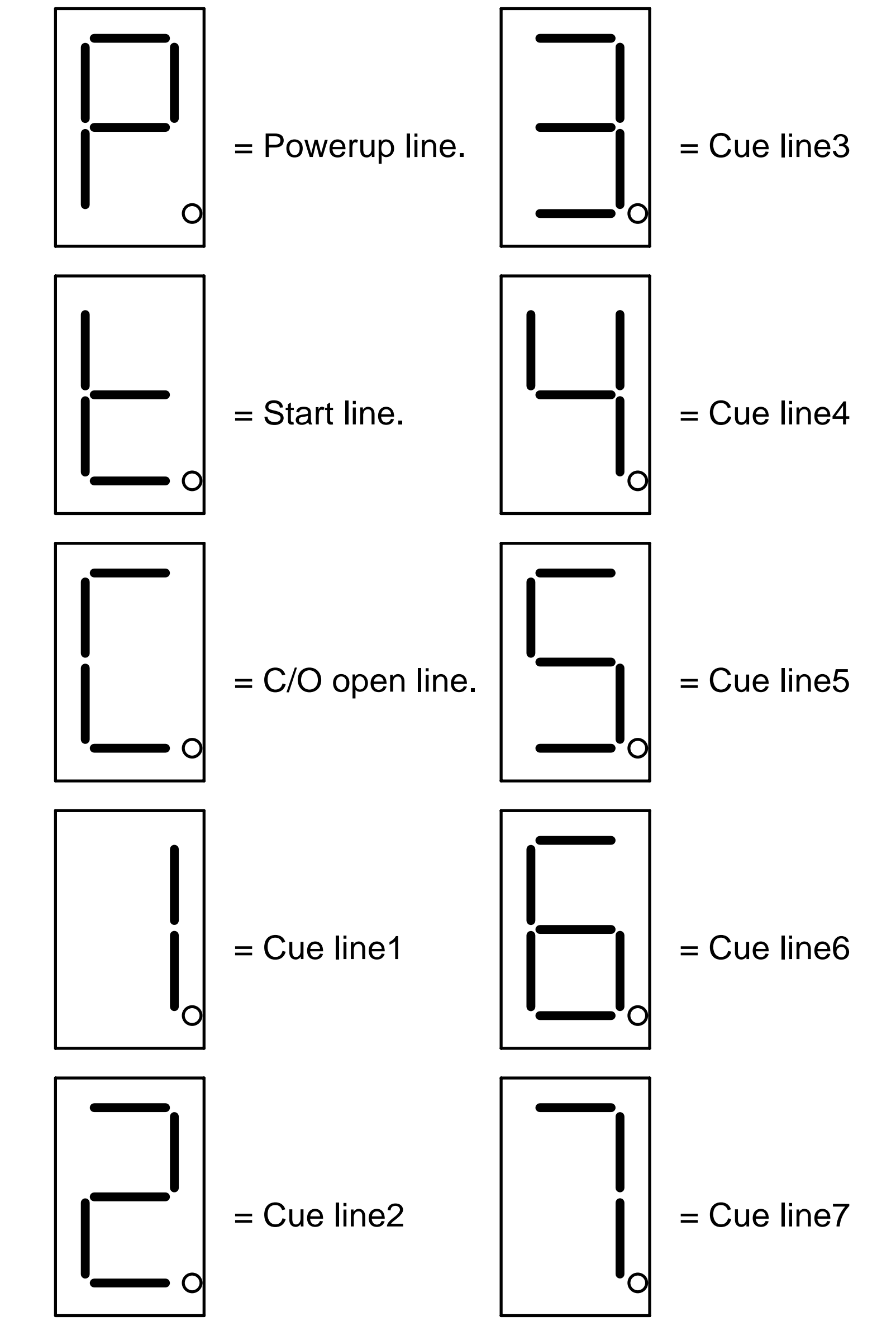
These buttons will toggle the selected functions on and off. LED's that are on indicate functions that are active on the corresponding cue matrix line.

A typical setup sequence would be as follows:

- 1 - With the Automation not running, Press the "Matrix setup" button. (The display will become active.)(The decimal point will be either on or blinking.)
- 2 - Press the "Select" button until the desired line to be modified is selected.
- 3 - Either press the "Clear" button to clear the line or individually select the desired functions for the selected line using the buttons by the labelled LED's. (decimal point on display will turn off)
- 4 - Press the "Enter" button to enter the data into memory. (decimal point on display will turn on)
- 5 - Press "Select" to setup another line or press the "Matrix setup" button to exit the matrix setup mode.

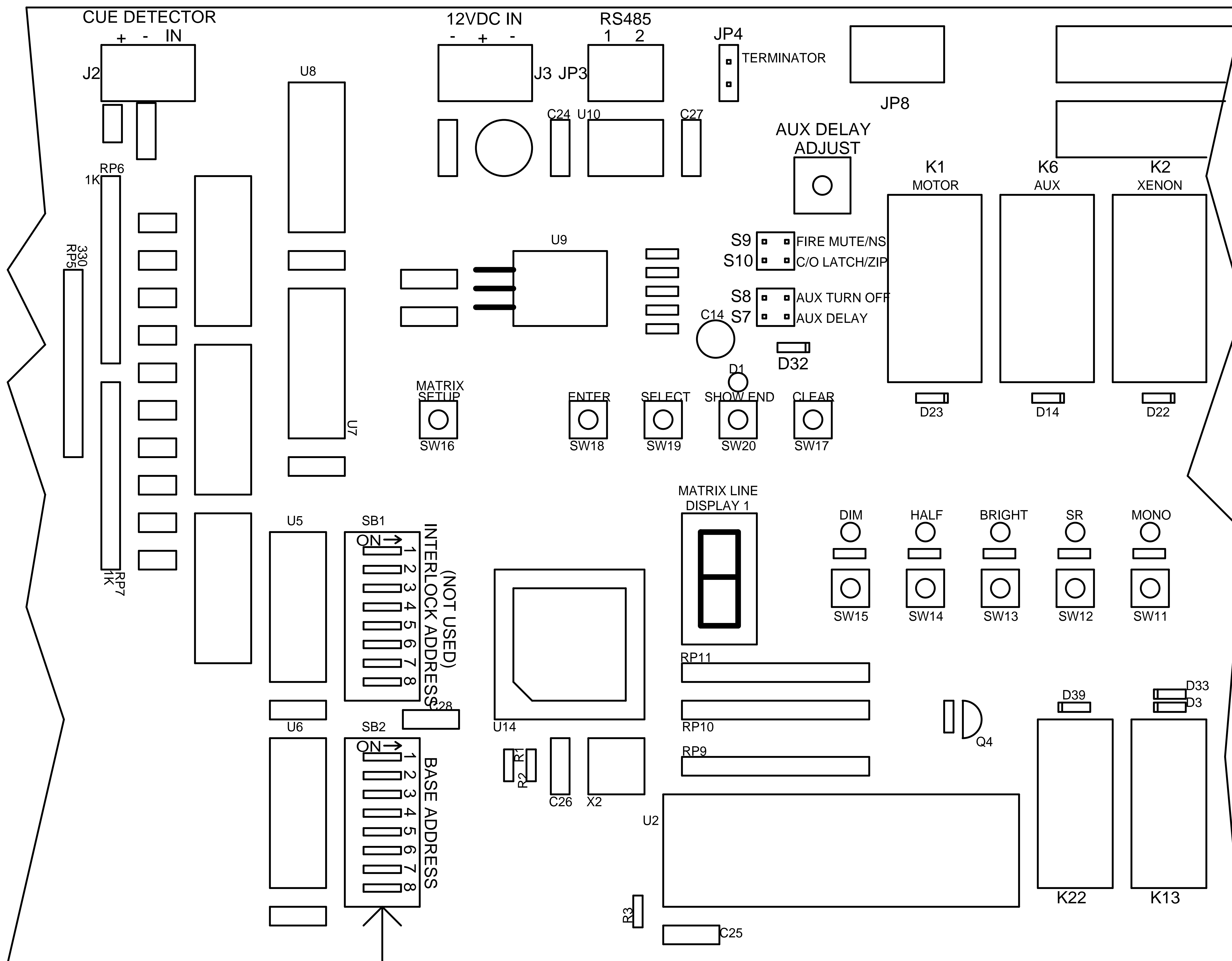
- Notes:
- 1 - The cue setup mode cannot be activated if the Automation is running!
 - 2 - The Automation cannot be started if the unit is in cue setup mode!
 - 3 - Status is not active when in cue setup mode!
 - 4 - If the "Enter" button is not pressed after the desired functions are selected, the displayed data is not saved to memory!
 - 5 - The cue line display is active only when in setup mode!
 - 6 - The line used for showend may be selected at the same time as the functions on the corresponding line.
 - 7 - The matrix lines may be looped through as many times as necessary to complete cue setup. The setup mode need not be exited each time a line is setup.

Display definitions.



Numeric display appearance according to selected line.

BIG SKY INDUSTRIES		
1475 Park Ave. Alpha, NJ 08865		
Title A-2000 Rev.E MATRIX LAYOUT & OPERATION INFO.		
Size B	Document Number MATRIX SETUP_A-2000-E.SCH	Rev
Date: Wednesday, March 31, 2004	Sheet 0	of 0



Shown above is the "SB2" switch bank which is used to select the local address of the automation.

The numbers above the switch bank indicate the binary representation of the corresponding switch.

Select in binary the value of the of the auditorium desired.

Shown is a representation of address #10 in binary. Select the value by turning on the switches and adding up the binary numbers represented by the switches.

$$2 + 8 = 10 \text{ (Auditorium \#10)}$$

USE "SB2" TO SET LOCAL AUTOMATION ADDRESS.

IMPORTANT NOTE! WHILE SETTING UP SYSTEM, SET ALL DIP SWITCHES OFF SO THAT THERE ARE NO DUPLICATE ADDRESSES ON THE BUSS. SET ADDRESSES ONE AT A TIME AND CHECK STATUS PANELS AS SETTING THE ADDRESSES. DUPLICATE ADDRESSES WILL CAUSE IRRATIC BEHAVIOR.

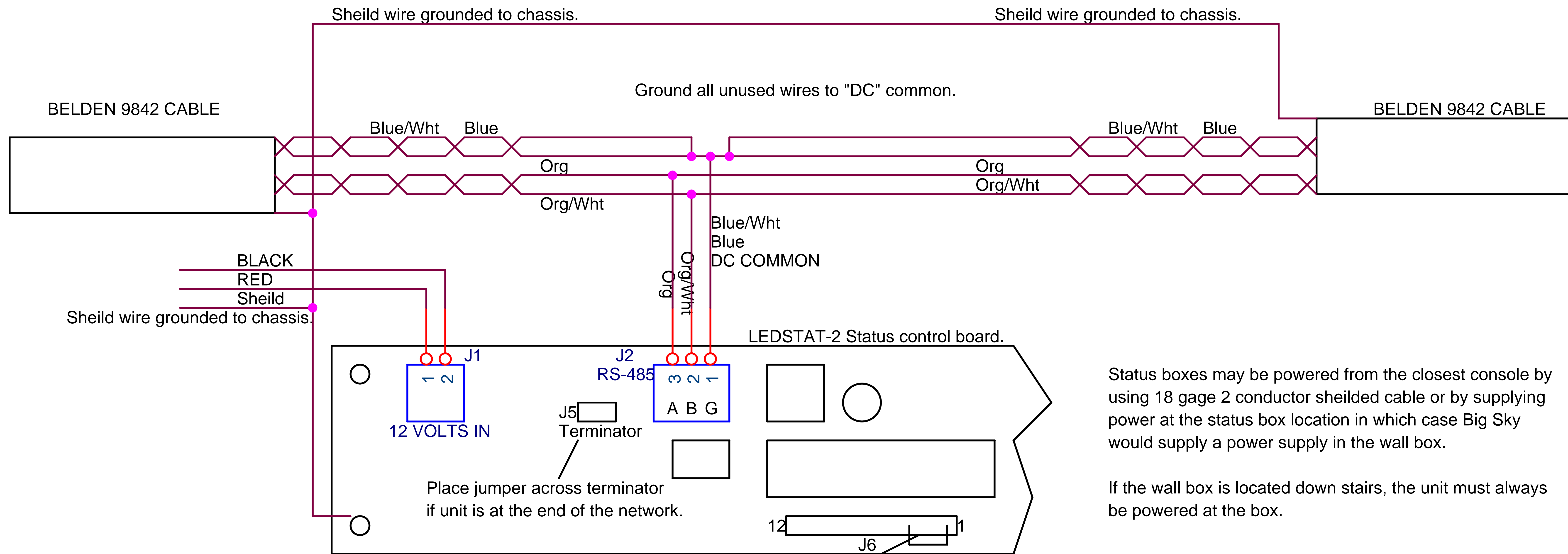
BIG SKY INDUSTRIES INC.		
1475 PARK AVE. ALPHA N.J. 08865		
Title A-2000 E address switch settings		
Size A	Document Number REV-E base address settings.sch	Rev -
Date:	Wednesday, March 31, 2004	Sheet 1 of 1

RECOMMENDED WIRE

Twisted pair with 2 pair, 24 gage, shielded must be used. Wire must have 100 to 120 ohm impedance.

Wire: BELDEN #9842 or equivalent.

Wiring typical all status panels.



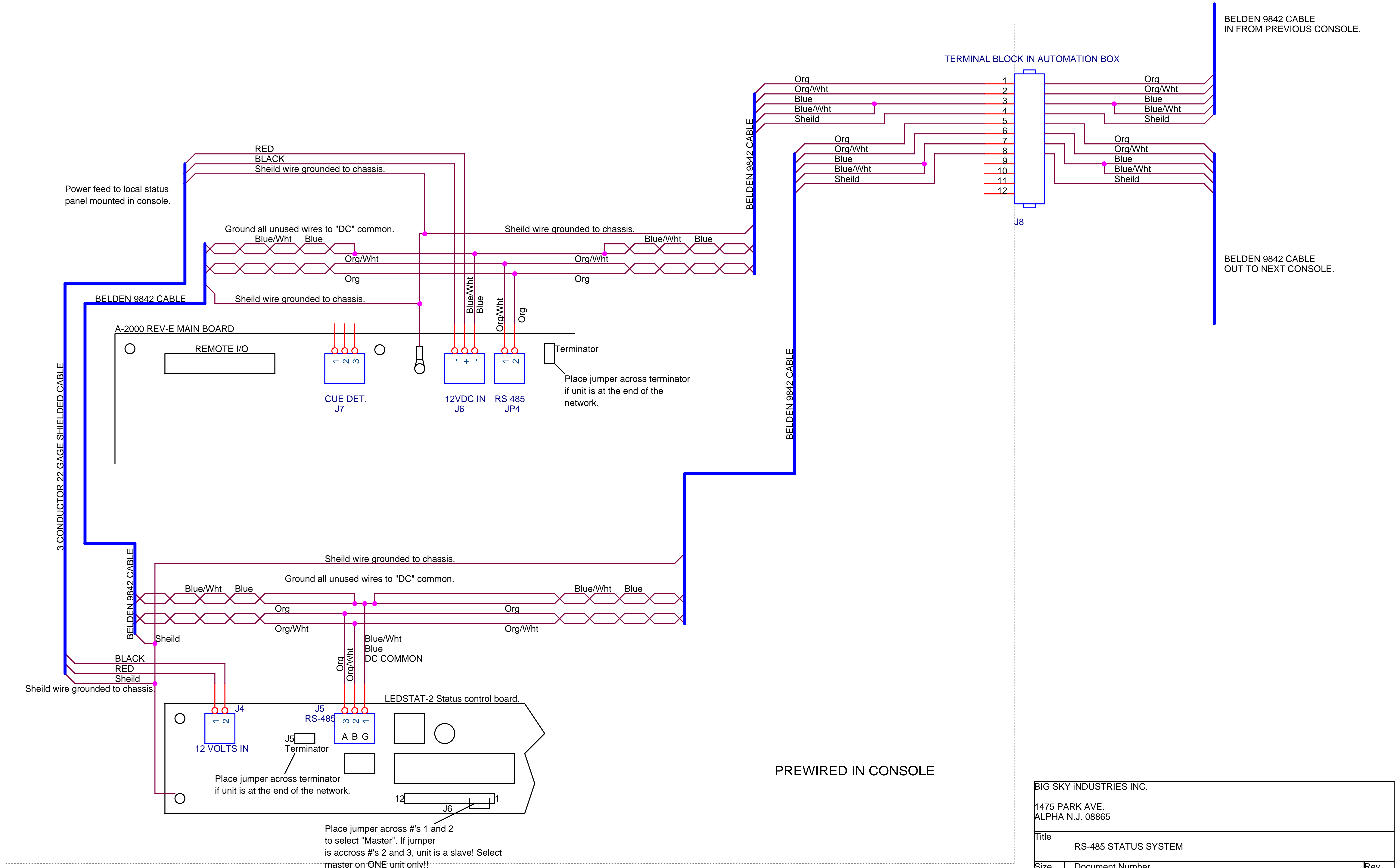
Status boxes may be powered from the closest console by using 18 gage 2 conductor shielded cable or by supplying power at the status box location in which case Big Sky would supply a power supply in the wall box.

If the wall box is located down stairs, the unit must always be powered at the box.

Place jumper across terminator if unit is at the end of the network.

Place jumper across #'s 1 and 2 to select "Master". If jumper is across #'s 2 and 3, unit is a slave! Select master on ONE unit only!!

BIG SKY INDUSTRIES INC.		
1475 PARK AVE. ALPHA N.J. 08865		
Title RS-485 STATUS SYSTEM		
Size A	Document Number LEDSTAT2 Status Panel Wiring.SCH	Rev -
Date:	Thursday, June 16, 2005	Sheet 1 of 1



BIG SKY INDUSTRIES INC.		
1475 PARK AVE. ALPHA N.J. 08865		
Title RS-485 STATUS SYSTEM		
Size B	Document Number LEDSTAT2 Wiring in console.SCH	Rev -
Date:	Thursday, June 16, 2005	Sheet 1 of 1

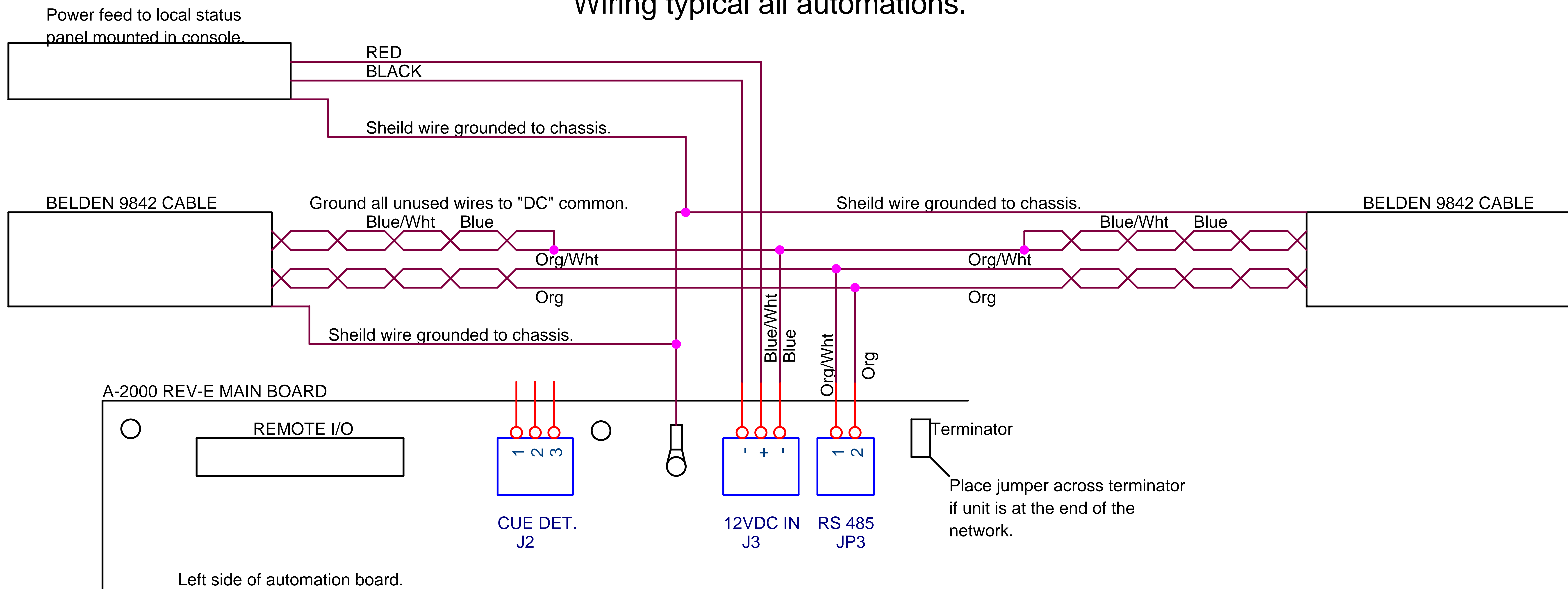
RECOMMENDED WIRE

Twisted pair with 2 pair, 24 gage, shielded must be used. Wire must have 100 to 120 ohm impedance.

Wire: BELDEN #9842 or equivalent.

NOTE: WHEN ROUTING DATA WIRES INSIDE CONSOLE, RUN WIRES AS FAR AWAY FROM DC CABLES AND POWER SUPPLY AS POSSIBLE!!

Wiring typical all automations.



July 2 2003 Change wire type from 1589A

BIG SKY INDUSTRIES INC.		
1475 PARK AVE. ALPHA N.J. 08865		
Title RS-485 STATUS SYSTEM		
Size A	Document Number A-2000 REV-E 485 WIRING.SCH	Rev -
Date:	Thursday, June 16, 2005	Sheet 1 of 1