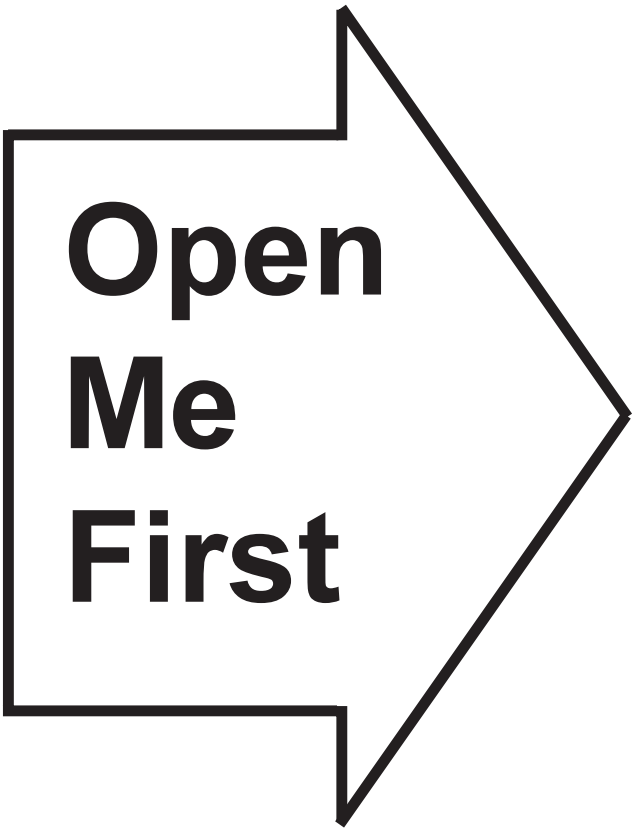
Cougar

Jaguar



PESA Switching Systems

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Service and Ordering Assistance

PESA Switching Systems, Inc.
330A Wynn Drive
Huntsville, AL 35805
Main Numbers:
Tel: (205) 726-9200
Fax: (205) 726-9271
Service Department Numbers:
Tel: (205) 726-9222
Fax: (205) 726-9268

Sales Office

National Sales Office
PESA Switching Systems, Inc.
35 Pinelawn Road, Suite 99E
Melville, NY 11747
Tel: (800) 328-1008
Fax: (516) 845-5023

PESA Switching Systems

NOTE

Please address all comments or suggestions concerning this or other PESA manuals to:

Publications Department
Attn: Charles E. Jaynes
(Engineering Technical Writer)
PESA Switching Systems, Inc.
330A Wynn Drive
Huntsville, Alabama 35805
(205) 726-9200 EXT. 145

PESA Switching Systems

CE Notice

NOTICE

Marking by the symbol CE indicates compliance of this PESA system to the EMC (Electromagnetic Compatibility) directive of the European Community. Such marking is indicative that this PESA system meets or exceeds the following technical standards:

- EMC Directive 89/336/EEC
- Low Voltage Directive 73/23/EEC
- A "Declaration of Conformity" in accordance with the above standards has been made and is on file at PESA Switching Systems, Inc., Huntsville, Alabama.

PESA Switching Systems

ATTENTION

ATTENTION

ALL EQUIPMENT ITEMS MANUFACTURED BY OR SOLD BY PESA SWITCHING SYSTEMS, INC. SHOULD BE SERVICED BY QUALIFIED SERVICE PERSONNEL OR BY QUALIFIED SERVICE TECHNICANS ONLY.

PESA Switching Systems

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1.1 Introduction

General

This manual is designed to be utilized as a quick reference guide to the installation and configuration of Cougar and Jaguar Switching Systems. The typical system connections and configuration items for a Cougar 32X32 Switching System, Cougar 64X64 Switching System, Jaguar 64X64 Switching System, and Jaguar 128X128 Switching System are described. This manual is organized into the following major sections:

- Introduction
- Installation
- System Configuration
- System Connections
- Drawings
- Parts Reference
- Glossary of Terms

NOTICE

THE COUGAR AND JAGUAR ROUTING SWITCHERS CONTAIN STATIC SENSITIVE CIRCUIT CARDS. CARE SHOULD BE TAKEN WHEN IT IS NECESSARY TO HANDLE ANY OF THESE CIRCUIT CARDS. IT IS RECOMMENDED THAT A GROUNDED WRIST STRAP AND GROUNDING MAT BE USED DURING ANY EQUIPMENT INSTALLATIONS AND CONFIGURATIONS.

NOTICE

IF SPECIFIED WHEN ORDERED, THE COUGAR OR JAGUAR SWITCHING SYSTEM WILL BE CONFIGURED FOR THE INTENDED MATRIX SIZE AT THE PESA FACTORY PRIOR TO SHIPMENT. PLEASE CALL THE PESA CUSTOMER SERVICE DEPARTMENT, LISTED IN THE FRONT OF THIS MANUAL, BEFORE RECONFIGURING THE SYSTEM OR BEFORE CHANGING SWITCH SETTINGS WITHIN THE SYSTEM.

2.1 General Installation Rules

Receipt Inspection

All Cougar and Jaguar Routing Switchers are tested and inspected prior to leaving the factory. Upon receipt, inspect all equipment items for shipping damage. If any damage is found, contact the carrier immediately and save all packing material.

Unpacking

Prior to discarding any packing material compare the parts received against the packing list. Carefully inspect the layers of packing material for any components which may have been overlooked during the initial unpacking.

Equipment Location

All PESA Cougar or Jaguar Routing Switcher Systems may be located anywhere power is available. However, each switching system should be mounted as close as possible to their associated equipment to minimize cable runs. Forced air cooling is provided by fans located at the back of the routing switcher frames. Care should be taken not to block airflow around these fans. Installation should be in an area where the ambient temperature does not exceed 40°C (104°F) inside the equipment rack.

Equipment Mounting

All PESA equipment items are rack mountable in standard 19” equipment racks. Sufficient space must be provided behind the equipment racks to allow for the installation of control, audio, video, sync, and power cables. All mounting holes should be utilized and mounting hardware tightened securely. As with all equipment installed in a rack, the bottom screw on each side should be installed before proceeding with the remainder of the screws. Then all screws should be securely tightened. Support each equipment item's bottom while installing it in the associated equipment rack. Figure 2-1 illustrates chassis installation in the equipment rack.
NOTE: Remove any power supply retaining screws and shipment braces before installing the routing switchers in the equipment racks.

2.1 General Installation Rules Continued:

Mounting Continued:

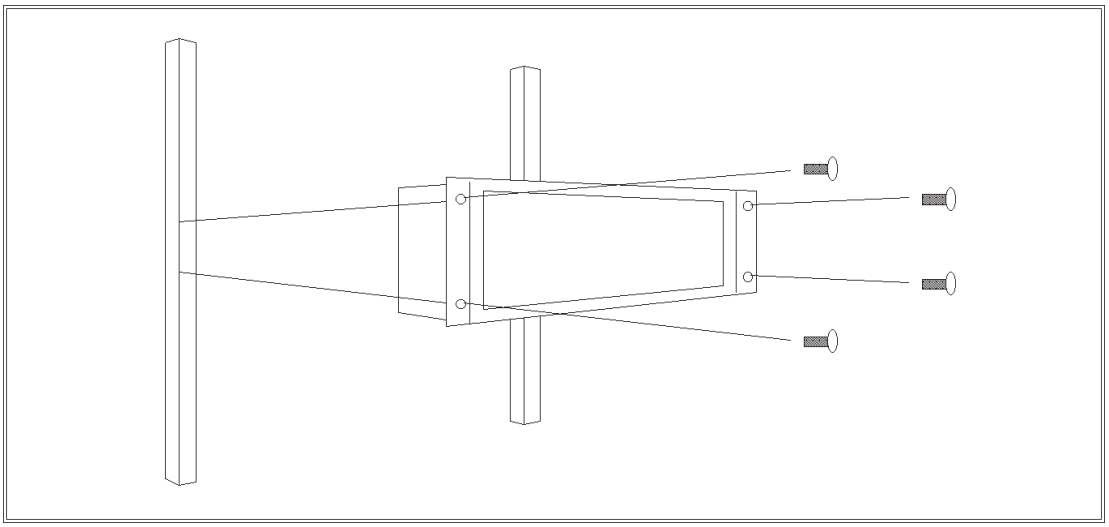


Figure 2-1 Equipment Chassis Installation

To install an system component in an equipment rack follow these steps:

1. Align the frame of the system component with the slotted opening in the rack.

2. Install the bottom screws first.

3. Install the two top screws

4. Tighten all four screws securely.

Equipment Cabling

Considerable weight will be added to the rear panel of the Cougar and Jaguar Routing Switchers by the control, signal, and power cables. Therefore, all cables should be strained relieved and secured to racks or other supporting structures. Failure to provide adequate cable support can result in cables separating from connectors. If cable runs are to be stored under an elevated floor, they should be tied to the racks as a guide. If cables are run along the floor, do not allow them to lay in the work area behind the racks. Stepping or tripping on the cables may result in connections being pulled free or wire breakage inside the insulation. All routing switcher system equipment items should be installed in the equipment racks prior to attaching cables.

2.1 General Installation Rules Continued:

Cabling Continued:

Use the following rules when cabling a routing switcher system:

1. Lay all cables in their intended positions, separating control, video, and power cables wherever possible.

2. Provide proper support for each cable during the cabling process. The use of tie-wraps is recommended as shown in Figure 2-2.

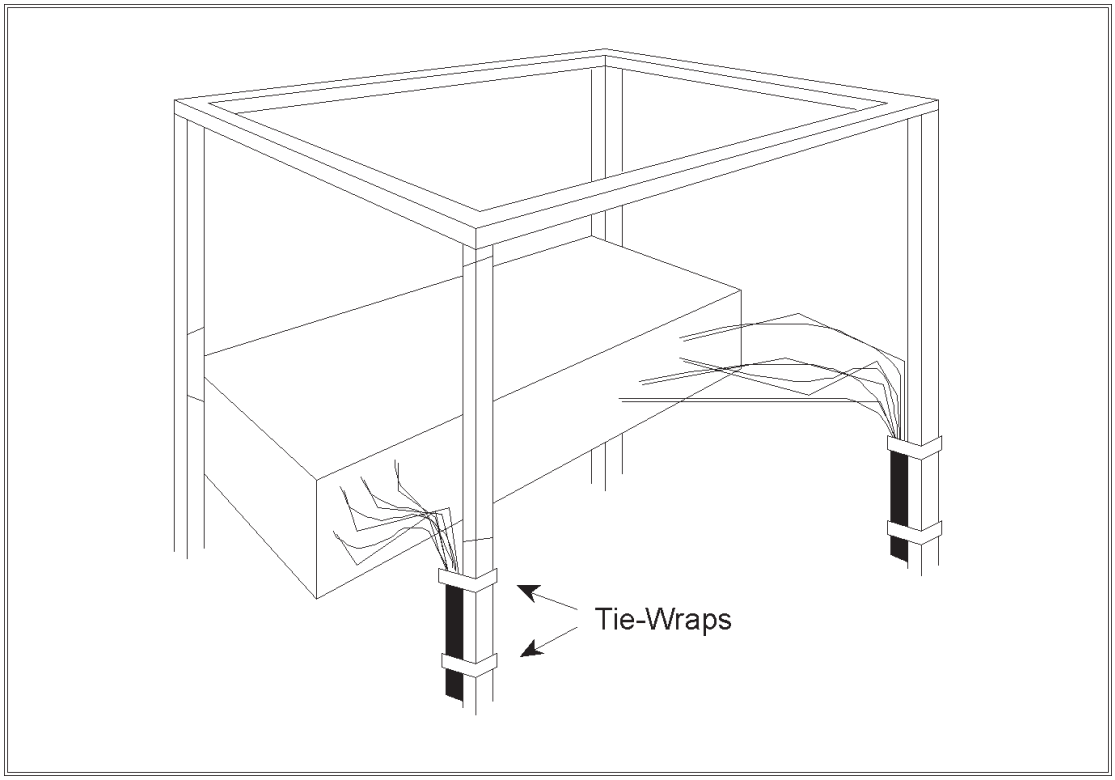


Figure 2-2 Cable Tie Wrap Installation

2.2 Cougar Switching System Installation

The Cougar Routing Switcher may be configured as either an analog or digital signal switching switchers based upon the selection of either analog or digital 32X32 matrix cards. The following tables list the possible component configurations for the Cougar Routing Switchers.

Table 2-1 Cougar Analog Video Routing Switcher

COUGAR ANALOG VIDEO ROUTING SWITCHER	
Cougar Video Frame (Includes the Backplane)	1
32X32 Analog Video Matrix Card	1
16X16 Crosspoint Cards	4
3300 Controller Cards	Up to 2
PS70V Power Supplies	Up to 2

Table 2-2 Cougar Digital Video Routing Switcher

COUGAR DIGITAL VIDEO ROUTING SWITCHER	
Cougar Video Frame (Includes Backplane)	1
32X32 Digital Video Matrix Card	1
3300 Controller Cards	Up to 2
PS70V Power Supplies	Up to 2

Table 2-3 Cougar Analog Audio Routing Switcher

COUGAR ANALOG AUDIO ROUTING SWITCHER	
Cougar Audio Frame (Includes Backplane)	1
32X32 Analog Audio Matrix Card	1
PS70V Power Supplies	Up to 2

2.2 Cougar Switching System Installation Continued:

Table 2-4 Cougar Digital Audio Routing Switcher

COUGAR DIGITAL AUDIO ROUTING SWITCHER	
Cougar Audio Frame (Includes Backplane)	1
32X32 Digital Audio Matrix Card	1
PS70V Power Supplies	Up to 2

Cougar 32X32 Switching System Configuration Items

The Cougar 32X32 Switching System enables the user to switch any of 32 video inputs to any of 32 video outputs. Likewise, the Cougar 32X32 Switching System enables the user to switch any of 32 stereo audio inputs to any of 32 stereo audio outputs. The Cougar 32X32 Switching System is comprised of the following major equipment configuration items:

- One Cougar Video Routing Switcher
- One Cougar Audio Routing Switcher
- Up to Two Control System Computers (With the Win3300 Control System installed.)
- Various PESA RCP Control Panels (Must be compatible with the Win3300 Control System.)

Cougar 32X32 Switching System Equipment Rack Installation

The Cougar Video Routing Switcher and Cougar Audio Routing Switcher each occupy three rack units of space when installed in a standard E.I.A. equipment rack. The Cougar 32X32 Switching System will conveniently fit into one 40RU equipment rack with plenty of space left for the system system's associated control panels, control system computer, and other peripheral equipment items.

When installing the Cougar 32X32 Switching System into the equipment rack follow the General Installation Rules for Equipment Location and for Equipment Mounting listed in this manual. Refer to Figure 2-3 and Figure 2-4 for samples of equipment location and elevation in the equipment rack. Please note that various models of PESA's RCP Control Panels are shown for illustration purposes only.

2.2 Cougar Switching System Installation Continued:

Cougar 32X32 Switching System Equipment Rack Installation Cont:

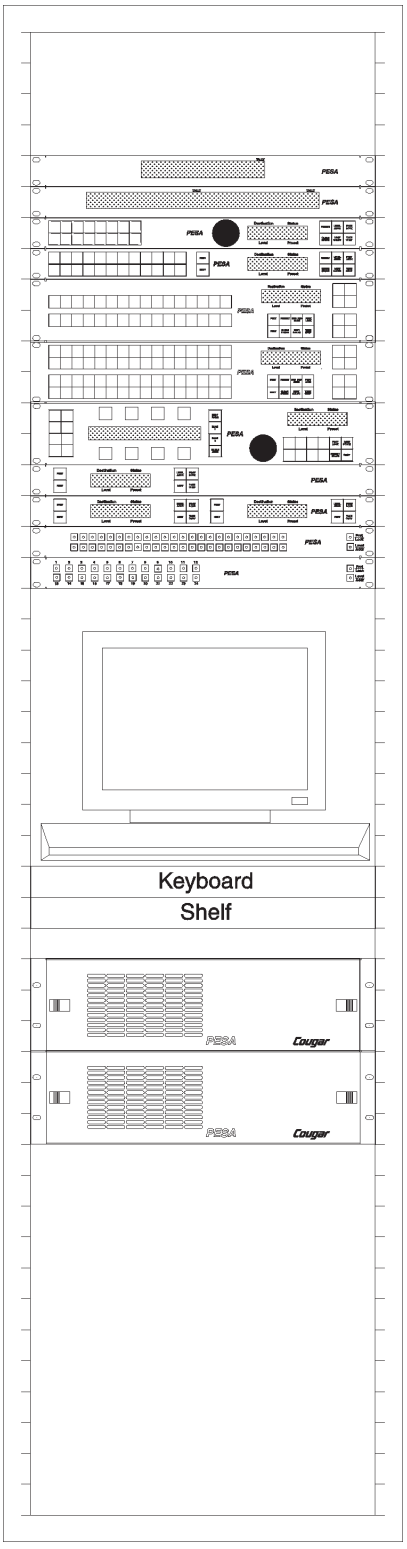


Figure 2-3 Cougar 32X32 System Equipment Rack Location

2.2 Cougar Switching System Installation Continued:

Cougar 32X32 Switching System Equipment Rack Installation Cont:

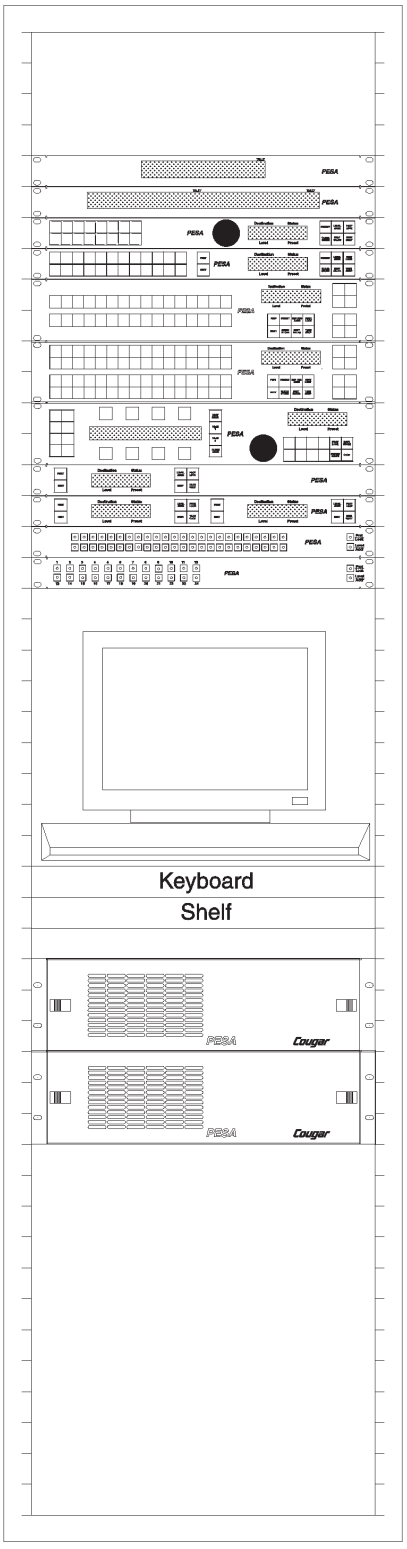


Figure 2-4 Cougar 32X32 System Equipment Rack Elevation

2.2 Cougar Switching System Installation Continued:

Cougar 64X64 Switching System Configuration Items

The Cougar 64X64 Switching System enables the user to switch any of 64 video inputs to any of 64 video outputs. Likewise, the Cougar 64X64 Switching System enables the user to switch any of 64 stereo audio inputs to any of 64 stereo audio outputs. The Cougar 64X64 Switching System is comprised of the following major equipment configuration items:

- Four Cougar Video Routing Switchers
- Four Cougar Audio Routing Switcher
- Two MVDA Distribution Amplifiers
- Two Video Summing Combiners
- Up to Two Control System Computers (With the Win3300 Control System installed.)
- Various PESA RCP Control Panels (Must be compatible with the Win3300 Control System.)

Cougar 64X64 Switching System Equipment Rack Installation

The Cougar Video Routing Switcher and Cougar Audio Routing Switcher each occupy three rack units of space when installed in a standard E.I.A. equipment rack. The MVDA Distribution Amplifiers occupy three rack units of space and the Video Summing Combiners occupy four rack units of space when installed in a standard E.I.A. equipment rack. The Cougar 64X64 Switching System will fit into two 40RU equipment rack with plenty of space left for the system system's associated control panels, control system computer, and other peripheral equipment items.

When installing the Cougar 64X64 Switching System into the equipment racks follow the General Installation Rules for Equipment Location and for Equipment Mounting listed in this manual. Refer to Figures 2-5 thru Figure 2-8 for samples of equipment location and elevation in the equipment racks. Please note that various models of PESA's RCP Control Panels are shown for illustration purposes only.

2.2 Cougar Switching System Installation Continued:

Cougar 64X64 Switching System Equipment Rack Installation Cont:

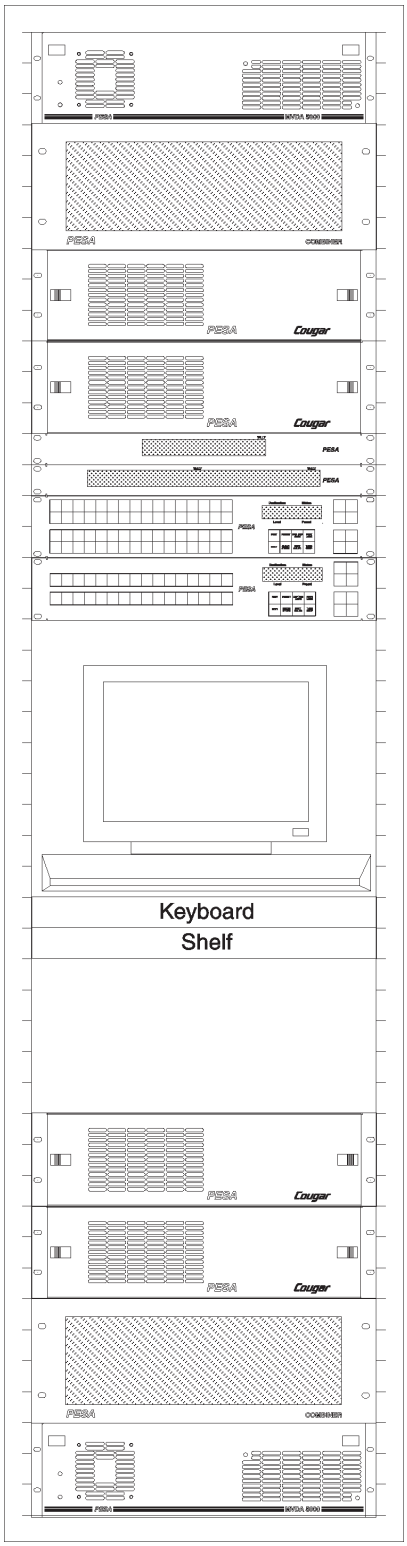


Figure 2-5 Cougar 64X64 Equipment Rack Location (Rack One)

2.2 Cougar Switching System Installation Continued:

Cougar 64X64 Switching System Equipment Rack Installation Cont:

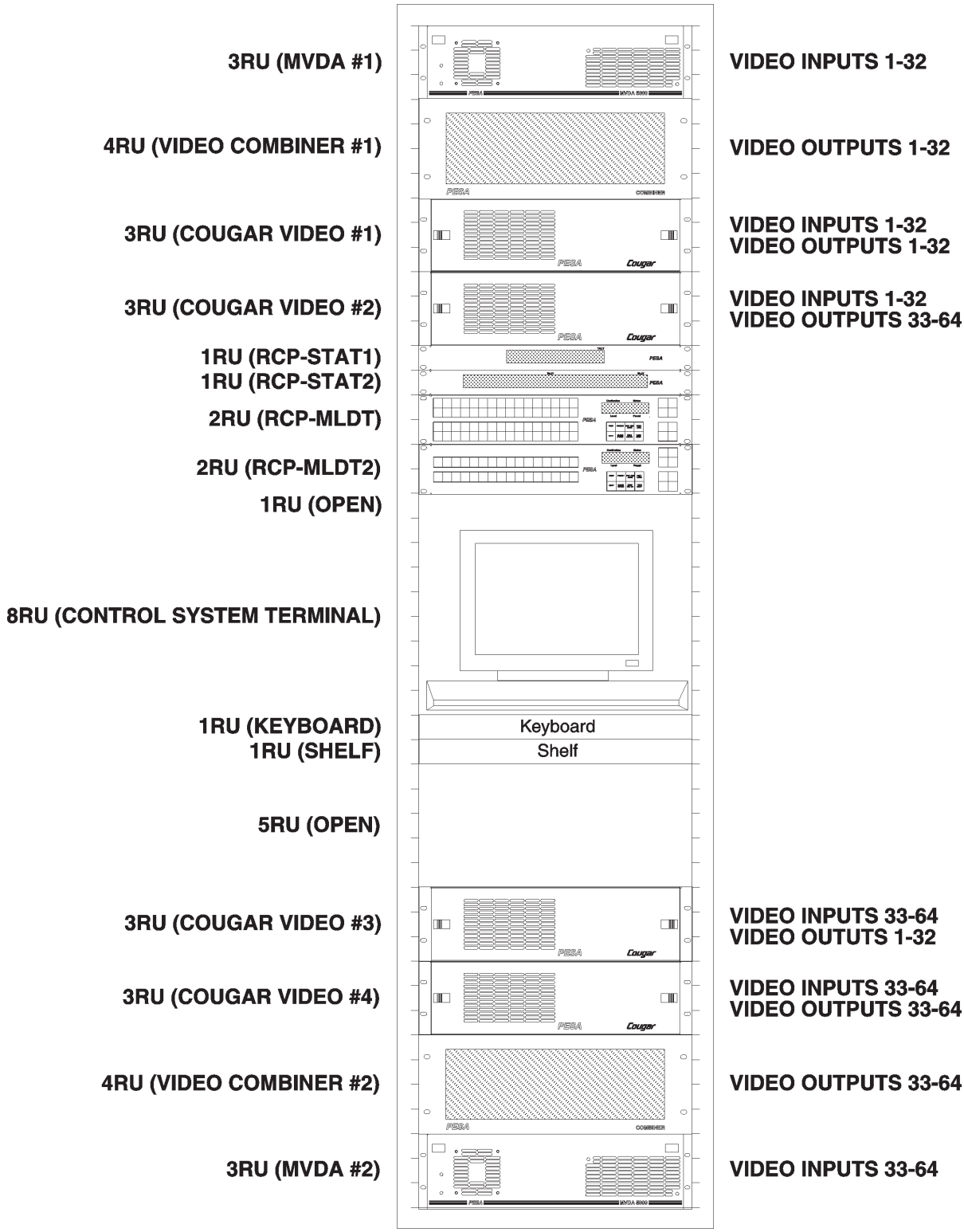


Figure 2-6 Cougar 64X64 Equipment Rack Elevation (Rack One)

2.2 Cougar Switching System Installation Continued:

Cougar 64X64 Switching System Equipment Rack Installation Cont:

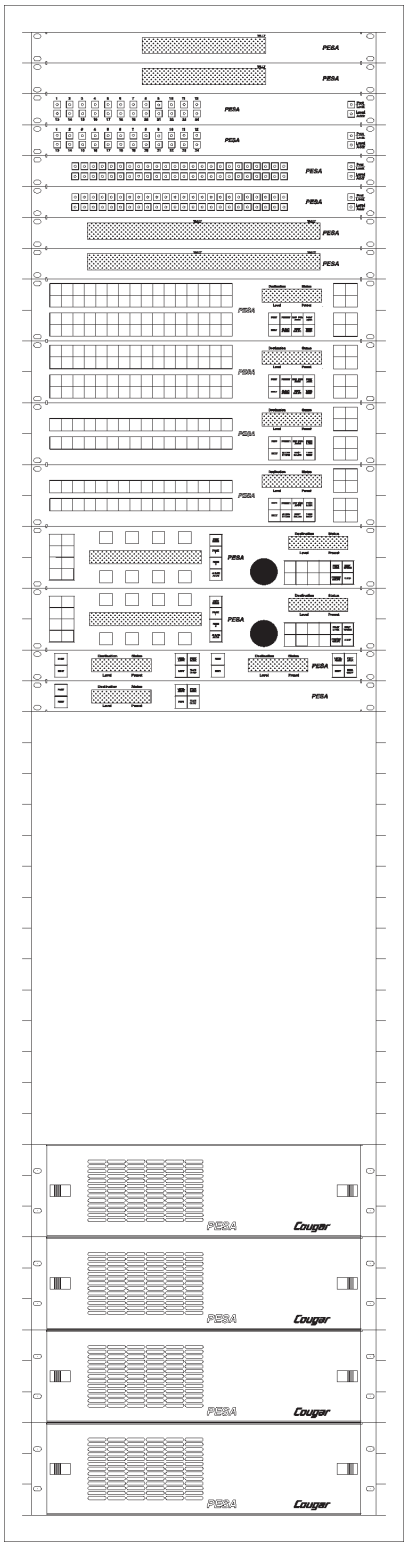


Figure 2-7 Cougar 64X64 Equipment Rack Location (Rack Two)

2.2 Cougar Switching System Installation Continued:

Cougar 64X64 Switching System Equipment Rack Installation Cont:

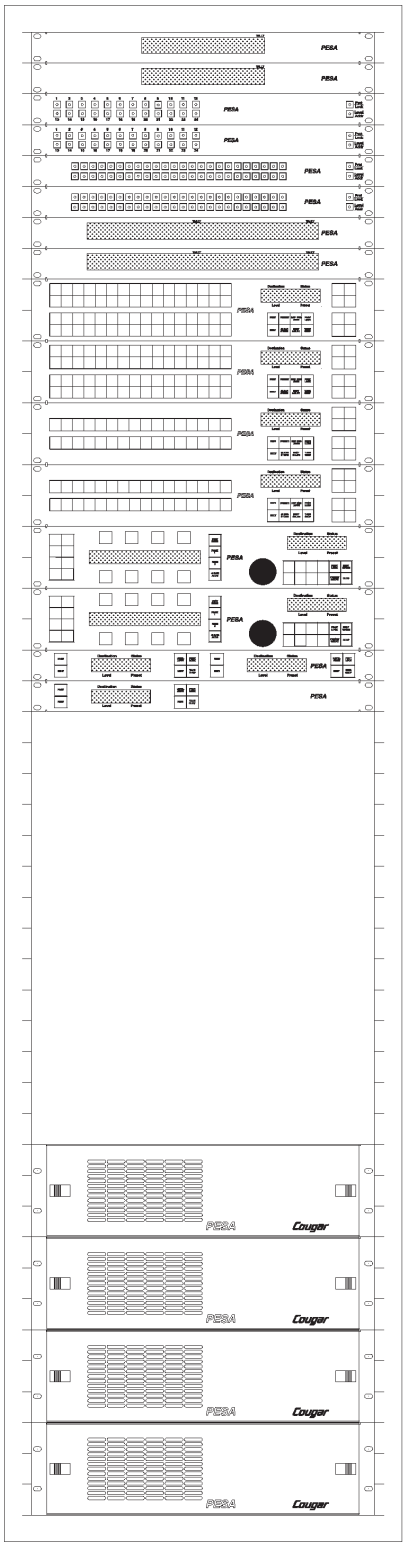


Figure 2-8 Cougar 64X64 Equipment Rack Elevation (Rack Two)

2.3 Jaguar Switching System Installation

The Jaguar Routing Switcher may be configured as either an analog or digital signal switching switchers based upon the selection of either analog or digital component assemblies (i.e. analog or digtial matrix cards and etc.). The following tables list the possible component configurations for the Jaguar Routing Switchers.

Table 2-5 Jaguar Analog Video Routing Switcher

JAGUAR ANALOG VIDEO ROUTING SWITCHER	
Jaguar Video Frame (Includes the Power Mid-Plane, the Matrix Mid-Plane, and the Rear Panel Connector Assembly)	1
Video Input Buffer Cards	8
Reference Interface Card	1
32X32 Analog Video Matrix Cards	4
16X16 Crosspoint Cards	16 (4 per 32X32 Analog Video Matrix Card)
Analog Video Output Combiners Cards	8
3300 Controller Cards	2
PS130 Power Supplies	4
Analog Video Output Monitor Card (Optional)	1
8X1 Crosspoints Cards (Optional)	8 (1 per Analog Video Output Combiner Card)

2.3 Jaguar Switching System Installation Continued:

Table 2-6 Jaguar Digital Video Routing Switcher

JAGUAR DIGITAL VIDEO ROUTING SWITCHER	
Jaguar Video Frame (Includes the Power Mid-Plane, the Matrix Mid-Plane, and the Rear Panel Connector Assembly)	1
Video Input Buffer Cards	8
Reference Interface Card	1
32X32 Digital Video Matrix Cards	4
Digital Video Output Combiner Cards	8
3300 Controller Cards	2
PS130 Power Supplies	4
Digital Video Output Monitor Card (Optional)	1
8X1 Crosspoint Cards (Optional)	8 (1 per Digital Video Output Combiner Card)

Table 2-7 Jaguar Analog Audio Routing Switcher

JAGUAR ANALOG AUDIO ROUTING SWITCHER	
Jaguar Audio Frame (Includes the Backplane)	1
Reference Interface Card	1
64X32 Analog Audio Matrix Cards	4
Standard Audio Output Cards	2
PS130 Power Supplies	2
Analog Audio Output Monitor Control Card (Optional)	1
Card Cage (Optional)	1
Analog Audio Output Combiner Cards (Optional)	8

2.3 Jaguar Switching System Installation Continued:

Table 2-8 Jaguar Digital Audio Routing Switcher

JAGUAR DIGITAL AUDIO ROUTING SWITCHER	
Jaguar Audio Frame (Includes the Backplane)	1
Reference Interface Card	1
64X32 Digital Audio Matrix Cards	4
Standard Audio Outputs Cards	2
PS130 Power Supplies	2
Digital Audio Output Monitor Control Card (Optional)	1
Card Cage (Optional)	1
Digital Audio Output Combiner Cards (Optional)	8

2.3 Jaguar Switching System Installation Continued:

Jaguar 64X64 Switching System Configuration Items

The Jaguar 64X64 Switching System enables the user to switch any of 64 video inputs to any of 64 video outputs. Likewise, the Jaguar 64X64 Switching System enables the user to switch any of 64 stereo audio inputs to any of 64 stereo audio outputs. The Jaguar 64X64 Switching System is comprised of the following major equipment configuration items:

- One Jaguar Video Routing Switcher
- One Jaguar Audio Routing Switcher
- Up to Two Control System Computers (With the Win3300 Control System installed.)
- Various PESA RCP Control Panels (Must be compatible with the Win3300 Control System.)

Jaguar 64X64 Switching System Equipment Rack Installation

The Jaguar Video Routing Switcher occupies six rack units of space and the Jaguar Audio Routing Switcher occupies five rack units of space when installed in a standard E.I.A. equipment rack. The Jaguar 64X64 Switching System will conveniently fit into one 40RU equipment rack with plenty of space left for the system system's associated control panels, control system computer, and other peripheral equipment items.

When installing the Jaguar 64X64 Switching System into the equipment rack follow the General Installation Rules for Equipment Location and for Equipment Mounting listed in this manual. Refer to Figure 2-9 and Figure 2-10 for samples of equipment location and elevation in the equipment rack. Please note that various models of PESA's RCP Control Panels are shown for illustration purposes only.

2.3 Jaguar Switching System Installation Continued:

Jaguar 64X64 Switching System Equipment Rack Installation Cont:

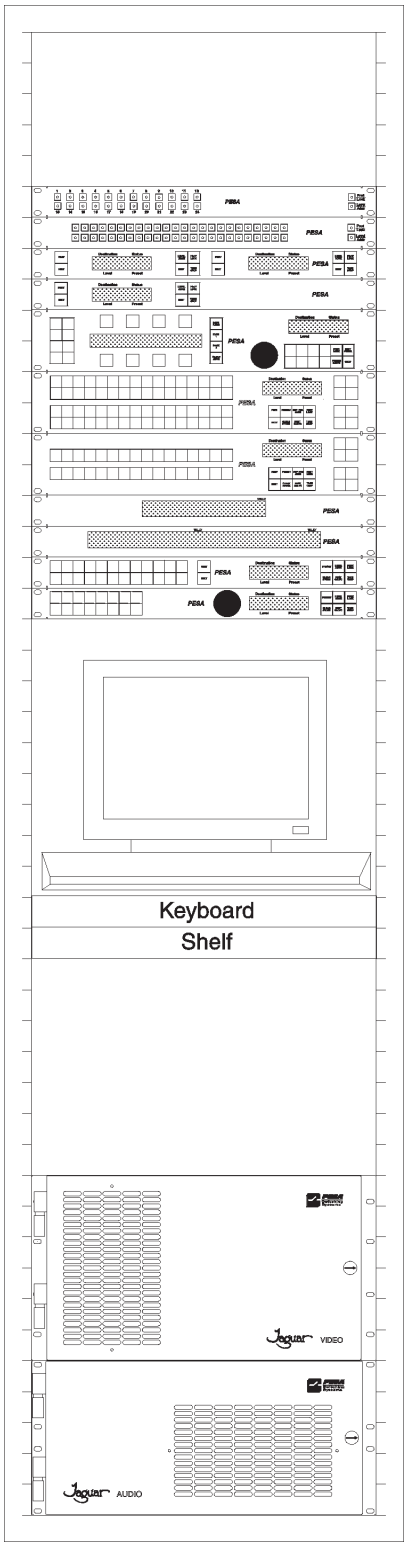
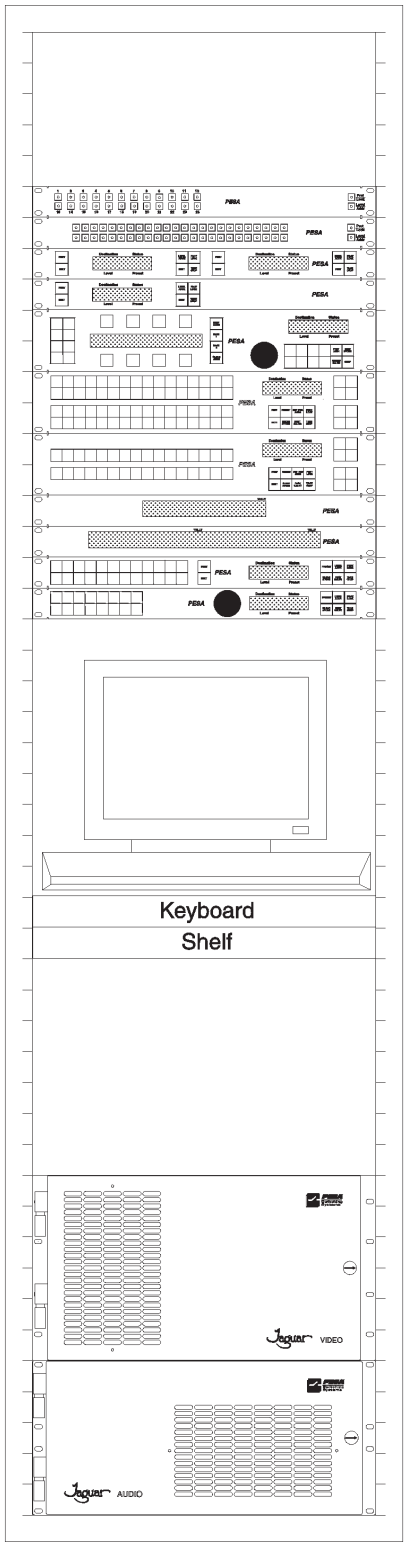


Figure 2-9 Jaguar 64X64 System Equipment Rack Location

2.3 Jaguar Switching System Installation Continued:

Jaguar 64X64 Switching System Equipment Rack Installation Cont:



5RU (OPEN)

1RU (RCP-241)
1RU (RCP-48X)
1RU (RCP-LCXY DUAL)
1RU (RCP-LCXY SINGLE)
2RU (RCP-MB2)
2RU (RCP-MLDT)
2RU (RCP-MLDT2)
1RU (RCP-STAT1)
1RU (RCP-STAT2)
1RU (RCP-TP)
1RU (RCP-XY)
1RU (OPEN)

8RU (CONTROL SYSTEM TERMINAL)

1RU (KEYBOARD)
1RU (SHELF)

7RU (OPEN)

6RU (JAGUAR VIDEO)

VIDEO INPUTS 1-64
VIDEO OUTPUTS 1-64

5RU (JAGUAR AUDIO)

AUDIO INPUTS 1-64
AUDIO OUTPUTS 1-64

Figure 2-10 Jaguar 64X64 System Equipment Rack Elevation

2.3 Jaguar Switching System Installation Continued:

Jaguar 128X128 Switching System Configuration Items

The Jaguar 128X128 Switching System enables the user to switch any of 128 video inputs to any of 128 video outputs. Likewise, the Jaguar 128X128 Switching System enables the user to switch any of 128 stereo audio inputs to any of 128 stereo audio outputs. The Jaguar 128X128 Switching System is comprised of the following major equipment configuration items:

- Four Jaguar Video Routing Switchers
- Four Jaguar Audio Routing Switcher
- Three MVDA Distribution Amplifiers
- Three Video Summing Combiners
- Up to Two Control System Computers (With the Win3300 Control System installed.)
- Various PESA RCP Control Panels (Must be compatible with the Win3300 Control System.)

Jaguar 128X128 Switching System Equipment Rack Installation

The Jaguar Video Routing Switcher and Jaguar Audio Routing Switcher occupy three rack units of space when installed in a standard E.I.A. equipment rack. The MVDA Distribution Amplifiers occupy three rack units of space and the Video Summing Combiners occupy four rack units of space when installed in a standard E.I.A. equipment rack. The Jaguar 128X128 Switching System will fit into two 40RU equipment rack with plenty of space left for the system system's associated control panels, control system computer, and other peripheral equipment items.

When installing the Jaguar 128X128 Switching System into the equipment racks follow the General Installation Rules for Equipment Location and for Equipment Mounting listed in this manual. Refer to Figures 2-11 thru Figure 2-14 for samples of equipment location and elevation in the equipment racks. Please note that various models of PESA's RCP Control Panels are shown for illustration purposes only.

2.3 Jaguar Switching System Installation Continued:

Jaguar 128X128 Switching System Equipment Rack Installation Cont:

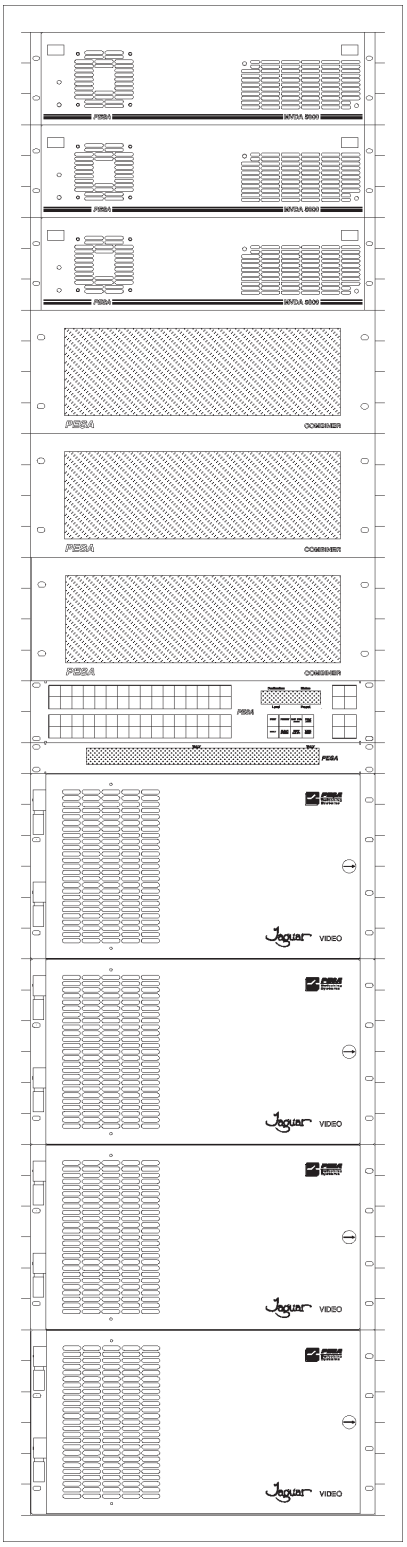
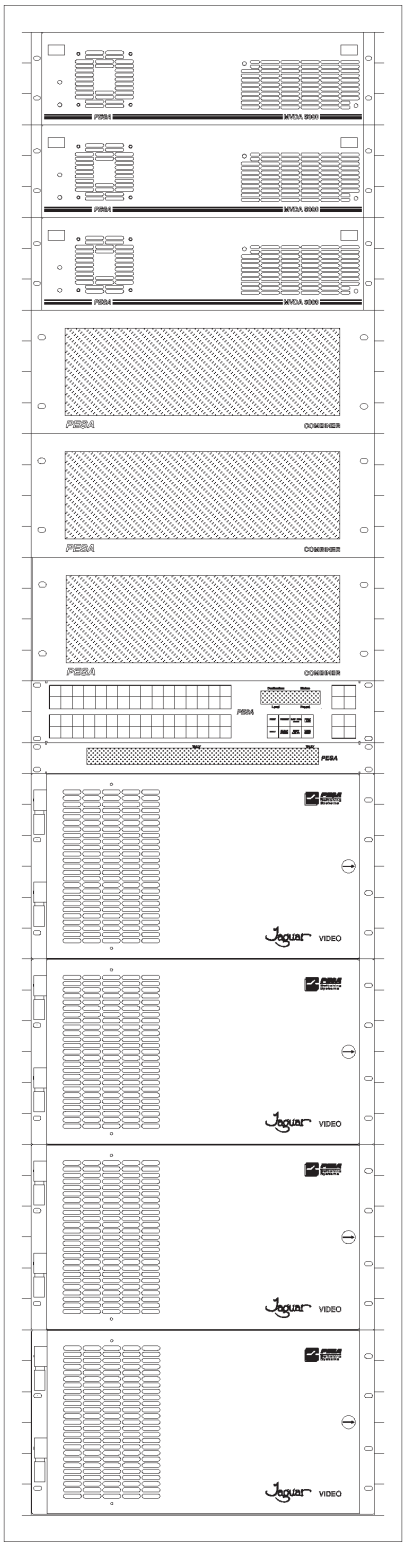


Figure 2-11 Jaguar 128X128 System Equipment Rack Location (Rack One)

2.3 Jaguar Switching System Installation Continued:

Jaguar 128X128 Switching System Equipment Rack Installation Cont:



3RU (MVDA #1)	VIDEO INPUTS 1-48
3RU (MVDA #2)	VIDEO INPUTS 49-96
3RU (MVDA #3)	VIDEO INPUTS 97-128
4RU (VIDEO COMBINER #1)	VIDEO OUTPUTS 1-48
4RU (VIDEO COMBINER #2)	VIDEO OUTPUTS 49-96
4RU (VIDEO COMBINER #3)	VIDEO OUTPUTS 97-128
2RU (RCP-MLDT) 1RU (RCP-STAT1)	
6RU (JAGUAR VIDEO #1)	VIDEO INPUTS 1-64 VIDEO OUTPUTS 1-64
6RU (JAGUAR VIDEO #2)	VIDEO INPUTS 1-64 VIDEO OUTPUTS 65-128
6RU (JAGUAR VIDEO #3)	VIDEO INPUTS 65-128 VIDEO OUTPUTS 1-64
6RU (JAGUAR VIDEO #4)	VIDEO INPUTS 65-128 VIDEO OUTPUTS 65-128

Figure 2-12 Jaguar 128X128 System Equipment Rack Elevation (Rack One)

2.3 Jaguar Switching System Installation Continued:

Jaguar 128X128 Switching System Equipment Rack Installation Cont:

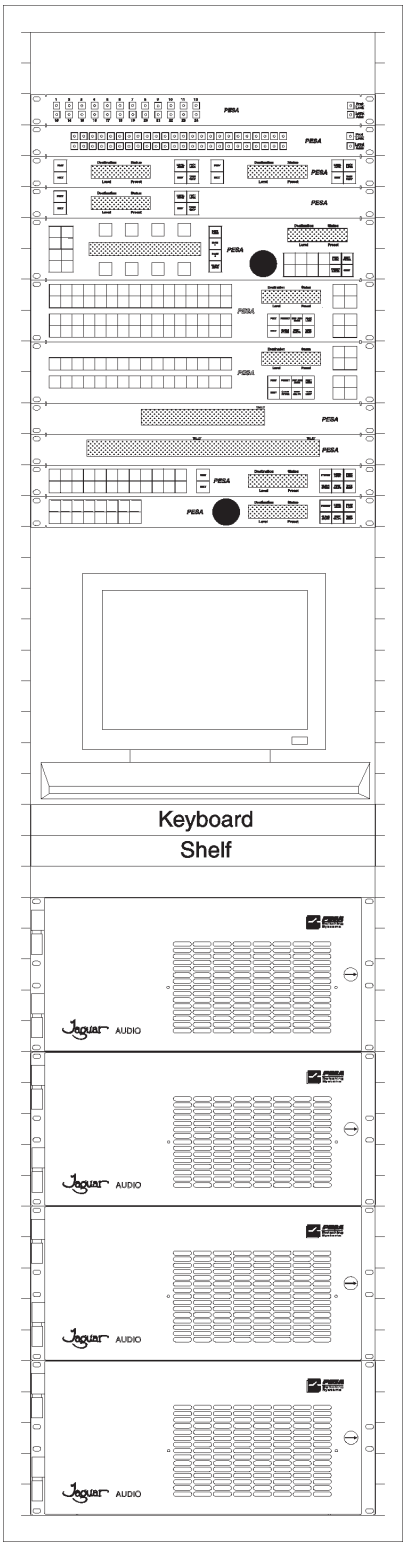


Figure 2-13 Jaguar 128X128 System Equipment Rack Location (Rack Two)

2.3 Jaguar Switching System Installation Continued:

Jaguar 128X128 Switching System Equipment Rack Installation Cont:

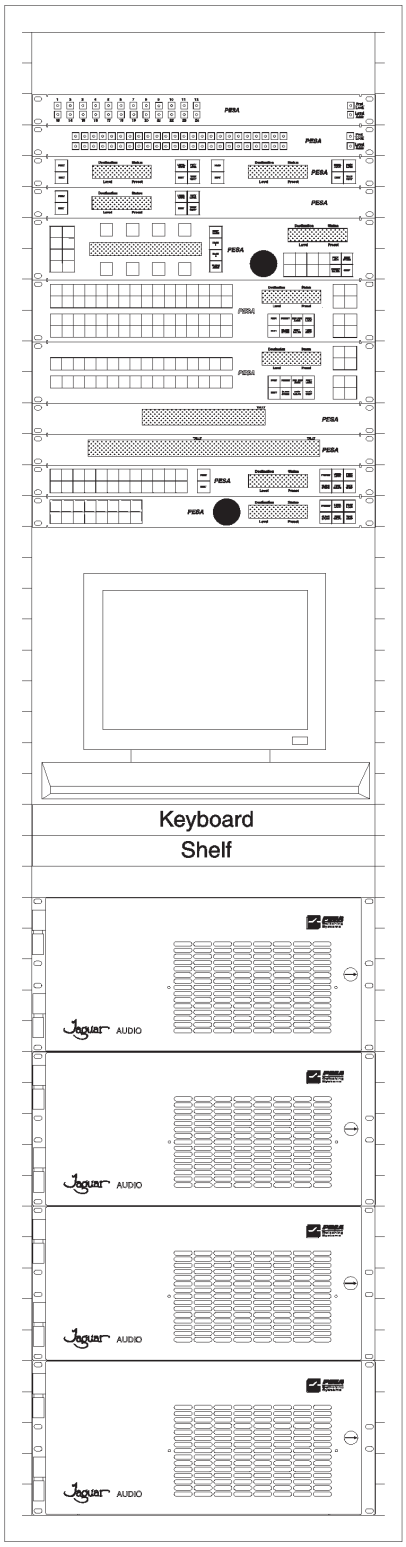


Figure 2-14 Jaguar 128X128 System Equipment Rack Elevation (Rack Two)

3.1 Introduction

NOTE

IF SPECIFIED WHEN ORDERED, THE COUGAR OR JAGUAR SWITCHING SYSTEM WILL BE CONFIGURED FOR THE INTENDED MATRIX SIZE AT THE FACTORY PRIOR TO SHIPMENT. PLEASE CONTACT THE PESA CUSTOMER SERVICE DEPARTMENT, LISTED IN THE FRONT OF THIS MANUAL, BEFORE CHANGING ANY SWITCH SETTINGS WITHIN THE SYSTEM OR RE-CONFIGURING THE SYSTEM.

The configuration of the Cougar and Jaguar Switching Systems consists of setting level, input, and output code for each video frame. The configuration also consists of setting level, input, and output codes for each audio stereo matrix (Matrix A and Matrix B form a stereo pair). Additionally, level, input, and output codes must be set for each output monitor card where applicable (Jaguar Routing Switchers only).

The level, input, and output selections identify each video frame, audio matrix, or monitor card to the system controller. The desired level, input, and output codes are selected by setting binary-coded DIP switches to the correct positions. For switch position to binary code conversion refer to Table 3-1.

Table 3-1 Switch Position to Binary Code Conversion

SWITCH POSITION TO BINARY CODE CONVERSION	
PHYSICAL SWITCH POSITION	**BINARY CODE**
1	1
2	2
3	4
4	8
5	16
6	32
7	64
8	128

3.1 Introduction Continued:

The Cougar and Jaguar Routing Switcher's code switches are located internal to the frames and are accessible through the front of the frames. The audio and video output monitor card's (Jaguar Routing Switchers only) code switches are located on the front edge of the cards. The following tables correlate the switch function with the corresponding switch number.

Table 3-2 Cougar Video Frame Function Switches

COUGAR VIDEO FRAME	
SWITCH FUNCTION	**SWITCH NUMBER**
LEVEL CODE	S3
INPUT CODE	S2
OUTPUT CODE	S1

Table 3-3 Cougar Audio Frame Function Switches

COUGAR AUDIO FRAME	
SWITCH FUNCTION	**SWITCH NUMBER**
LEVEL CODE (MATRIX A)	S1
INPUT CODE (MATRIX A)	S2
OUTPUT CODE (MATRIX A)	S3
LEVEL CODE (MATRIX B)	S4
INPUT CODE (MATRIX B)	S5
OUTPUT CODE (MATRIX B)	S6

3.1 Introduction Continued:

Table 3-4 Jaguar Video Frame Function Switches

JAGUAR VIDEO FRAME	
SWITCH FUNCTION	**SWITCH NUMBER**
LEVEL CODE	S3
INPUT CODE	S2
OUTPUT CODE	S1

Table 3-5 Jaguar Audio Frame Function Switches

JAGUAR AUDIO FRAME	
SWITCH FUNCTION	**SWITCH NUMBER**
LEVEL CODE (MATRIX A)	S3
INPUT CODE (MATRIX A)	S2
OUTPUT CODE (MATRIX A)	S1
LEVEL CODE (MATRIX B)	S6
INPUT CODE (MATRIX B)	S5
OUTPUT CODE (MATRIX B)	S4

Table 3-6 Jaguar Video Output Monitor Card Function Switches

JAGUAR VIDEO OUTPUT MONITOR CARD	
SWITCH FUNCTION	**SWITCH NUMBER**
LEVEL CODE	S2
INPUT CODE	S3
OUTPUT CODE	S4

3.1 Introduction Continued:

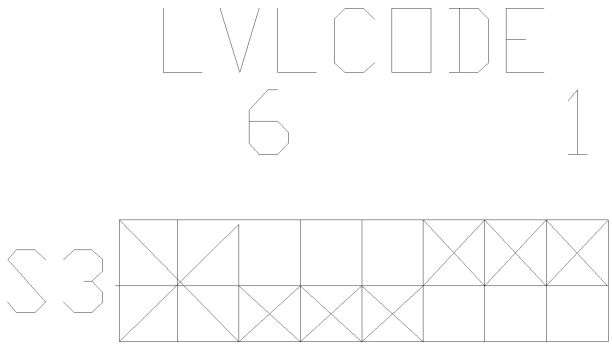
Table 3-7 Jaguar Audio Output Monitor Card Function Switches

JAGUAR AUDIO OUTPUT MONITOR CARD	
SWITCH FUNCTION	**SWITCH NUMBER**
LEVEL CODE	S3
INPUT CODE	S2
OUTPUT CODE	S1

Additionally, the circuitry of each matrix card and output monitor card contains a switch that controls the card's sync number and sync line selection that the card will trigger on. The function of the configuration switches (level code, input code, output code, sync select, and sync line select switches) is discussed in detail in the following manual sections. Please note that each matrix card's and output monitor card's sync select and sync line select configuration switches are described separately because of differences in functionality.

3.2 Cougar Frame Level Code Selection

The level (strobe) select switch positions are numbered 1 through 8 right to left. Switch positions 1-6 select level codes 0 through 62. **Switch positions 7 and 8 are not used – their settings are unimportant.** Refer to Figure 3-1 for an example of level code selection and to Figures 3-2 and 3-3 for views of the physical location of the function switches.



SHOWN WITH LEVEL CODE 7 SELECTED

Figure 3-1 Cougar Frame Level Code Selection

3.2 Cougar Frame Level Code Selection Continued:

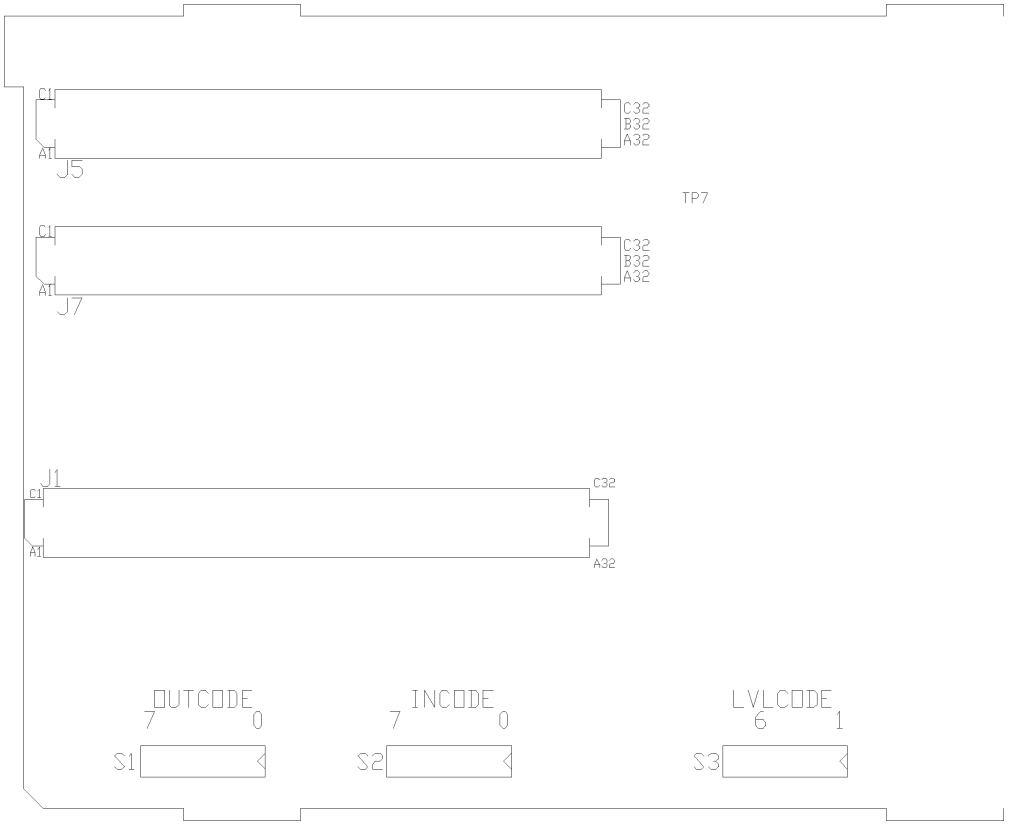


Figure 3-2 Cougar Video Frame Function Switch Locations

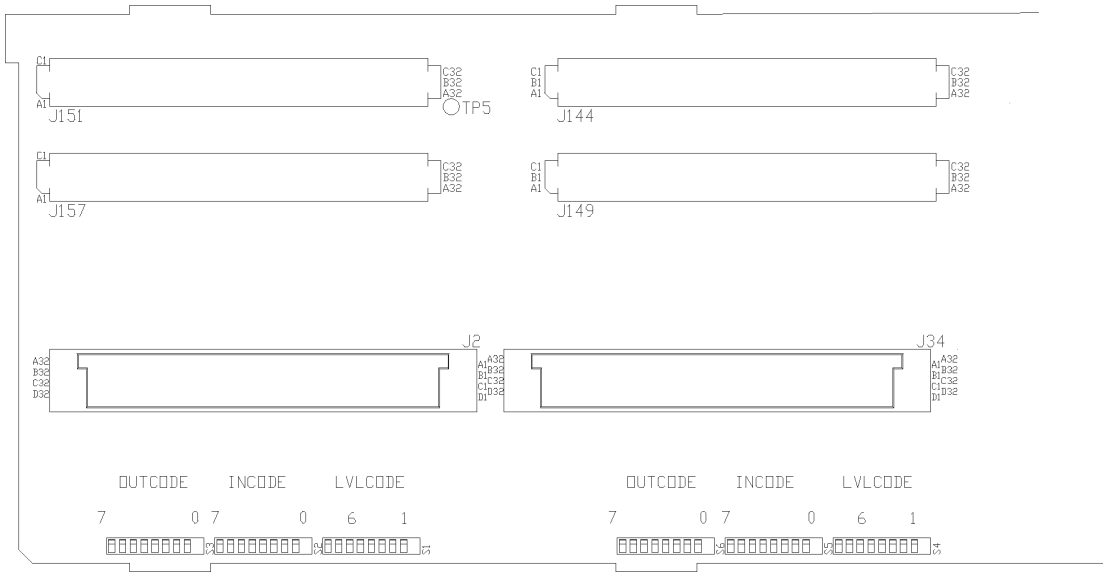


Figure 3-3 Cougar Audio Frame Function Switch Locations

3.2 Cougar Frame Level Code Selection Continued:

Physical 0 (Logical 1) = OFF (UP)
Physical 1 (Logical 0) = ON (DOWN)

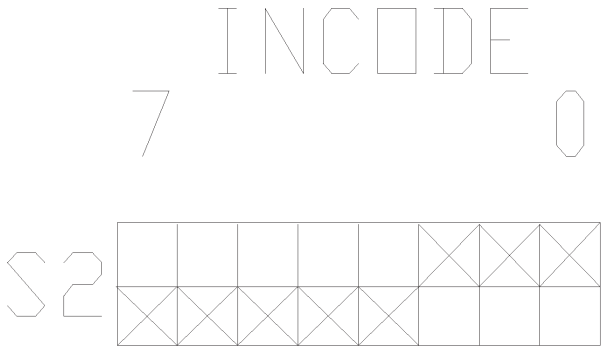
NOTE: The following are logical selections. Level 0 is all switches on (down) or all switches in the physical 1 position.

SWITCH POSITIONS	6	5	4	3	2	1
STROBE LEVEL 1	0	0	0	0	0	1
STROBE LEVEL 2	0	0	0	0	1	0
STROBE LEVEL 3	0	0	0	0	1	1
STROBE LEVEL 4	0	0	0	1	0	0
STROBE LEVEL 5	0	0	0	1	0	1
STROBE LEVEL 6	0	0	0	1	1	0
STROBE LEVEL 7	0	0	0	1	1	1
UP TO....						
STROBE LEVEL 62	1	1	1	1	1	0

3.3 Cougar Frame Input/Output Code Selection

The input and output code switch numbers run 0 to 7, right to left. The incode switch selects input codes 0-255 and the outcode switch selects output codes 0-255. Refer to Figures 3-4 and 3-5 for examples of input and output code selection.

Input Code



SHOWN WITH INPUT CODE 7 SELECTED

Figure 3-4 Cougar Frame Input Code Selection

3.3 Cougar Frame Input/Output Code Selection Cont:

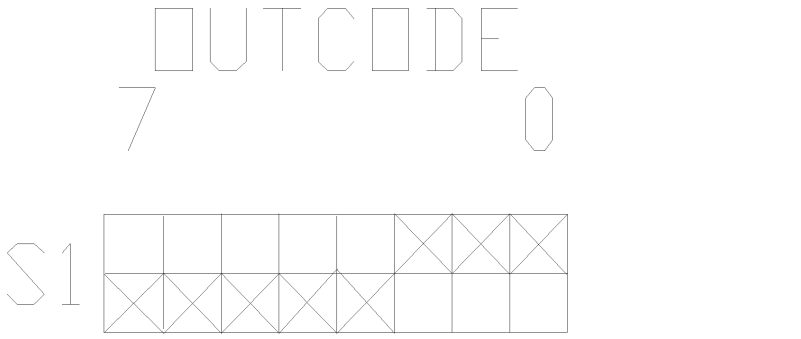
Input Code Continued:

Physical 0 (Logical 1) = OFF (UP)
Physical 1 (Logical 0) = ON (DOWN)

NOTE: The following are logical selections. Input code 0 is all switches on (down) or all switches in the physical 1 position.

SWITCH POSITION	7	6	5	4	3	2	1	0	INPUTS
INPUT CODE 0	0	0	0	0	0	0	0	0	0-32
INPUT CODE 1	0	0	0	0	0	0	0	1	33-64
INPUT CODE 2	0	0	0	0	0	0	1	0	65-96
INPUT CODE 3	0	0	0	0	0	0	1	1	97-128
INPUT CODE 4	0	0	0	0	0	1	0	0	129-160
INPUT CODE 5	0	0	0	0	0	1	0	1	161-192
INPUT CODE 6	0	0	0	0	0	1	1	0	193-224
INPUT CODE 7	0	0	0	0	0	1	1	1	225-256
UP TO....									
INPUT CODE 255	1	1	1	1	1	1	1	1	8161-8192

Output Code



SHOWN WITH OUTPUT CODE 7 SELECTED

Figure 3-5 Cougar Frame Output Code Selection

3.3 Cougar Frame Input/Output Code Selection Cont:

Output Code Continued:

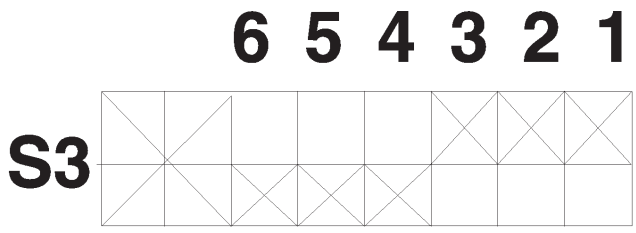
Physical 0 (Logical 1) = OFF (UP)
Physical 1 (Logical 0) = ON (DOWN)

NOTE: The following are logical selections. Output code 0 is all switches on (down) or all switches in the physical 1 position.

SWITCH POSITION	7	6	5	4	3	2	1	0	OUTPUTS
OUTPUT CODE 0	0	0	0	0	0	0	0	0	0-32
OUTPUT CODE 1	0	0	0	0	0	0	0	1	33-64
OUTPUT CODE 2	0	0	0	0	0	0	1	0	65-96
OUTPUT CODE 3	0	0	0	0	0	0	1	1	97-128
OUTPUT CODE 4	0	0	0	0	0	1	0	0	129-160
OUTPUT CODE 5	0	0	0	0	0	1	0	1	161-192
OUTPUT CODE 6	0	0	0	0	0	1	1	0	193-224
OUTPUT CODE 7	0	0	0	0	0	1	1	1	225-256
UP TO....									
OUTPUT CODE 255	1	1	1	1	1	1	1	1	8161-8192

3.4 Jaguar Frame Level Code Selection

The level (strobe) switch positions are numbered 1 through 8 right to left. Switches 1-6 select level codes 1 through 62. **Switches 7 and 8 are not used – their position is unimportant.** Refer to Figure 3-6 for an example of level code selection and to Figures 3-7 and 3-8 for views of the physical location of the function switches.



SHOWN WITH LEVEL CODE 7 SELECTED

Figure 3-6 Jaguar Frame Level Code Selection

3.4 Jaguar Frame Level Code Selection Continued:

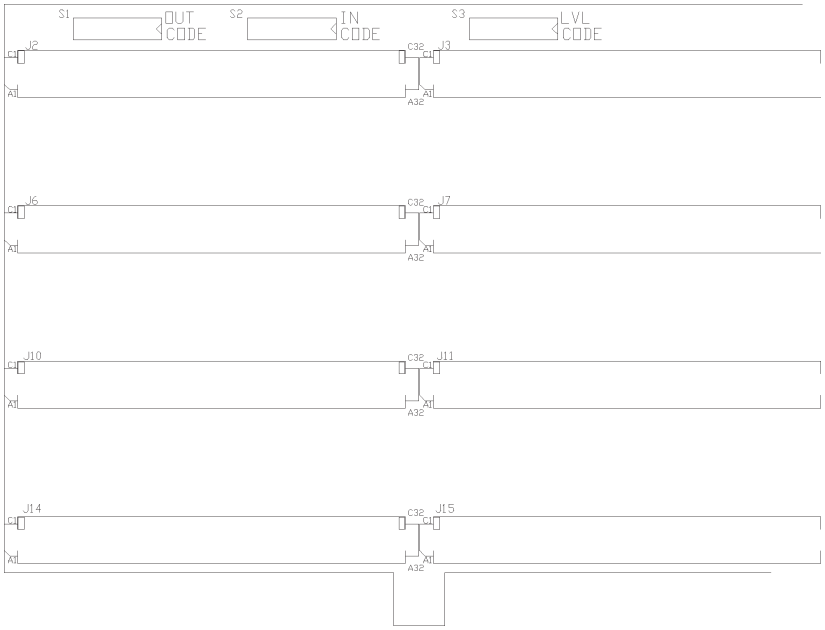


Figure 3-7 Jaguar Video Frame Function Switch Locations

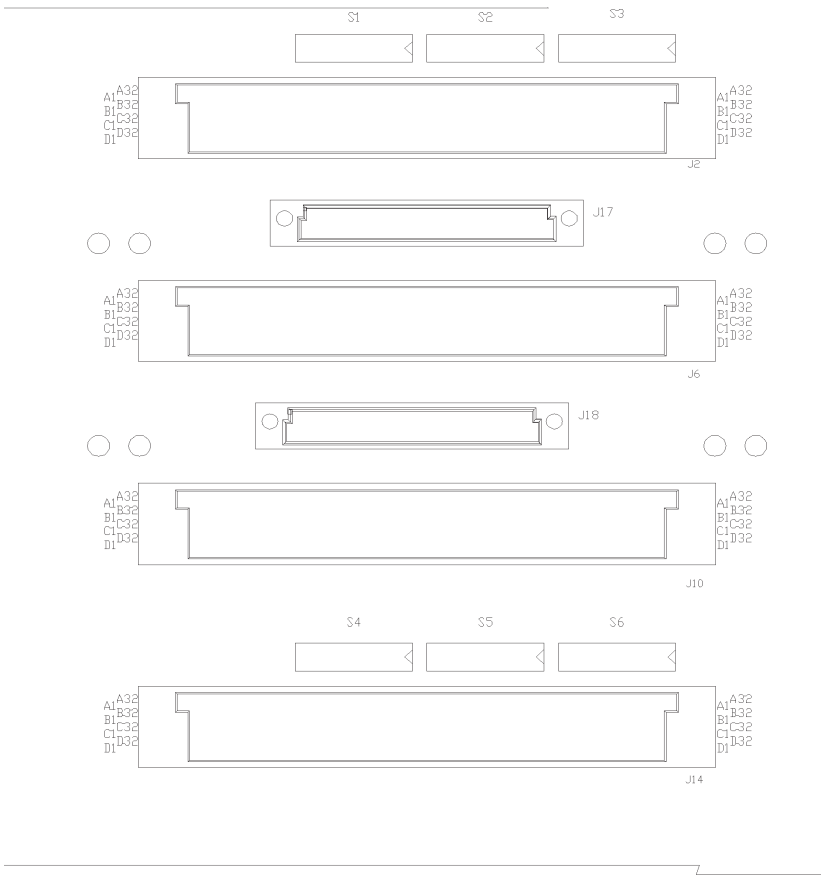


Figure 3-8 Jaguar Audio Frame Function Switch Locations

3.4 Jaguar Frame Level Code Selection Continued:

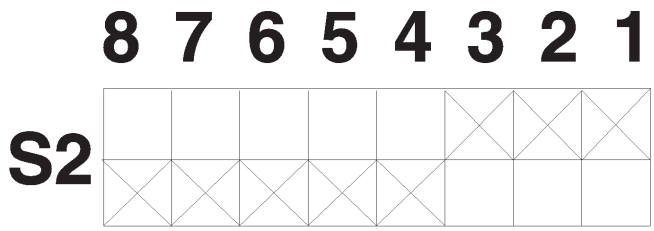
Physical 0 (Logical 1) = OFF (UP)
Physical 1 (Logical 0) = ON (DOWN)

SWITCH POSITIONS	6	5	4	3	2	1
STROBE LEVEL 1	0	0	0	0	0	1
STROBE LEVEL 2	0	0	0	0	1	0
STROBE LEVEL 3	0	0	0	0	1	1
STROBE LEVEL 4	0	0	0	1	0	0
STROBE LEVEL 5	0	0	0	1	0	1
STROBE LEVEL 6	0	0	0	1	1	0
STROBE LEVEL 7	0	0	0	1	1	1
UP TO....						
STROBE LEVEL 62	1	1	1	1	1	0

3.5 Jaguar Frame Input/Output Code Selection

The input and output switch position numbers run 1 to 8, right to left. The incode switch selects input codes 0-255 and the outcode switch selects output codes 0-255. Refer to Figures 3-9 and 3-10 for examples of input and output code selection.

Input Code



SHOWN WITH INPUT CODE 7 SELECTED

Figure 3-9 Jaguar Frame Input Code Selection

3.5 Jaguar Frame Input/Output Code Selection Cont:

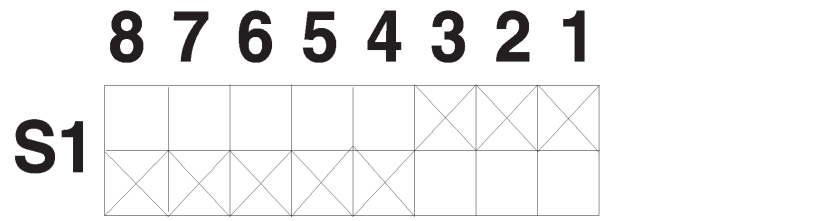
Input Code Continued:

Physical 0 (Logical 1) = OFF (UP)
Physical 1 (Logical 0) = ON (DOWN)

NOTE: The following are logical selections. Input code 0 is all switches on (down) or all switches in the physical 1 position.

SWITCH POSITION	8	7	6	5	4	3	2	1	INPUTS
INPUT CODE 0	0	0	0	0	0	0	0	0	1-64
INPUT CODE 1	0	0	0	0	0	0	0	1	65-128
INPUT CODE 2	0	0	0	0	0	0	1	0	129-192
INPUT CODE 3	0	0	0	0	0	0	1	1	193-256
INPUT CODE 4	0	0	0	0	0	1	0	0	257-320
INPUT CODE 5	0	0	0	0	0	1	0	1	321-384
INPUT CODE 6	0	0	0	0	0	1	1	0	385-448
INPUT CODE 7	0	0	0	0	0	1	1	1	449-512
UP TO....									
OUTPUT CODE 14	0	0	0	0	1	1	1	0	961-1024

Output Code



SHOWN WITH OUTPUT CODE 7 SELECTED

Figure 3-10 Jaguar Frame Output Code Selection

3.5 Jaguar Frame Input/Output Code Selection Cont:

Output Code Continued:

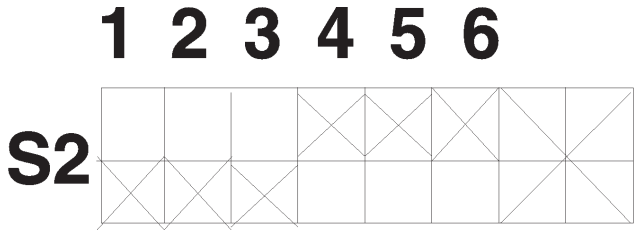
Physical 0 (Logical 1) = OFF (UP)
Physical 1 (Logical 0) = ON (DOWN)

NOTE: The following are logical selections. Output code 0 is all switches on (down) or all switches in the physical 1 position.

SWITCH POSITION	8	7	6	5	4	3	2	1	OUTPUTS
OUTPUT CODE 0	0	0	0	0	0	0	0	0	1-64
OUTPUT CODE 1	0	0	0	0	0	0	0	1	65-128
OUTPUT CODE 2	0	0	0	0	0	0	1	0	129-192
OUTPUT CODE 3	0	0	0	0	0	0	1	1	193-256
OUTPUT CODE 4	0	0	0	0	0	1	0	0	257-320
OUTPUT CODE 5	0	0	0	0	0	1	0	1	321-384
OUTPUT CODE 6	0	0	0	0	0	1	1	0	385-448
OUTPUT CODE 7	0	0	0	0	0	1	1	1	449-512
UP TO....									
OUTPUT CODE 14	0	0	0	0	1	1	1	0	961-1024

3.6 Video Output Monitor Card Level Code Selection

The Output Monitor Card's level code switch positions are numbered 1 through 8 left to right. Switches 1-6 select level codes 1 through 62. **Switches 7 and 8 are not used – their position is unimportant.** Refer to Figure 3-11 for an example of level code selection and see Figure 3-12 for the physical location of the function switches.



SHOWN WITH LEVEL CODE 7 SELECTED

Figure 3-11 Video Output Monitor Card Level Code Selection

3.6 Video Output Monitor Card Level Code Select. Cont:

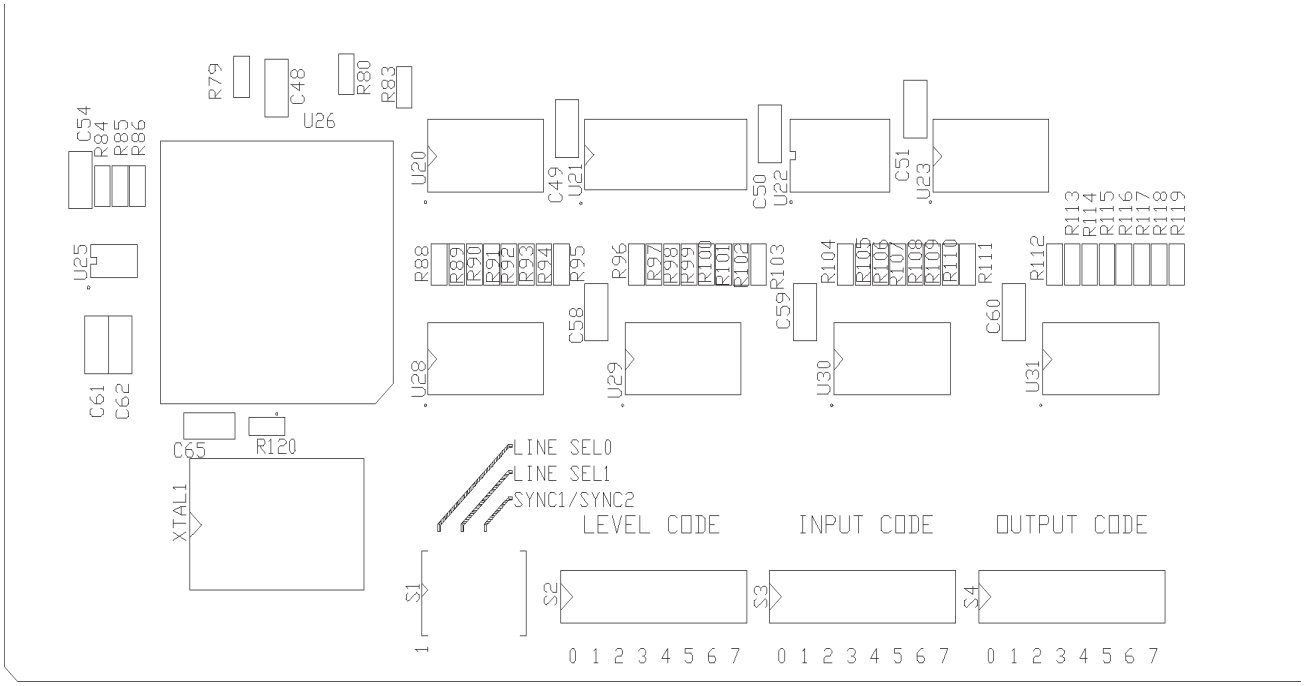


Figure 3-12 Video Output Monitor Card Function Switch Locations

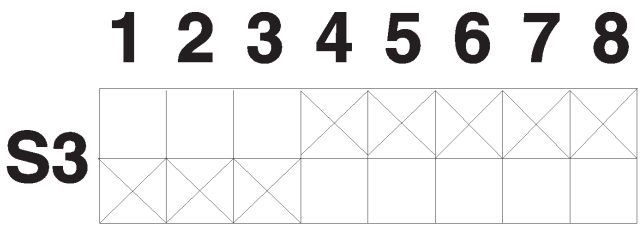
Physical 0 (Logical 1) = OFF (DOWN)
Physical 1 (Logical 0) = ON (UP)

SWITCH POSITIONS	**1**	**2**	**3**	**4**	**5**	**6**
STROBE LEVEL 1	1	0	0	0	0	0
STROBE LEVEL 2	0	1	0	0	0	0
STROBE LEVEL 3	1	1	0	0	0	0
STROBE LEVEL 4	0	0	1	0	0	0
STROBE LEVEL 5	1	0	1	0	0	0
STROBE LEVEL 6	0	1	1	0	0	0
STROBE LEVEL 7	1	1	1	0	0	0
UP TO....						
STROBE LEVEL 62	0	1	1	1	1	1

3.7 Video Output Monitor Card I/O Code Selection

The Output Monitor Card's input and output code select switch positions are numbered 1 to 8, left to right. The input code switch selects input codes 0-255 and the output code switch selects output codes 0-255. Refer to Figures 3-13 and 3-14 for examples of input and output code selection.

Input Code



SHOWN WITH INPUT CODE 7 SELECTED

Figure 3-13 Video Output Monitor Card Input Code Selection

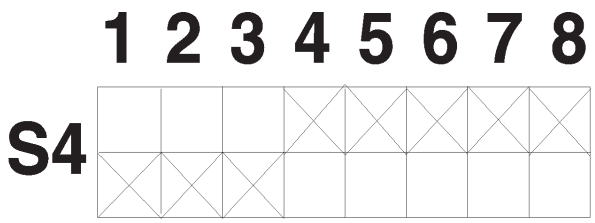
Physical 0 (Logical 1) = OFF (DOWN)
Physical 1 (Logical 0) = ON (UP)

NOTE: The following are logical selections. Input code 0 is all switches on (up) or all switches in the physical 1 position.

SWITCH POSITION	1	2	3	4	5	6	7	8	INPUTS
INPUT CODE 0	0	0	0	0	0	0	0	0	1-64
INPUT CODE 1	1	0	0	0	0	0	0	0	65-128
INPUT CODE 2	0	1	0	0	0	0	0	0	129-192
INPUT CODE 3	1	1	0	0	0	0	0	0	193-256
INPUT CODE 4	0	0	1	0	0	0	0	0	257-320
INPUT CODE 5	1	0	1	0	0	0	0	0	321-384
INPUT CODE 6	0	1	1	0	0	0	0	0	385-448
INPUT CODE 7	1	1	1	0	0	0	0	0	449-512
UP TO....									
OUTPUT CODE 14	0	0	0	0	1	1	1	0	961-1024

3.7 Video Output Monitor Card I/O Code Selection Cont:

Output Code



SHOWN WITH OUTPUT CODE 7 SELECTED

Figure 3-14 Video Output Monitor Card Output Code Selection

Physical 0 (Logical 1) = OFF (DOWN)
Physical 1 (Logical 0) = ON (UP)

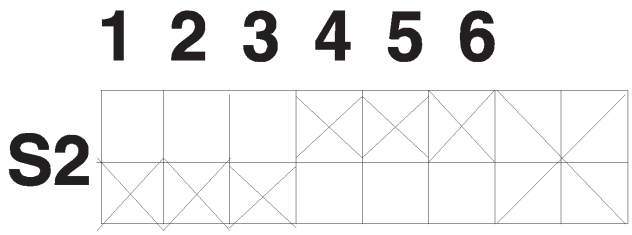
NOTE: The following are logical selections. Output code 0 is all switches on (up) or all switches in the physical 1 position.

SWITCH POSITION	1	2	3	4	5	6	7	8	OUTPUT
OUTPUT CODE 0	0	0	0	0	0	0	0	0	0
OUTPUT CODE 1	1	0	0	0	0	0	0	0	1
OUTPUT CODE 2	0	1	0	0	0	0	0	0	2
OUTPUT CODE 3	1	1	0	0	0	0	0	0	3
OUTPUT CODE 4	0	0	1	0	0	0	0	0	4
OUTPUT CODE 5	1	0	1	0	0	0	0	0	5
OUTPUT CODE 6	0	1	1	0	0	0	0	0	6
OUTPUT CODE 7	1	1	1	0	0	0	0	0	7
UP TO....									
OUTPUT CODE 255	1	1	1	1	1	1	1	1	255

3.8 Audio Output Monitor Card Level Code Selection

The Audio Output Monitor Card's level select switch positions are numbered 1 through 8, left to right. Switches 1-6 select level codes 1 through 62. **Switches 7 and 8 are not used – their position is unimportant.** Refer to Figure 3-15 for an example of level code selection and see Figure 3-16 for the physical location of the Audio Output Monitor Card's function switches.

3.8 Audio Output Monitor Card Level Code Select. Cont:



SHOWN WITH LEVEL CODE 7 SELECTED

Figure 3-15 Audio Output Monitor Card Output Code Selection

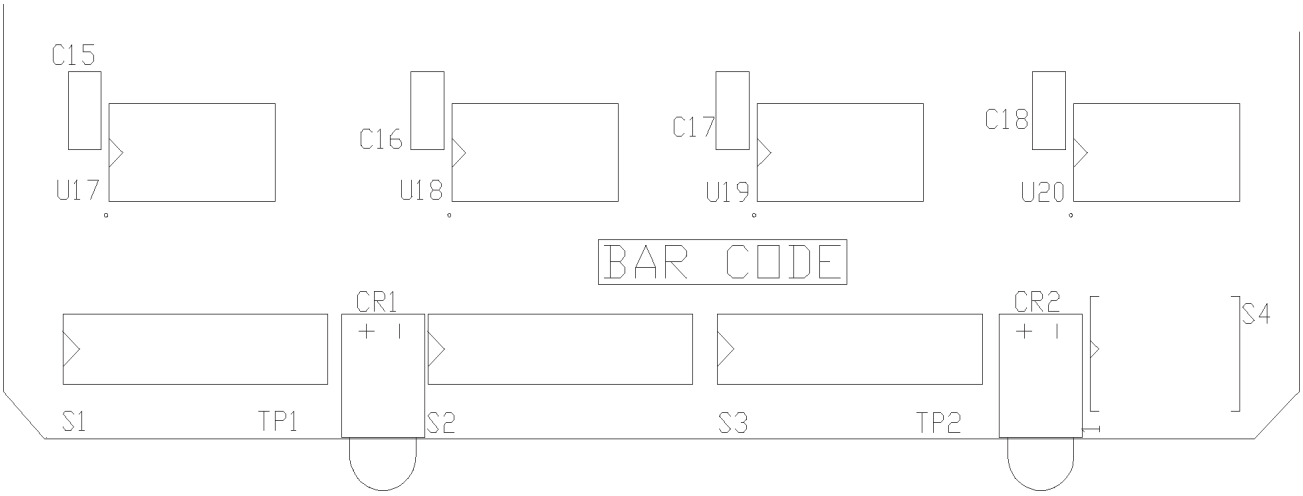


Figure 3-16 Audio Output Monitor Card Function Switch Locations

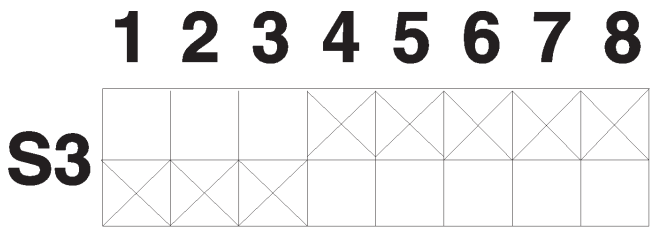
Physical 0 (Logical 1) = OFF (DOWN)
Physical 1 (Logical 0) = ON (UP)

SWITCH POSITIONS	**1**	**2**	**3**	**4**	**5**	**6**
STROBE LEVEL 1	1	0	0	0	0	0
STROBE LEVEL 2	0	1	0	0	0	0
STROBE LEVEL 3	1	1	0	0	0	0
STROBE LEVEL 4	0	0	1	0	0	0
STROBE LEVEL 5	1	0	1	0	0	0
STROBE LEVEL 6	0	1	1	0	0	0
STROBE LEVEL 7	1	1	1	0	0	0
UP TO....						
STROBE LEVEL 62	0	1	1	1	1	1

3.9 Audio Output Monitor Card I/O Code Selection

The Audio Output Monitor Card's input and output code select switch positions are numbered 1 to 8, left to right. The input code switch selects input codes 0-255 and the output code switch selects output codes 0-255. Refer to Figures 3-17 and 3-18 for examples of input and output code selection.

Input Code



SHOWN WITH INPUT CODE 7 SELECTED

Figure 3-17 Audio Output Monitor Card Input Code Selection

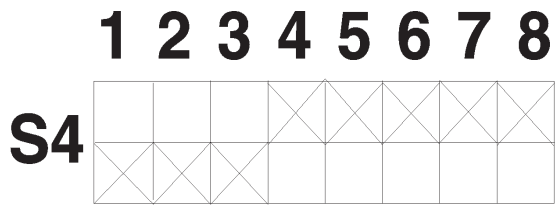
Physical 0 (Logical 1) = OFF (DOWN)
Physical 1 (Logical 0) = ON (UP)

NOTE: The following are logical selections. Input code 0 is all switches on (up) or all switches in the physical 1 position.

SWITCH POSITION	1	2	3	4	5	6	7	8	INPUTS
INPUT CODE 0	0	0	0	0	0	0	0	0	1-64
INPUT CODE 1	1	0	0	0	0	0	0	0	65-128
INPUT CODE 2	0	1	0	0	0	0	0	0	129-192
INPUT CODE 3	1	1	0	0	0	0	0	0	193-256
INPUT CODE 4	0	0	1	0	0	0	0	0	257-320
INPUT CODE 5	1	0	1	0	0	0	0	0	321-384
INPUT CODE 6	0	1	1	0	0	0	0	0	385-448
INPUT CODE 7	1	1	1	0	0	0	0	0	449-512
UP TO....									
OUTPUT CODE 14	0	0	0	0	1	1	1	0	961-1024

3.9 Audio Output Monitor Card I/O Code Selection Cont:

Output Code



SHOWN WITH OUTPUT CODE 7 SELECTED

Figure 3-18 Audio Output Monitor Card Output Code Selection

Physical 0 (Logical 1) = OFF (DOWN)
Physical 1 (Logical 0) = ON (UP)

NOTE: The following are logical selections. Output code 0 is all switches on (up) or all switches in the physical 1 position.

SWITCH POSITION	1	2	3	4	5	6	7	8	OUTPUT
OUTPUT CODE 0	0	0	0	0	0	0	0	0	0
OUTPUT CODE 1	1	0	0	0	0	0	0	0	1
OUTPUT CODE 2	0	1	0	0	0	0	0	0	2
OUTPUT CODE 3	1	1	0	0	0	0	0	0	3
OUTPUT CODE 4	0	0	1	0	0	0	0	0	4
OUTPUT CODE 5	1	0	1	0	0	0	0	0	5
OUTPUT CODE 6	0	1	1	0	0	0	0	0	6
OUTPUT CODE 7	1	1	1	0	0	0	0	0	7
UP TO....									
OUTPUT CODE 255	1	1	1	1	1	1	1	1	255

3.10 Analog Video Matrix Card Line and Sync Selection

The Analog Video Matrix Card's line and sync select switch positions are 1 through 4 top to bottom. Switch position numbers 1 and 2 select the video line (sync 2) to trigger switches on and switch numbers 3 and 4 select the video line (sync 1) to trigger switches on. Refer to Figure 3-19 for examples of line and sync selection and see Figure 3-20 for the physical location of the Analog Video Matrix Card's line and sync select switch.

RIGHT = CLOSED
LEFT = OPEN

3.10 Analog Video Matrix Card Line and Sync Sel. Cont:

Switch 1	Switch 2	Switch 3	Switch 4	Sync 1 Line #	Sync 2 Line #
X	X	OPEN	OPEN	13	X
X	X	OPEN	CLOSED	12	X
X	X	CLOSED	OPEN	11	X
X	X	CLOSED	CLOSED	10	X
OPEN	OPEN	X	X	X	13
OPEN	CLOSED	X	X	X	12
CLOSED	OPEN	X	X	X	11
CLOSED	CLOSED	X	X	X	10

Figure 3-19 Analog Video Matrix Card Line and Sync Selection

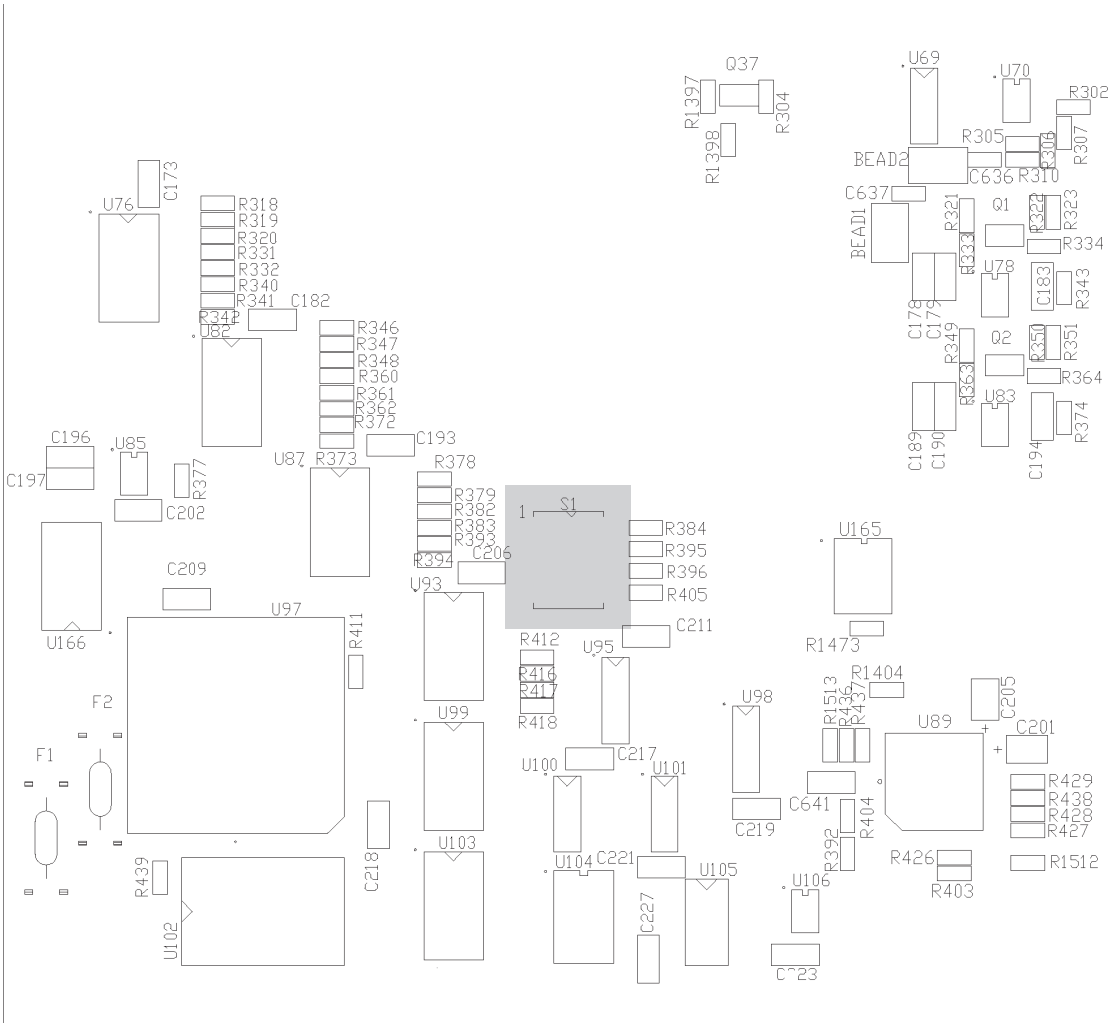


Figure 3-20 Analog Video Matrix Card Line and Sync Switch Location

3.11 Digital Video Matrix Card Line and Sync Selection

The Digital Video Matrix Card's line and sync select switch positions are numbered are 1 through 4 left to right. Switches 1 and 2 select the video line to trigger switches on. Switch 3 selects the sync signal which will be used to time switch commands. **Switch 4 is not used – its position is unimportant.** Refer to Figure 3-21 for examples of line and sync selection and see Figure 3-22 for the physical location of the Digital Video Matrix Card's line and sync select switch.

UP = CLOSED
DOWN = OPEN

LINE SEL 1	LINE SEL 0	SWITCH LINE
OPEN	OPEN	LINE 13
OPEN	CLOSED	LINE 12
CLOSED	OPEN	LINE 11
CLOSED	CLOSED	LINE 10

SYNC1/SYNC2	SELECTED SYNC
OPEN	SYNC2
CLOSED	SYNC1

Figure 3-21 Digital Video Matrix Card Line and Sync Selection

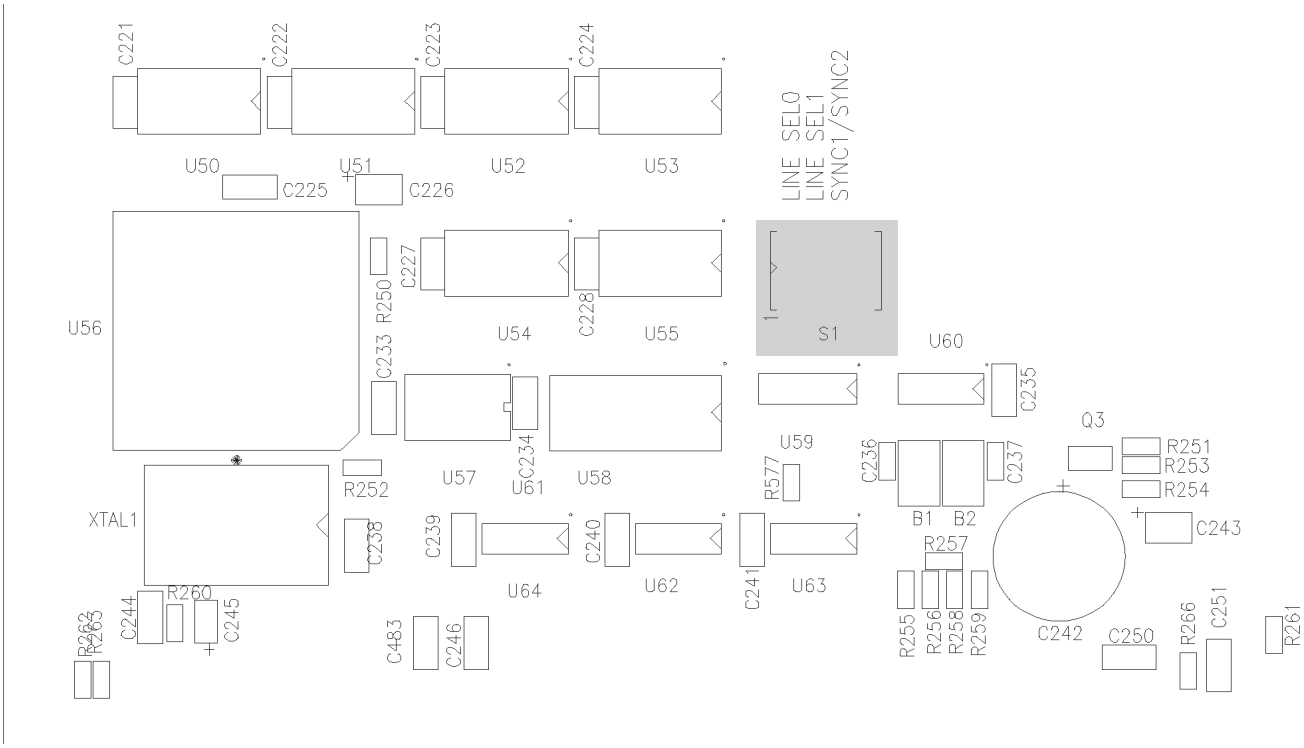


Figure 3-22 Digital Video Matrix Card Line and Sync Switch Location

3.12 Analog Audio Matrix Card Line and Sync Selection

The Analog Audio Matrix Card's line and sync select switch positions are numbered 1 through 4 top to bottom. Switch numbers 1 and 2 select the video line (sync 2) to trigger switches on and switch numbers 3 and 4 select the video line (sync 1) to trigger switches on. Refer to Figure 3-23 for examples of line and sync selection and see Figure 3-24 for the physical location of the Analog Audio Matrix Card's line and sync select switch.

RIGHT = CLOSED
LEFT = OPEN

Switch 1	Switch 2	Switch 3	Switch 4	Sync 1 Line #	Sync 2 Line #
X	X	OPEN	OPEN	13	X
X	X	OPEN	CLOSED	12	X
X	X	CLOSED	OPEN	11	X
X	X	CLOSED	CLOSED	10	X
OPEN	OPEN	X	X	X	13
OPEN	CLOSED	X	X	X	12
CLOSED	OPEN	X	X	X	11
CLOSED	CLOSED	X	X	X	10

Figure 3-23 Analog Audio Matrix Card Line and Sync Selection

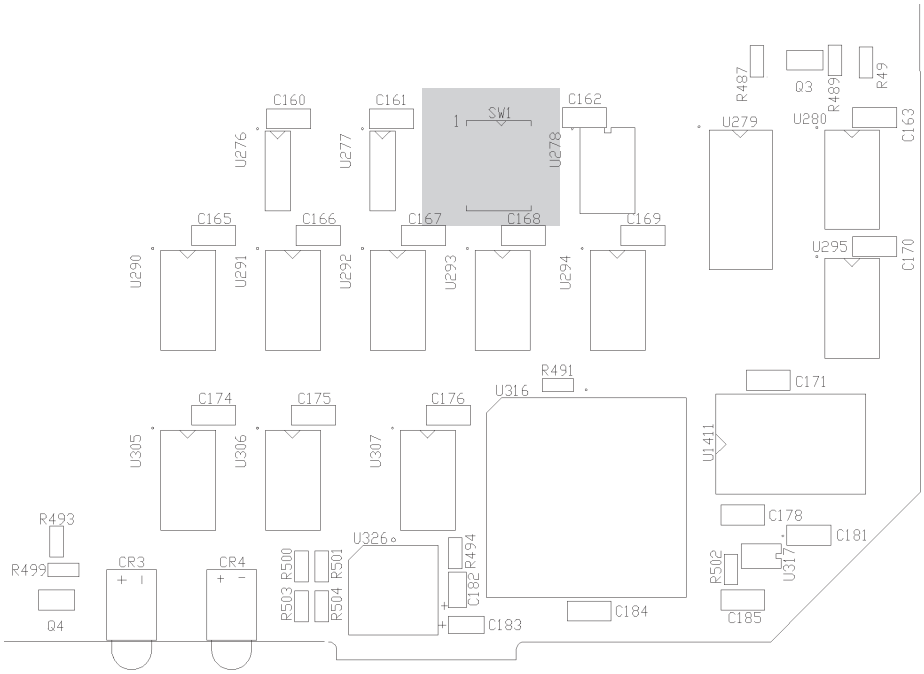


Figure 3-24 Analog Audio Matrix Card Line and Sync Switch Location

3.13 Digital Audio Matrix Card Line and Sync Selection

The Digital Audio Matrix Card's line and sync select switch positions are numbered 1 through 4 top to bottom. Switch numbers 1 and 2 select the video line (sync 2) to trigger switches on and switch numbers 3 and 4 select the video line (sync 1) to trigger switches on. Refer to Figure 3-25 for examples of line and sync selection and see Figure 3-26 for the physical location of the Digital Audio Matrix Card's line and sync select switch.

RIGHT = CLOSED
LEFT = OPEN

Switch 1	Switch 2	Switch 3	Switch 4	Sync 1 Line #	Sync 2 Line #
X	X	OPEN	OPEN	13	X
X	X	OPEN	CLOSED	12	X
X	X	CLOSED	OPEN	11	X
X	X	CLOSED	CLOSED	10	X
OPEN	OPEN	X	X	X	13
OPEN	CLOSED	X	X	X	12
CLOSED	OPEN	X	X	X	11
CLOSED	CLOSED	X	X	X	10

Figure 3-25 Digital Audio Matrix Card Line and Sync Selection

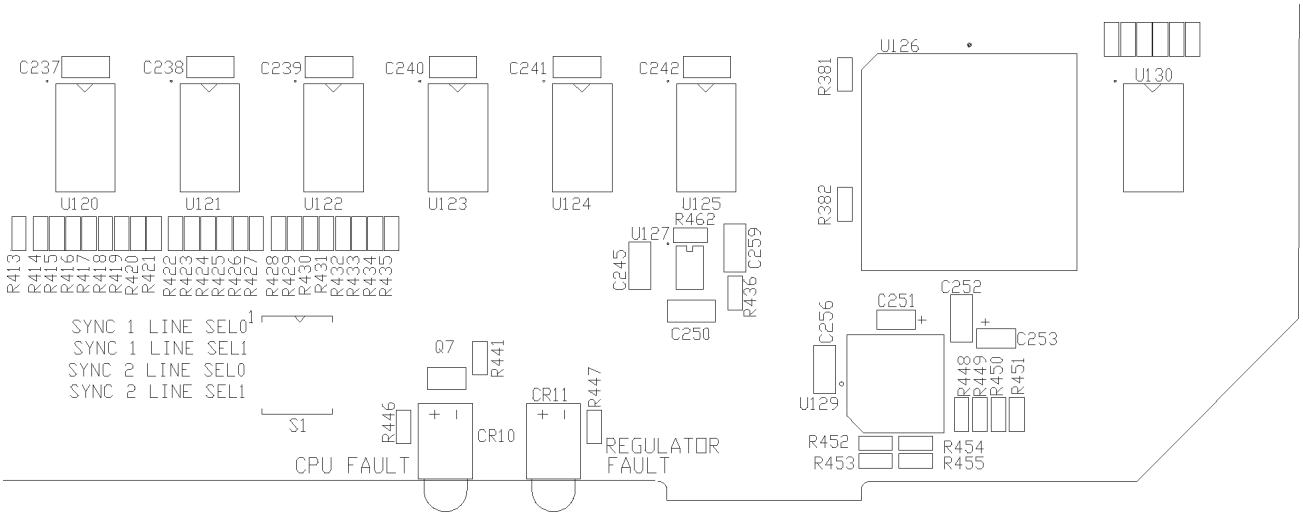


Figure 3-26 Digital Audio Matrix Card Line and Sync Switch Location

3.14 Video Output Monitor Card Line and Sync Select.

The Video Output Monitor Card's line and sync select switch positions are numbered 1 through 4, left to right. Switches 1 and 2 select the video line to trigger switches on. Switch 3 selects the sync signal which will be used to time switch commands. **Switch 4 is not used – its position is unimportant.** Refer to Figure 3-27 for examples of line and sync selection and see Figure 2-10 for the physical location of the Video Output Monitor Card's line and sync select switch.

UP = CLOSED
DOWN = OPEN

LINE SEL 1	LINE SEL 0	SWITCH LINE
OPEN	OPEN	LINE 13
OPEN	CLOSED	LINE 12
CLOSED	OPEN	LINE 11
CLOSED	CLOSED	LINE 10

SYNC1/SYNC2	SELECTED SYNC
OPEN	SYNC2
CLOSED	SYNC1

Figure 3-27 Video Output Monitor Card Line and Sync Selection

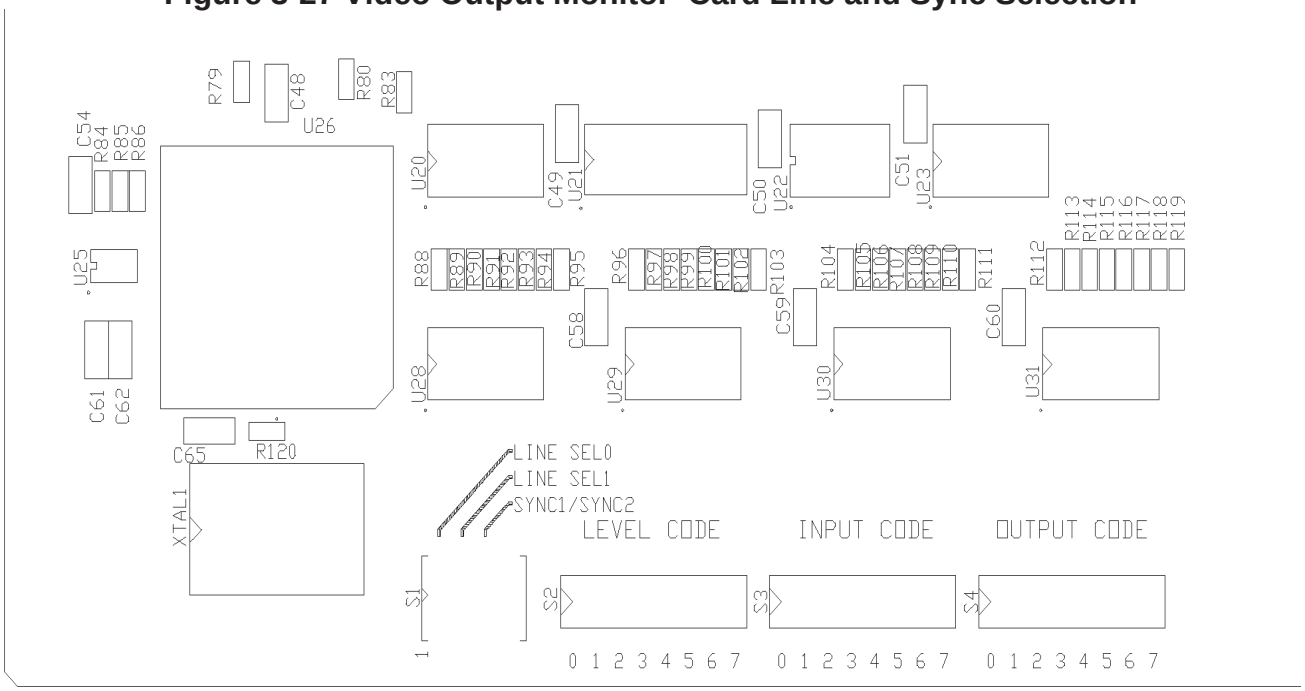


Figure 3-28 Video Output Monitor Card Line and Sync Switch Location

3.15 Audio Output Monitor Card Line and Sync Select.

The Audio Output Monitor Card's line and sync select switch positions are numbered 1 through 4, left to right. Switches 1 and 2 select the video sync line to trigger switches on. Switch 3 selects the sync signal which will be used to time switch commands. **Switch 4 is not used – its position is unimportant.** Refer to Figure 3-29 for examples of line and sync selection and see Figure 3-30 for the physical location of the Audio Output Monitor Card's line and sync select switch.

UP = CLOSED
DOWN = OPEN

LINE SEL 1	LINE SEL 0	SWITCH LINE
OPEN	OPEN	LINE 13
OPEN	CLOSED	LINE 12
CLOSED	OPEN	LINE 11
CLOSED	CLOSED	LINE 10

SYNC1/SYNC2	SELECTED SYNC
OPEN	SYNC2
CLOSED	SYNC1

Figure 3-29 Audio Output Monitor Card Line and Sync Selection

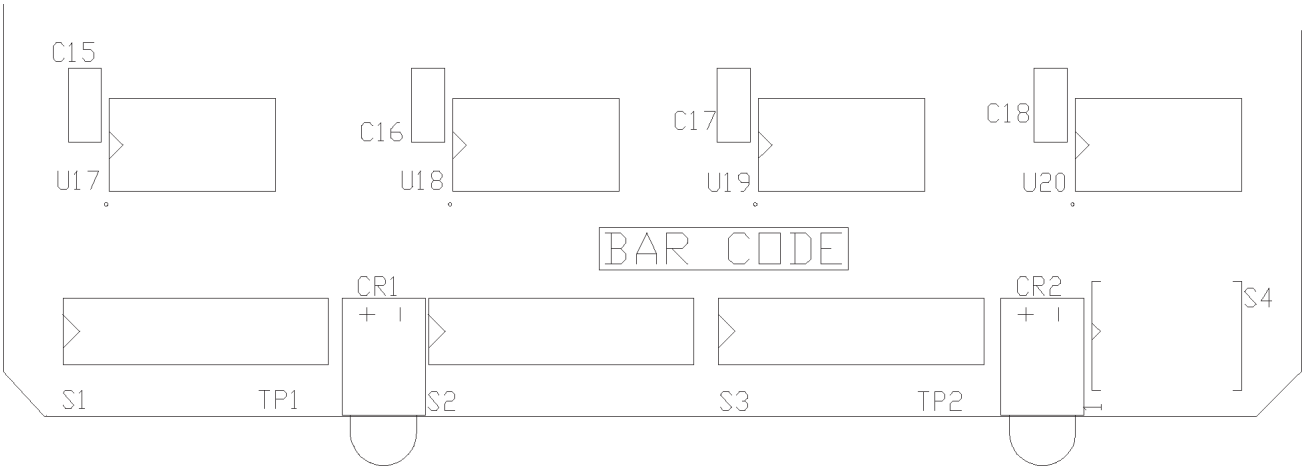


Figure 3-30 Audio Output Monitor Card Line and Sync Switch Location

3.16 Cougar 32X32 Switching System Configuration

To configure the Cougar 32X32 Switching System set the video and audio matrix card's line and sync select switches for sync 1, line 13 using the examples in the previous manual sections. Set level, input, and output codes switches as shown in Table 3-8. To check the sync switch settings and to gain access to the code switches, carefully remove the matrix cards from the Cougar Frames. Once all configuration switches are set to the proper positions, carefully reinstall the removed matrix cards in their appropriate card slots.

Table 3-8 Cougar 32X32 Switching System Configuration Settings

COUGAR 32X32 SWITCHING SYSTEM CONFIGURATION SETTINGS			
	LEVEL CODE	**INPUT CODE**	**OUTPUT CODE**
Cougar Video Frame	1	0	0
Cougar Audio Frame (Matrix A)	2	0	0
Cougar Audio Frame (Matrix B)	3	0	0

3.17 Cougar 64X64 Switching System Configuration

To configure the Cougar 64X64 Switching System set the video and audio matrix card's line and sync select switches for sync 1, line 13 using the examples in the previous manual sections. Set level, input, and output codes switches as shown in Table 3-9. To check the sync switch settings and to gain access to the code switches, carefully remove the matrix cards from the Cougar Frames. Once all configuration switches are set to the proper positions, carefully reinstall the removed matrix cards in their appropriate card slots.

3.17 Cougar 64X64 Switching System Config. Cont:

Table 3-9 Cougar 64X64 Switching System Configuration Settings

COUGAR 64X64 SWITCHING SYSTEM CONFIGURATION SETTINGS			
	LEVEL CODE	**INPUT CODE**	**OUTPUT CODE**
Cougar Video Frame #1	1	0	0
Cougar Video Frame #2	1	0	1
Cougar Video Frame #3	1	1	0
Cougar Video Frame #4	1	1	1
Cougar Audio Frame #1 (Matrix A)	2	0	0
Cougar Audio Frame #1 (Matrix B)	3	0	0
Cougar Audio Frame #2 (Matrix A)	2	0	1
Cougar Audio Frame #2 (Matrix B)	3	0	1
Cougar Audio Frame #3 (Matrix A)	2	1	0
Cougar Audio Frame #3 (Matrix B)	3	1	0
Cougar Audio Frame #4 (Matrix A)	2	1	1
Cougar Audio Frame #4 (Matrix B)	3	1	1

3.18 Jaguar 64X64 Switching System Configuration

To configure the Jaguar 64X64 Switching System set the video and audio matrix card's line and sync select switches for sync 1, line 13 using the examples in the previous manual sections. Set level, input, and output codes switches as shown in Table 3-10. To check the sync switch settings and to gain access to the code switches, carefully remove the matrix cards and monitor cards from the Jaguar Frames. Once all configuration switches are set to the proper positions, carefully reinstall the removed matrix cards and monitor cards in their appropriate card slots.

Table 3-10 Jaguar 64X64 Switching System Configuration Settings

JAGUAR 64X64 SWITCHING SYSTEM CONFIGURATION SETTINGS			
	LEVEL CODE	**INPUT CODE**	**OUTPUT CODE**
Jaguar Video Frame	1	0	0
Jaguar Audio Frame (Matrix A)	2	0	0
Jaguar Audio Frame (Matrix B)	3	0	0
Video Monitor Card	4	0	0
Audio Monitor Card	5	0	0

3.19 Jaguar 128X128 Switching System Configuration

To configure the Jaguar 128X128 Switching System set the video and audio matrix card's line and sync select switches for sync 1, line 13 using the examples in the previous manual sections. Set level, input, and output codes switches as shown in Table 3-10. To check the sync switch settings and to gain access to the code switches, carefully remove the matrix cards and monitor cards from the Jaguar Frames. Once all configuration switches are set to the proper positions, carefully reinstall the removed matrix cards and monitor cards in their appropriate card slots.

3.19 Jaguar 128X128 Switching System Config. Cont:

Table 3-11 Jaguar 128X128 Switching System Configuration Settings

JAGUAR 128X128 SWITCHING SYSTEM CONFIGURATION SETTINGS			
	LEVEL CODE	**INPUT CODE**	**OUTPUT CODE**
Jaguar Video Frame #1	1	0	0
Video Output Monitor Card #1	4	0	0
Jaguar Video Frame #2	1	0	1
Video Output Monitor Card #2	4	1	1
Jaguar Video Frame #3	1	1	0
Video Output Monitor Card #3	4	0	0
Jaguar Video Frame #4	1	1	1
Video Output Monitor Card #4	4	1	1
Jaguar Audio Frame #1 (Matrix A)	2	0	0
Jaguar Audio Frame #1 (Matrix B)	3	1	0
Audio Output Monitor Card #1	5	0	0
Jaguar Audio Frame #2 (Matrix A)	2	0	1
Jaguar Audio Frame #2 (Matrix B)	3	1	1
Audio Output Monitor Card #2	5	1	1
Jaguar Audio Frame #3 (Matrix A)	2	0	0
Jaguar Audio Frame #3 (Matrix B)	3	1	0
Audio Output Monitor Card #3	5	0	0
Jaguar Audio Frame #4 (Matrix A)	2	0	1
Jaguar Audio Frame #4 (Matrix B)	3	1	1
Audio Output Monitor Card #4	5	1	1

4.1 Introduction

Once the Cougar and Jaguar Switching Systems are installed in the equipment racks and configured, system connections can be made. Use the following manual sections as guides to insure that the switching system interconnections are properly connected and that the control, power, sync, audio, and video cables are correctly installed.

4.2 Cougar Video Frame Connectors

The following manual subsections discuss the various system connectors found on the rear backplane (rear panel) of the Cougar Video Routing Switcher. Refer to Figure 4-1 for a visual reference of the Cougar Video Frame's rear panel.

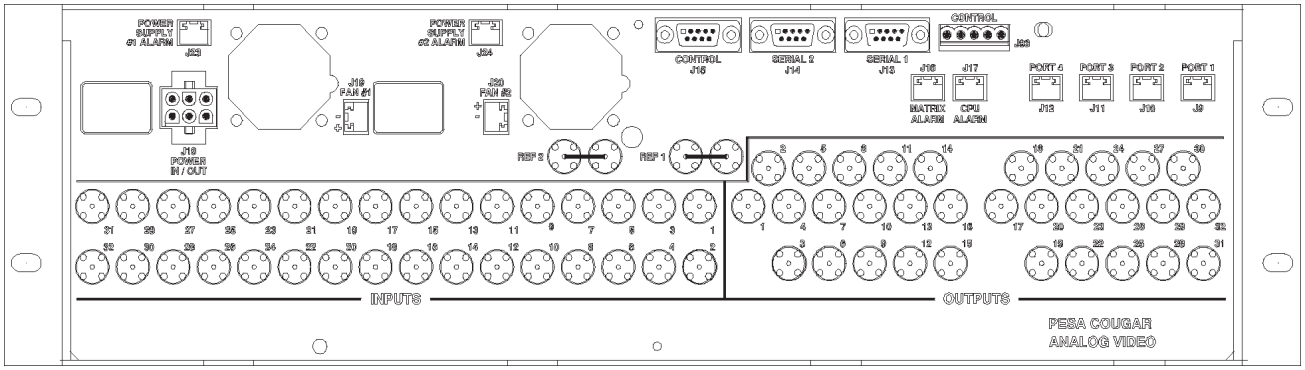


Figure 4-1 Cougar Video Frame Rear View

RCP Panel Connectors (J9-J12)

The RS485 panel port connectors allow the daisy-chained connection of up to 64 remote control panels to the Cougar Video Routing Switcher. Bidirectional communications between the internally installed 3300 Controller(s) and the various models of PESA's low cost RCP control panels are sent and received over RS485 buss.

Serial (CPU Link) Connectors (J13 and J14)

The CPU Link connectors allow serial communications between the internally installed 3300 Controller(s) and up to two external computers. The 3300 Controller supports asynchronous, bidirectional communications, at 9600 baud. The protocol used in communication via these ports is a proprietary protocol developed by PESA for switcher control. Be sure to use a "null modem" cable for all serial (CPU link) connections. The pinout for CPU link connector is as follows:

4.2 Cougar Video Frame Connectors Continued:

Serial (CPU Link) Connectors (J13 and J14) Continued:

PIN NO.	DESCRIPTION
1	CD
2	RX DATA
3	TX DATA
4	DTR
5	GROUND
6	DSR
7	RTS
8	CTS
9	N/C

Control (PRC) Connectors (J15 and J93)

J15 provides for the connection of an optional external controller to the Cougar Video Routing Switcher. J93 provides for the connection of additional Cougar Video Routing Switchers to form up to a 64X64 switching matrix. Both of the control connectors allow for the bi-directional transmission of data.

The pinout of control connector J15 is as follows:

PIN NO.	DESCRIPTION
1	GROUND
2	RX+ DATA
3	TX- DATA
4	GROUND
5	SPARE
6	GROUND
7	RX- DATA
8	TX+ DATA
9	GROUND

4.2 Cougar Video Frame Connectors Continued:

Control (PRC) Connectors (J15 and J93) Continued:

The pinout of control connector J93 is as follows:

PIN NO.	DESCRIPTION
1	TX+ DATA
2	TX- DATA
3	GROUND
4	RX+ DATA
5	RX- DATA

For PRC communications, the user should use a direct pin-for-pin cable for interfacing between the 3300 Controller and the peripheral equipment. DO NOT use a "NULL MODEM" cable.

Matrix Card Alarm Connector (J16)

An alarm circuit has been provided in the 32X32 Video Matrix Card's circuitry. This circuit acts as a switch to trigger an optional external alarm in the event of a controller fault or failure. The controller alarm circuit supplies a "contact" closure but does not provide a voltage to the external alarm. The alarm circuit has 10mA current limit. The Matrix Card Alarm Connector, located on the backplane, allows connection of the Matrix Card Alarm.

CPU Alarm Connector (J17)

Not used.

Power In/Out Connector (J18)

Power can be supplied to the Cougar Video Routing Switcher by the use of an externally mounted power supply, by the use of an internal PS70V Power Supply, or by the use of dual internal PS70V Power Supplies. The DC Power Connector can be used as DC power input (external power supply) or as DC power output (internal power supply or power supplies) to allow the Cougar Video Routing Switcher to power additional video equipment items.

4.2 Cougar Video Frame Connectors Continued:

Power Supply Alarm Connectors (J23 and J24)

An alarm circuit has been provided in the PS70V Power Supply's circuitry. This circuit acts as a switch to trigger an optional external alarm in the event of a failure in the power supply or of the external 110VAC (220VAC for the international version) source. The alarm circuit supplies a contact closure but does not provide a voltage to the external alarm and has a 10mA current limit. The alarm connectors, located on the backplane, allow connection of external power supply alarms.

Reference (Sync) Connectors (1 and 2)

The sync connectors are used to connect an external sync signal to the Cougar Video Routing Switcher. The sync signal may be either a color black or composite video signal. The use of an external sync signal allows switch changes to be accurately timed in the vertical interval. The sync connectors are loop-thru connectors and must be terminated with 75 ohms if looping is not used.

Video Input and Output Connectors

There are 32 BNC video input connectors and 32 BNC video output connectors located on the Cougar Video Routing Switcher's rear panel. These connectors allow the connection of the video sources (input connectors) and video destinations (output connectors) to the Cougar Video Routing Switcher. The video input connectors are internally terminated into 75 ohms.

4.3 Cougar Audio Frame Connectors

The following manual subsections discuss the various system connectors found on the rear backplane (rear panel) of the Cougar Audio Routing Switcher. Refer to Figure 4-2 for a visual reference of the Cougar Audio Frame's rear panel.

4.3 Cougar Audio Frame Connectors Continued:

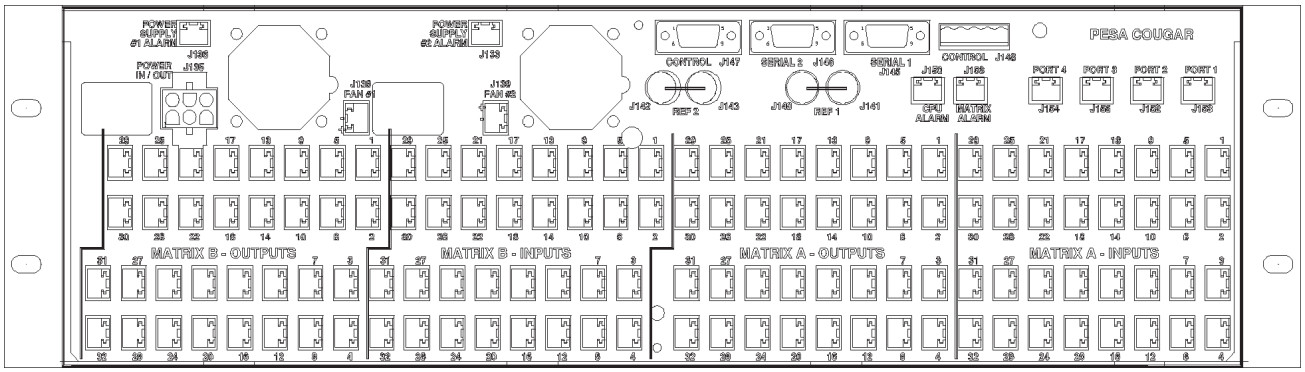


Figure 4-2 Cougar Audio Frame Rear Panel

RCP Panel Connectors (J152-J155)

Not used.

Serial (CPU Link) Connectors (J145 and J146)

Not used.

Control (PRC) Connectors (J147 and J148)

J147 provides for the connection of an optional external controller to the Cougar Audio Routing Switcher. J148 provides for the connection of additional Cougar Audio Routing Switchers to form up to a 64X64 switching matrix. Both of the control connectors allow for the bi-directional transmission of data.

The pinout of control connector J147 is as follows:

PIN NO.	DESCRIPTION
1	GROUND
2	RX+ DATA
3	TX- DATA
4	GROUND
5	SPARE
6	GROUND
7	RX- DATA
8	TX+ DATA
9	GROUND

4.3 Cougar Audio Frame Connectors Continued:

Control (PRC) Connectors (J147 and J148) Continued:

The pinout of control connector J148 is as follows:

PIN NO.	DESCRIPTION
1	TX+ DATA
2	TX- DATA
3	GROUND
4	RX+ DATA
5	RX- DATA

For serial communications, the user should use a direct pin-for-pin cable for interfacing between the optional 3300 Controller and the peripheral equipment. DO NOT use a "NULL MODEM" cable.

CPU Alarm Connector (J150)

Not used.

Matrix Card Alarm Connector (J158)

An alarm circuit has been provided in the 32X32 Audio Matrix Card's circuitry. This circuit acts as a switch to trigger an optional external alarm in the event of a controller fault or failure. The controller alarm circuit supplies a contact closure but does not provide a voltage to the external alarm. The matrix card alarm connector, located on the backplane, allows connection of the matrix card alarm.

Power In/Out Connector (J135)

Power can be supplied to the Cougar Audio Routing Switcher by the use of an externally mounted power supply, by the use of an internal PS70V Power Supply, or by the use dual internal PS70V Power Supplies. The DC Power Connector can be used as DC power input (external power supply) or as DC power output (internal power supply or power supplies) to allow the Cougar Audio Routing Switcher to power additional equipment items.

4.3 Cougar Audio Frame Connectors Continued:

Power Supply Alarm Connectors (J133 and J136)

An alarm circuit has been provided in the PS70V Power Supply's circuitry. This circuit acts as a switch to trigger an optional external alarm in the event of a failure in the power supply or failure of the external 110VAC (220VAC for the international version) source. The alarm circuit supplies a "contact" closure but does not provide a voltage to the external alarm. The alarm connectors, located on the backplane, allow connection of external power supply alarms.

Reference (Sync) Connectors (1 and 2)

The sync connectors are used to connect an external sync signal to the Cougar Auido Routing Switcher. The sync signal may be either a color black or composite video signal. The use of an external sync signal allows switch changes to be accurately timed in the vertical interval. The sync connectors are loop-thru connectors and must be terminated with 75 ohms if looping is not used.

Audio Input and Output Connectors

There are 32 matrix A and B twisted pair audio input connectors and 32 matrix A and B twisted pair audio output connectors located on the Cougar Audio Routing Switcher's rear panel. These connectors allow the connection of the audio sources (input connectors) and audio destinations (output connectors) to the Cougar Audio Routing Switcher.

4.4 Jaguar Video Frame Connectors

The following manual subsections discuss the various system connectors found on the rear of a fully configured Jaguar Video Routing Switcher. Refer to Figure 4-3 for a visual reference of the Jaguar Video Frame's rear panel.

4.4 Jaguar Video Frame Connectors Continued:

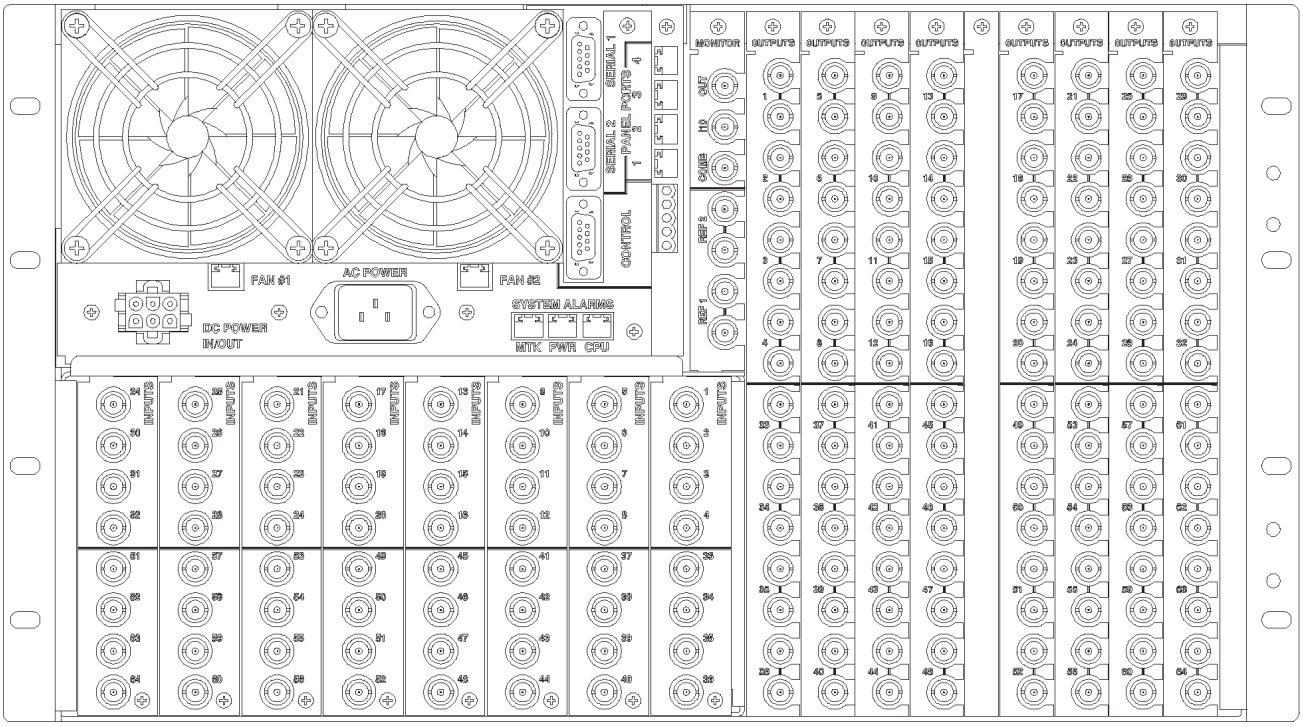


Figure 4-3 Jaguar Video Frame Rear Panel

DC Power In/Out Connector

Power can be supplied to the Jaguar Video Routing Switcher by the use of an externally mounted power supply or by the use of internal PS130 Power Supplies. The DC Power In/Out Connector can be used as DC power input (external power supply) or as DC power output (internal power supplies) to allow the Jaguar Video Routing Switcher to power additional equipment items.

Fan Connectors

The fan connectors provide DC power to the Jaguar Video Routing Switcher's chassis fans.

AC Power Connector

The AC Power Connector enables the connection of the AC line to the Jaguar Video Routing Switcher. The AC line input voltage can be from 100 - 240 VAC and the AC line frequency range can be from 47 - 63 Hz.

4.4 Jaguar Video Frame Connectors Continued:

System Alarm Connectors

Matrix Card Alarm Connector (MTX)

An alarm circuit has been provided in the circuitry of each of the 32X32 Video Matrix Cards. This circuit acts as a switch to trigger an optional external alarm in the event of a matrix card CPU fault or failure. The controller alarm circuit supplies a "contact" closure but does not provide a voltage to the external alarm. The alarm circuit has 10mA current limit. The Matrix Card Alarm Connector allows connection of the Matrix Card Alarm.

Power Supply Alarm Connector (PWR)

An alarm circuit has been provided in the circuitry of each of the PS130 Power Supplies. This circuit acts as a switch to trigger an optional external alarm in the event of a failure in the power supply or of the AC line source. The alarm circuit supplies a contact closure but does not provide a voltage to the external alarm and has a 10mA current limit. The Power Supply Alarm Connector allows connection of the Power Supply Alarm.

CPU Alarm Connector (CPU)

An alarm circuit has been provided in the circuitry of each of the 3300 Controller Cards installed in the Jaguar Video Frame. This circuit acts as a switch to trigger an optional external alarm in the event of a controller fault or failure. The controller alarm circuit supplies a "contact" closure but does not provide a voltage to the external alarm. The alarm circuit has 10mA current limit. The Controller Card Alarm Connector allows connection of the Controller Card Alarm.

Control (PRC) Connectors

The 9-Pin Control Connector provides for the connection of an optional external controller to the Jaguar Video Routing Switcher. The 5-Pin Control Connector provides for the connection of additional Jaguar Video Routing Switchers to form a larger switching matrix. Both of the control connectors allow for the bi-directional transmission of data.

4.4 Jaguar Video Frame Connectors Continued:

Control (PRC) Connectors Continued:

The pinout of the 9-Pin Control Connector is as follows:

PIN NO.	DESCRIPTION
1	GROUND
2	RX+ DATA
3	TX- DATA
4	GROUND
5	SPARE
6	GROUND
7	RX- DATA
8	TX+ DATA
9	GROUND

The pinout of 5-Pin Control Connector is as follows:

PIN NO.	DESCRIPTION
1	TX+ DATA
2	TX- DATA
3	GROUND
4	RX+ DATA
5	RX- DATA

For PRC communications, the user should use a direct pin-for-pin cable for interfacing between the control connectors and the peripheral equipment. DO NOT use a "NULL MODEM" cable.

Serial (CPU Link) Connectors (SERIAL 1 and SERIAL 2)

The CPU Link connectors allow serial communications between the internally installed 3300 Controllers and up to two external computers. The 3300 Controller supports asynchronous, bidirectional communications, at 9600 baud. The protocol used in communication via these ports is a proprietary protocol developed by PESA for switcher control. Be sure to use a "null modem" cable for all serial (CPU link) connections. The pinout for CPU link connectors is as follows:

4.4 Jaguar Video Frame Connectors Continued:

Serial (CPU Link) Connectors (SERIAL 1 and SERIAL 2) Continued:

PIN NO.	DESCRIPTION
1	CD
2	RX DATA
3	TX DATA
4	DTR
5	GROUND
6	DSR
7	RTS
8	CTS
9	N/C

RCP Panel Connectors

The RS485 panel port connectors allow the daisy-chained connection of up to 127 remote control panels to the Jaguar Video Routing Switcher. Bidirectional communications between the internally installed 3300 Controller(s) and the various models of PESA's low cost RCP control panels are sent and received over RS485 buss.

Monitor Output Connectors

The Monitor Output Connectors provide a test signal which will be utilized to monitor Jaguar Video Routing Switcher activity when a Output Monitor Card is installed in the Jaguar Frame. The test signals available are monitor output, combiner output, and a combination monitor/combiner output.

Reference (Sync) Connectors (1 and 2)

The sync connectors are used to connect an external sync signal to the Jaguar Video Routing Switcher. The sync signal may be either a color black or composite sync signal. The use of an external sync signal allows switch changes to be accurately timed in the vertical interval. The sync connectors are loop-thru connectors and must be terminated with 75 ohms if looping is not used.

Video Input Connectors

There are 64 BNC video input connectors located on the rear of a fully configured Jaguar Video Routing Switcher. These connectors allow the connection of the video sources to the Jaguar Video Routing Switcher. The video input connectors are internally terminated into 75 ohms.

4.4 Jaguar Video Frame Connectors Continued:

Video Output Connectors

There are 64 BNC dual video outputs (for a total of 128 BNC output connectors) located on the rear of a fully configured Jaguar Video Routing Switcher. These connectors allow the connection of the video destinations to the Jaguar Video Routing Switcher. The unused connectors must be terminated with 75 ohms.

4.5 Jaguar Audio Frame Connectors

The following manual subsections discuss the various system connectors found on the rear of a fully configured Jaguar Audio Routing Switcher. Refer to Figure 4-4 for a visual reference of Jaguar Audio Frame's rear panel.

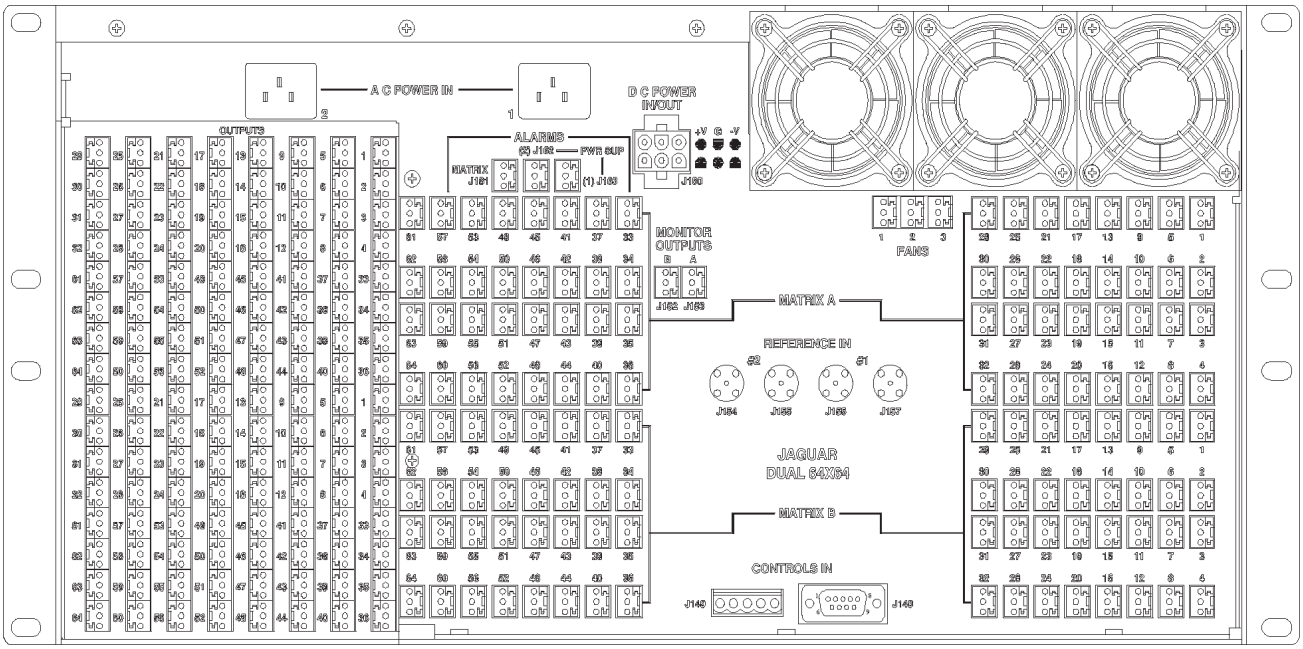


Figure 4-4 Jaguar Audio Frame Rear Panel

DC Power In/Out Connector

Power can be supplied to the Jaguar Audio Routing Switcher by the use of an externally mounted power supply or by the use of internal PS130 Power Supplies. The DC Power In/Out Connector can be used as DC power input (external power supply) or as DC power output (internal power supplies) to allow the Jaguar Audio Routing Switcher to power additional equipment items.

4.5 Jaguar Audio Frame Connectors Continued:

Fan Connectors

The fan connectors provide DC power to the Jaguar Audio Routing Switcher's chassis fans.

AC Power Connectors

The AC Power Connector enables the connection of the AC line to the Jaguar Audio Routing Switcher. The AC line input voltage can be from 100 - 240 VAC and the AC line frequency range can be from 47 - 63 Hz.

System Alarm Connectors

Matrix Card Alarm Connector (MATRIX)

An alarm circuit has been provided in the circuitry of each of the 64X32 Audio Matrix Cards. This circuit acts as a switch to trigger an optional external alarm in the event of a matrix card CPU fault or failure. The controller alarm circuit supplies a "contact" closure but does not provide a voltage to the external alarm. The alarm circuit has 10mA current limit. The Matrix Card Alarm Connector allows connection of the Matrix Card Alarm.

Power Supply Alarm Connectors (PWR)

An alarm circuit has been provided in the circuitry of each of the PS130 Power Supplies. This circuit acts as a switch to trigger an optional external alarm in the event of a failure in the power supply or of the AC line source. The alarm circuit supplies a contact closure but does not provide a voltage to the external alarm and has a 10mA current limit. The Power Supply Alarm Connectors allow connection of the Power Supply Alarms.

Control (PRC) Connectors (CONTROLS IN)

The 9-Pin Control Connector provides for the connection of an optional external controller to the Jaguar Audio Routing Switcher. The 5-Pin Control Connector provides for the connection of additional Jaguar Audio Routing Switchers to form a larger switching matrix. Both of the control connectors allow for the bi-directional transmission of data.

4.5 Jaguar Audio Frame Connectors Continued:

Control (PRC) Connectors (CONTROLS IN) Continued:

The pinout of the 9-Pin Control Connector is as follows:

PIN NO.	DESCRIPTION
1	GROUND
2	RX+ DATA
3	TX- DATA
4	GROUND
5	SPARE
6	GROUND
7	RX- DATA
8	TX+ DATA
9	GROUND

The pinout of 5-Pin Control Connector is as follows:

PIN NO.	DESCRIPTION
1	TX+ DATA
2	TX- DATA
3	GROUND
4	RX+ DATA
5	RX- DATA

For PRC communications, the user should use a direct pin-for-pin cable for interfacing between the control connectors and the peripheral equipment. DO NOT use a "NULL MODEM" cable.

Monitor Output Connectors

The Monitor Output Connectors provide a test signal which will be utilized to monitor Jaguar Audio Routing Switcher activity when an optional monitor card and output combiner cards are installed in the Jaguar Frame.

Reference (Sync) Connectors (1 and 2)

The sync connectors are used to connect an external sync signal to the Jaguar Audio Routing Switcher. The sync signal may be either a color black or composite sync signal. The use of an external sync signal allows switch changes to be accurately timed in the vertical interval. The sync connectors are loop-thru connectors and must be terminated with 75 ohms if looping is not used.

4.5 Jaguar Audio Frame Connectors Continued:

Audio Input Connectors

There are 64 matrix "A" and 64 matrix "B" audio input connectors located on the rear of the Jaguar Audio Routing Switcher when the Jaguar Frame is configured as a 64X64 stereo routing switcher. When the Jaguar Frame is configured as a 128X64 mono routing switcher matrix "A" inputs function as inputs 1-64 and matrix "B" inputs function as inputs 65-128. These connectors allow the connection of the audio sources to the Jaguar Audio Routing Switcher.

The pinout of the audio input connectors is as follows:

PIN NO.	DESCRIPTION
1	SIGNAL +
2	SIGNAL -
3	SHIELD

Audio Output Connectors

There are 64 matrix "A" and 64 matrix "B" outputs on the rear of the Jaguar Audio Routing Switcher. These connectors allow the connection of the audio destinations to the Jaguar Audio Routing Switcher.

The pinout of the audio output connectors is as follows:

PIN NO.	DESCRIPTION
1	SIGNAL +
2	SIGNAL -
3	SHIELD

4.6 External Power Supply Isolation

External power supplies must be diode isolated from the switching system's internal power supplies. 1N5821 or equivalent type diodes may be used for this purpose. See Figure 4-5 for an external power supply connection guide. **NOTE:** In-line fuses should also be used to prevent damage to the switching frames.

4.6 External Power Supply Isolation Continued:

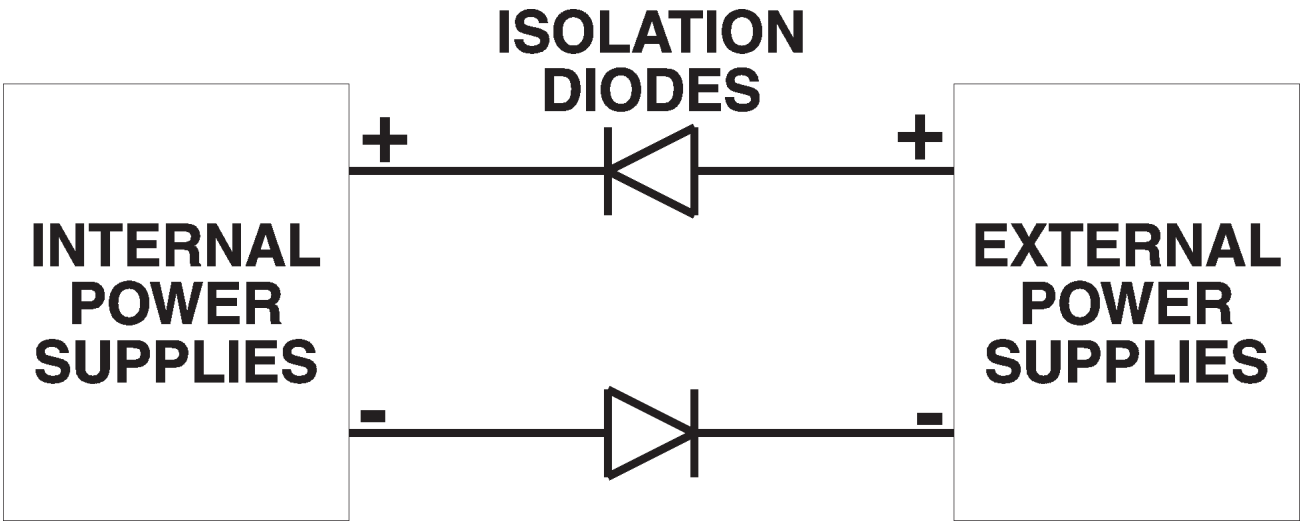


Figure 4-5 External Power Supply Isolation

4.7 Control Panel Connection

This manual section is designed to be utilized as quick reference guide to the system interconnection between the Cougar Video Frame's and the Jaguar Video Frame's panel ports and the RCP Control Panels.

The pinout for the RCP Port Connectors on the rear panel of the video frames is as follows:

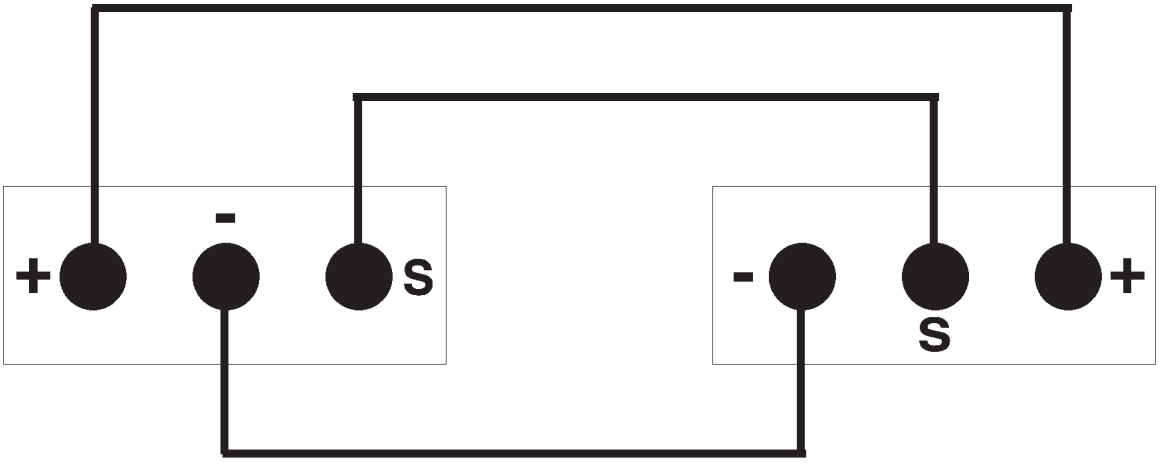
Pin 1	+DATA
Pin 2	-DATA
Pin 3	Shield

The pinout for the Control Port Connector on the rear panel of the RCP Control Panel is as follows:

Pin 1	COM A (+DATA)
Pin 2	Shield
Pin 3	COM B (-DATA)

The twisted-pair cables between the Cougar or Jaguar Video Frame RCP Port Connectors and the RCP Control Panels must be connected as shown in Figure 4-6.

4.7 Control Panel Connection Continued:



COUGAR OR JAGUAR VIDEO FRAME RCP PORT CONNECTOR

RCP CONTROL PANEL CONTROL PORT CONNECTOR

Figure 4-6 Cougar and Jaguar Video Frame and RCP Control Panel Interconnection

4.8 Cougar 32X32 System Connections

The Cougar 32X32 Switching System enables the user to switch any of 32 video inputs to any of 32 video outputs. Likewise, the Cougar 32X32 Switching System enables the user to switch any of 32 stereo audio inputs to any of 32 stereo audio outputs. Use the following guide to insure that the Cougar 32X32 Switching System interconnections are properly connected and that the all cables are correctly installed.

NOTE

Do not power-up the switching system until all connections are made. Follow the System Power-Up Procedure, Section 4.12, when powering up any Cougar or Jaguar Switching System.

Connection Guide

Be sure to keep audio, video, and power cables separated whenever possible. Use tie-wraps to provide proper support for each cable during the cabling process.

4.8 Cougar 32X32 System Connections Continued:

Connection Guide Continued:

1. Connect the Primary Control System Terminal to the Cougar Video Frame's Serial 1 Connector using a 9-pin RS232 "null modem" cable. Connect Secondary Control System Terminal (optional) to the Cougar Video Frame's Serial 2 Connector using a 9-pin RS232 "null modem" cable. Loop the Cougar Video Frame's 5-pin Control Connector to the Cougar Audio Frame's 5-pin Control Connector using a 5-pin cable. Refer to Cougar 32X32 System, Control Connections, page 4.28.

2. Connect the audio sources to the Cougar Audio Frame's matrix "A" and matrix "B" audio input connectors. Connect the Cougar Audio Frame's matrix "A" and matrix "B" audio output connectors to audio destinations. Use high-quality audio cabling for all audio data connections. Refer to Cougar 32X32 System, Data Connections, page 4.29.

3. Connect the video sources to the Cougar Video Frame's video input connectors. Connect the Cougar Video Frame's video output connectors to the video destinations. Use 75 ohm coaxial cable, such as Belden 8281, for all video connections. Refer to Cougar 32X32 System, Data Connections, page 4.29.

4. Connect the Cougar 32X32 Control System's control panels to the Cougar Video Frame's port connectors using RS485 twisted pair cables. The control panel connections to the Cougar Video Frame may be daisy-chained. The connection to the first control panel in each chain must be connected as shown in Section 4.7. Terminate the end of all control panel cable runs into 200 ohms. Refer to the Cougar 32X32 System, Control Panel Connections, page 4.30.

5. Connect the AC power cables to the PS130 Power Supply AC line input connectors on both the Cougar Audio Frame and Cougar Video Frame . **Do not** apply AC line power to the Cougar Frames until instructed to do so. Connect the external power supplies to the DC Power Input/Output Connectors. Remember to isolate the external power supplies as shown in Section 4.6. Refer to Cougar 32X32 System, Power Connections, page 4.31.

4.8 Cougar 32X32 System Connections Continued:

Connection Guide Continued:

6. Connect the sync signal to the Cougar Frames using 75 ohm coaxial cable. Remember to terminate the signal into 75 ohms. If two separate sync signals are to be utilized loop sync 1 to the Ref 1 Connectors on the Cougar Frames and loop sync 2 to the Ref 2 Connectors. Refer to Cougar 32X32 System, page 4.32.

4.9 Cougar 64X64 System Connections

The Cougar 64X64 Switching System enables the user to switch any of 64 video inputs to any of 64 video outputs. Likewise, the Cougar 64X64 Switching System enables the user to switch any of 64 stereo audio inputs to any of 64 stereo audio outputs. Use the following guide to insure that the Cougar 64X64 Switching System interconnections are properly connected and that all cables are correctly installed.

NOTE

Do not power-up the switching system until all connections are made. Follow the System Power-Up Procedure, Section 4.12, when powering up any Cougar or Jaguar Switching System.

Connection Guide

Be sure to keep audio, video, and power cables separated whenever possible. Use tie-wraps to provide proper support for each cable during the cabling process.

1. Connect the Primary Control System Terminal to the Cougar Video Frame #1's (system controller installed) Serial 1 Connector using a 9-pin RS232 "null modem" cable. Connect Secondary Control System Terminal (optional) to the Cougar Video Frame #1's Serial 2 Connector using a 9-pin RS232 "null modem" cable. Loop the Cougar Video Frame #1's 5-pin Control Connector to the Cougar Video Frame #2's 5-pin Control Connector using a 5-pin cable. Continue connecting the Cougar Frame's Control Connectors together using 5-pin cables until all of the Control Connectors on all of the Cougar Frames are interconnected. Refer to Cougar 64X64 System, Control Connections, page 4.33.

4.9 Cougar 64X64 System Connections Continued:

Connection Guide Continued:

2. Connect the audio sources 1-32 to Cougar Audio Frame #1's and Cougar Audio Frame #2's matrix "A" and matrix "B" audio input connectors. Connect the audio sources 33-64 to Cougar Audio Frame #3's and Cougar Audio Frame #4's matrix "A" and matrix "B" audio input connectors. Connect Cougar Audio Frame #1's and Cougar Audio Frame #3's matrix "A" and matrix "B" audio output connectors to audio destinations 1-32. Connect Cougar Audio Frame #2's and Cougar Audio Frame #4's matrix "A" and matrix "B" audio output connectors to audio destinations 33-64. Use high-quality audio cabling for all audio data connections. Refer to Cougar 64X64 System, Audio Data Connections, page 4.34.

3. Connect video sources 1-32 to MVDA Frame #1 and connect video sources 33-64 to MVDA Frame #2. Loop video sources 1-32 from MVDA Frame #1 to Cougar Video Frame #1's and to Cougar Video Frame #2's video input connectors. Loop video sources 33-64 from MVDA Frame #2 to Cougar Video Frame #3's and to Cougar Video Frame #4's video input connectors. Connect Cougar Video Frame #1's and Cougar Video Frame #3's video output connectors to the Summing Combiner Frame #1. Connect Cougar Video Frame #2's and Cougar Video Frame #4's to Summing Combiner Frame #2. Connect video outputs 1-32 from Summing Combiner #1 to video destinations 1-32. Connect video outputs 33-64 from Summing Combiner #2 to video destinations 33-64. Use 75 ohm coaxial cable, such as Belden 8281, for all video connections. Refer to Cougar 64X64 System, Video Data Connections, page 4.35.

4. Connect the Cougar 64X64 Control System's control panels to the Cougar Video Frame #1's (system controller installed) port connectors using RS485 twisted pair cables. The control panel connections to the Cougar Video Frame may be daisy-chained. The connection to the first control panel in each chain must be connected as shown in Section 4.7. Terminate the end of all control panel cable runs into 200 ohms. Refer to the Cougar 64X64 System, Control Panel Connections, page 4.36.

4.9 Cougar 64X64 System Connections Continued:

Connection Guide Continued:

5. Connect the AC power cables to the PS130 Power Supply AC line input connectors on the Cougar Audio Frames. **Do not** apply AC line power to the Cougar Frames until instructed to do so. Connect the external power supplies to the Cougar Audio Frame's DC Power Input/ Output Connectors. Remember to isolate the external power supplies as shown in Section 4.6. Refer to Cougar 64X64 System, Audio Power Connections, page 4.37.

6. Connect the AC power cables to the PS130 Power Supply AC line input connectors on the Cougar Video Frames. Connect the Cougar Video Frame #1's DC Power Connector to MVDA Frame #1's Power Connector. Connect the Cougar Video Frame #2's DC Power Connector to Video Combiner Frame #1's DC Power Connector. Connect Cougar Video Frame #3's DC Power Connector to MVDA Frame #2's DC Power Connector. Connect Cougar Video Frame #4's DC Power Connector to Video Combiner Frame #2's DC Power Connector. Refer to Cougar 64X64 System, Video Power Connections, page 4.38.

7. Connect the sync signal to the Cougar Frames using 75 ohm coaxial cable. Remember to terminate the signal into 75 ohms. If two separate sync signals are to be utilized loop sync 1 to the Ref 1 Connectors on the Cougar Frames and loop sync 2 to the Ref 2 Connectors. Refer to Cougar 64X64 System, page 4.39.

4.10 Jaguar 64X64 System Connections

The Jaguar 64X64 Switching System enables the user to switch any of 64 video inputs to any of 64 video outputs. Likewise, the Jaguar 64X64 Switching System enables the user to switch any of 64 stereo audio inputs to any of 64 stereo audio outputs. Use the following guide to insure that the Jaguar 64X64 Switching System interconnections are properly connected and that the all cables are correctly installed.

NOTE

Do not power-up the switching system until all connections are made. Follow the System Power-Up Procedure, Section 4.12, when powering up any Cougar or Jaguar Switching System.

4.10 Jaguar 64X64 System Connections Continued:

Connection Guide

Be sure to keep audio, video, and power cables separated whenever possible. Use tie-wraps to provide proper support for each cable during the cabling process.

1. Connect the Primary Control System Terminal to the Jaguar Video Frame's Serial 1 Connector using a 9-pin RS232 "null modem" cable. Connect Secondary Control System Terminal (optional) to the Jaguar Video Frame's Serial 2 Connector using a 9-pin RS232 "null modem" cable. Loop the Jaguar Video Frame's 5-pin Control Connector to the Jaguar Audio Frame's 5-pin Control Connector using a 5-pin cable. Refer to Jaguar 64X64 System , Control Connections, page 4.40.

2. Connect the audio sources to the Jaguar Audio Frame's matrix "A" and matrix "B" audio input connectors. Connect the Jaguar Audio Frame's matrix "A" and matrix "B" audio output connectors to audio destinations. Use high-quality audio cabling for all audio data connections. Refer to Jaguar 64X64 System, Data Connections, page 4.41.

3. Connect the video sources to the Jaguar Video Frame's video input connectors. Connect the Jaguar Video Frame's video output connectors to the video destinations. Use 75 ohm coaxial cable, such as Belden 8281, for all video connections. Refer to Jaguar 64X64 System, Data Connections, page 4.41.

4. Connect the Jaguar 64X64 Control System's control panels to the Jaguar Video Frame's port connectors using RS485 twisted pair cables. The control panel connections to the Jaguar Video Frame may be daisy-chained. The connection to the first control panel in each chain must be connected as shown in Section 4.7. Terminate the end of all control panel cable runs into 200 ohms. Refer to the Jaguar 64X64 System, Control Panel Connections, page 4.42.

5. Connect the AC power cables to the PS130 Power Supply AC line input connectors on both the Jaguar Audio Frame and Jaguar Video Frame . **Do not** apply AC line power to the Jaguar Frames until instructed to do so. Connect the external power supplies to the DC Power Input/Output Connectors. Remember to isolate the external power supplies as shown in Section 4.6. Refer to Jaguar 64X64 System, Power Connections, page 4.43.

4.10 Jaguar 64X64 System Connections Continued:

Connection Guide Continued:

6. Connect the sync signal to the Jaguar Frames using 75 ohm coaxial cable. Remember to terminate the signal into 75 ohms. If two separate sync signals are to be utilized loop sync 1 to the Ref 1 Connectors on the Jaguar Frames and loop sync 2 to the Ref 2 Connectors. Refer to Jaguar 64X64 System, page 4.44.

4.11 Jaguar 128X128 System Connections

The Jaguar 128X128 Switching System enables the user to switch any of 128 video inputs to any of 128 video outputs. Likewise, the Jaguar 128X128 Switching System enables the user to switch any of 128 stereo audio inputs to any of 128 stereo audio outputs. Use the following guide to insure that the Jaguar 128X128 Switching System interconnections are properly connected and that the all cables are correctly installed.

NOTE

Do not power-up the switching system until all connections are made. Follow the System Power-Up Procedure, Section 4.12, when powering up any Cougar or Jaguar Switching System.

Connection Guide

Be sure to keep audio, video, and power cables separated whenever possible. Use tie-wraps to provide proper support for each cable during the cabling process.

1. Connect the Primary Control System Terminal to the Jaguar Video Frame #1's (system controller installed) Serial 1 Connector using a 9-pin RS232 "null modem" cable. Connect Secondary Control System Terminal (optional) to the Jaguar Video Frame #1's Serial 2 Connector using a 9-pin RS232 "null modem" cable. Loop the Jaguar Video Frame #1's 5-pin Control Connector to the Jaguar Video Frame #2's 5-pin Control Connector using a 5-pin cable. Continue connecting the Jaguar Frame's Control Connectors together using 5-pin cables until all of the Control Connectors on all of the Jaguar Frames are interconnected. Refer to Jaguar 128X128 System, Control Connections, page 4.45.

4.11 Jaguar 128X128 System Connections Continued:

Connection Guide Continued:

2. Connect the audio sources 1-64 to Jaguar Audio Frame #1's, Jaguar Audio Frame #2's, Jaguar Audio Frame #3"s, and Jaguar Audio Frame #4's matrix "A" audio input connectors. Connect the audio sources 65-128 to Jaguar Audio Frame #1's, Jaguar Audio Frame #2's, Jaguar Audio Frame #3"s, and Jaguar Audio Frame #4's matrix "B" audio input connectors. Connect Jaguar Audio Frame #1's and Jaguar Audio Frame #3's matrix "A" and matrix "B" audio output connectors to audio destinations 1-64. Connect Jaguar Audio Frame #2's and Jaguar Audio Frame #4's matrix "A" and matrix "B" audio output connectors to audio destinations 65-128. Use high-quality audio cabling for all audio data connections. Refer to Jaguar 128X128 System, Audio Data Connections, page 4.46.

3. Connect video sources 1-48 to MVDA Frame #1, connect video sources 49-96 to MVDA Frame #2, and connect video sources 97-128 to MVDA Frame #3. Loop video sources 1-64 from MVDA Frame #1 (outputs 1-48) and MVDA Frame #2 (outputs 1-16) to Jaguar Video Frame #1's and to Jaguar Video Frame #2's video input connectors. Loop video sources 64-128 from MVDA Frame #2 (outputs 17-48) and from MVDA Frame #3 (outputs 1-32) to Jaguar Video Frame #3's and to Jaguar Video Frame #4's video input connectors. Connect Jaguar Video Frame #1's video output connectors 1-48 and Jaguar Video Frame #3's video output connector 1-48 to the Summing Combiner Frame #1 (inputs 1-48). Connect Jaguar Video Frame #1's video output connectors 49-64 and Jaguar Video Frame #3's video output connectors 49-64 to the Summing Combiner Frame #2 (inputs 1-16). Connect Jaguar Video Frame #2's video output connectors 1-32 and Jaguar Video Frame #4's video output connectors 1-32 to Summing Combiner Frame #2 (inputs 17-48). Connect Jaguar Video Frame #2's video output connectors 33-64 and Jaguar Video Frame #4's video output connectors 33-64 to Summing Combiner Frame #3 (inputs 1-32). Connect video outputs 1-48 from Summing Combiner #1 to video destinations 1-48. Connect video outputs 49-96 from Summing Combiner #2 to video destinations 49-96. Connect video outputs 97-128 from Summing Combiner #3. Use 75 ohm coaxial cable, such as Belden 8281, for all video connections. Refer to Jaguar 128X128 System, Video Data Connections, page 4.47.

4.11 Jaguar 128X128 System Connections Continued:

Connection Guide Continued:

4. Connect the Jaguar 128X128 Control System's control panels to the Jaguar Video Frame #1's (system controller installed) port connectors using RS485 twisted pair cables. The control panel connections to the Jaguar Video Frame may be daisy-chained. The connection to the first control panel in each chain must be connected as shown in Section 4.7. Terminate the end of all control panel cable runs into 200 ohms. Refer to the Jaguar 128X128 System, Control Panel Connections, page 4.48.

5. Connect the AC power cables to the AC line input connectors on the Jaguar Audio Frames. **Do not** apply AC line power to the Jaguar Frames until instructed to do so. Connect the external power supplies to the Jaguar Audio Frame's DC Power Input/Output Connectors. Remember to isolate the external power supplies as shown in Section 4.6. Refer to Jaguar 128X128 System, Audio Power Connections, page 4.49.

6. Connect the AC power cables to the AC line input connectors on the Jaguar Video Frames. Connect the Jaguar Video Frame #1's DC Power Connector to MVDA Frame #1's Power Connector. Loop DC power from MVDA Frame #1 to Video Combiner Frame #1. Connect the Jaguar Video Frame #2's DC Power Connector to MVDA Frame #2's Power Connector. Loop DC power from MVDA Frame #2 to Video Combiner Frame #2. Connect the Jaguar Video Frame #3's DC Power Connector to MVDA Frame #3's Power Connector. Loop DC power from MVDA Frame #3 to Video Combiner Frame #3. Refer to Jaguar 128X128 System, Video Power Connections, page 4.50.

7. Connect the sync signal to the Jaguar Frames using 75 ohm coaxial cable. Remember to terminate the signal into 75 ohms. If two separate sync signals are to be utilized loop sync 1 to the Ref 1 Connectors on the Jaguar Frames and loop sync 2 to the Ref 2 Connectors. Refer to Jaguar 128X128 System, page 4.51.

4.12 System Power-Up Procedure

Use the following procedure as a power-up guide for Cougar and Jaguar Switching Systems in order to bring the system in an orderly fashion.

Power-Up Guide

1. Apply power to the switching system control panels.

2. Apply power to the switching frames by connecting the AC power cables to the AC line.

3. If installed, apply power to the external power supplies.

4. Apply power to the control system computers and wait for the boot-up procedures to complete.

5. (Initial Power-Up Only) Install the Win3300 Control System according to the directions found in the Win3300 Control System Manual.

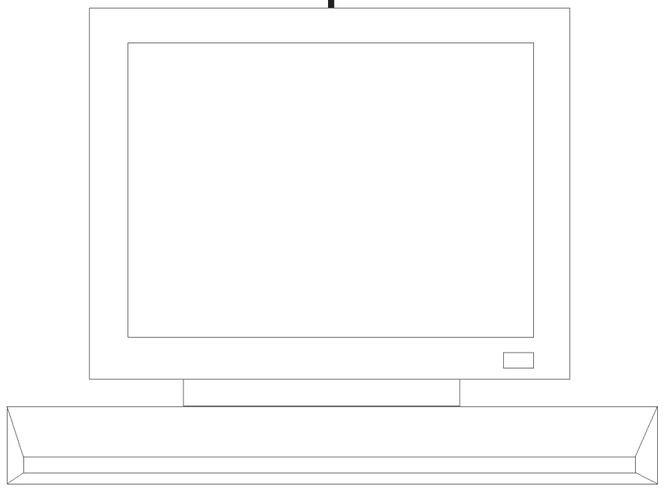
6. (Initial Power-Up Only) Configure the Win3300 Control System according to the directions found in the Win3300 Control System Manual.

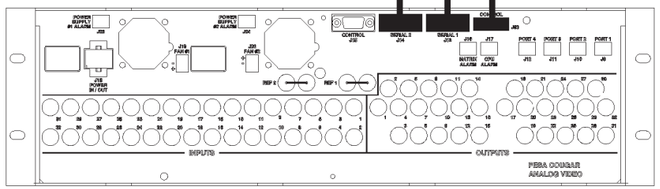
7. Download the configuration to the 3300 Controller (installed in the first video frame)

The switching system should now be ready for operation.

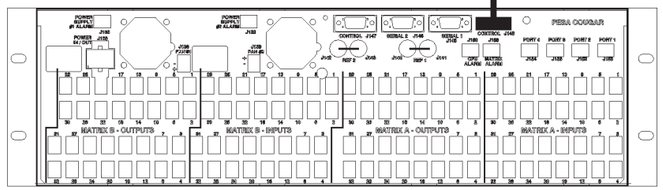
4.13 System Interconnect Drawings

PRIMARY CONTROL
SYSTEM TERMINAL





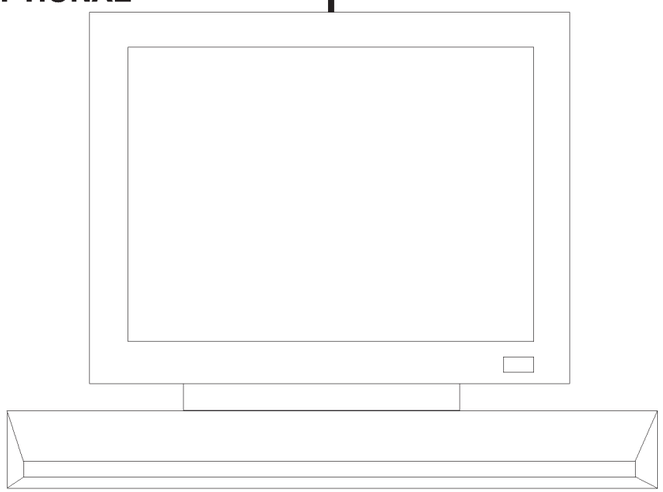
COUGAR VIDEO FRAME



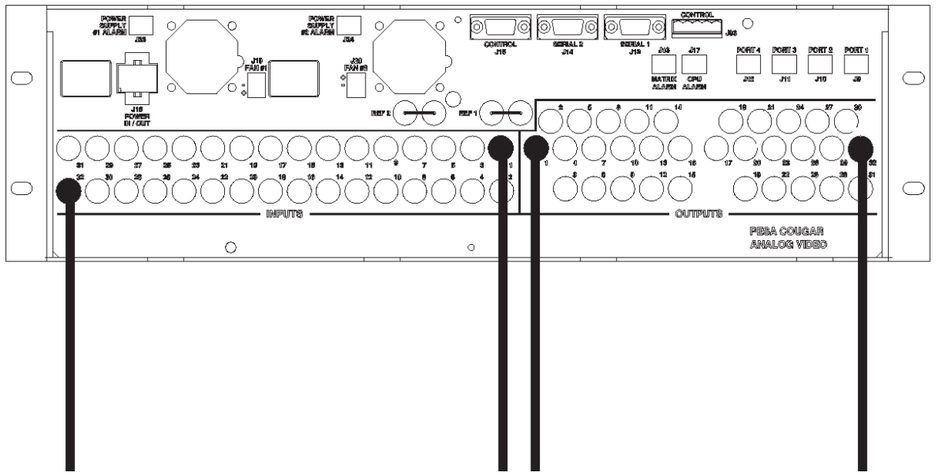
COUGAR AUDIO FRAME

SECONDARY CONTROL
SYSTEM TERMINAL

OPTIONAL



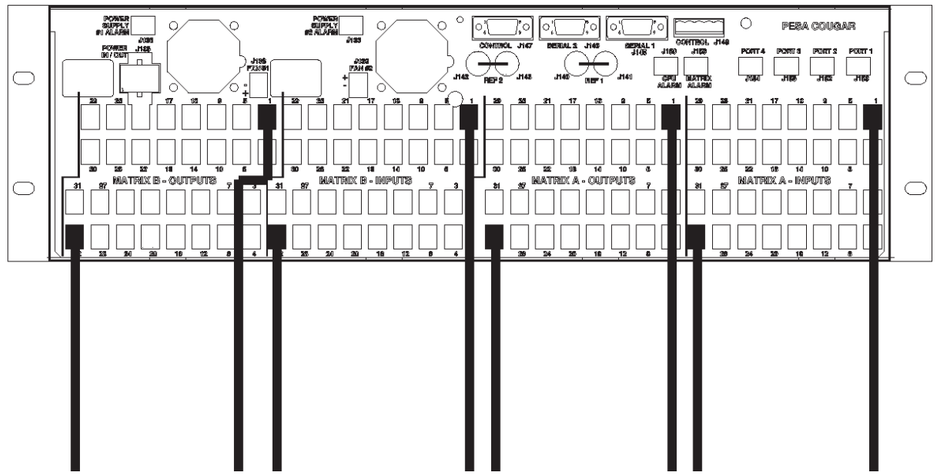
COUGAR VIDEO FRAME



VIDEO INPUTS 1-32

VIDEO OUTPUTS 1-32

COUGAR AUDIO FRAME



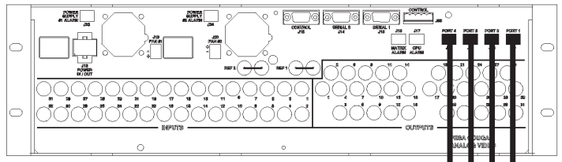
MATRIX B OUTPUTS 1-32

MATRIX B INPUTS 1-32

MATRIX A OUTPUTS 1-32

MATRIX A INPUTS 1-32

COUGAR VIDEO (CONTROLLER INSTALLED)



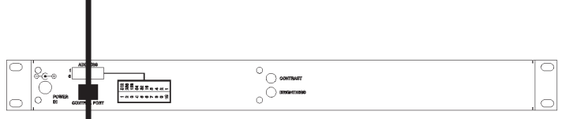
NOTE: TERMINATE ALL CONTROL PANEL RS485 CABLE RUNS INTO 200 OHMS.

TO ADDTIONAL CONTROL PANELS

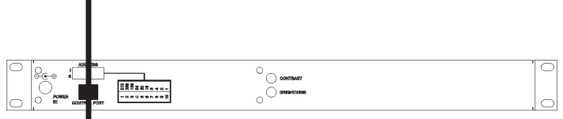
CONTROL PANEL

CONTROL PANEL

CONTROL PANEL

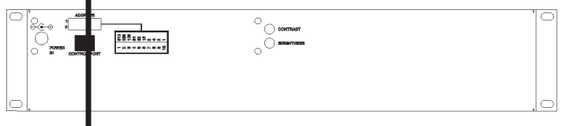


CONTROL PANEL

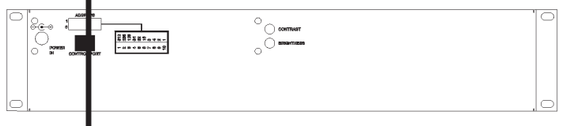


CONTROL PANEL

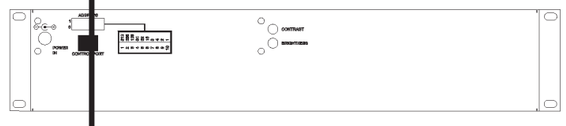
CONTROL PANEL



CONTROL PANEL



CONTROL PANEL



CONTROL PANEL

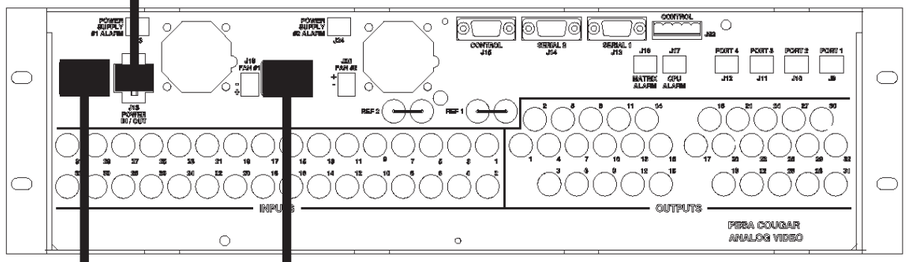
TO ADDTIONAL CONTROL PANELS

TO ADDTIONAL CONTROL PANELS

TO ADDTIONAL CONTROL PANELS

EXTERNAL DC POWER INPUT/OUTPUT

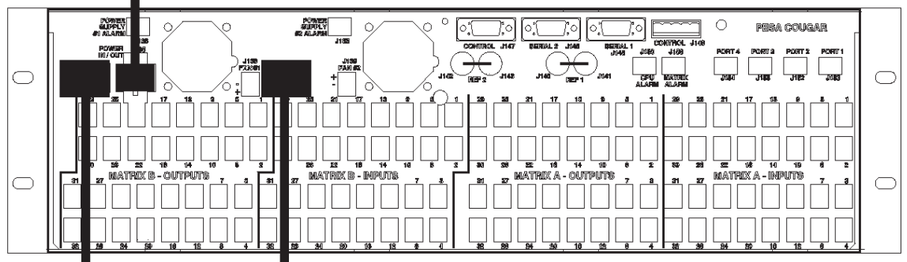
COUGAR VIDEO FRAME



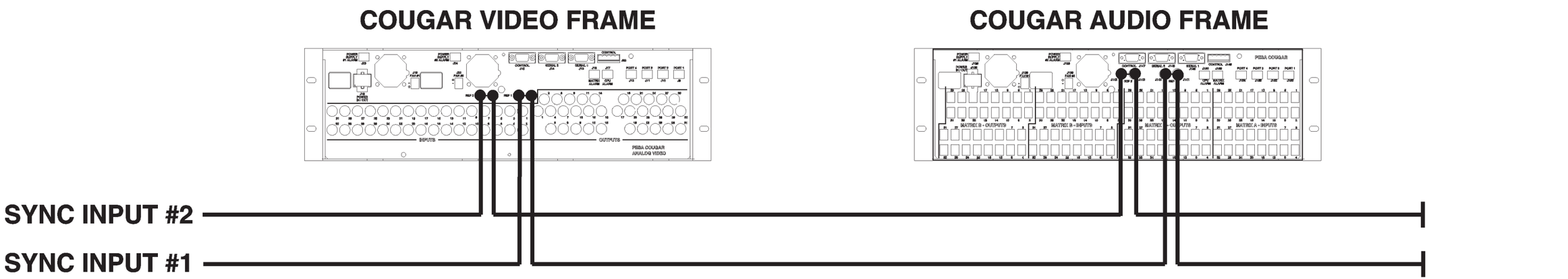
AC POWER LINE INPUTS

EXTERNAL DC POWER INPUT/OUTPUT

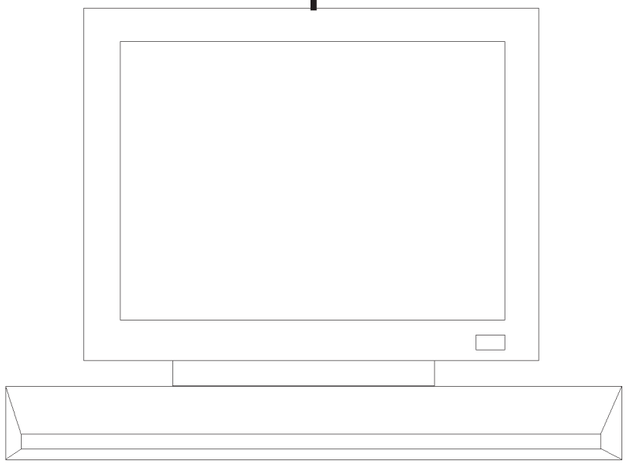
COUGAR AUDIO FRAME



AC POWER LINE INPUTS

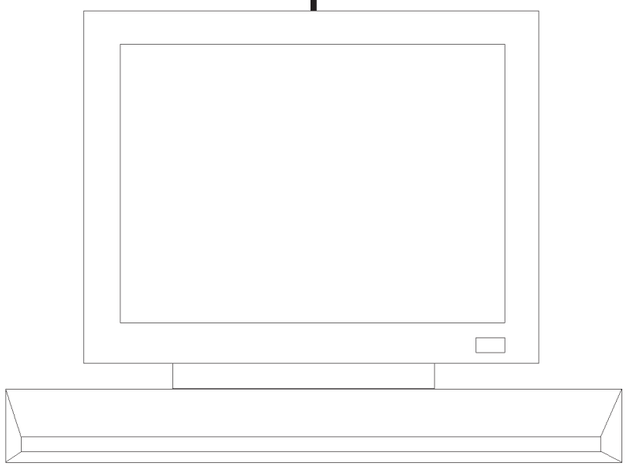

COUGAR VIDEO FRAME
COUGAR AUDIO FRAME
SYNC INPUT #2
SYNC INPUT #1
75 OHM TERMINATIONS

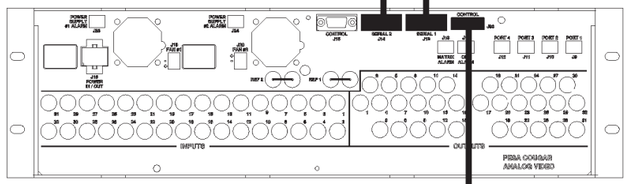
PRIMARY CONTROL SYSTEM TERMINAL



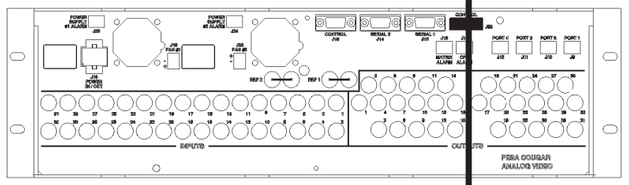
SECONDARY CONTROL SYSTEM TERMINAL

OPTIONAL

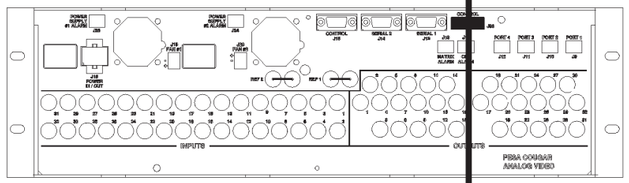




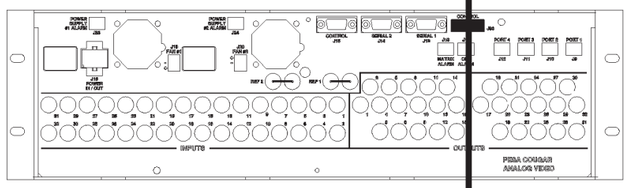
COUGAR VIDEO FRAME # 1



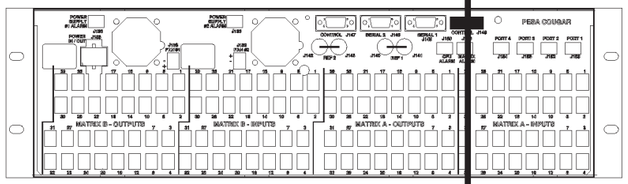
COUGAR VIDEO FRAME #2



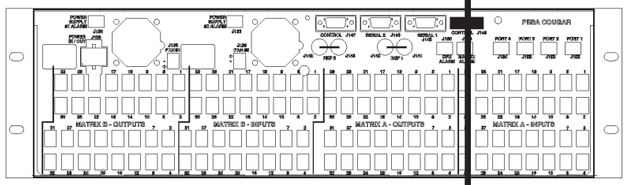
COUGAR VIDEO FRAME #3



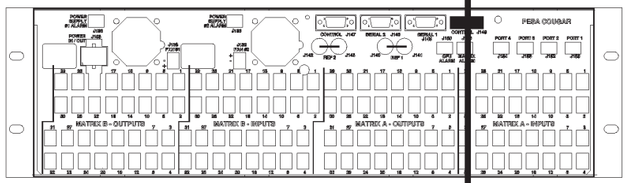
COUGAR VIDEO FRAME #4



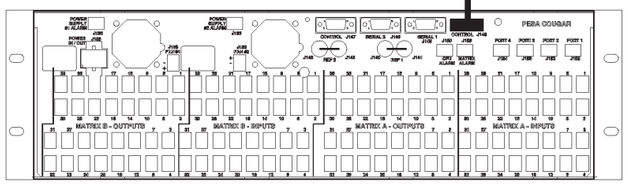
COUGAR AUDIO FRAME #1



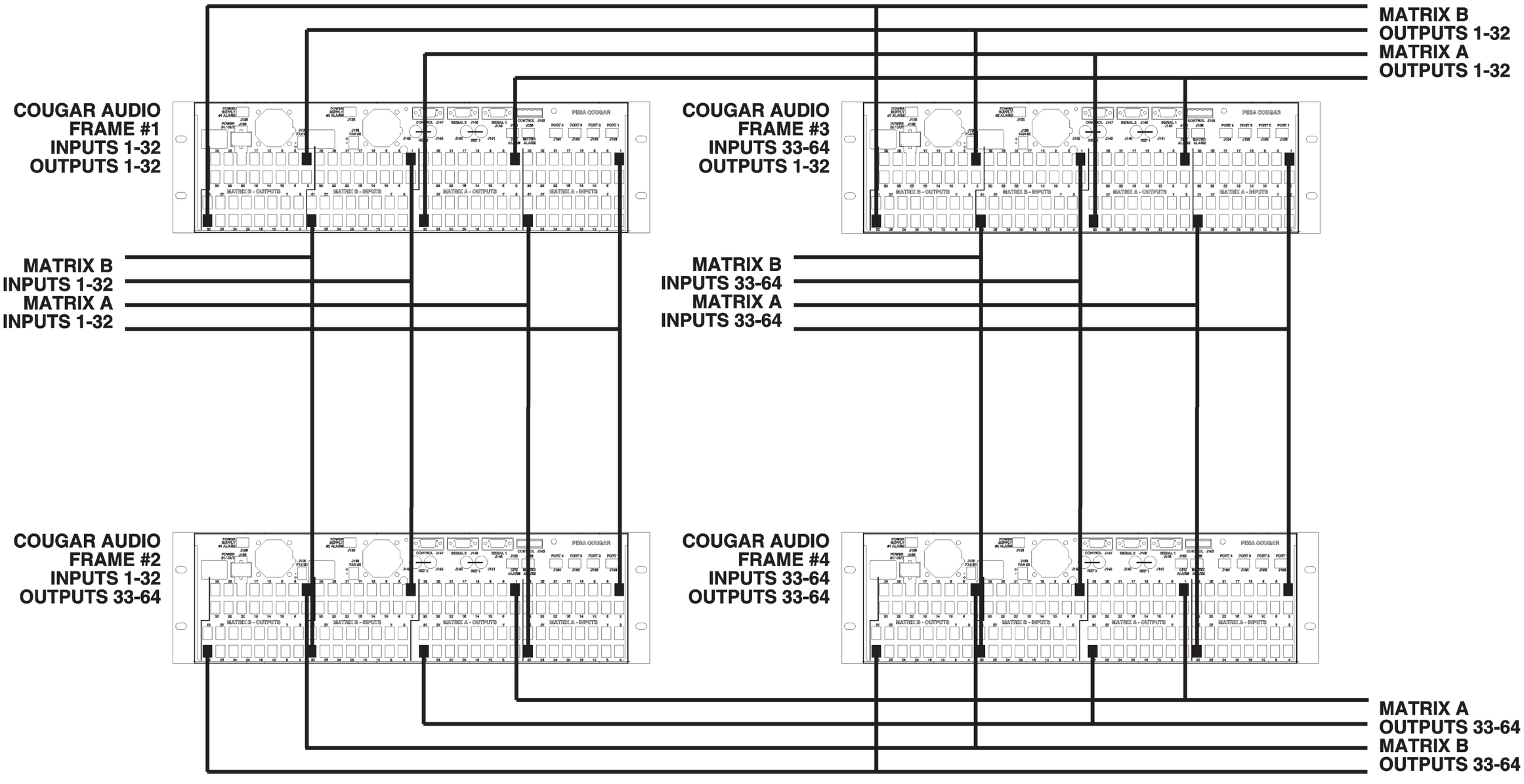
COUGAR AUDIO FRAME #2



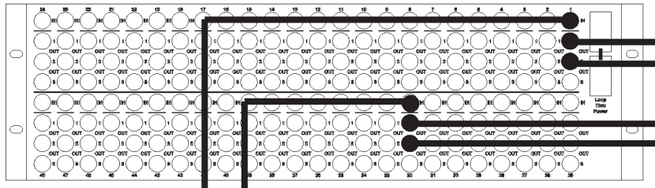
COUGAR AUDIO FRAME #3



COUGAR AUDIO FRAME #4

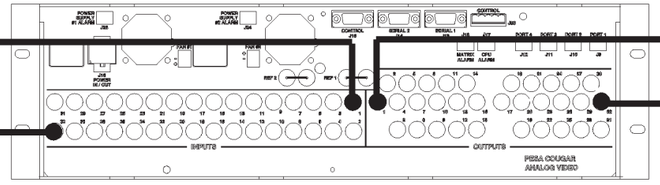

MATRIX B
OUTPUTS 1-32
MATRIX A
OUTPUTS 1-32
COUGAR AUDIO
FRAME #1
INPUTS 1-32
OUTPUTS 1-32
COUGAR AUDIO
FRAME #3
INPUTS 33-64
OUTPUTS 1-32
MATRIX B
INPUTS 1-32
MATRIX A
INPUTS 1-32
MATRIX B
INPUTS 33-64
MATRIX A
INPUTS 33-64
COUGAR AUDIO
FRAME #2
INPUTS 1-32
OUTPUTS 33-64
COUGAR AUDIO
FRAME #4
INPUTS 33-64
OUTPUTS 33-64
MATRIX A
OUTPUTS 33-64
MATRIX B
OUTPUTS 33-64

MVDA FRAME #1
INPUTS 1-32

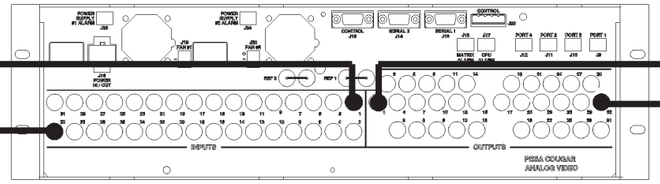


INPUTS FROM
VIDEO SOURCES

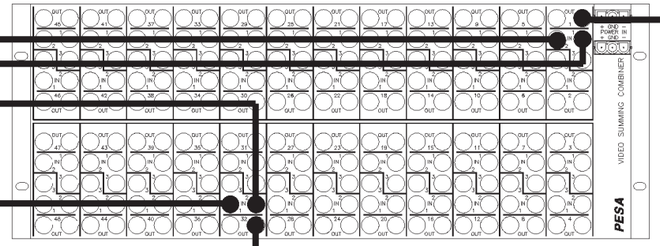
COUGAR VIDEO FRAME #1
INPUTS 1-32 OUTPUTS 1-32



COUGAR VIDEO FRAME #2
INPUTS 1-32 OUTPUTS 33-64

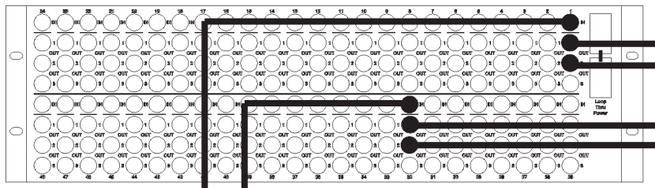


SUMMING COMBINER FRAME #1
OUTPUTS 1-32



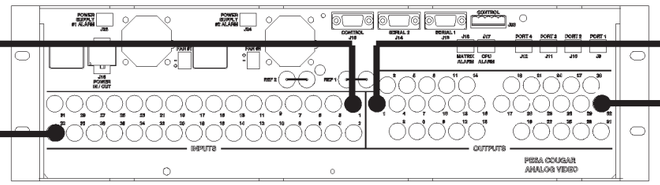
OUTPUTS TO
VIDEO DESTINATIONS

MVDA FRAME #2
INPUTS 33-64

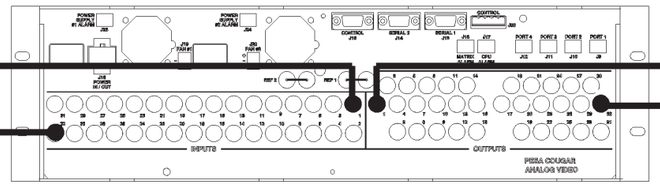


INPUTS FROM
VIDEO SOURCES

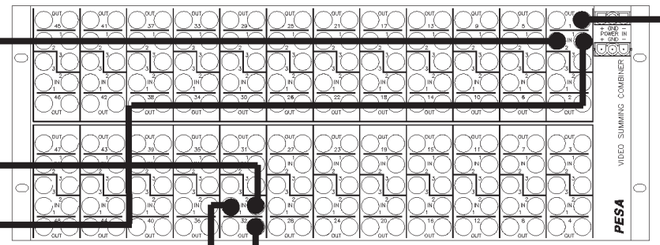
COUGAR VIDEO FRAME #3
INPUTS 33-64 OUTPUTS 1-32



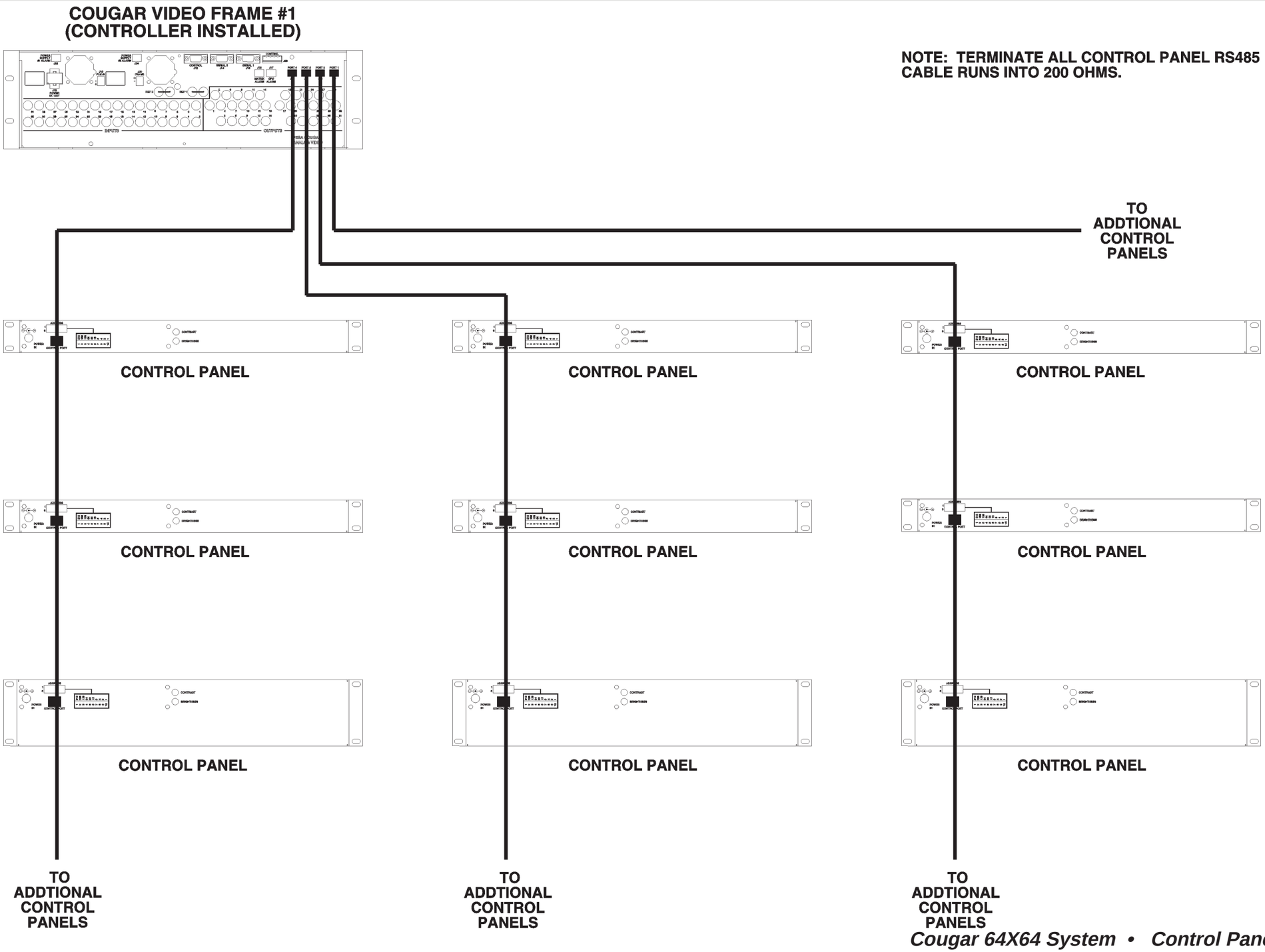
COUGAR VIDEO FRAME #4
INPUTS 33-64 OUTPUTS 33-64

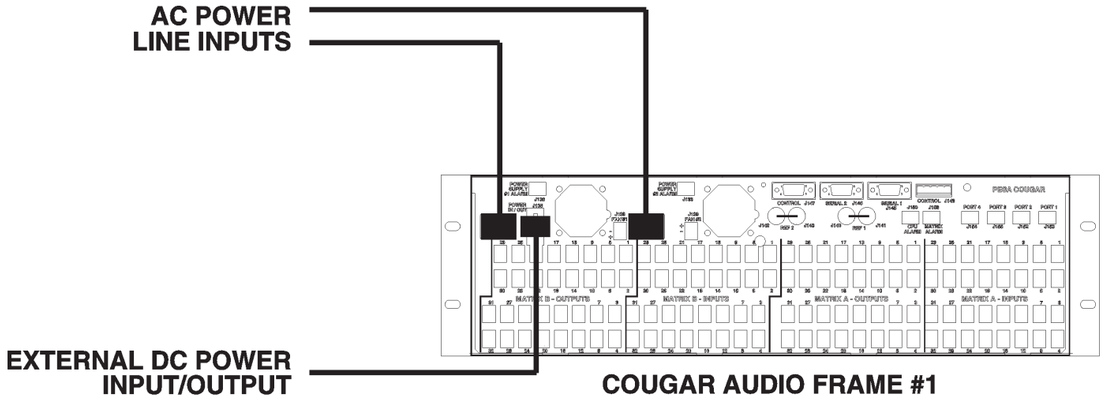


SUMMING COMBINER FRAME #2
OUTPUTS 33-64

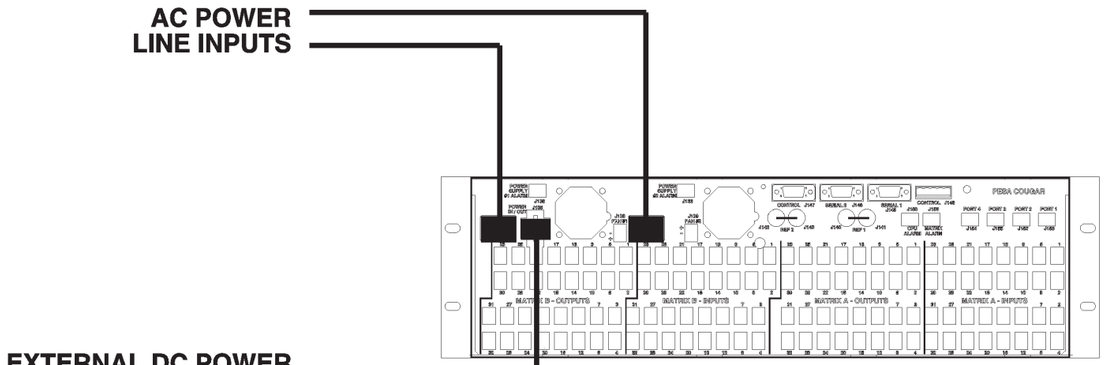


OUTPUTS TO
VIDEO DESTINATIONS

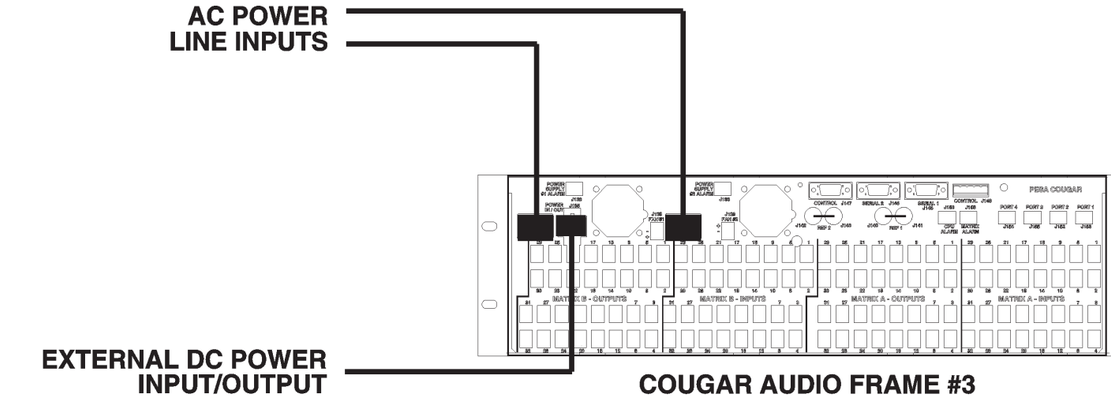

COUGAR VIDEO FRAME #1
(CONTROLLER INSTALLED)
NOTE: TERMINATE ALL CONTROL PANEL RS485 CABLE RUNS INTO 200 OHMS.
TO ADDTIONAL CONTROL PANELS
CONTROL PANEL
CONTROL PANEL
CONTROL PANEL
CONTROL PANEL
CONTROL PANEL
CONTROL PANEL
CONTROL PANEL
CONTROL PANEL
CONTROL PANEL
TO ADDTIONAL CONTROL PANELS
TO ADDTIONAL CONTROL PANELS
TO ADDTIONAL CONTROL PANELS



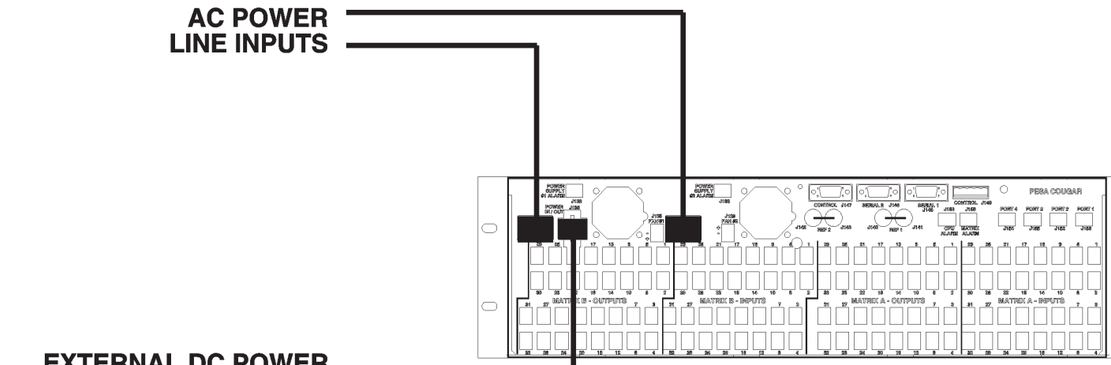
COUGAR AUDIO FRAME #1



COUGAR AUDIO FRAME #2

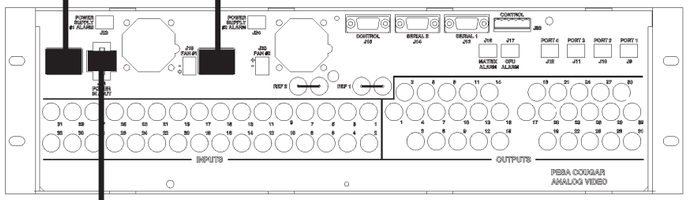


COUGAR AUDIO FRAME #3

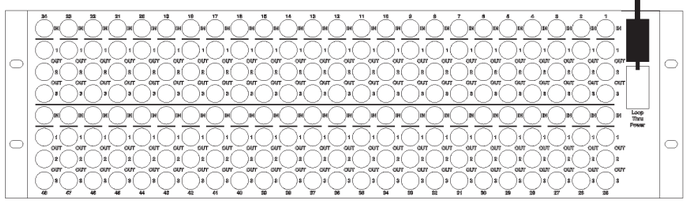


COUGAR AUDIO FRAME #4

AC POWER LINE INPUTS

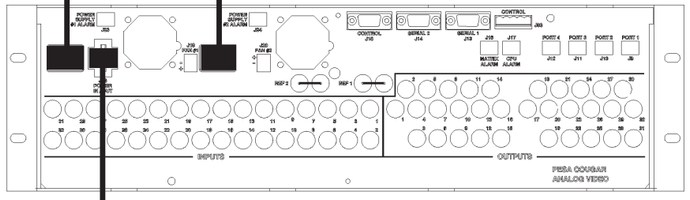


COUGAR VIDEO FRAME #1

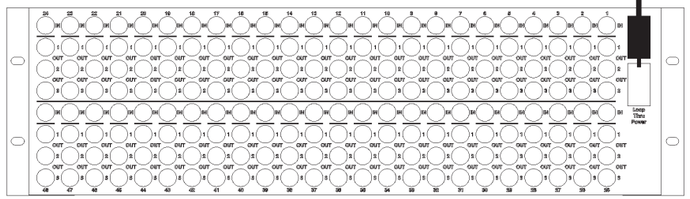


MVDA FRAME #1

AC POWER LINE INPUTS

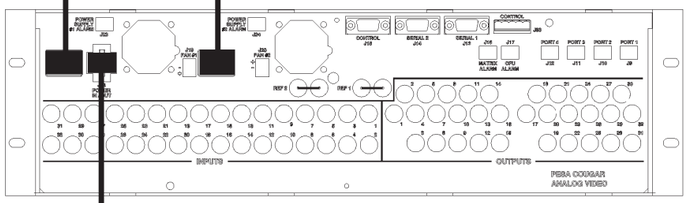


COUGAR VIDEO FRAME #3

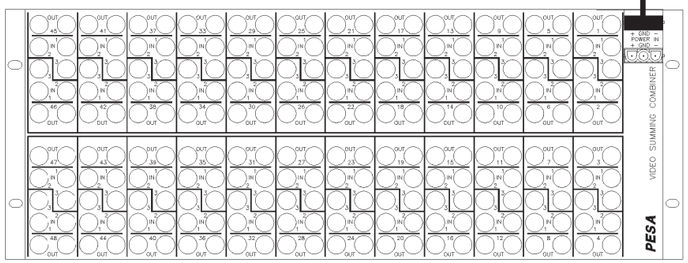


MVDA FRAME #2

AC POWER LINE INPUTS

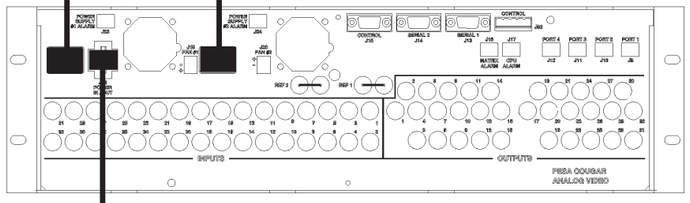


COUGAR VIDEO FRAME #2

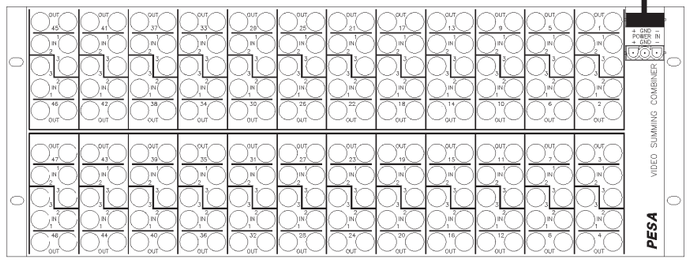


VIDEO COMBINER FRAME #1

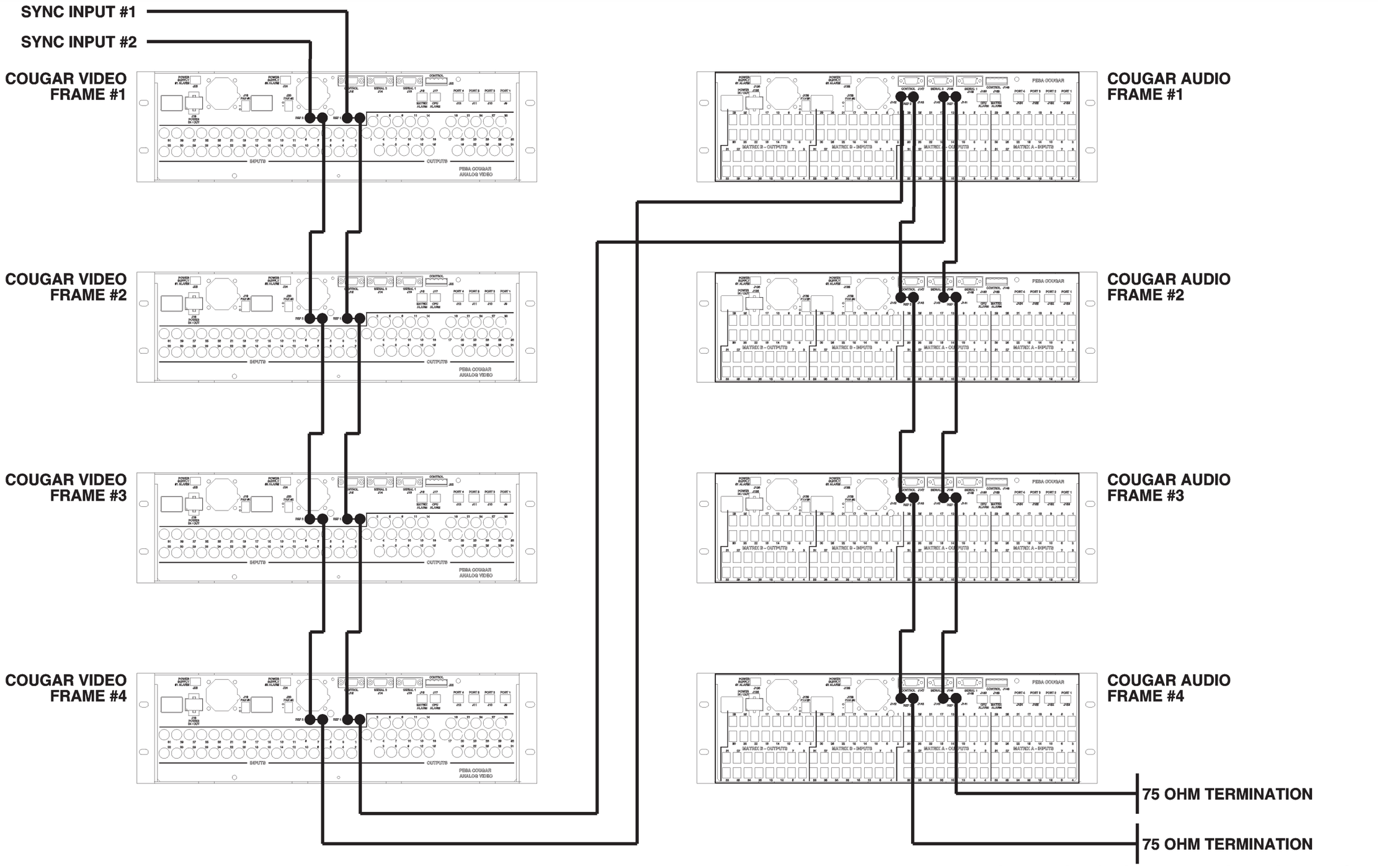
AC POWER LINE INPUTS



COUGAR VIDEO FRAME #4

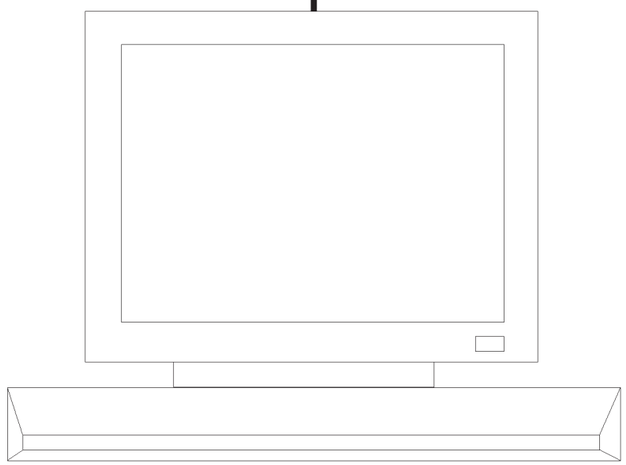


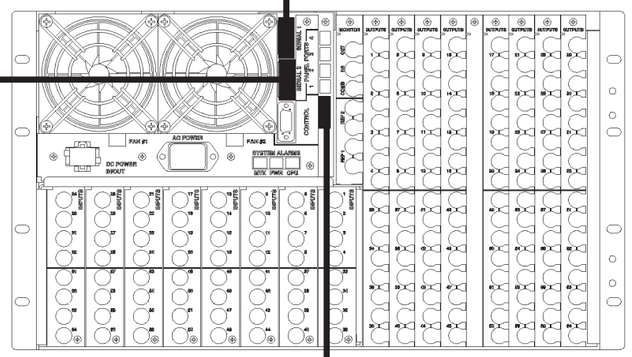
VIDEO COMBINER FRAME #2



Cougar 64X64 System • Sync Connections

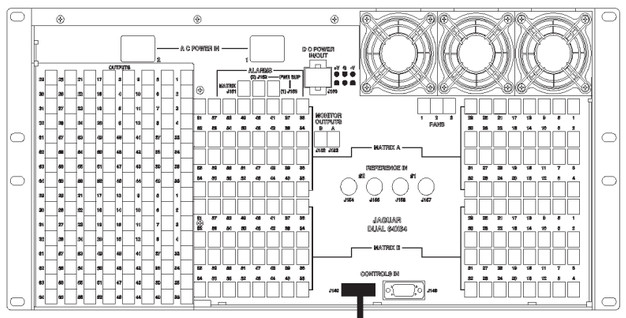
PRIMARY CONTROL SYSTEM TERMINAL





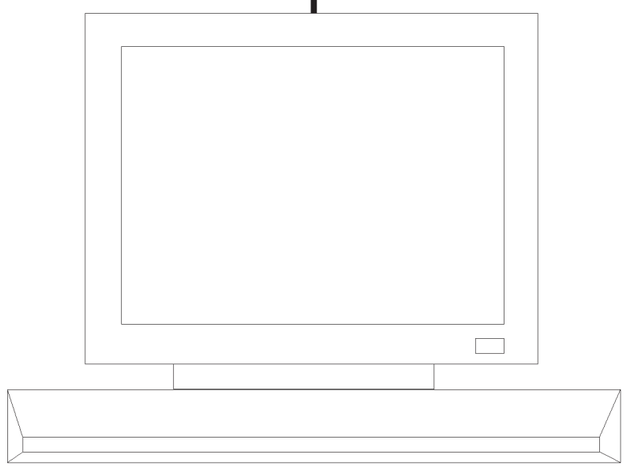
JAGUAR VIDEO FRAME

JAGUAR AUDIO FRAME

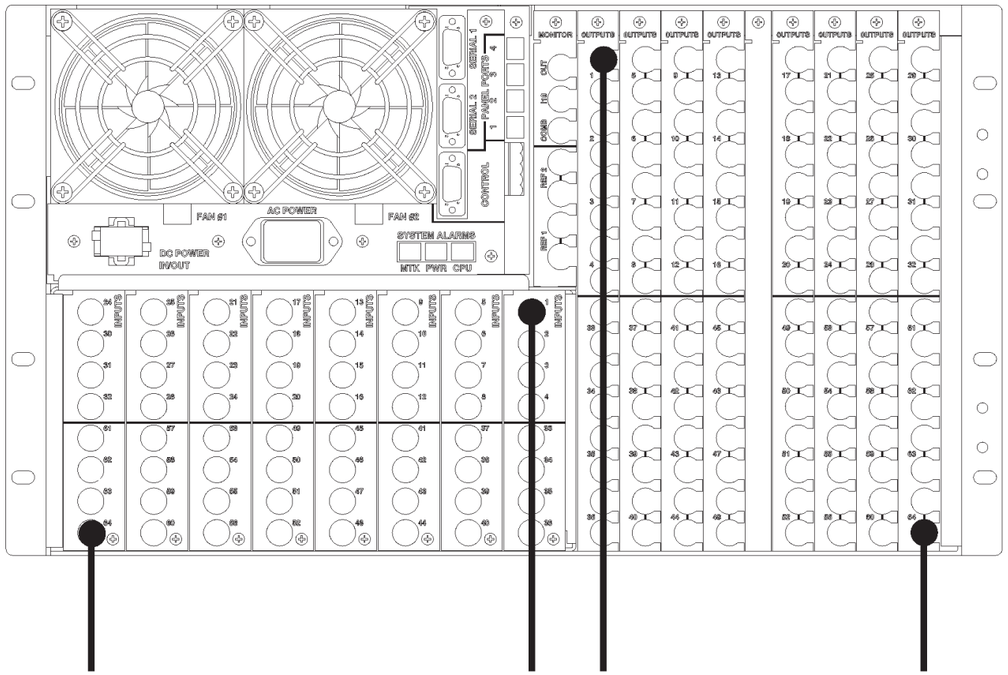


SECONDARY CONTROL SYSTEM TERMINAL

OPTIONAL



JAGUAR VIDEO FRAME

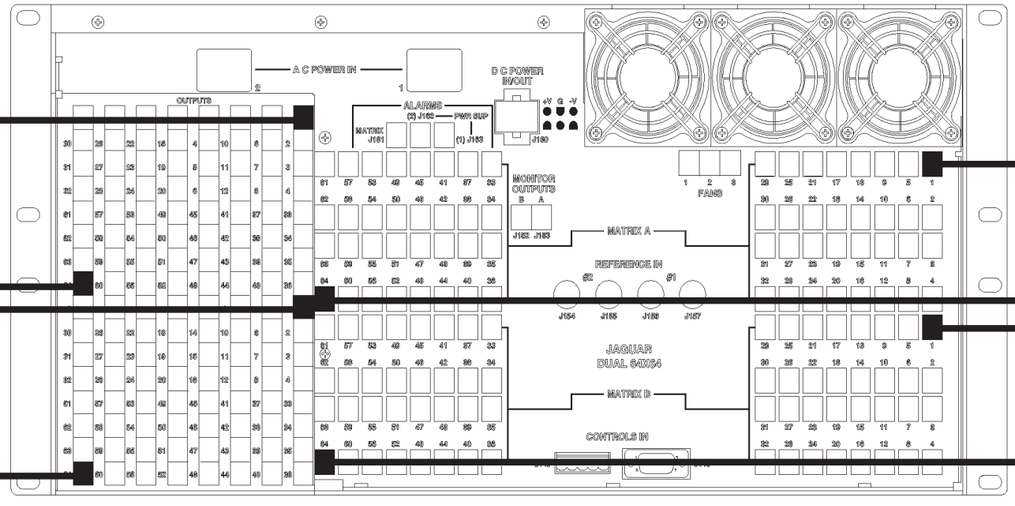


VIDEO INPUTS 1-64 VIDEO OUTPUTS 1-64

JAGUAR AUDIO FRAME

MATRIX A AUDIO OUTPUTS 1-64

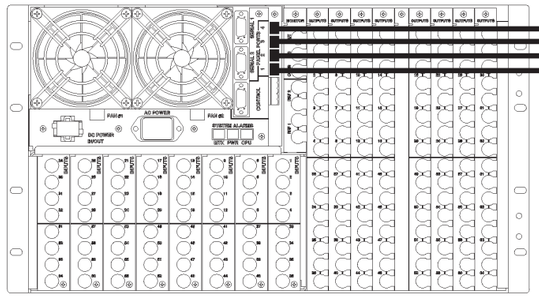
MATRIX B AUDIO OUTPUTS 1-64



MATRIX A AUDIO INPUTS 1-64

MATRIX B AUDIO INPUTS 1-64

JAGUAR VIDEO (CONTROLLER INSTALLED)



NOTE: TERMINATE ALL CONTROL PANEL RS485 CABLE RUNS INTO 200 OHMS.

TO ADDTIONAL CONTROL PANELS

CONTROL PANEL

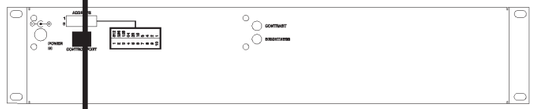
CONTROL PANEL

CONTROL PANEL

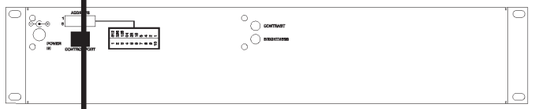
CONTROL PANEL

CONTROL PANEL

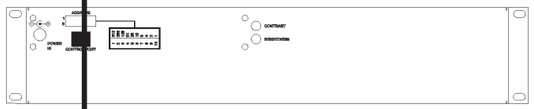
CONTROL PANEL



CONTROL PANEL



CONTROL PANEL

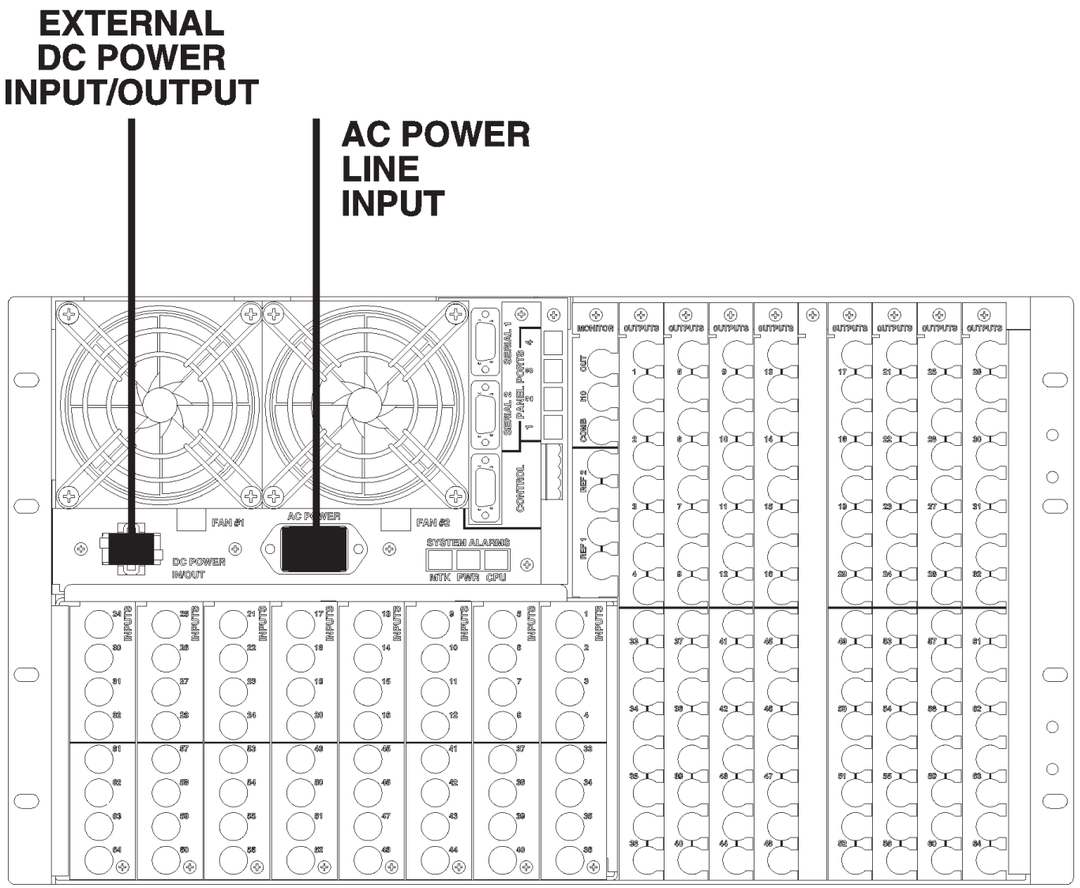


CONTROL PANEL

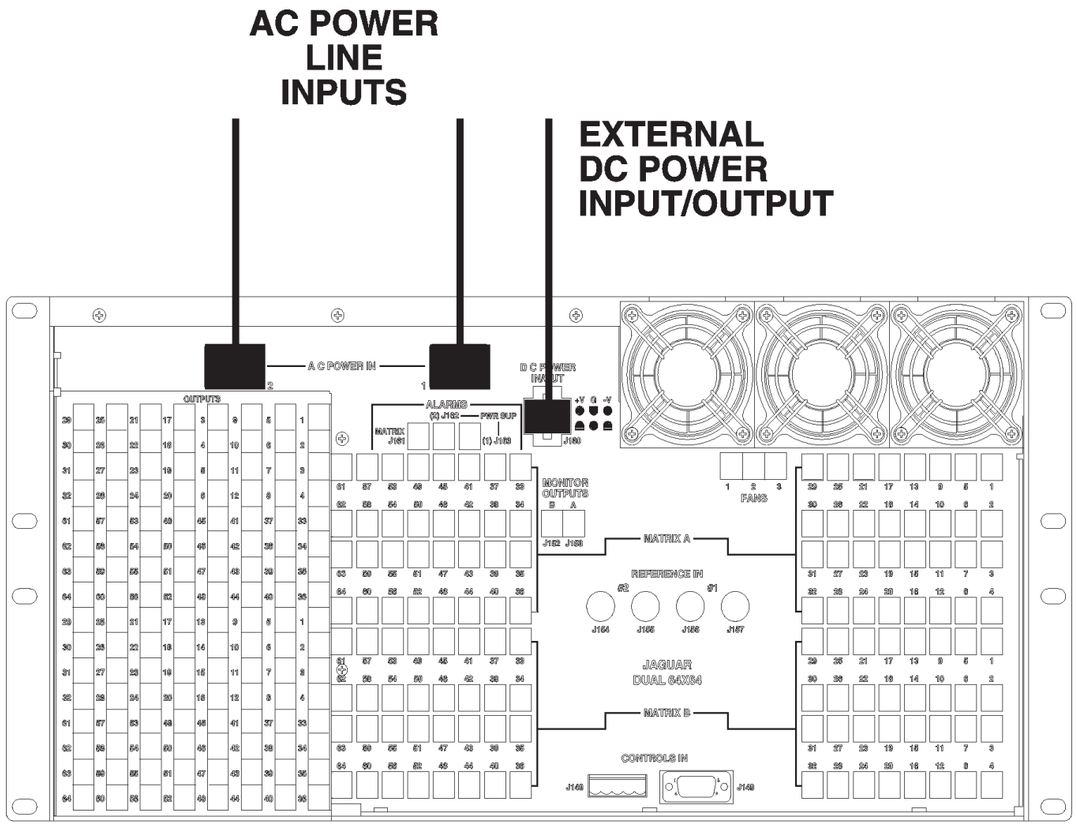
TO ADDTIONAL CONTROL PANELS

TO ADDTIONAL CONTROL PANELS

TO ADDTIONAL CONTROL PANELS

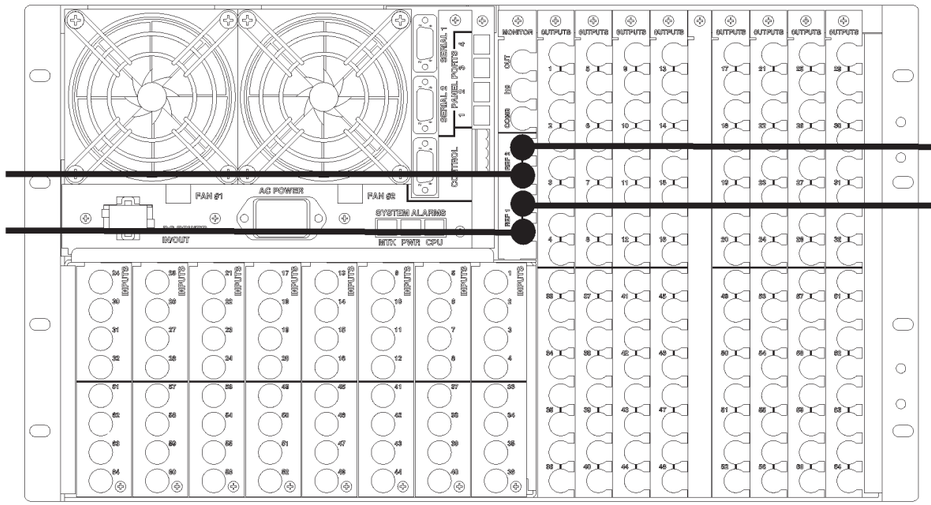


JAGUAR VIDEO FRAME

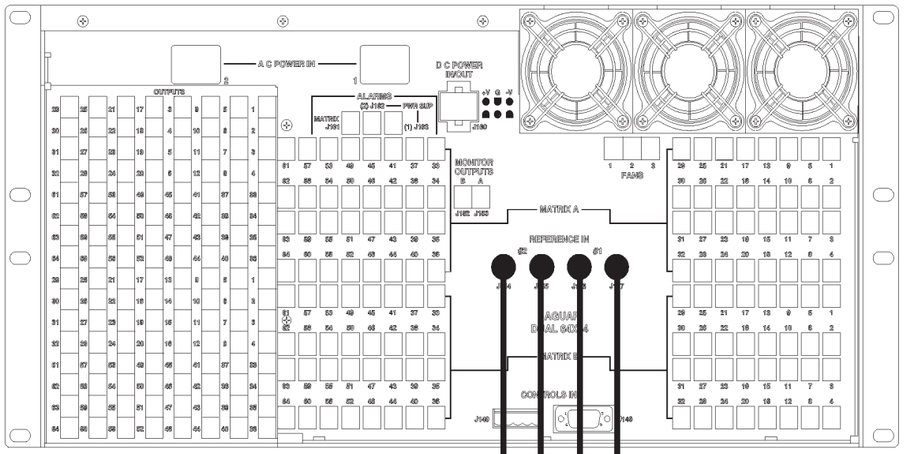


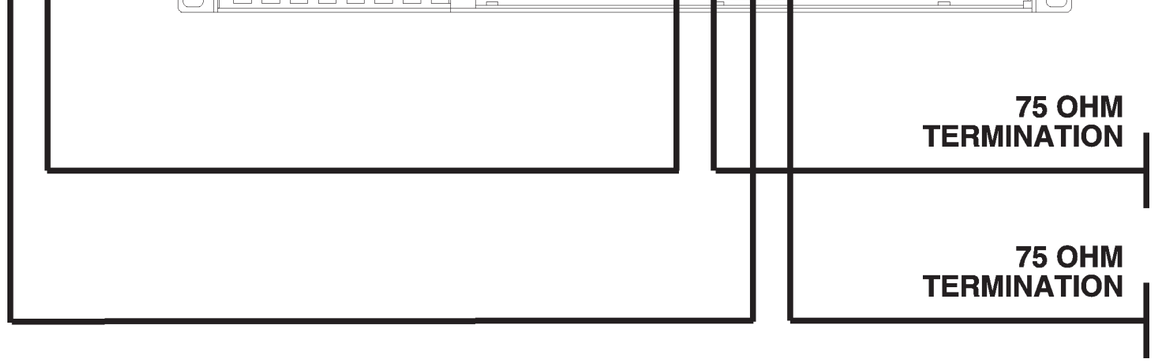
JAGUAR AUDIO FRAME

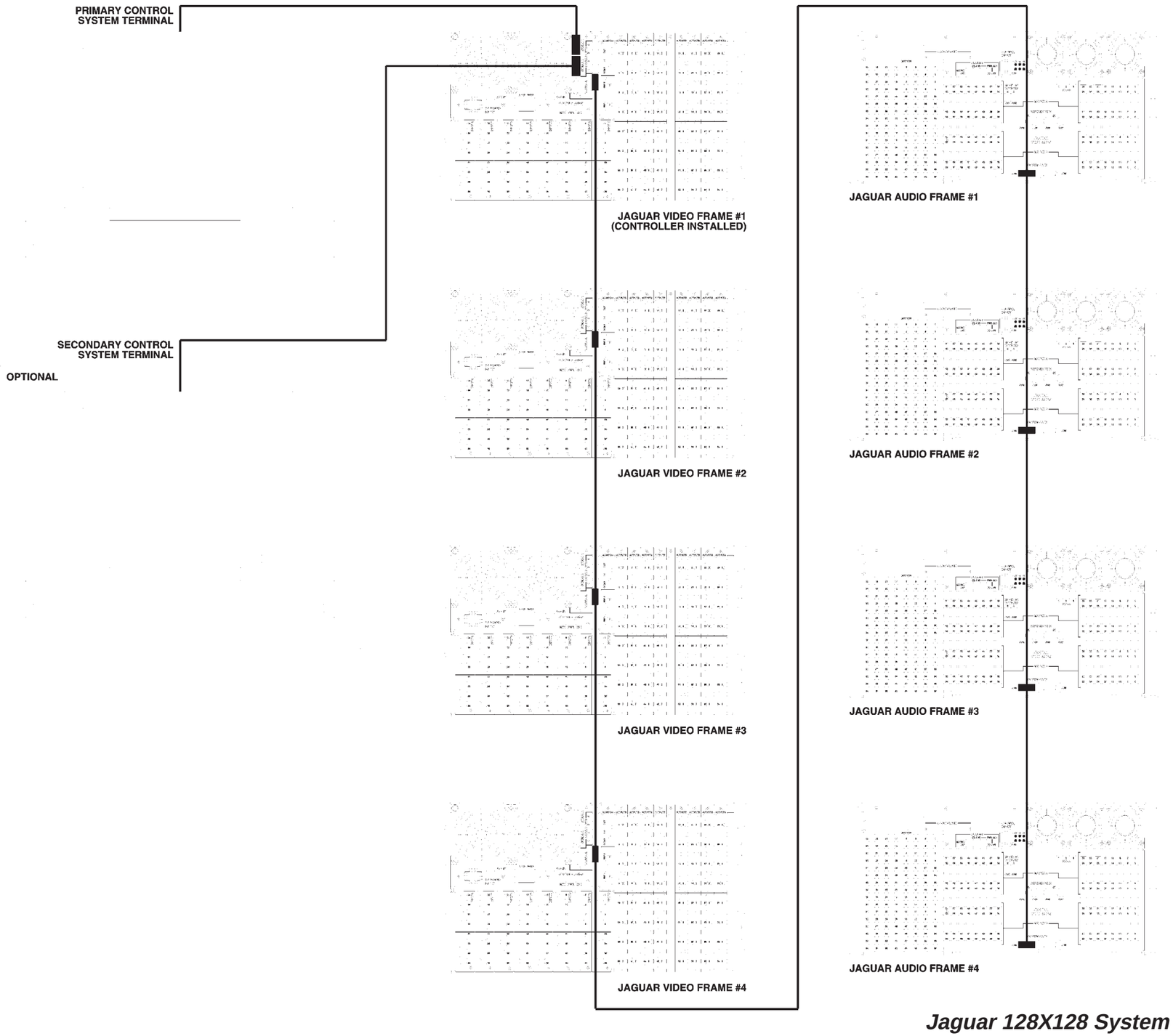
JAGUAR VIDEO FRAME



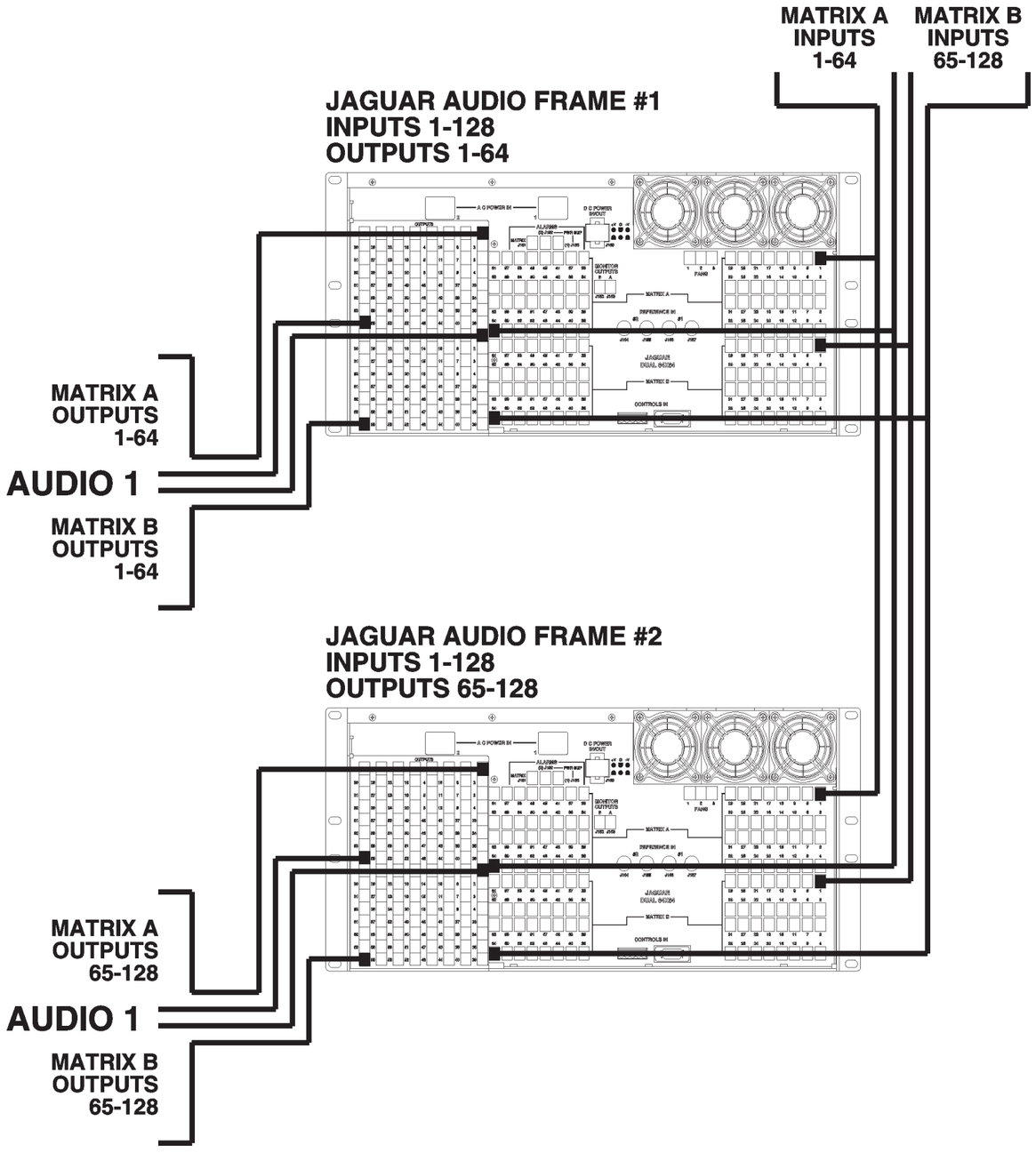
JAGUAR AUDIO FRAME



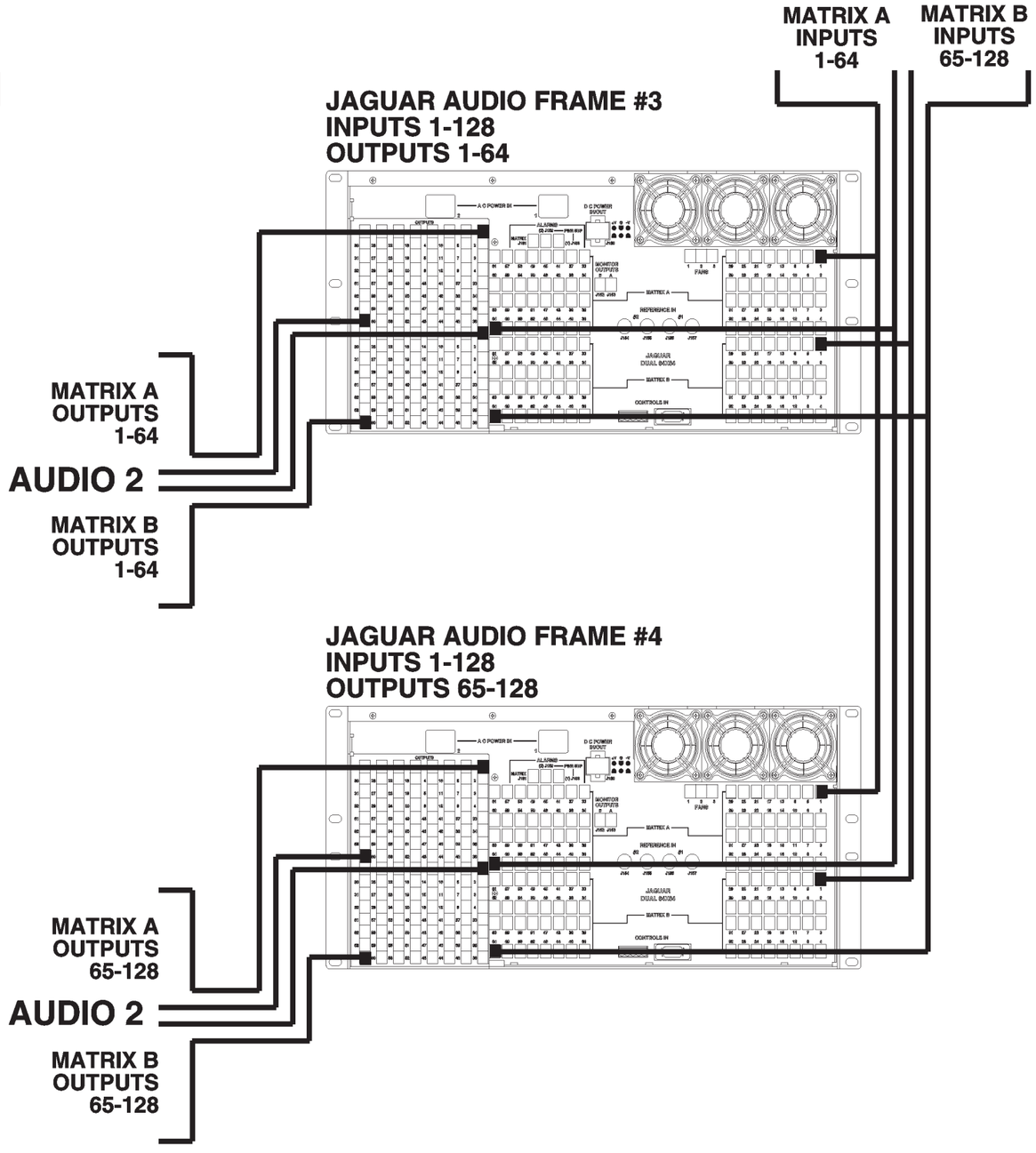


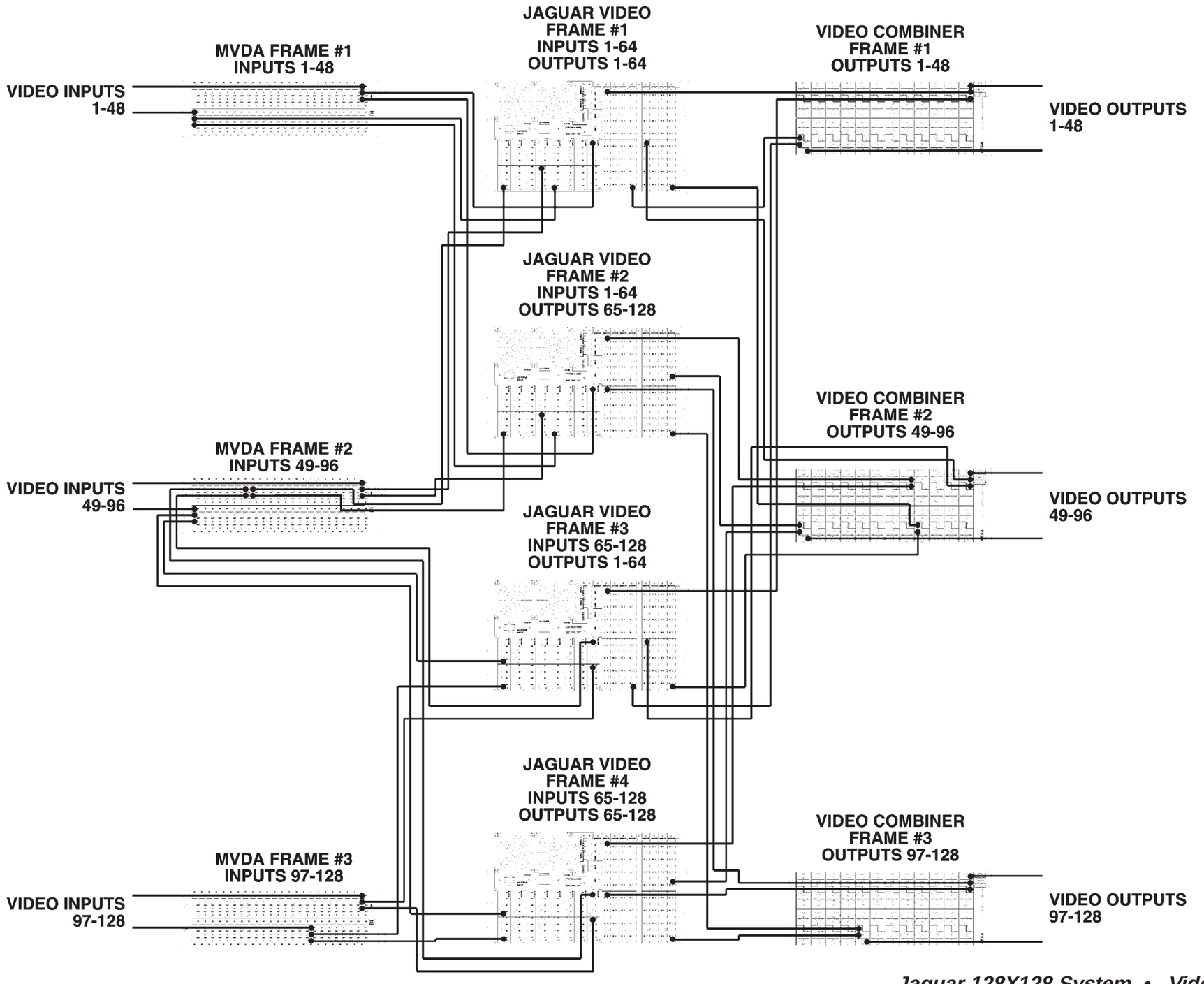

PRIMARY CONTROL SYSTEM TERMINAL
SECONDARY CONTROL SYSTEM TERMINAL
OPTIONAL
JAGUAR VIDEO FRAME #1 (CONTROLLER INSTALLED)
JAGUAR VIDEO FRAME #2
JAGUAR VIDEO FRAME #3
JAGUAR VIDEO FRAME #4
JAGUAR AUDIO FRAME #1
JAGUAR AUDIO FRAME #2
JAGUAR AUDIO FRAME #3
JAGUAR AUDIO FRAME #4

AUDIO 1

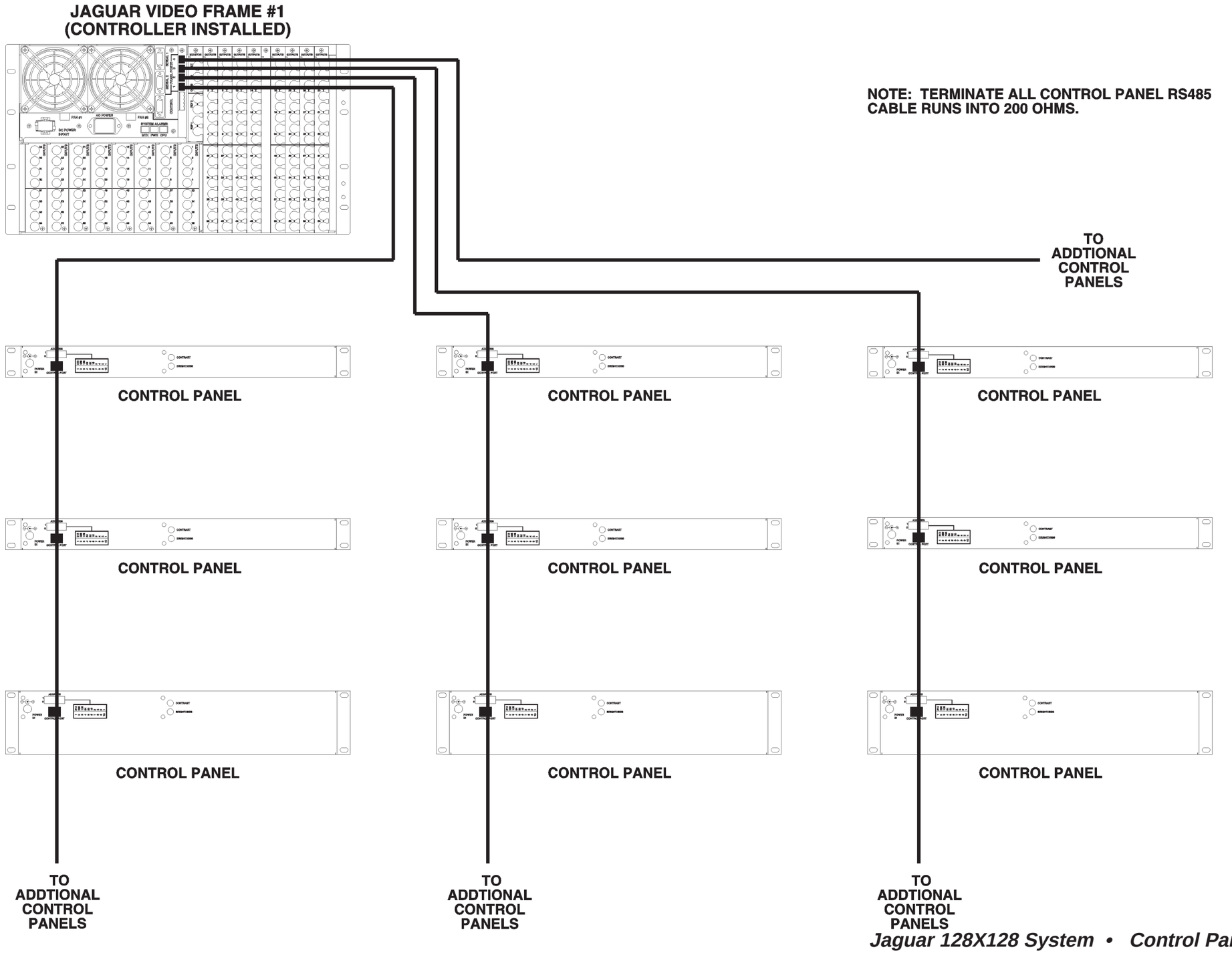


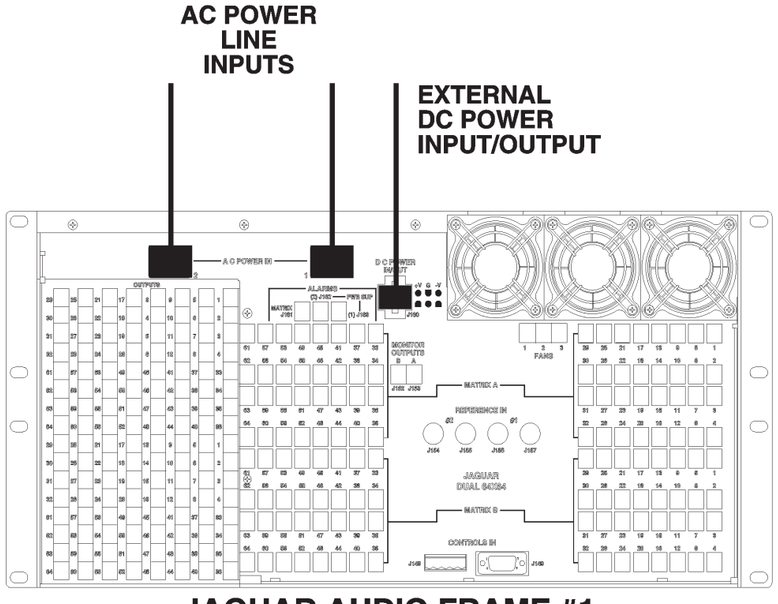
AUDIO 2



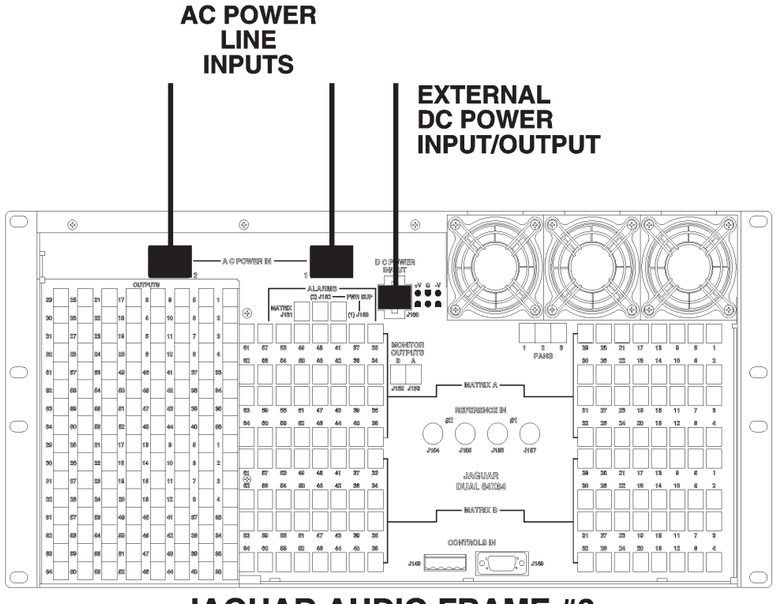


Jaguar 128X128 System • Video Data Connections

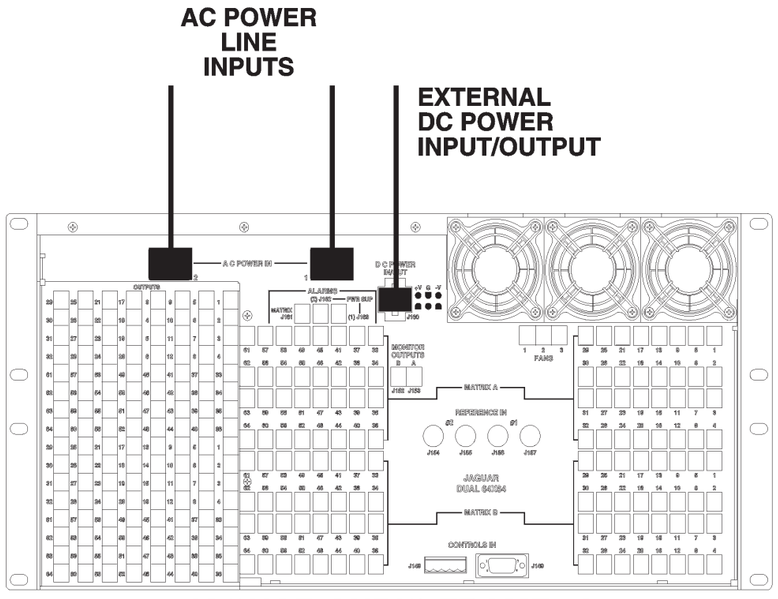

JAGUAR VIDEO FRAME #1
(CONTROLLER INSTALLED)
NOTE: TERMINATE ALL CONTROL PANEL RS485 CABLE RUNS INTO 200 OHMS.
TO ADDTIONAL CONTROL PANELS
CONTROL PANEL
CONTROL PANEL
CONTROL PANEL
CONTROL PANEL
CONTROL PANEL
CONTROL PANEL
CONTROL PANEL
CONTROL PANEL
CONTROL PANEL
TO ADDTIONAL CONTROL PANELS
TO ADDTIONAL CONTROL PANELS
TO ADDTIONAL CONTROL PANELS



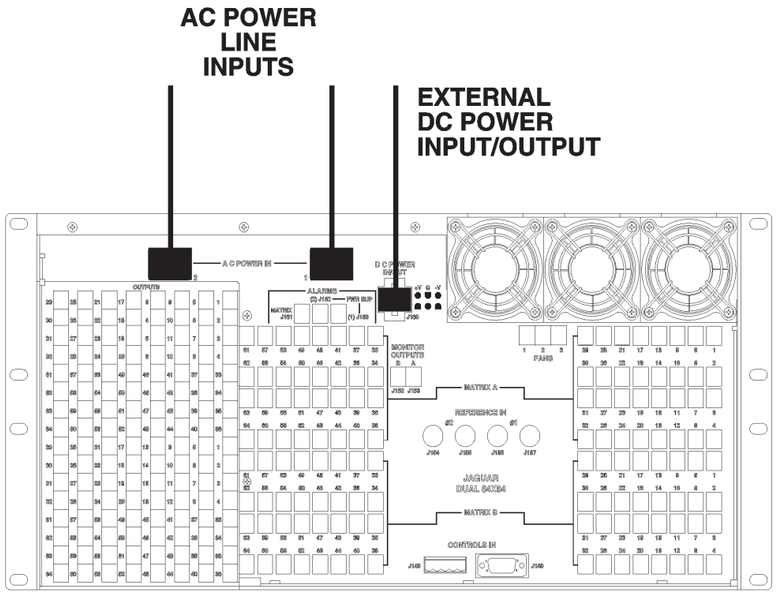
JAGUAR AUDIO FRAME #1



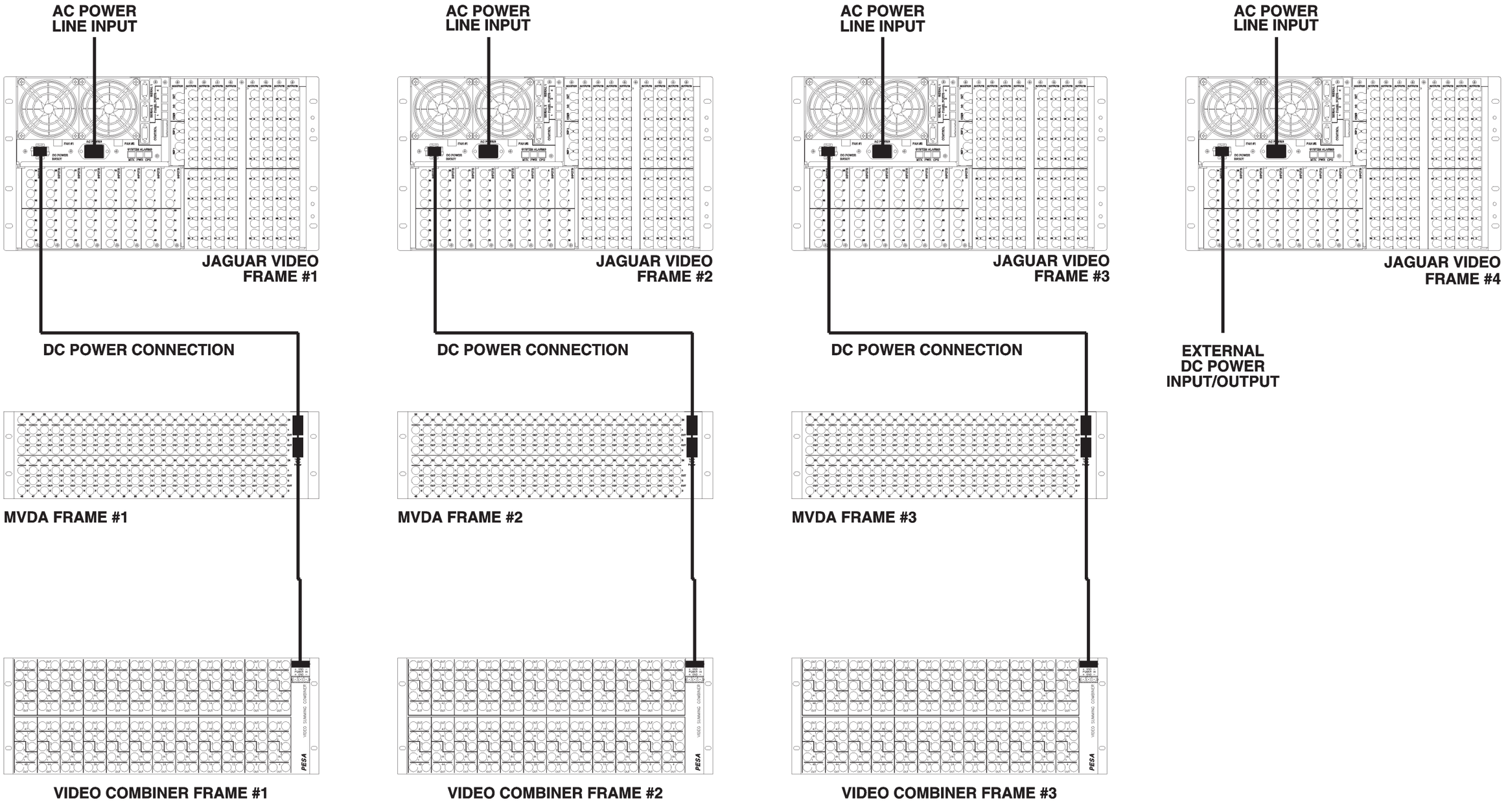
JAGUAR AUDIO FRAME #3

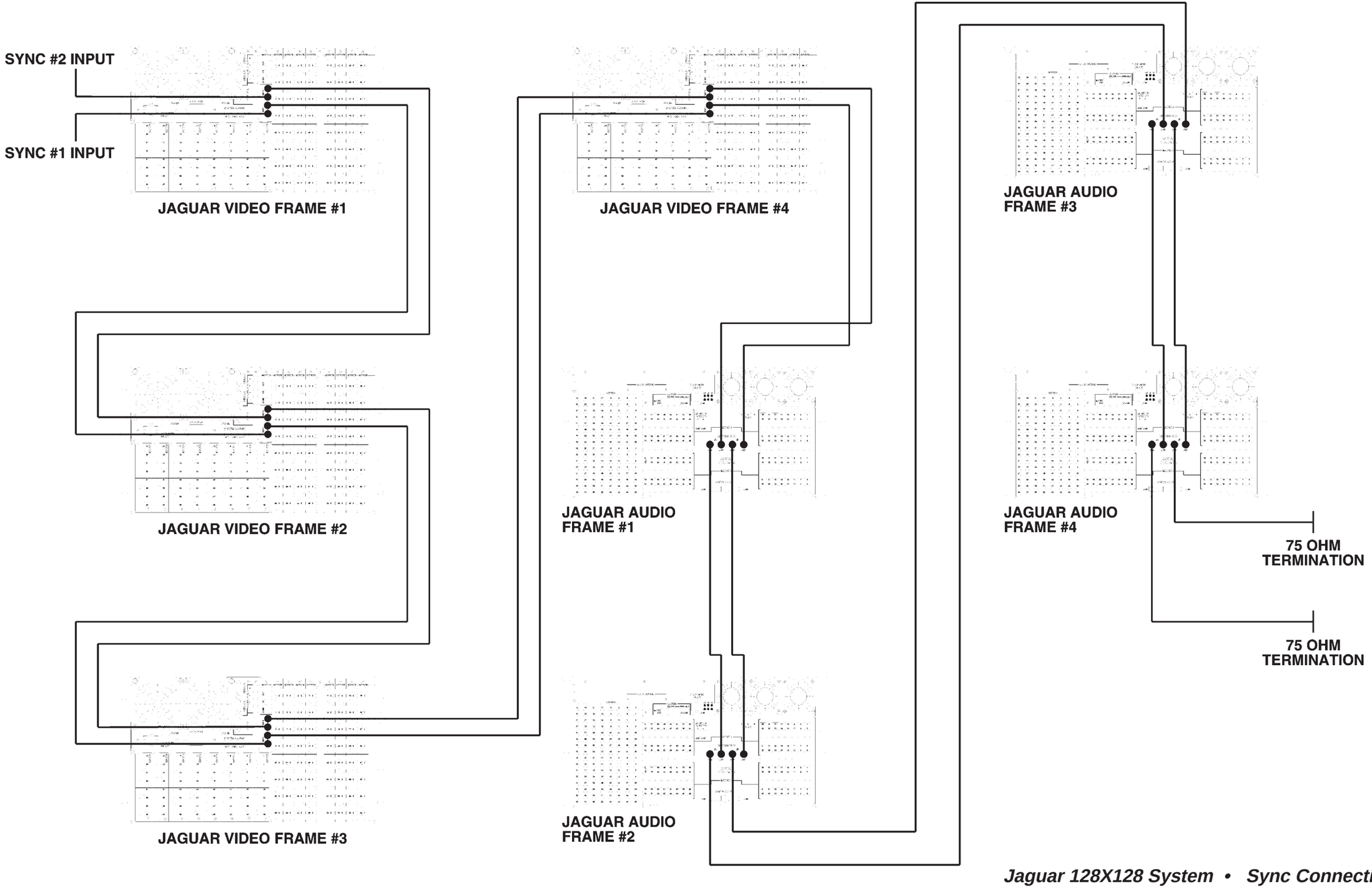


JAGUAR AUDIO FRAME #2



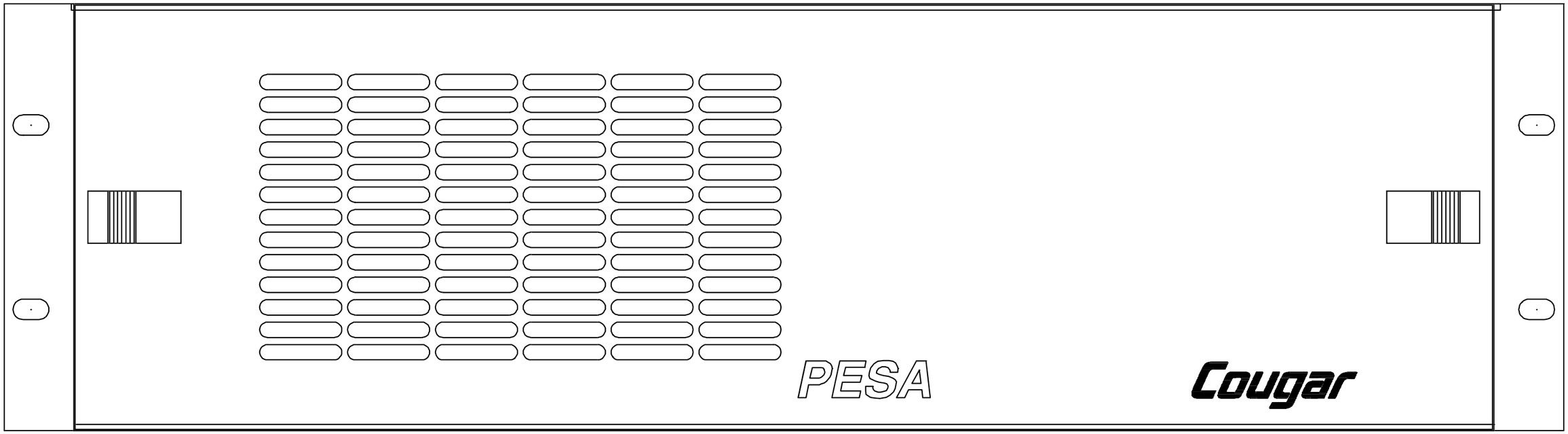
JAGUAR AUDIO FRAME #4


AC POWER LINE INPUT
JAGUAR VIDEO FRAME #1
DC POWER CONNECTION
MVDA FRAME #1
VIDEO COMBINER FRAME #1
AC POWER LINE INPUT
JAGUAR VIDEO FRAME #2
DC POWER CONNECTION
MVDA FRAME #2
VIDEO COMBINER FRAME #2
AC POWER LINE INPUT
JAGUAR VIDEO FRAME #3
DC POWER CONNECTION
MVDA FRAME #3
VIDEO COMBINER FRAME #3
AC POWER LINE INPUT
JAGUAR VIDEO FRAME #4
EXTERNAL DC POWER INPUT/OUTPUT

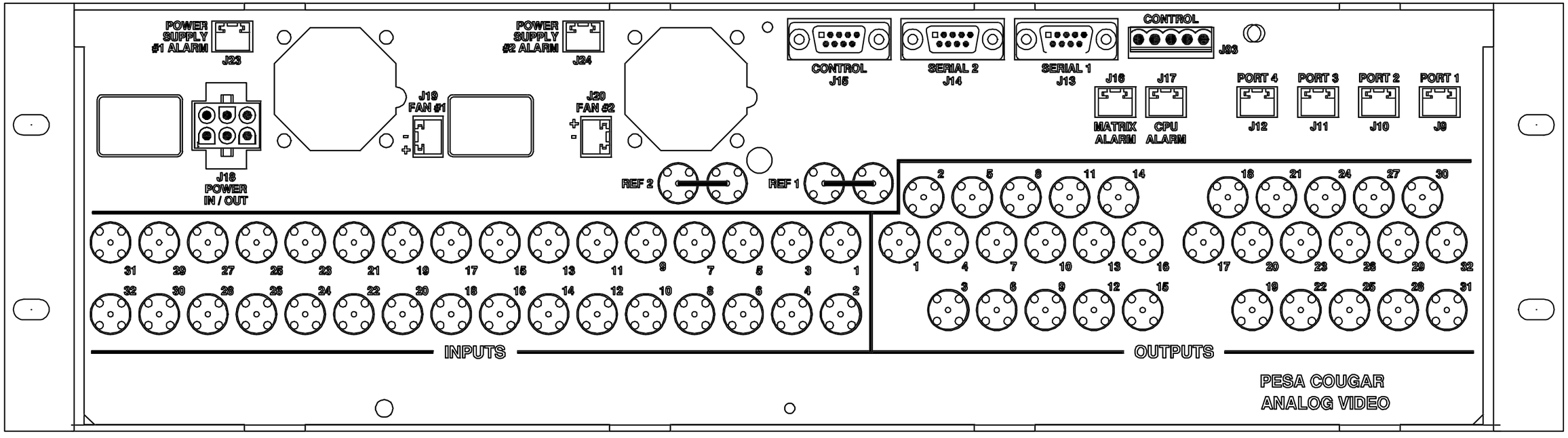


Jaguar 128X128 System • Sync Connections

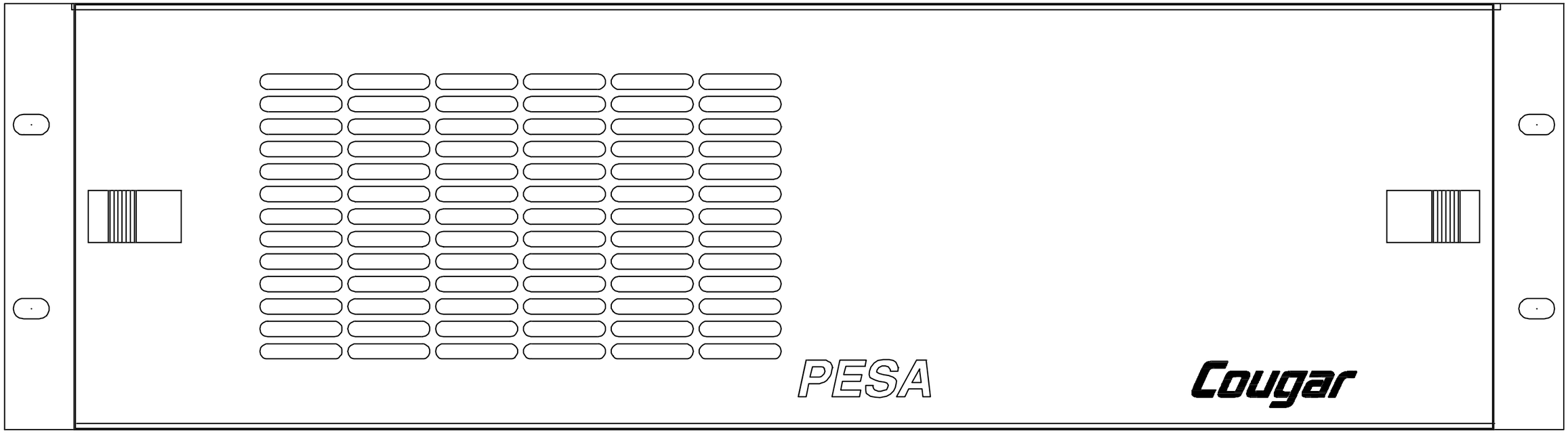
5.1 Drawings



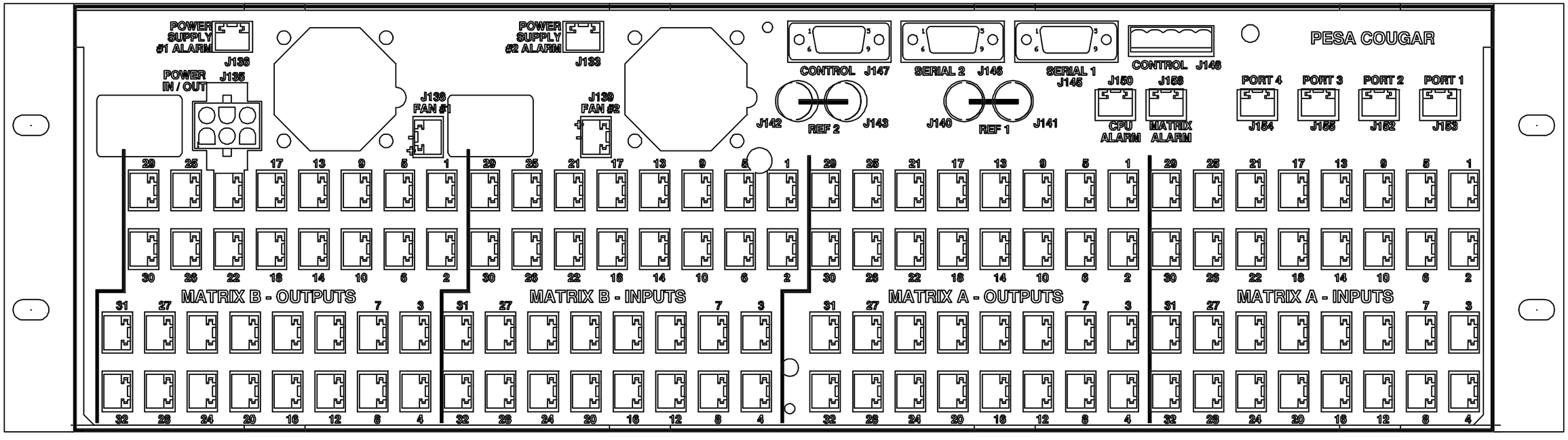
Cougar Video Frame (Front)



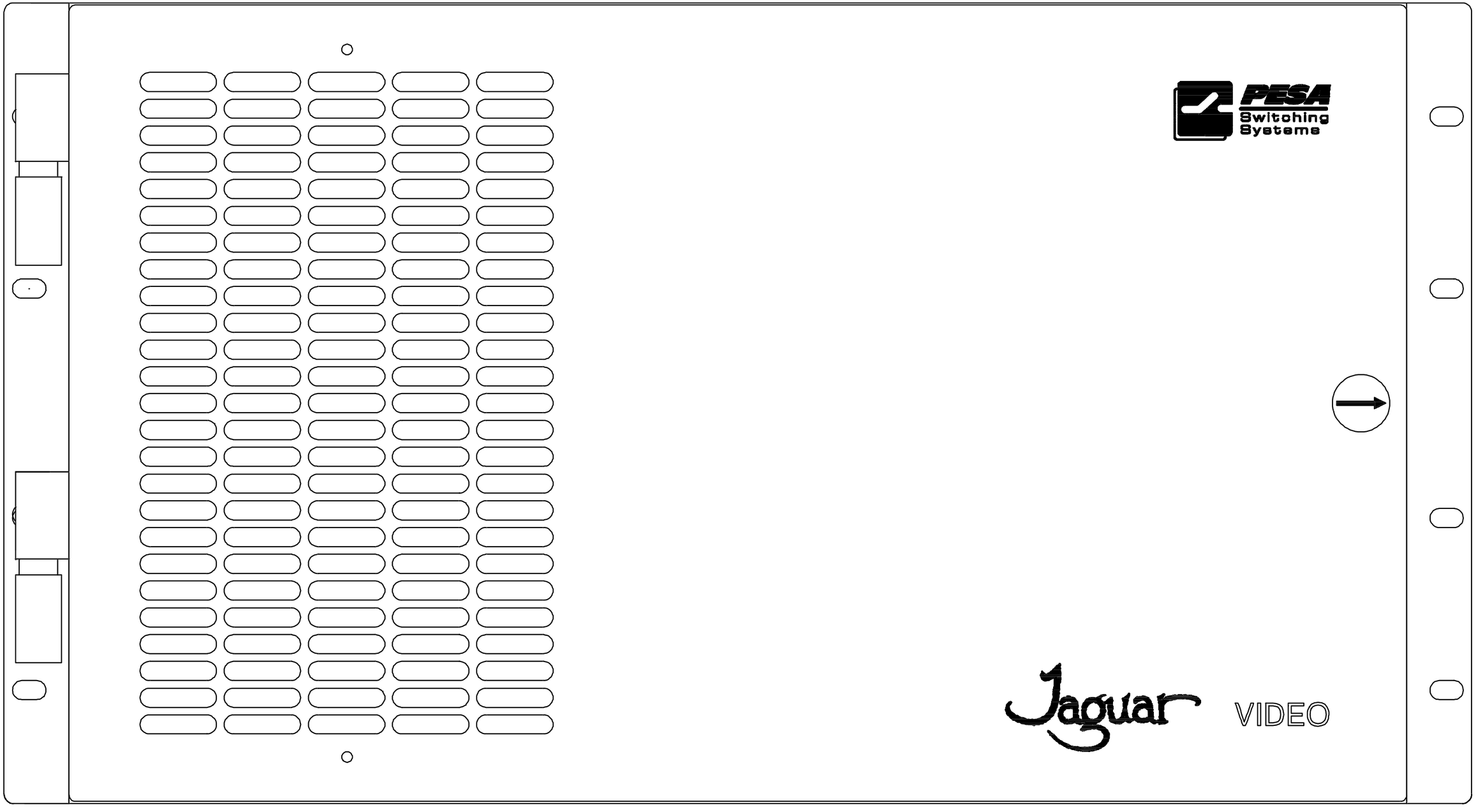
Cougar Video Frame (Rear)



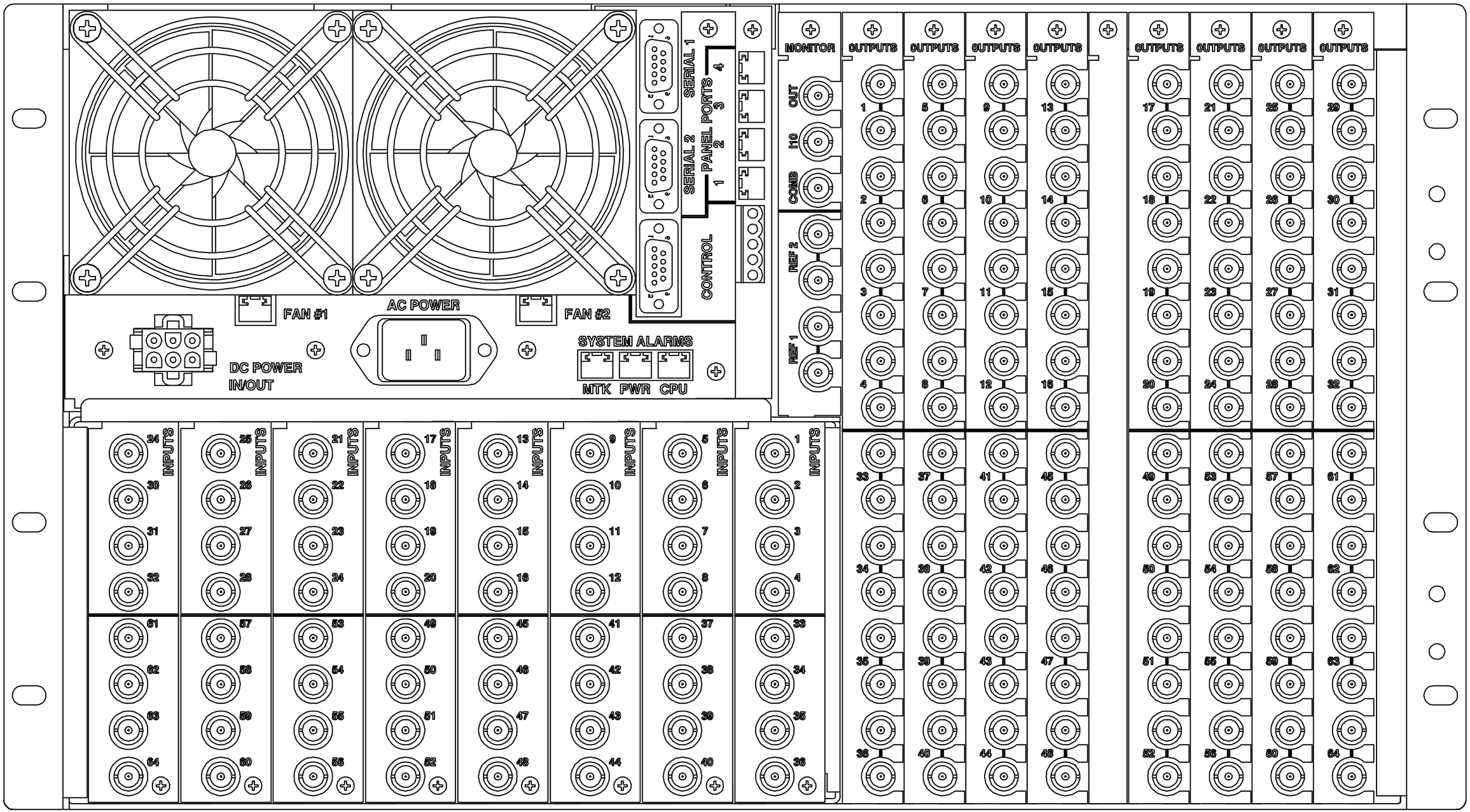
Couagr Audio Frame (Front)



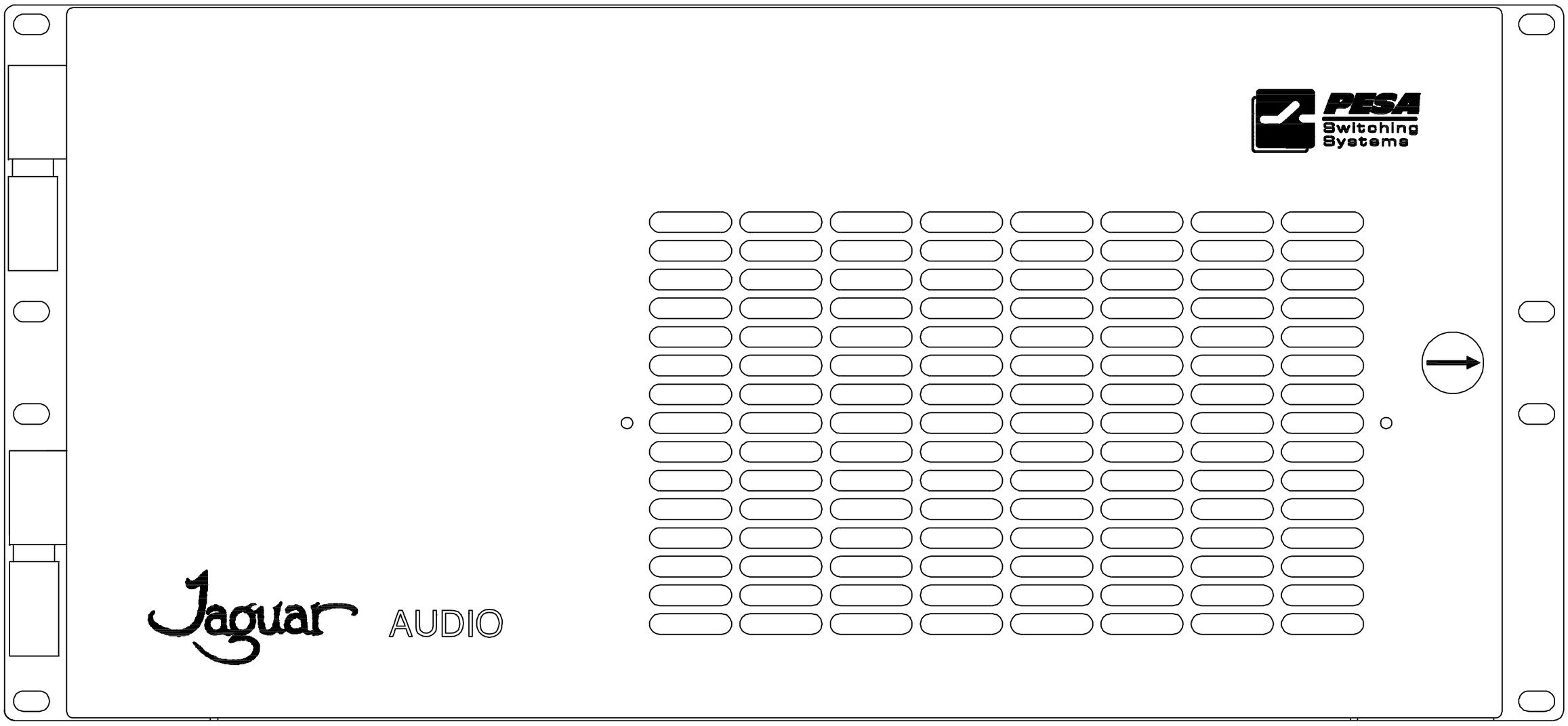
Cougar Audio Frame (Rear)



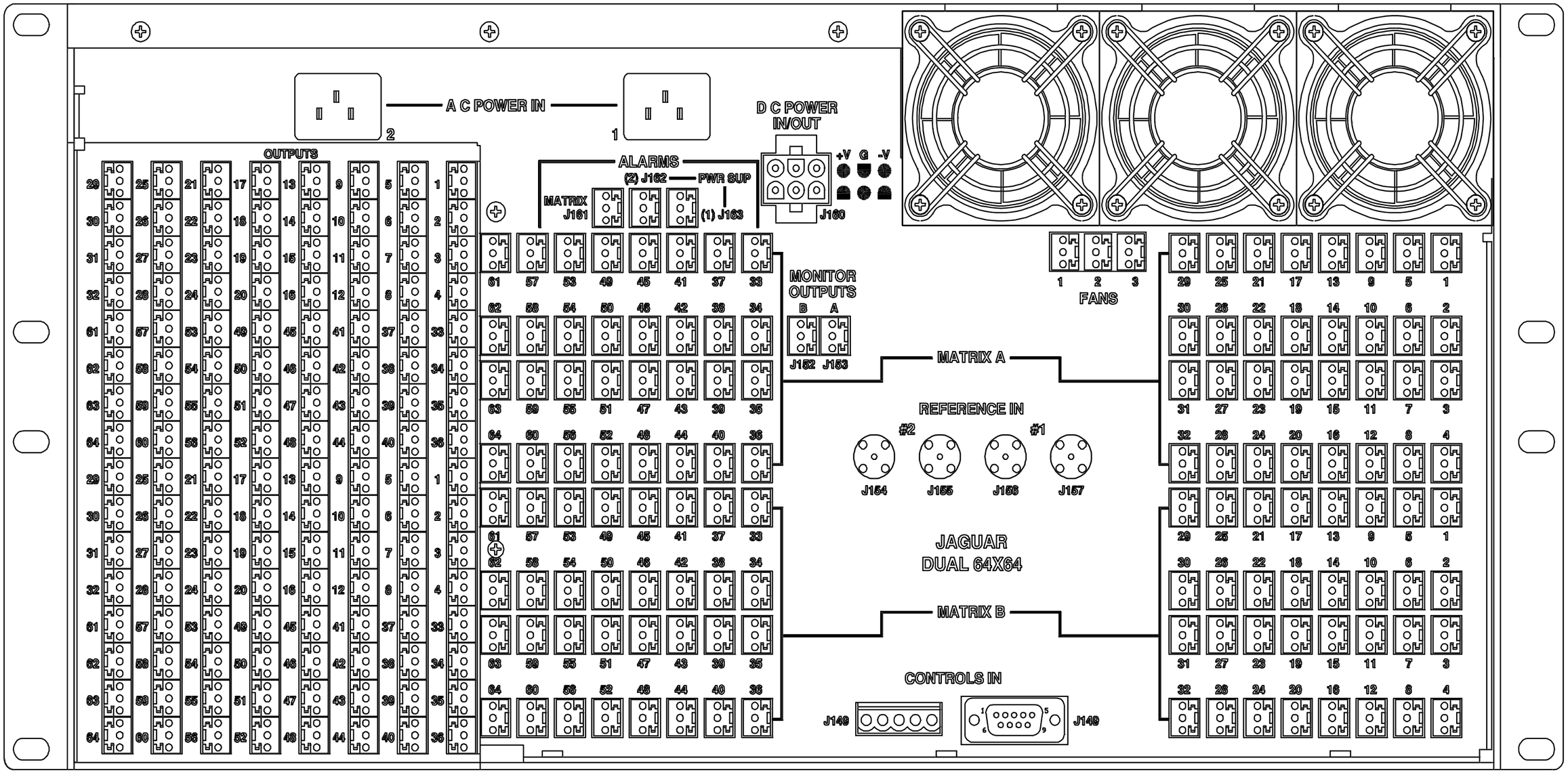
Jaguar Video Frame (Front)



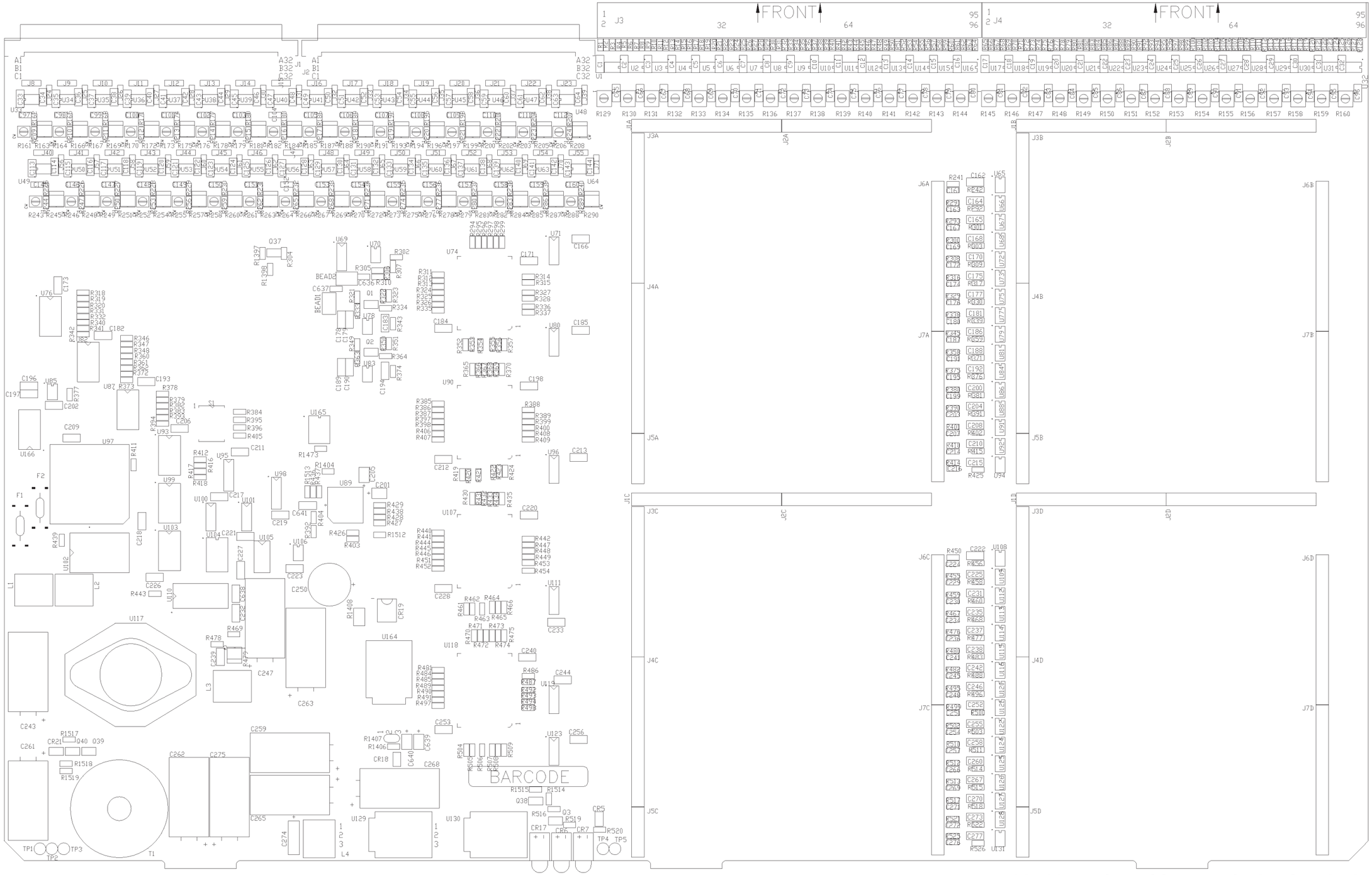
Jaguar Video Frame (Rear)



Jaguar Audio Frame (Front)

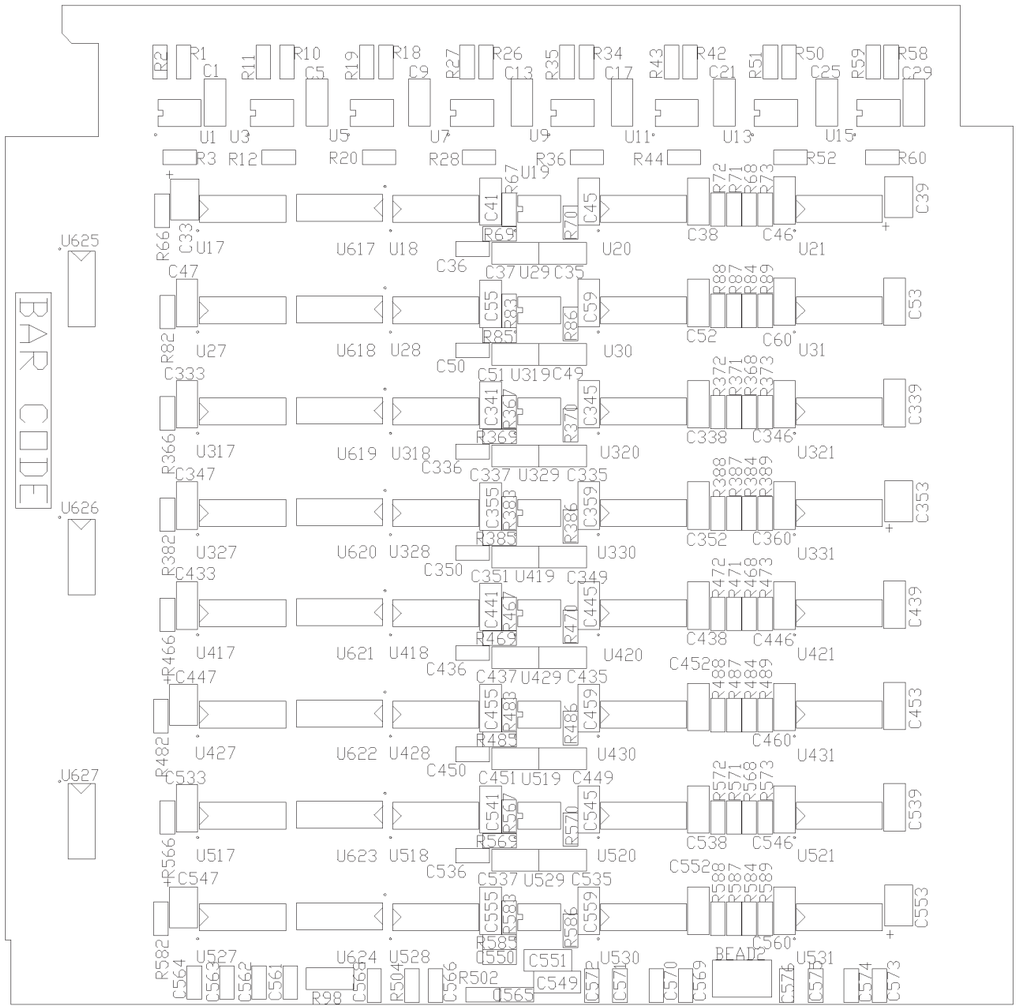


Jaguar Audio Frame (Rear)

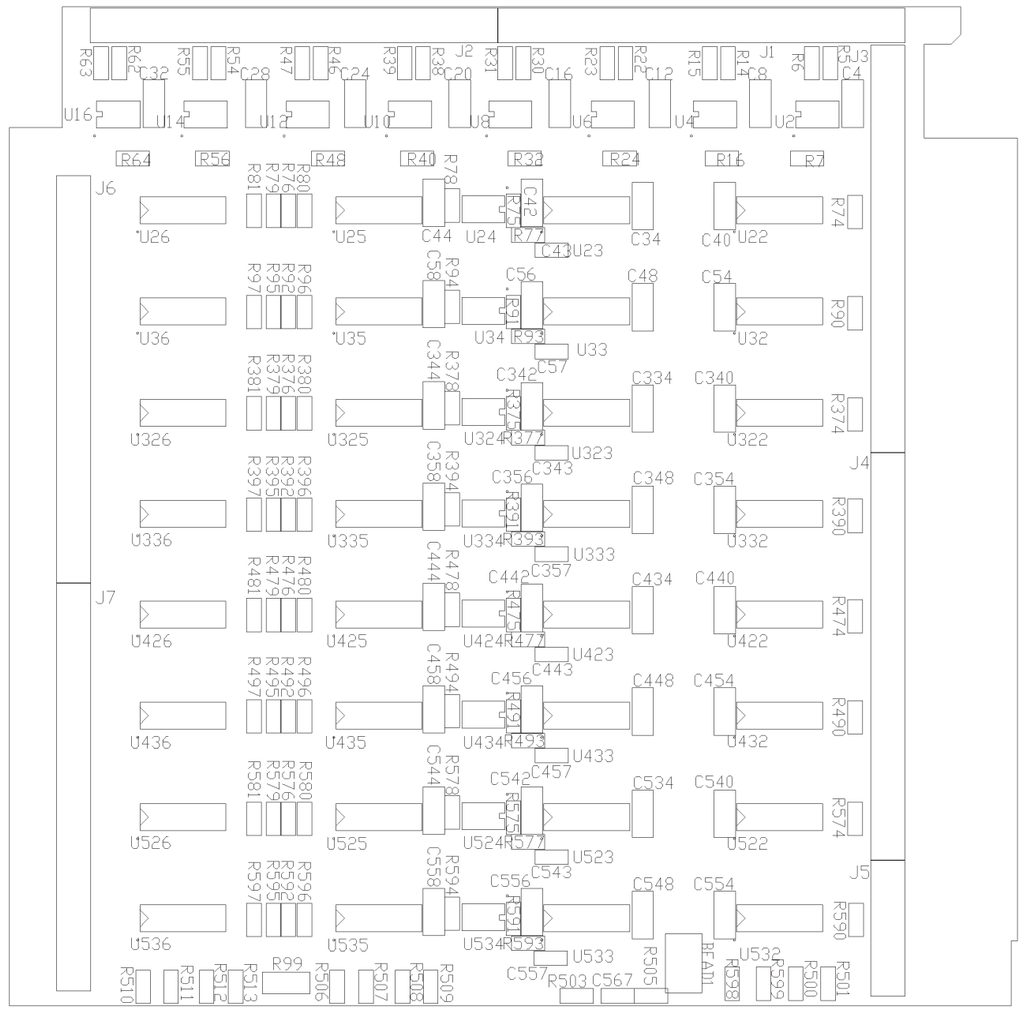


32X32 Analog Video Matrix Card • CA25-1276

COMPONENT SIDE LAYER 1 OF 10



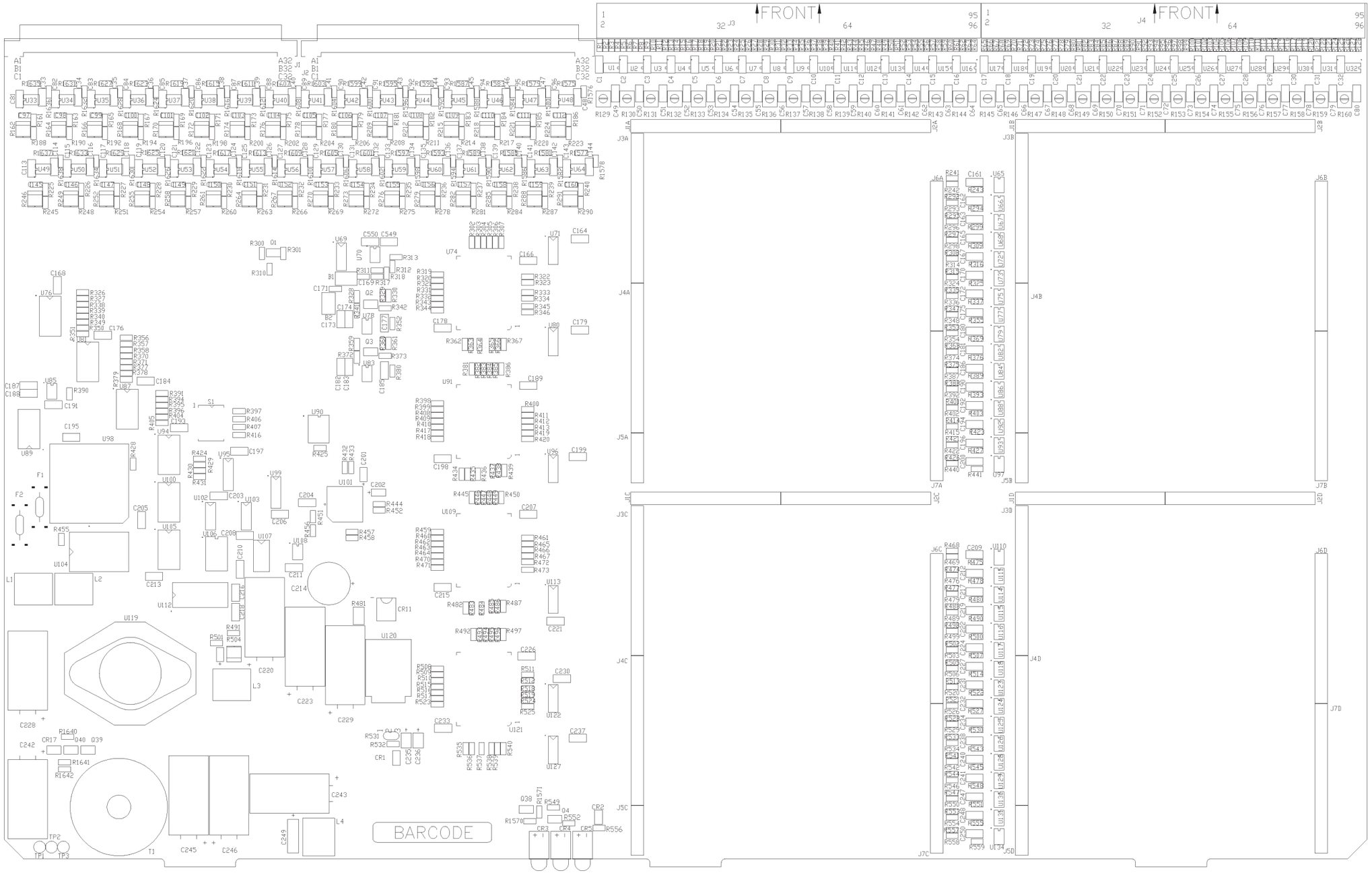
SOLDER SIDE LAYER 10 OF 10



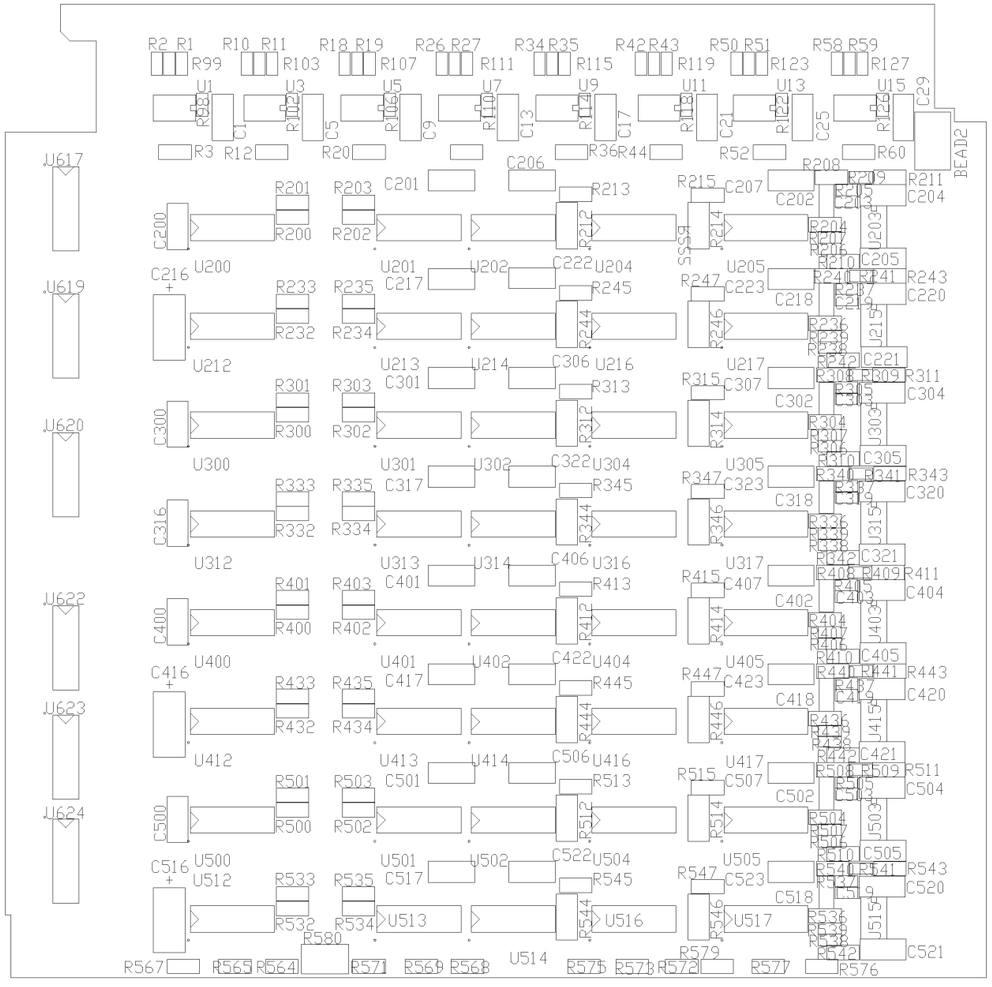
NOTE:
J1 – J7 LOCATED ON FAR SIDE OF PC BOARD.

16X16 Crosspoint Card • CA25-1284

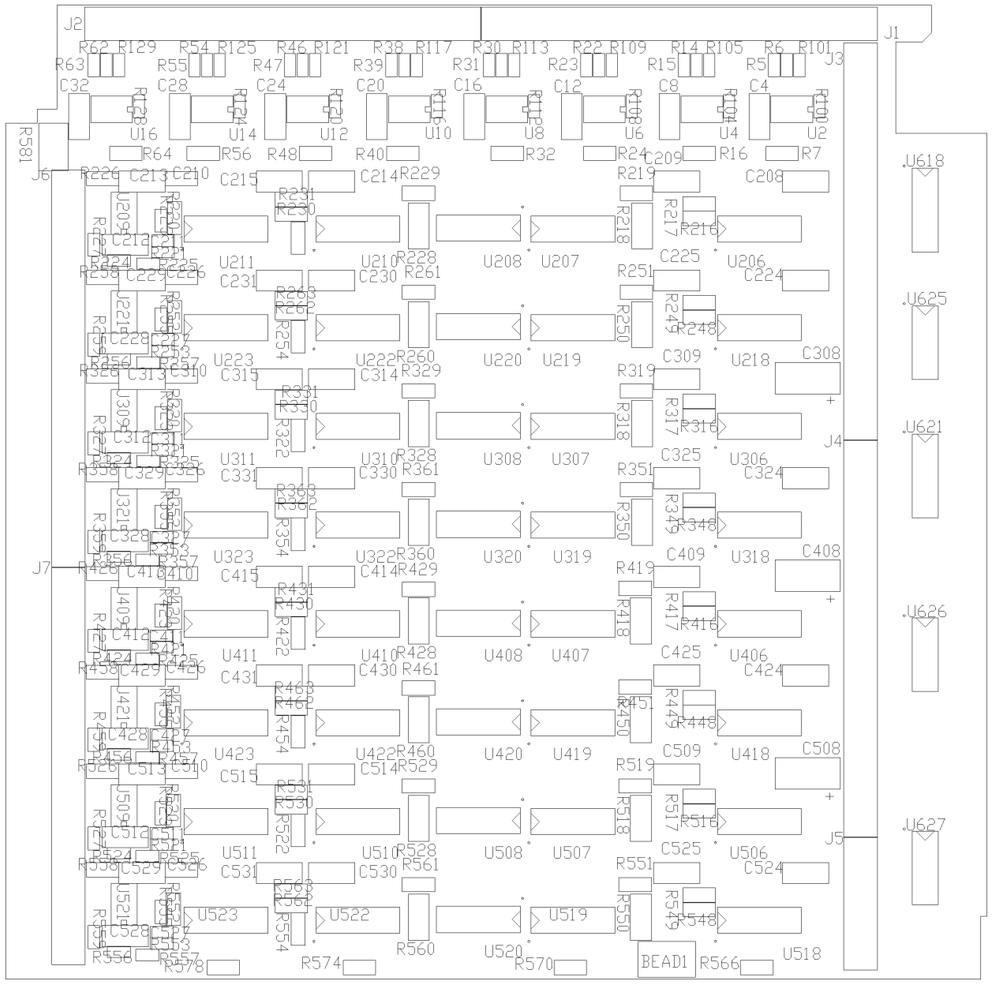
COMPONENT SIDE (LAYER 1 OF 10)

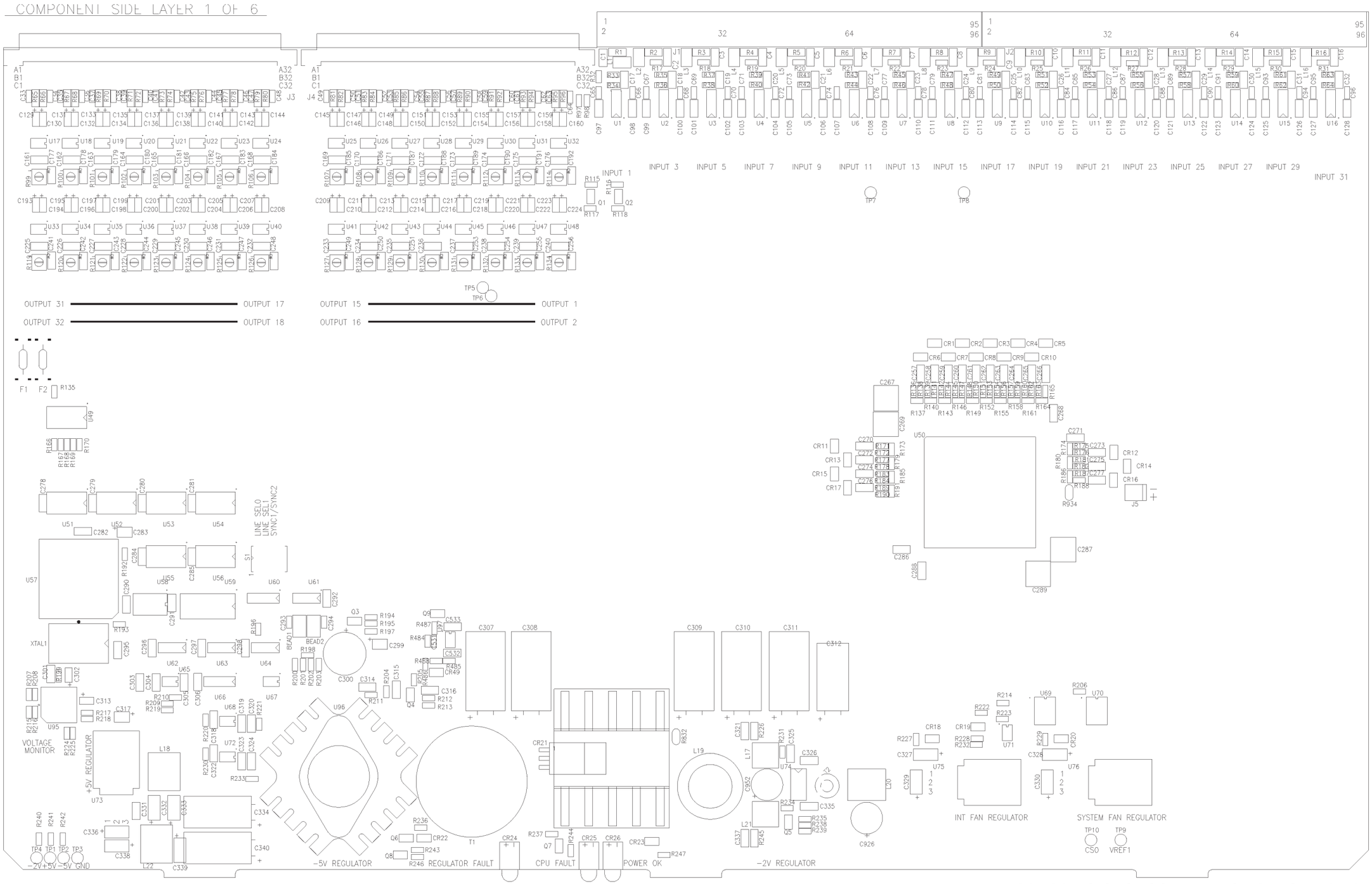


COMPONENT SIDE LAYER 1 OF 10

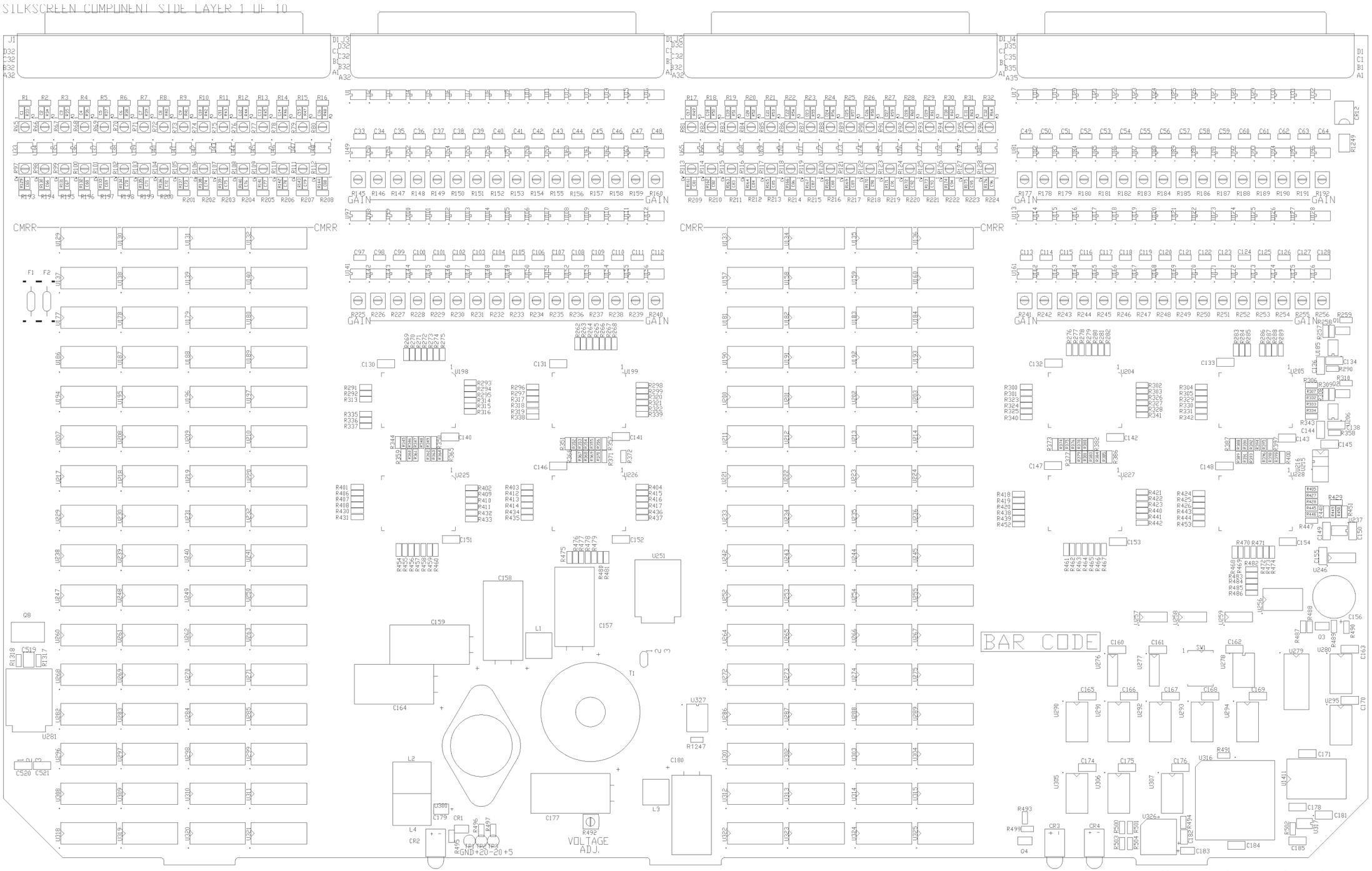


SOLDER SIDE LAYER 10 OF 10

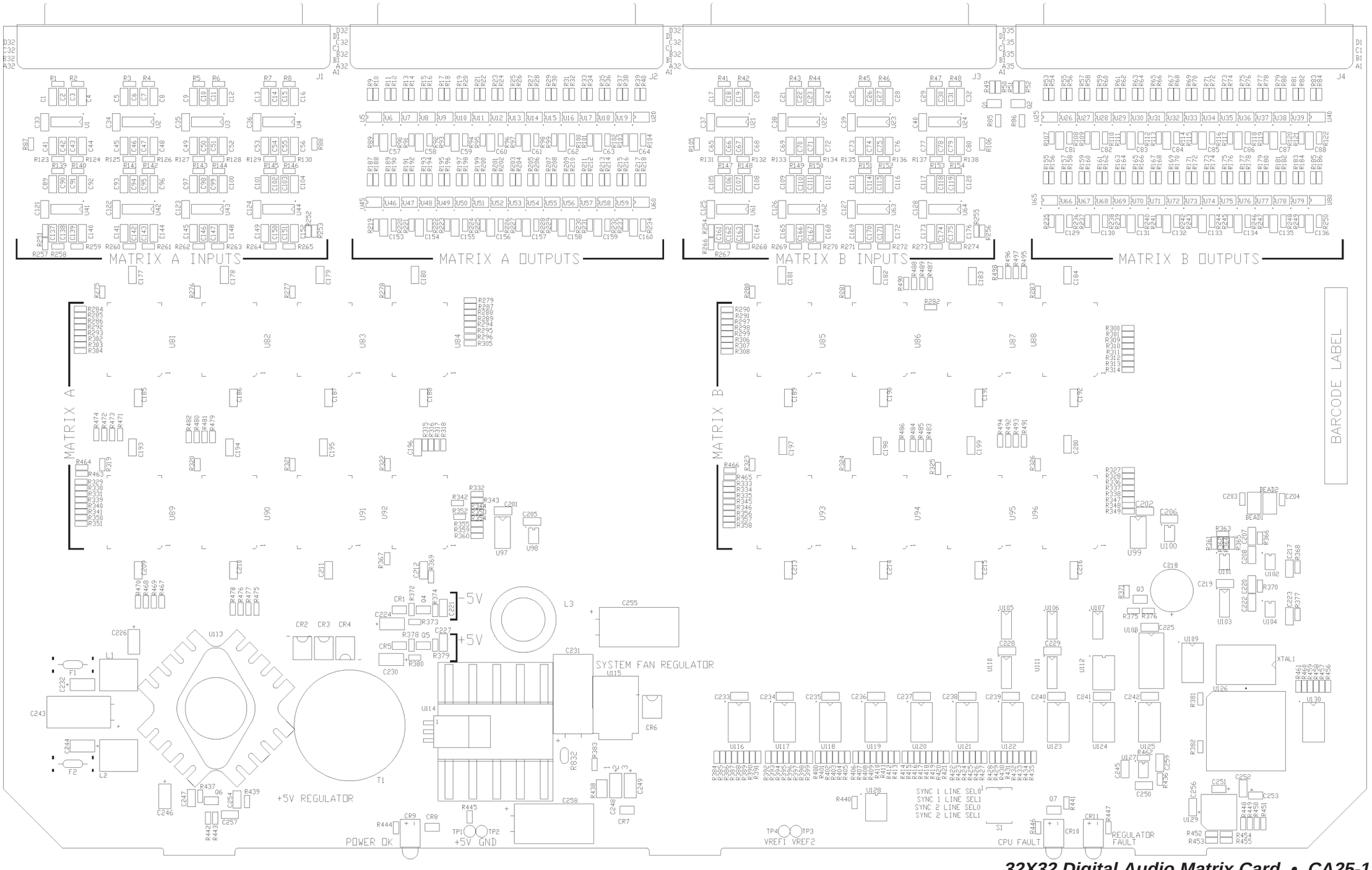


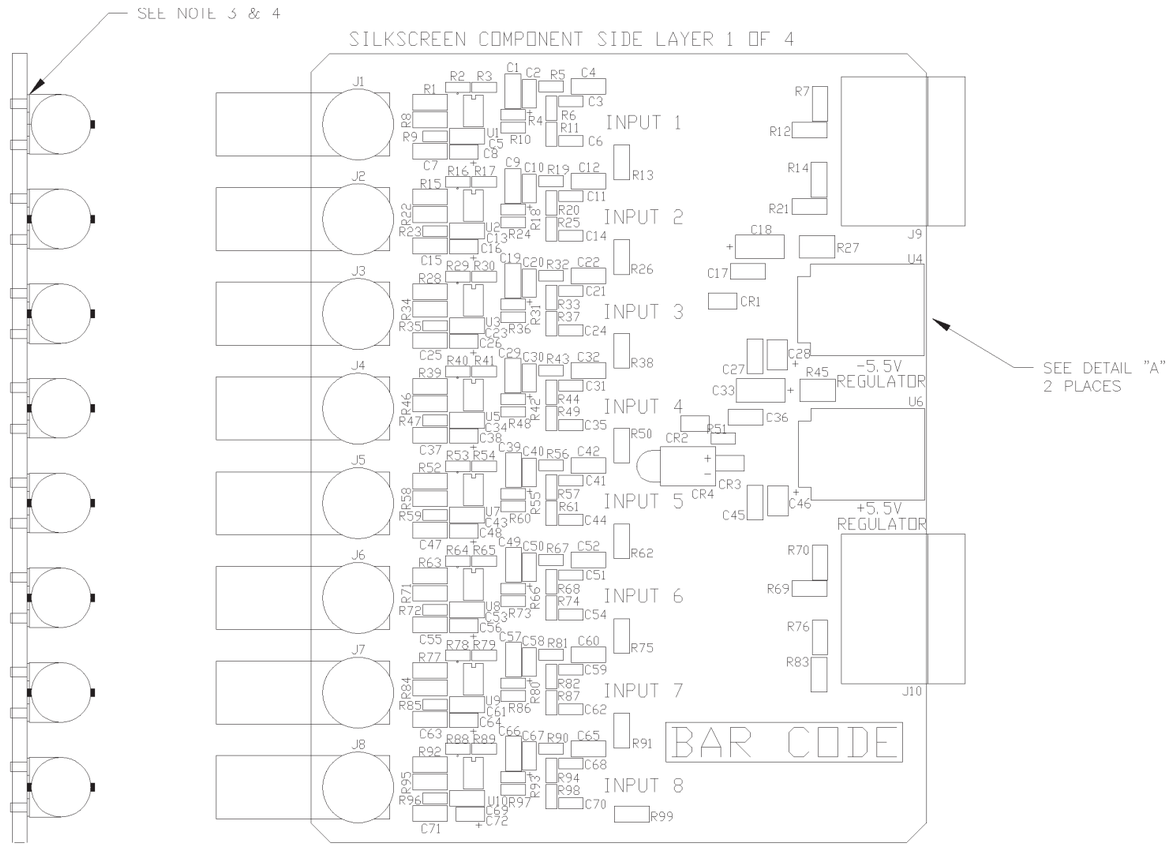


32X32 Digital Video Matrix Card • CA25-1353



32X32 Analog Audio Matrix Card • CA25-1277


MATRIX A INPUTS
MATRIX A OUTPUTS
MATRIX B INPUTS
MATRIX B OUTPUTS
MATRIX A
MATRIX B
BARCODE LABEL
+5V REGULATOR
SYSTEM FAN REGULATOR
POWER OK
+5V GND
VREF1 VREF2
CPU FAULT
REGULATOR FAULT
SYNC 1 LINE SEL0
SYNC 1 LINE SEL1
SYNC 2 LINE SEL0
SYNC 2 LINE SEL1

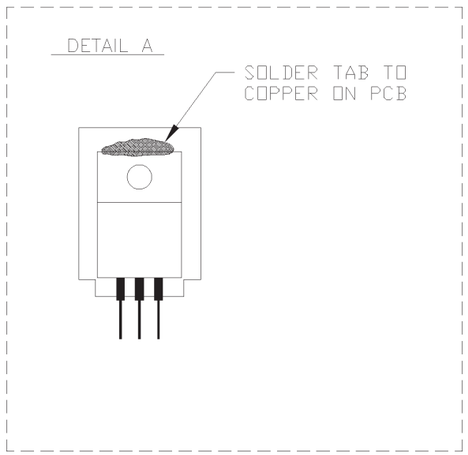


NOTE 1:
SOLDER TO220 TAB TO PCB 2 PLACES.

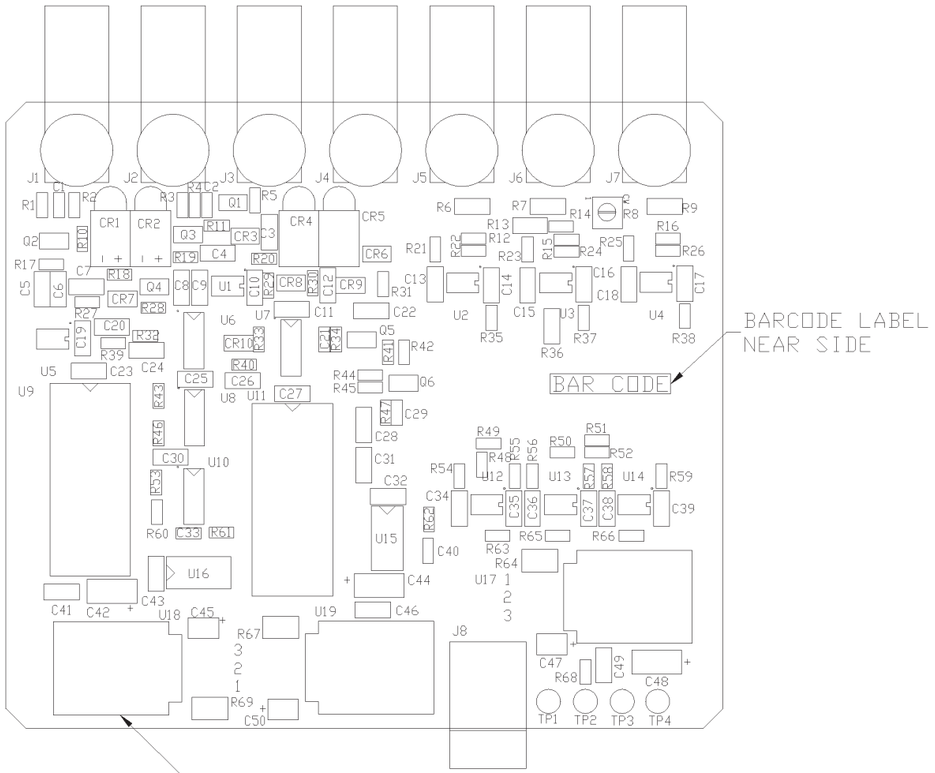
NOTE 2:
NOT PLACED COMPONENTS
R6,R11,R13,R20,R25,R26,R33,R37,R38,R44,
R49,R50,R57,R61,R62,R68,R74,R75,R82,R87,
R91,R94,R98,R99
C3,C6,C16,C14,C21,C24,C31,C35,C41,C44,
C51,C54,C59,C62,C68,C70.

NOTE 3:
BNC'S MUST BE FLUSH WITH PCB PRIOR TO SOLDERING.

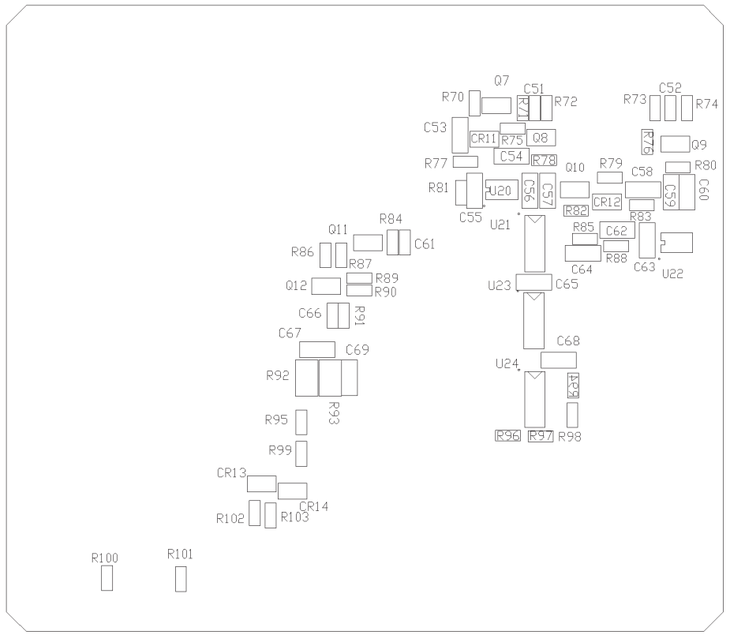
NOTE 4:
USE CRADLE ASSEMBLY MD34-6454 FOR WAVE SOLDERING SUPPORT ON BNC'S.



SILKSCREEN LAYER 1 OF 4



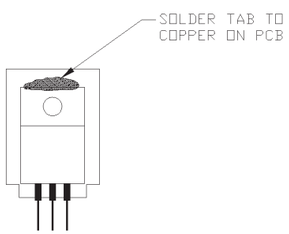
SILKSCREN LAYER BOTTOM 4 OF 4

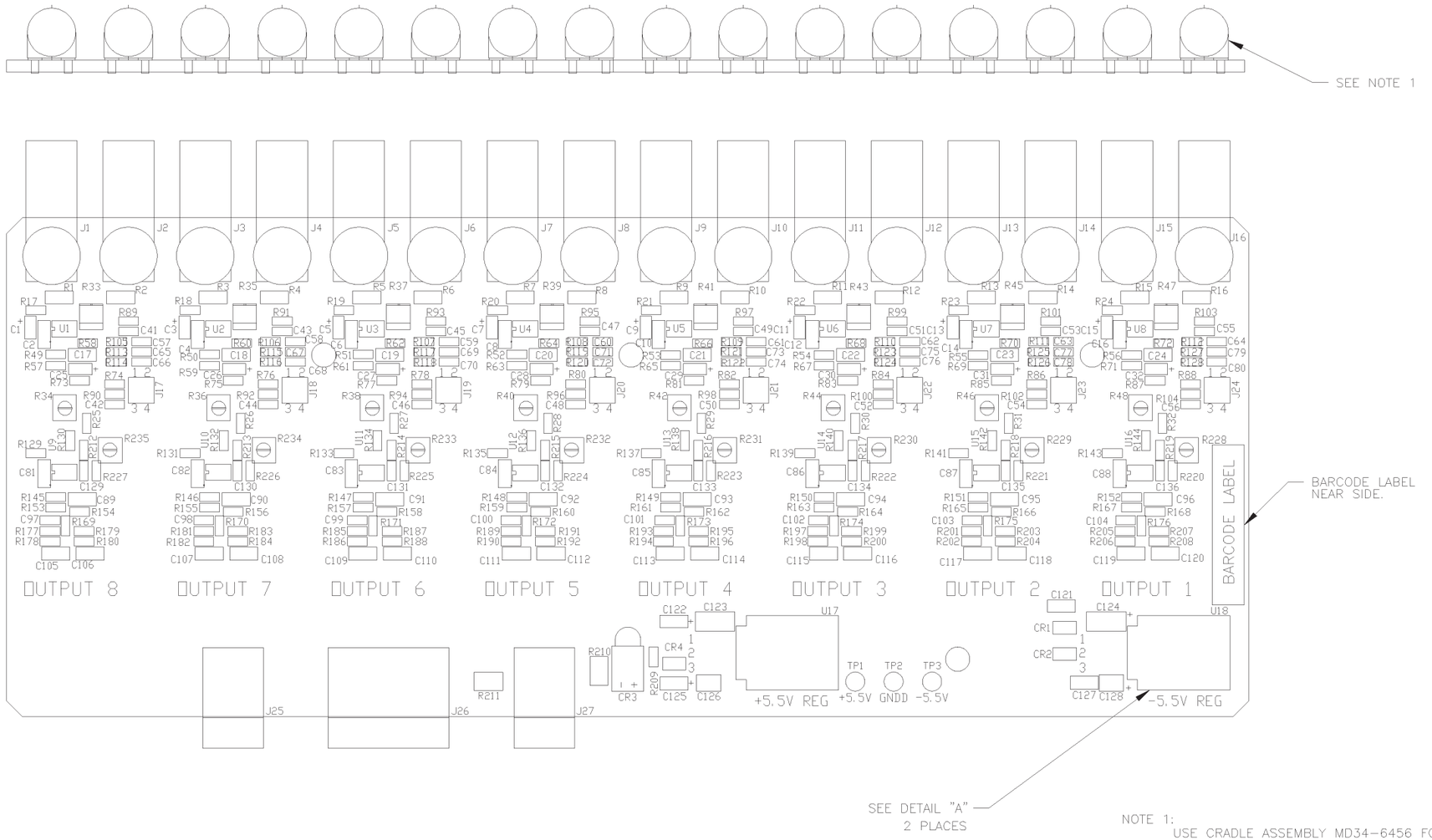


NOTE :
USE CRADLE ASSEMBLY MD34-6455 FOR WAVE SOLDERING SUPPORT ON BNC'S.

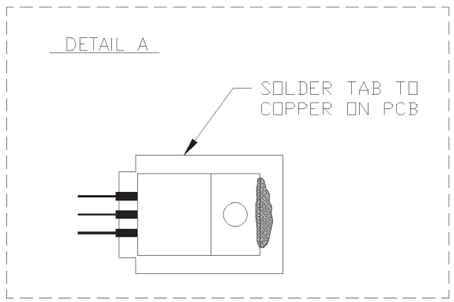
THE FOLLOWING COMPONENTS ARE NOT PLACED:
R10, R46, R47, R228, R231
C1, C2, C35, C136, C203, C206, C237, C240
TP1, TP2, TP3, TP4

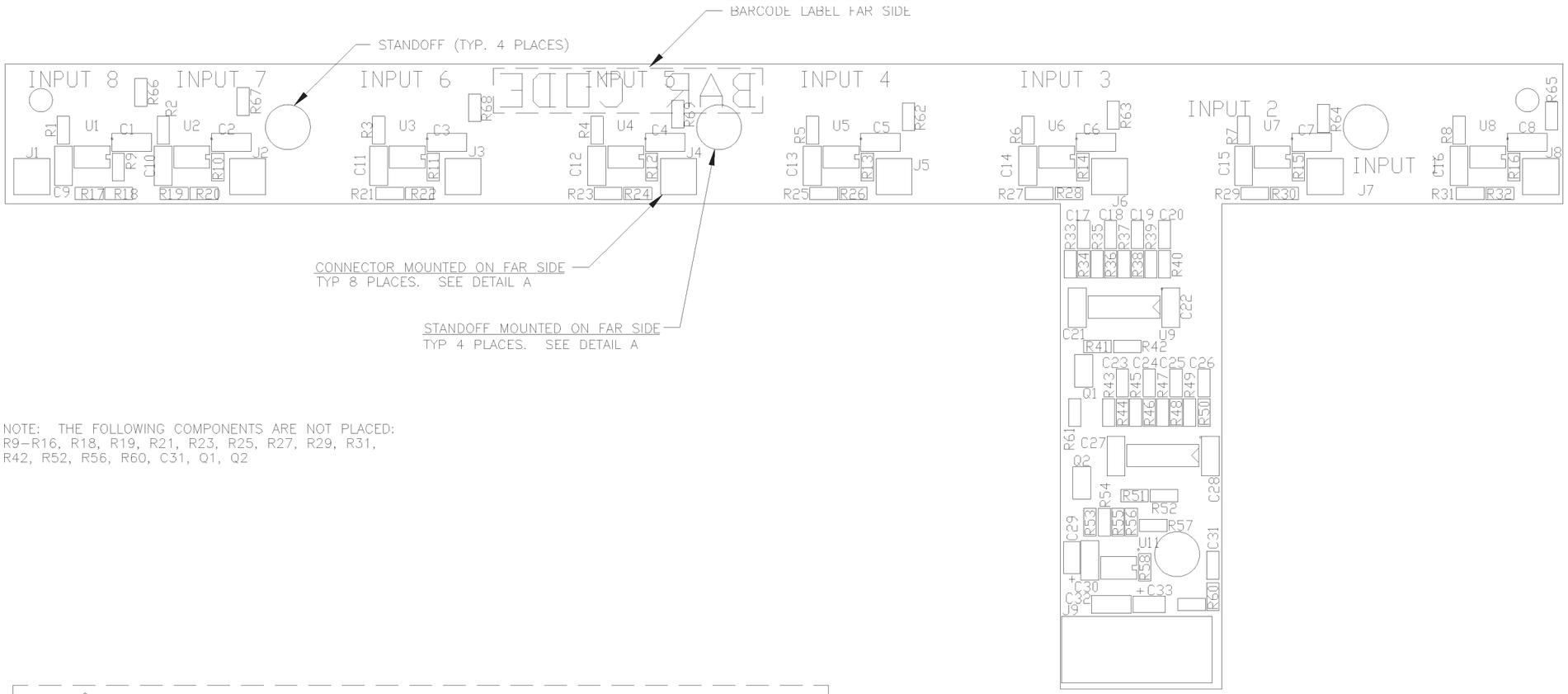
DETAIL A



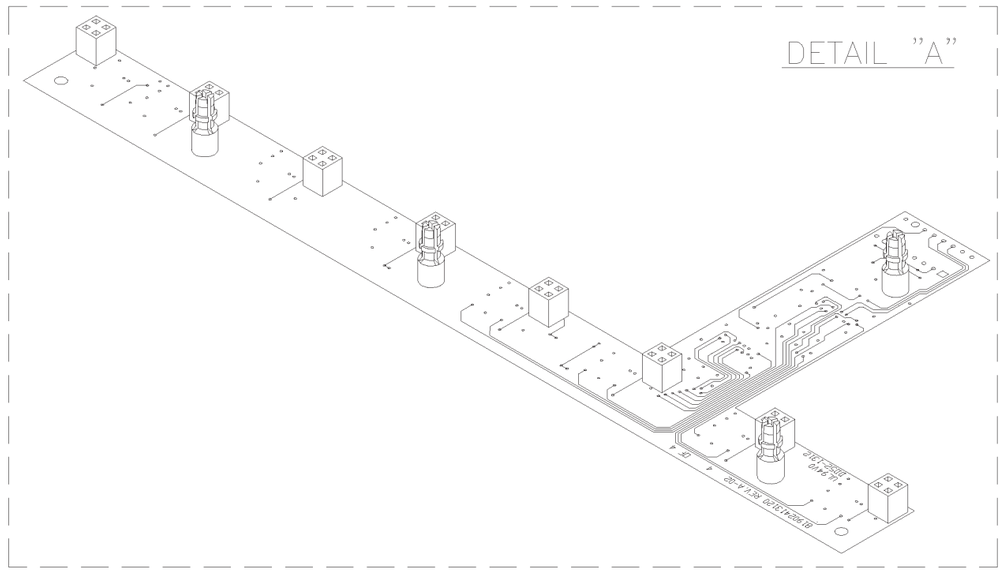


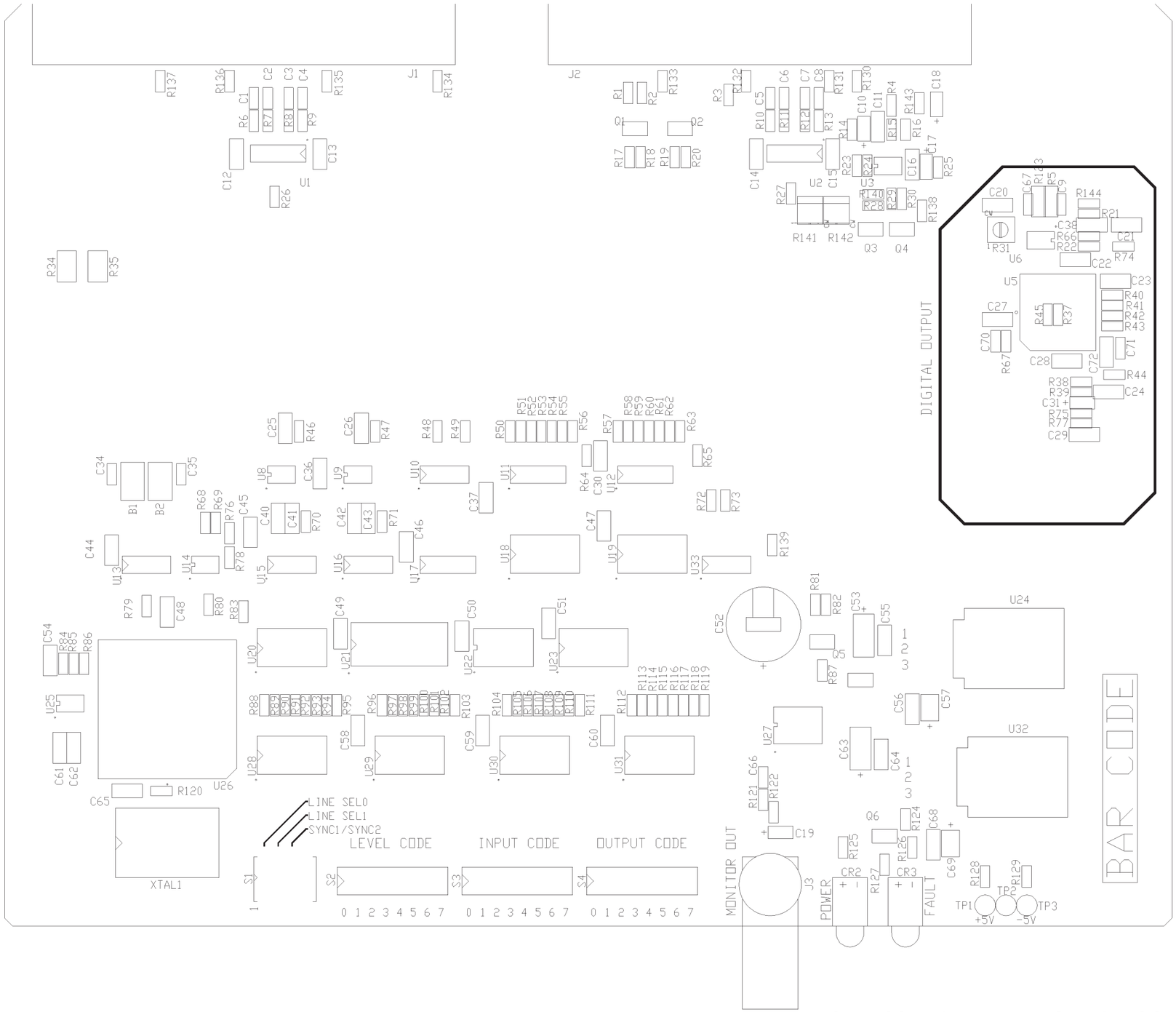
NOTE 1:
USE CRADLE ASSEMBLY MD34-6456 FOR WAVE SOLDERING SUPPORT ON BNC'S.



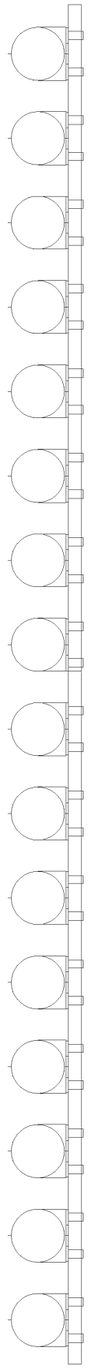


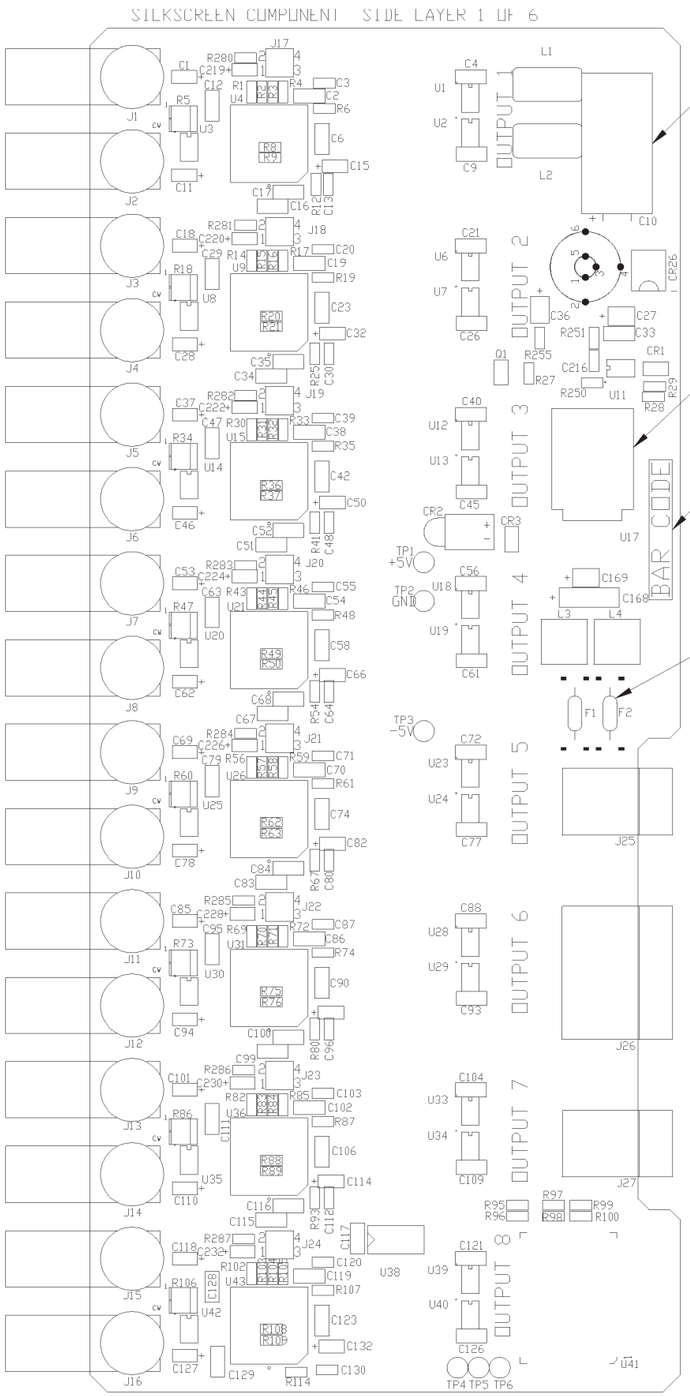
NOTE: THE FOLLOWING COMPONENTS ARE NOT PLACED:
R9–R16, R18, R19, R21, R23, R25, R27, R29, R31,
R42, R52, R56, R60, C31, Q1, Q2

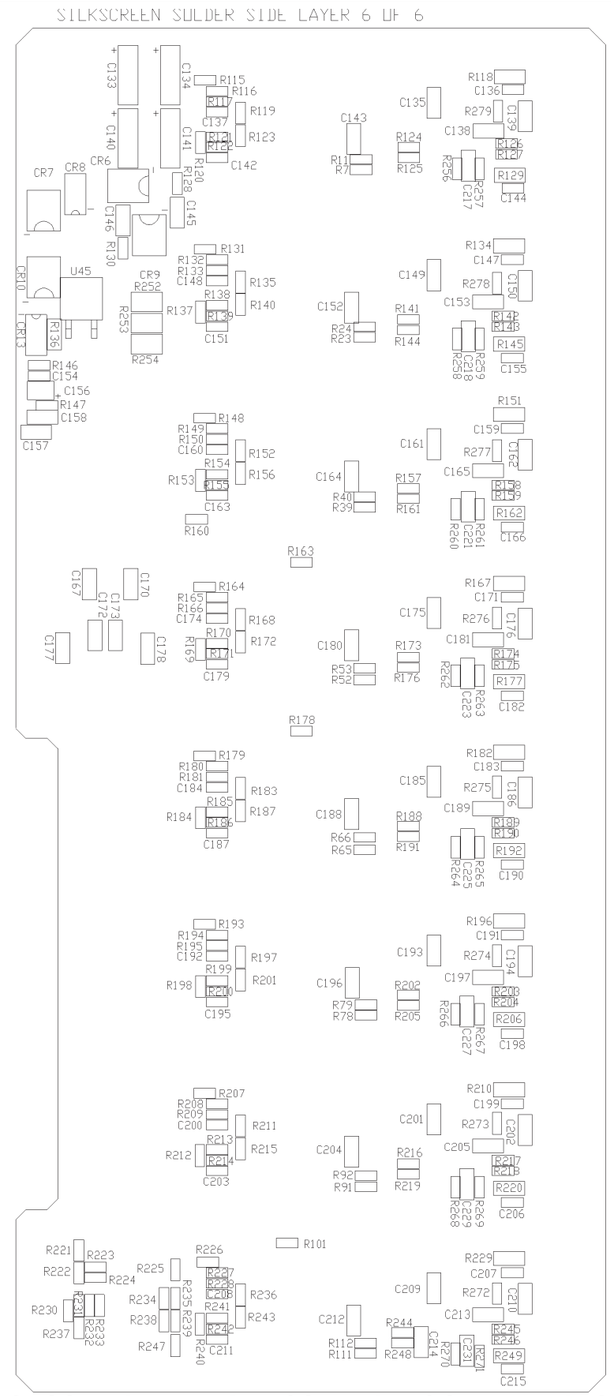




Analog Video Output Monitor Card (Jaguar Only) • CA25-1316

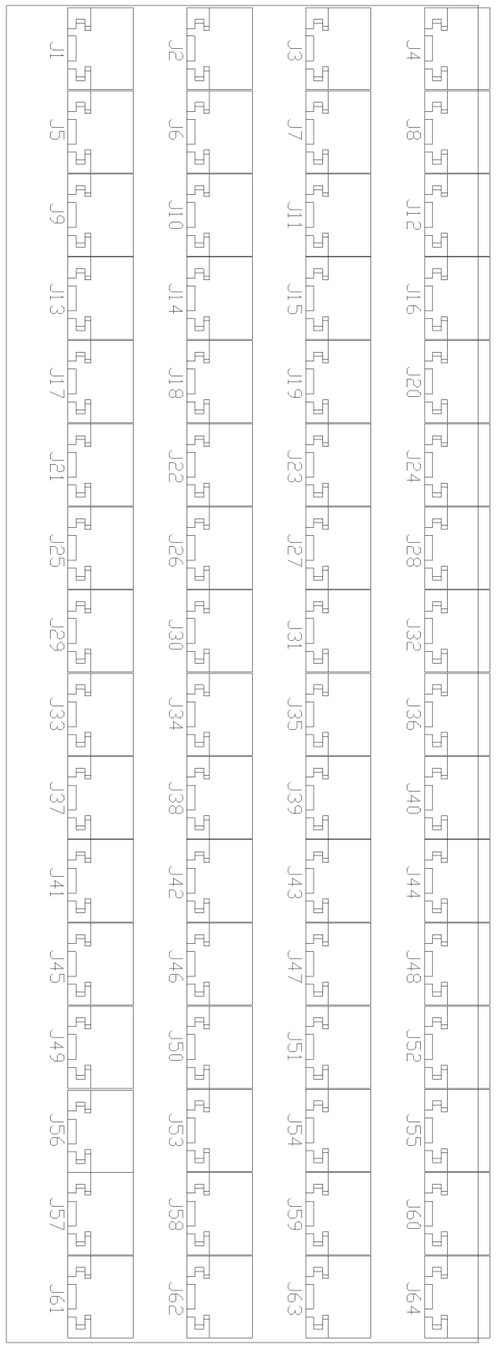




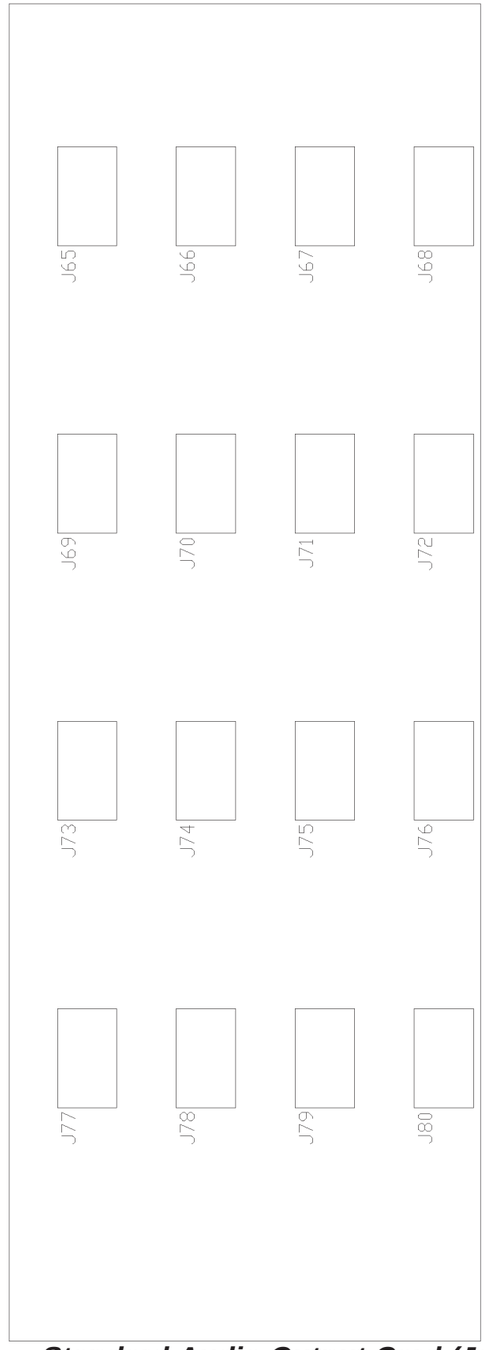


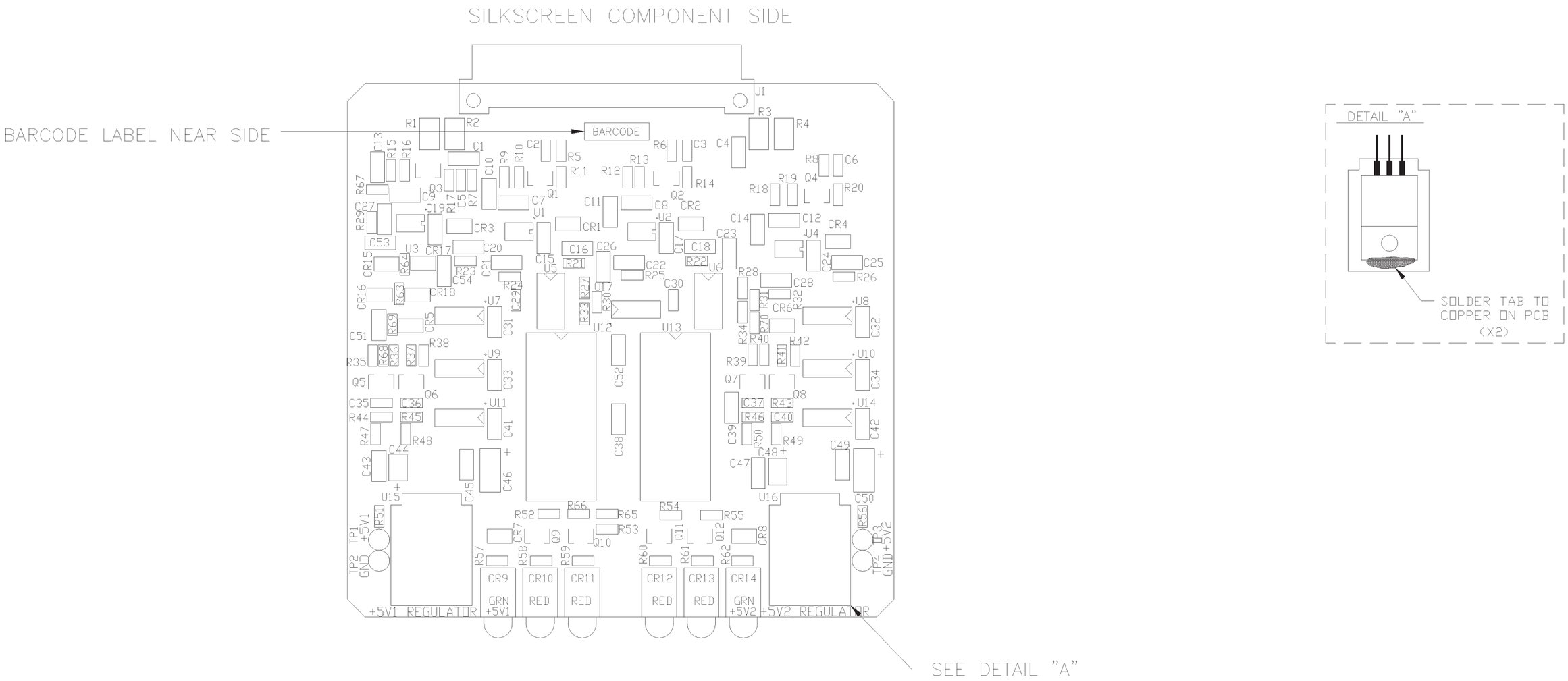
Digital Video Output Combiner Card (Jaguar Only) • CA25-1349

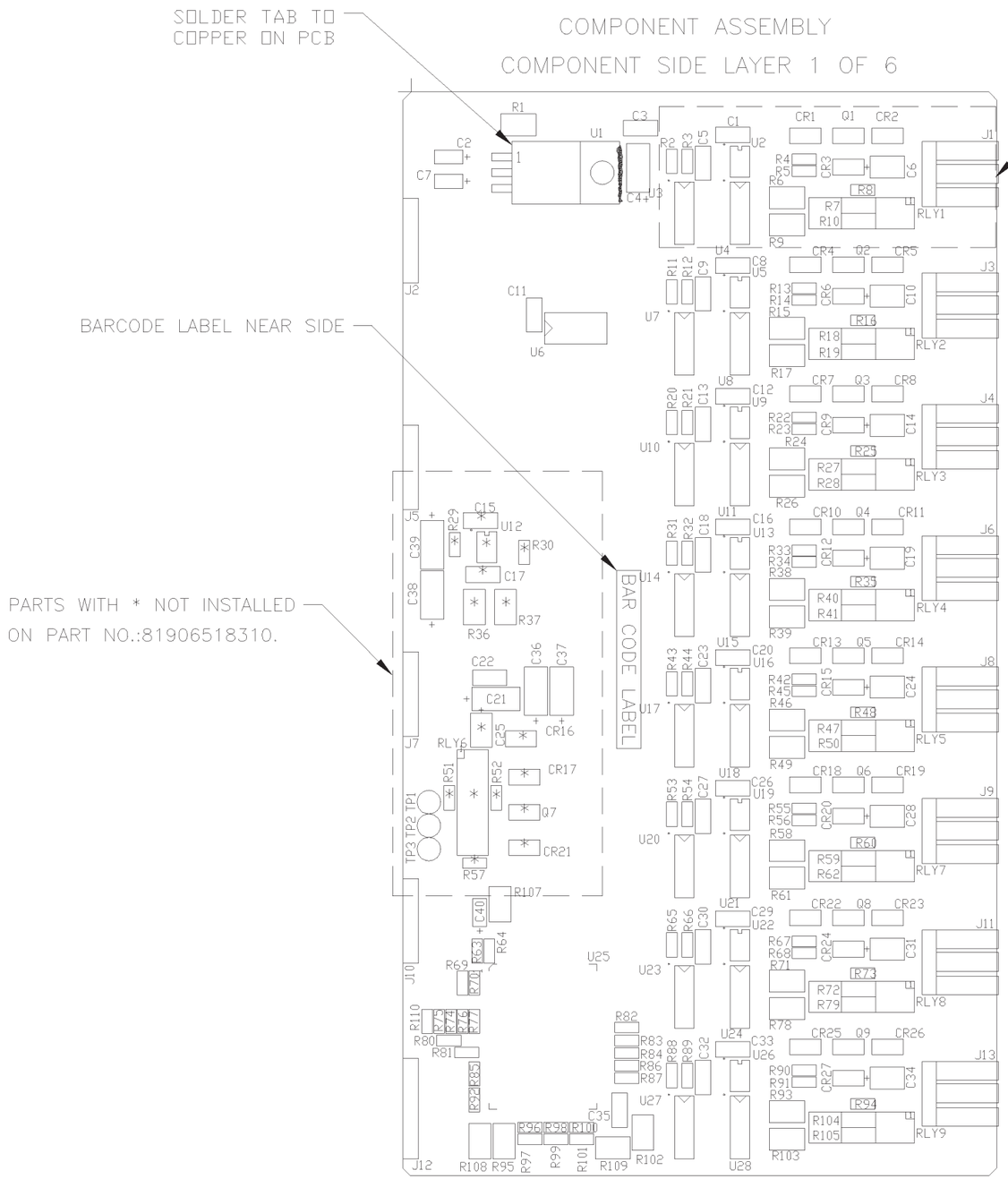
SILKSCREEN SOLDER SIDE LAYER 2 OF 2

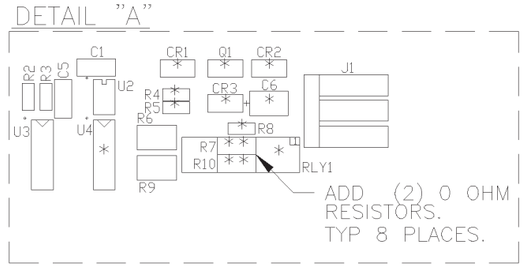


SILKSCREEN COMPONENT SIDE LAYER 1 OF 2

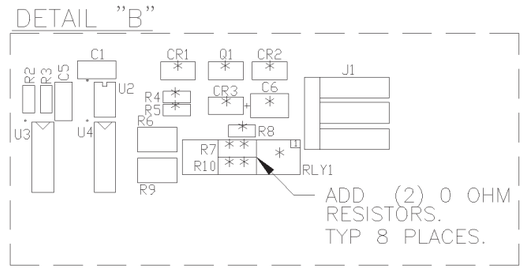



SILKSCREEN COMPONENT SIDE
BARCODE LABEL NEAR SIDE
BARCODE
J1
U1
U2
U3
U4
U5
U6
U7
U8
U9
U10
U11
U12
U13
U14
U15
U16
+5V1 REGULATOR
+5V2 REGULATOR
CR9 GRN +5V1
CR10 RED
CR11 RED
CR12 RED
CR13 RED
CR14 GRN +5V2
TP1 +5V1
TP2 GND
TP3 +5V2
TP4 GND
SEE DETAIL "A"
DETAIL "A"
SOLDER TAB TO COPPER ON PCB (X2)

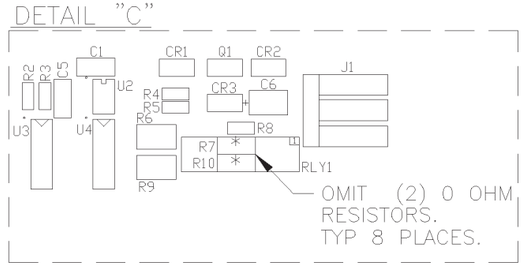




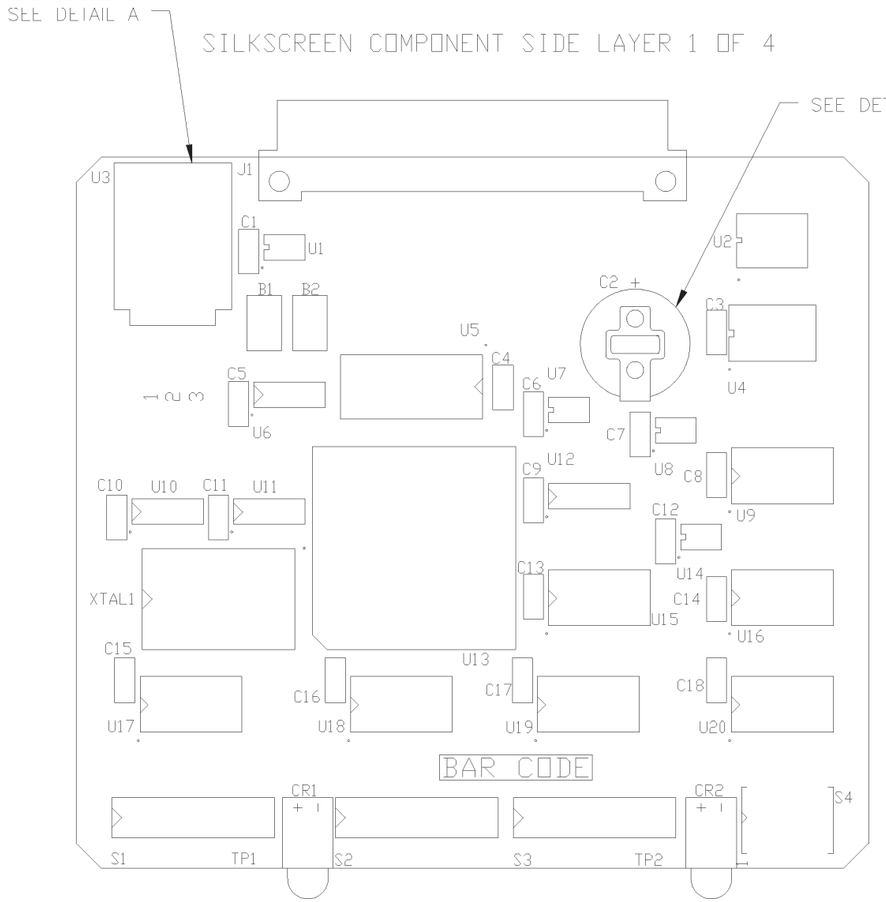
NOTE 1
FOR ASSEMBLY OF PART NO.: 81906518310 DO NOT PLACE PARTS WITH *. ADD 0 OHM RESISTORS TO PARTS WITH **.
(ALL CHANGES SHOWN ARE TYPICAL 8 PLACES.)

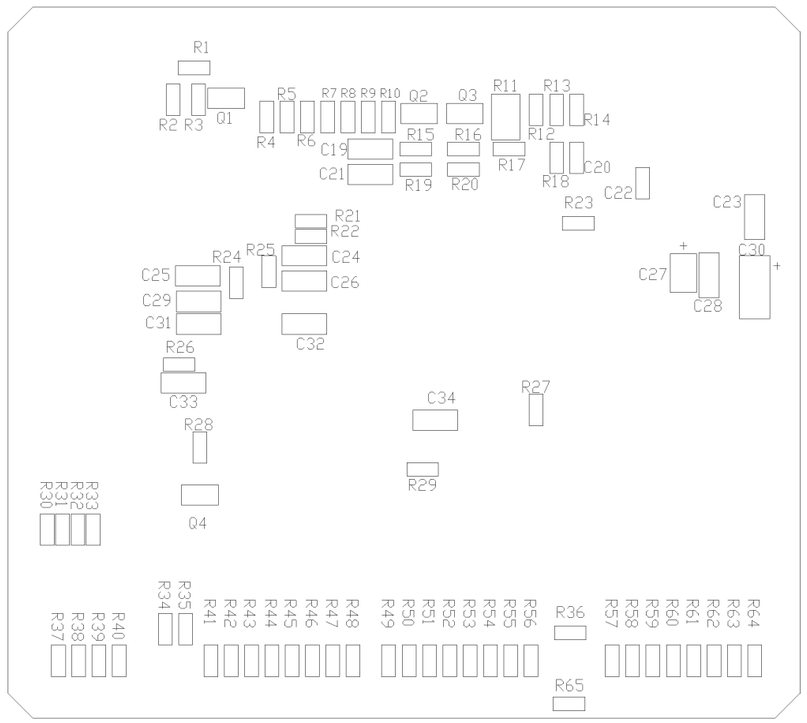


NOTE 2
FOR ASSEMBLY OF PART NO.: 81906518430 DO NOT PLACE PARTS WITH *. ADD 0 OHM RESISTORS TO PARTS WITH **.
(ALL CHANGES SHOWN ARE TYPICAL 8 PLACES.)



NOTE 3
FOR ASSEMBLY OF PART NO.: 81906518440 DO NOT PLACE PARTS WITH *.
(ALL CHANGES SHOWN ARE TYPICAL 8 PLACES.)


SEE DETAIL A
SILKSCREEN COMPONENT SIDE LAYER 1 OF 4
SEE DETAIL B
U3
J1
C1
U1
U2
B1
B2
C2
C3
U5
C4
C5
U7
C6
U4
U6
C7
U8
C8
U9
C10
U10
C11
U11
C9
U12
C12
U14
C13
U15
C14
U16
XTAL1
U13
C15
C16
C17
C18
U17
U18
U19
U20
BAR CODE
CR1
CR2
S1
TP1
S2
S3
TP2
S4


SILKSCREEN SOLDER SIDE LAYER 4 OF 4
R1
R2
R3
Q1
R4
R5
R6
R7
R8
R9
R10
Q2
Q3
R11
R12
R13
R14
C19
C21
R15
R16
R17
R18
C20
C22
R19
R20
R23
C23
C30
C27
C28
R21
R22
R24
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C24
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C29
C31
C32
R26
C33
R27
C34
R28
R29
Q4
R30
R31
R32
R33
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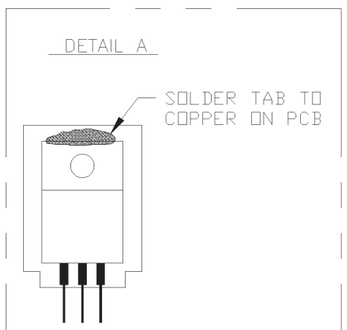
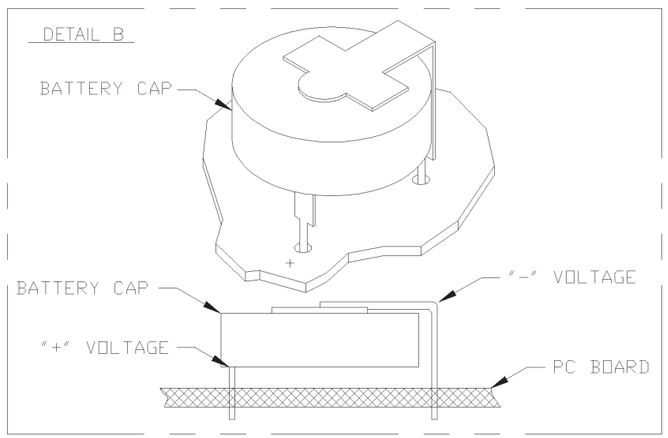
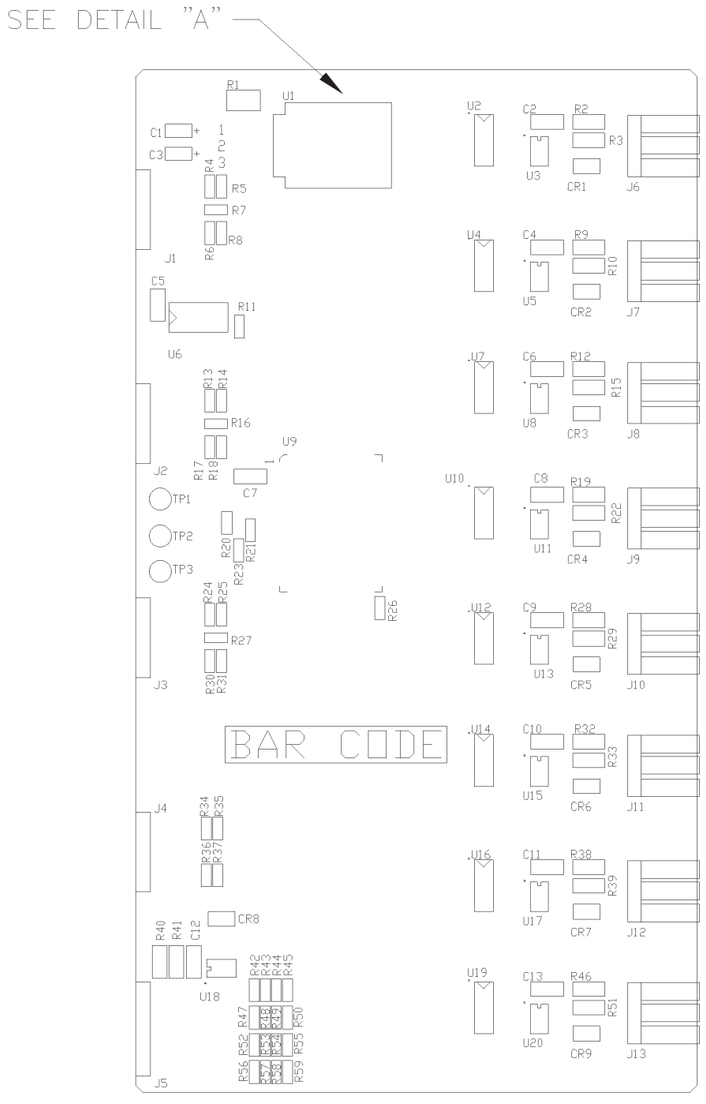
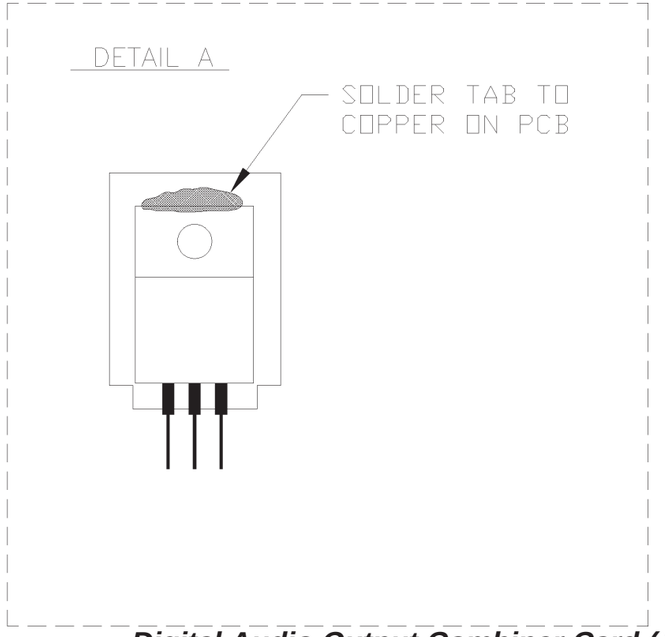
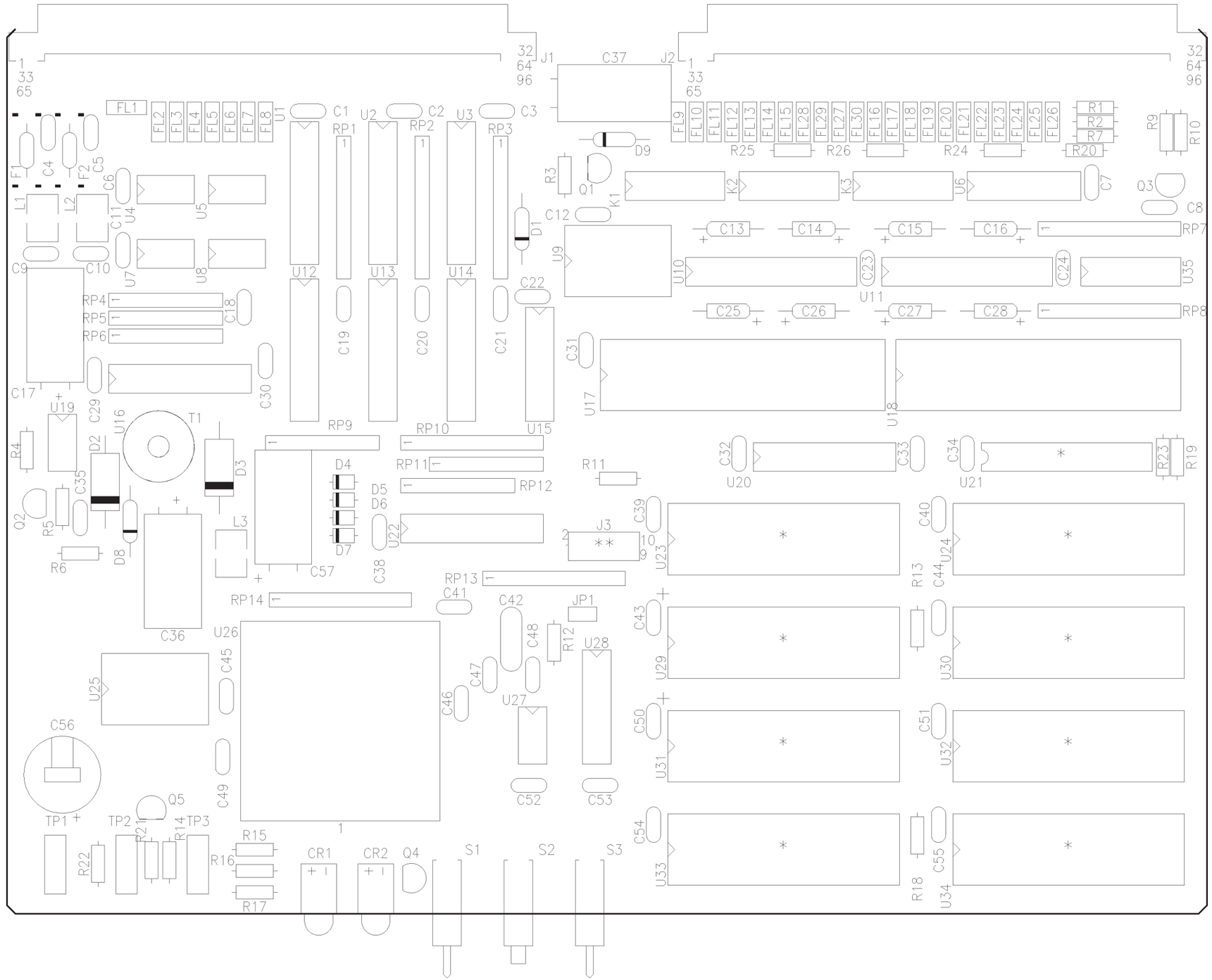

DETAIL A
SOLDER TAB TO
COPPER ON PCB


DETAIL B
BATTERY CAP
BATTERY CAP
"-" VOLTAGE
"+" VOLTAGE
PC BOARD


SEE DETAIL "A"
BAR CODE


DETAIL A
SOLDER TAB TO
COPPER ON PCB



3300 Controller Card • CA25-1259

6.1 Part Number Reference

The tables in the following manual sections contain part number references for the Cougar and Jaguar Routing Switchers.These part numbers should be used for reference only, system configurations may require additional part numbers not listed. Refer to the PESA Ordering Guide or contact your local sales representative for complete ordering information.

6.2 Cougar Analog Video Routing Switcher

COUGAR ANALOG VIDEO ROUTING SWITCHER	
DESCRIPTION	**PART NUMBER**
32X32 VIDEO MAINFRAME ASSEMBY	81906517410
32X32 CHASSIS	81906517510
32X32 VIDEO BACKPLANE	81906517520
32X32 ANALOG VIDEO MATRIX CARD	81906517460
16X16 CROSSPOINT CARD	81906517550
POWER SUPPLY ASSEMBLY	81906514550
POWER SUPPLY CARD	81906514540
3300 CONTROLLER ASSEMBLY	81906517590
3300 CONTROLLER CARD	81906517030

6.3 Cougar Digital Video Routing Switcher

COUGAR DIGTIAL VIDEO ROUTING SWITCHER	
DESCRIPTION	**PART NUMBER**
32X32 VIDEO MAINFRAME ASSEMBLY	81906517410
32X32 CHASSIS	81906517510
32X32 VIDEO BACKPLANE	81906517520
32X32 DIGITAL VIDEO MATRIX CARD	81906517480
POWER SUPPLY ASSEMBLY	81906514550
POWER SUPPLY CARD	81906514540
3300 CONTROLLER ASSEMBLY	81906517590
3300 CONTROLLER CARD	81906517030

6.4 Cougar Analog Audio Routing Switcher

COUGAR ANALOG AUDIO ROUTING SWITCHER	
DESCRIPTION	**PART NUMBER**
32X32 AUDIO MAINFRAME ASSEMBLY	81906517420
32X32 CHASSIS	81906517510
32X32 AUDIO BACKPLANE	81906517530
32X32 ANALOG AUDIO MATRIX CARD	81906517470
POWER SUPPLY ASSEMBLY	81906514550
POWER SUPPLY CARD	81906514540

6.5 Cougar Digital Audio Routing Switcher (75 Ohm)

COUGAR DIGITAL AUDIO ROUTING SWITCHER (75)	
DESCRIPTION	**PART NUMBER**
32X32 AUDIO MAINFRAME ASSY (75)	81906517450
32X32 CHASSIS	81906517510
32X32 AUDIO BACKPLANE (75)	81906517540
32X32 DIGITAL AUDIO MATRIX CARD (75)	81906517500
POWER SUPPLY ASSEMBLY	81906514550
POWER SUPPLY CARD	81906514540

6.6 Cougar Digital Audio Routing Switcher (110 Ohm)

COUGAR DIGITAL AUDIO ROUTING SWITCHER (110)	
DESCRIPTION	**PART NUMBER**
32X32 AUDIO MAINFRAME ASSY (110)	81906517420
32X32 CHASSIS	81906517510
32X32 AUDIO BACKPLANE	81906517530
32X32 DIG. AUDIO MATRIX CARD (110)	81906517490
POWER SUPPLY ASSEMBLY	81906514550
POWER SUPPLY CARD	81906514540

6.7 Jaguar Analog Video Routing Switcher

JAGUAR ANALOG VIDEO ROUTING SWITCHER	
DESCRIPTION	**PART NUMBER**
JAGUAR VIDEO MAINFRAME ASSEMBLY	81906518250
VIDEO CHASSIS	81906518230
MATRIX MID-PLANE	81906518130
POWER MID-PLANE	81906518170
REAR PANEL CONNECTOR	81906518180
DUAL REFERENCE INTERFACE CARD	81906518620
ANALOG VIDEO OUTPUT MONITOR CARD	81906518200
32X32 ANALOG VIDEO MATRIX CARD ASSEMBLY	81906518480
32X32 ANALOG VIDEO MATRIX CARD	81906517460
16X16 CROSSPOINT CARD	81906517550
WB 32X32 ANALOG VIDEO MATRIX CARD	81906518120
WB 16X16 CROSSPOINT CARD	81906518110
ANALOG OUTPUT COMBINER CARD	81906518150
8X1 CROSSPOINT CARD	81906518160
VIDEO INPUT BUFFER CARD	81906518140
3300 CONTROLLER ASSEMBLY	81906517590
3300 CONTROLLER CARD	8106517030
PS130 POWER SUPPLY	81901702780

6.8 Jaguar Digital Video Routing Switcher

JAGUAR DIGTIAL VIDEO ROUTING SWITCHER	
DESCRIPTION	**PART NUMBER**
JAGUAR VIDEO MAINFRAME ASSEMBLY	81906518250
JAGUAR VIDEO CHASSIS	81906518230
MATRIX MID-PLANE	81906518130
POWER MID-PLANE	81906518170
REAR PANEL CONNECTOR	81906518180
DUAL REFEENCE INTERFACE CARD	81906518620
DIGITAL VIDEO OUTPUT MONITOR CARD	81906518210
32X32 DIGITAL VIDEO MATRIX CARD ASSEMBLY	81906518860
32X32 DIGITAL VIDEO MATRIX CARD	81906518880
DIG. VIDEO OUTPUT COMBINER CARD	81906518790
VIDEO INPUT BUFFER CARD	81906518140
3300 CONTROLLER ASSEMBLY	81906517590
3300 CONTROLLER CARD	81906517030
PS130 POWER SUPPLY	81901702780

6.9 Jaguar Analog Audio Routing Switcher

JAGUAR ANALOG AUDIO ROUTING SWITCHER	
DESCRIPTION	**PART NUMBER**
JAGUAR AUDIO MAINFRAME ASSEMBLY	81906518280
JAGUAR AUDIO CHASSIS	81906518340
BACK PLANE	81906518290
DUAL REFERENCE INTERFACE CARD	81906518550
64X32 ANALOG AUDIO MATRIX CARD	81906518560
STANDARD AUDIO OUTPUT CARD	81906518300
CARD CAGE	81906518350
128X64 OUTPUT COMBINER CARD	81906518310
128X64 OUTPUT COMBINER CARD WITH MONITOR	81906518430
128X64 OUTPUT COMBINER CARD WITH MONITOR X-OFF	81906518440
64X64 OUTPUT CARD WITH MONITOR	81906518450
AUDIO OUTPUT MONITOR CARD	81906518460
PS130 POWER SUPPLY	81901702780

6.10 Jaguar Digital Audio Routing Switcher

JAGUAR DIGITAL AUDIO ROUTING SWITCHER	
DESCRIPTION	**PART NUMBER**
JAGUAR AUDIO MAINFRAME ASSEMBLY	81906518280
JAGUAR AUDIO CHASSIS	81906518340
BACK PLANE	81906518290
DUAL REFERENCE INTERFACE CARD	81906518550
64X32 DIGITAL AUDIO MATRIX CARD	81906517490
STANDARD AUDIO OUTPUT CARD	81906518300
CARD CAGE	81906518350
DIGITAL AUDIO OUTPUT COMBINER CARD	81906518360
AUDIO OUTPUT MONITOR CARD	81906518460
PS130 POWER SUPPLY	81901702780

7.1 Glossary of Terms

The following is a glossary of terms used in PESA Switching Systems routing control systems and more specifically, the 3300 Routing Control System. These are definitions as defined by usage within PESA and may not reflect the meanings associated with these terms by the video/audio industry.

All Call

A diagnostic procedure that causes a physical input to be taken to a series of physical outputs on a specified matrix component.

All List

This list is used in panel configuration and indicates that the panels linked to this list have access to all the defined items that the list refers to. (e.g. the ALL source include list indicates that the panel can access all sources defined in the system.)

Block

A set of contiguous inputs and outputs in each matrix family that are used for confidence checking. The controller assumes that is any crosspoint within the block is non-functioning, then all crosspoints in the block are non-functioning. The block size for System 5 matrices (RM5000, RM4000, Lynx) is 8 inputs by 2 outputs. The block size for PRC based matrices (Cougar, Jaguar) is 16 inputs by 16 outputs.

Breakaway Switch

A switch specified using pieces of sources specified on level of control by level of control basis. For example, a breakaway switch could specify source VTR 1’s video feed while not switching its audio feed.

Category

An alphanumeric string of characters from 1 to 6 characters long and starting with an alpha letter. Categories comprise the first portion of the name of a source, destination, or reentry. Categories provide an easy means of classifying router input/output devices. An example of a category is VTR which could be used to construct the names VTR 1, VTR 2, VTR 3, etc.

7.1 Glossary of Terms Continued:

Component

A rectangular set of crosspoints where all the inputs and outputs are contiguous and any input can be connected to any output without affecting any other output's input connection. In RGB video, R, G, and B are their own distinct components.

Confidence

A property of a set (called a block) of matrix crosspoints indicating whether the crosspoints are responding to control. The system controller continually checks crosspoint confidence to insure the system is in working order. A confidence error is an indication of when a set of crosspoints do not respond to a confidence request. Confidence has no relation as to whether any crosspoint in the block is active.

32x32 Cougar matrix broken down into blocks. Each block is checked for confidence.

Block #1 (Inputs 1-16, Outputs 1-16)	**Block #2** (Inputs 17-32, Outputs 1-16)
Block #3 (Inputs 1-16, Outputs 17-32)	**Block #4** (Inputs 17-32, Outputs 17-32)

Configuration Lock

A lock placed on the controller's configuration database. This lock prevents changes from being made to the controller while it is being interrogated by other users.

CPU Link

A serial port connection to the controller that allows an external control device to control the router and read status from the router.

7.1 Glossary of Terms Continued:

Default Status

Default status corresponds to the source name that last specified the switch made to a destination on a level of control. If an input is shared between sources and that input is switched to an output, the output shows the status of the source that last specified the switch.

Destination

A named item (constructed using categories and indices) that corresponds to an actual device whose video, audio, and control signals are input from the routing matrix. A destination consists of a name, number, and a maximum of one logical output on any defined level of control. Destinations are not allowed to share logical outputs i.e. logical outputs may be assigned to only one destination. (A destination may be configured such that there may not be an output specified for a level of control.)

Destination Numbers

A mapping of reentries and destinations to numbers so that each item can be referenced using numbers in CPU link operation. As each reentry and destination has a name, it also has a number representation. (Since reentries are both sources and destinations, they have source number as well.)

Diagonal

A diagnostic procedure that causes a series physical inputs to be taken to a series of physical outputs on a specified matrix component. The sequence of switches causes the first specified input to be taken to the first specified output, The next input to be taken to the next output, etc.. (A basic diagonal takes input 1 to output 1, input 2 to output 2, etc.)

Follow Switching

Switching in which a single source is specified to a single destination for all levels of control (e.g. Source VTR 1 to Destination EDIT A on video, audio, and timecode levels of control.) This is the most common manner in which switches are taken on a router.

7.1 Glossary of Terms Continued:

Hot Take Key

For a panel, a Hot Take Key is a data key configured such that pressing the key causes a switch to the panels current destination using the source assigned to the hot take key. (Some panels do not have this capability.) On the Win3300, the Hot Take Key is a key on the control screen that allows a switch to be taken by double clicking the mouse on a source entry.

Index

Single alphanumeric characters that are used in conjunction with categories to build reentry, source and destination names. Indices follow categories. 0, 1, or 2 indices in any combination can follow a category to build a name. (The index ‘0’ always exists.) An example of index use is the use of the numbers 0-9 as indices which could be used with the category VTR to construct the names such as VTR 1, VTR 2, VTR 3, VTR 12, etc.

Level Of Control

The lowest level of switching given to the user. A level of control corresponds to a set of signals that should always be specified together for breakaway or follow switches. (e.g. RGB video).

Lock

A property placed on a destination that prevents all users from taking a switch on the destination. Locks may be cleared by the requester that initiated the lock, a requester of a higher lock/protect priority, or a master requester.

Lock/Protect Priority

These are used to determine which panels and CPU link users are allowed to clear locks and protects placed on destinations. Panels and CPU links are given a lock/protect priority number of 0 to 255. The lower the number, the higher the priority. Master users are given a lock priority of 0 which allows them to clear any lock or protect on the controller.

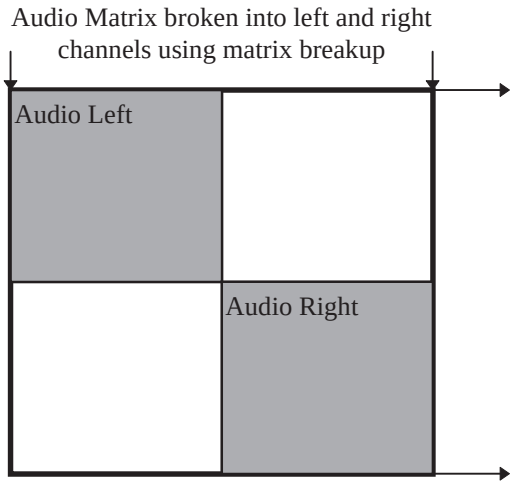
7.1 Glossary of Terms Continued:

Logical Inputs/Outputs

Inputs and outputs defined on a level of control basis. Each level of control specifies a number of logical inputs and outputs that exist for that level. Logical inputs/outputs are the lowest level at which a user can specify a switch. These are the inputs and outputs that are assigned to sources and destinations. A logical input or output may consist of physical inputs/outputs taken from one or more components. (e.g. a NTSC composite input consists of a single physical matrix input while a RGB input consists of physical inputs taken from the R, G, and B components.)

Matrix Breakup

The division of a physical matrix into one or more components. Done in software, matrix breakup allows complex signal types to reside within a single physical matrix. For example, a video matrix is often broken into R, G, and B components.



Panel

A user interface enclosed in a box (usually rack mount) with a combination of alphanumeric displays, push-buttons and LEDs. Panels allow a user to take switches on the routing system, perform actions such as lock and protect, and obtain status of the state of the routing switch system. On the 3300, panels communicate to the controller through an RS-485 twisted pair interface.

7.1 Glossary of Terms Continued:

Panel Address

Each panel has an address that uniquely identifies the panel to the control system. The address is configured on the controller and set on the panel through a DIP switch setting.

Panel Data Key

A user configurable key that can be set to perform a number of actions on a panel. These keys provide a means of customizing panel functionality. Data keys, depending on the type of panel, can be set to allow hot take switches, change the destination that a panel is controlling, allow for the building of names through category/index operation, or can be assigned to levels of control for breakaway operation. In addition, keys can be configured as soft keys to allow the panel user to reconfigure the key on the fly.

Panel Data Key List

A list of data key definitions that determine how a panel's set of data keys is to be configured. Data key lists may be shared by multiple panels of the same type.

Panel Destination Include List

A list of destinations that can be accessed by a panel using the panel scroll and category/index operations. The list can be used in conjunction with the data key lists to restrict which destinations a panel may control and status. The list may be referenced by more than one panel. Any change to a Destination Include List affects all the panels associated to it.

Panel Level Include List

A list of levels of control that can be accessed by a panel. The list can be used to restrict which levels of control a panel may control and status. The list may be referenced by more than one panel. Any change to a Level Include List affects all the panels associated to it.

7.1 Glossary of Terms Continued:

Panel Requester Code

A number in value from 1-65535, the requester code is used as identification to determine who owns system resources such as locks and protects that are placed on destinations. Any controlling device such as a panel or CPU link is given a requester code. The same requester code can be shared among the controlling devices. Devices with shared requester codes mean that they share ownership of the system resources. (e.g. two panels sharing a requester code can both switch a destination that has been protected by one of the panels while all other panels will not be able to take switches on the destination.)

Panel Salvo Include List

A list of salvos that can be accessed by a panel using the panel scroll operations. The list can be used in conjunction with the salvo key lists to restrict which salvos a panel may activate. The list may be referenced by more than one panel. Any change to a Salvo Include List affects all the panels associated to it.

Panel Salvo Key

When a panel is in salvo mode, its data keys take on the salvo key functionality. This allows a salvo to be assigned to a key. When the key is pressed, the salvo is activated immediately.

Panel Salvo Key List

A list of salvo assignments to data keys that determine how a panel's set of data keys is to be configured when in salvo mode of operation. Salvo key lists may be shared by multiple panels of the same type.

Panel Source Include List

A list of sources that can be accessed by a panel using the panel scroll and category/index operations. The list can be used in conjunction with the data key lists to restrict which sources a panel may access for taking switches. The list may be referenced by more than one panel. Any change to a Source Include List affects all the panels associated to it.

Physical Inputs/Outputs

The actual inputs and outputs coming into and out of a matrix frame. Physical inputs/outputs are associated with the component definitions and can be used to identify individual crosspoints. The 3300 diagnostics are all performed by specifying physical inputs/outputs.

7.1 Glossary of Terms Continued:

PRC Component

This is a type of matrix component that is controlled using the PESA Routing Control (PRC) protocol. The component resides within the address space defined within the PRC protocol. Matrices using the PRC protocol include the Cougar and Jaguar families of matrices.

Protect

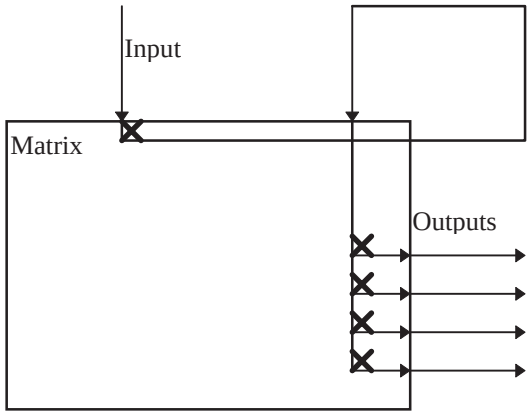
A property placed on a destination that prevents all users from taking a switch on the destination except for the requester that initiated the protect. Protects may be cleared by the requester that initiated the protect, a requester of a higher lock/protect priority, or a master requester.

Readback

The status read back from an actual matrix by the control system. A readback error occurs when the value read back from the matrix for a specified physical output is not the value expected by the controller.

Reentry

A virtual router path that allows a single switch specification to take a source to a number of destinations at the same time. A reentry is named as well as assigned source and destination numbers. A reentry is treated as a source and/or destination by user panels and the CPU link. A reentry is virtual in that it is performed in software and does not require any more additional physical crosspoints than any other path.



7.1 Glossary of Terms Continued:

RM5 Component

This is a type of matrix component that is controlled using the System 5 parallel bus control protocol. The component resides within the address space defined within the System 5 protocol. Matrices using the System 5 protocol include the RM4000, RM5000, and Lynx families of matrices.

Salvo

A collection of predefined actions taken on a router at a single time. A salvo consists of a series of predefined switches denoted using salvo entries.

Salvo Entry

A switch specification that is attached to a particular salvo. A control system has a fixed number of entries which are allocated to salvos as seen fit by the user.

Soft Key

A panel data key that is configured so that a panel user can change the assignments made to the key. Soft keys can be set to allow the assignment of source or destination information by the panel user.

Source

A named item (constructed using categories and indices) that corresponds to an actual device whose video, audio, and control signals are input into the routing matrix. A source consists of a name, number, and a maximum of one input on any defined level of control. (A source may be configured such that there may not be an input specified for a level of control.)

Source Numbers

A mapping of reentries and sources to numbers so that each item can be referenced using numbers in CPU link operation. As each reentry and source has a name, it also has a number representation. (Since reentries are both sources and destinations, they have destination number as well.)

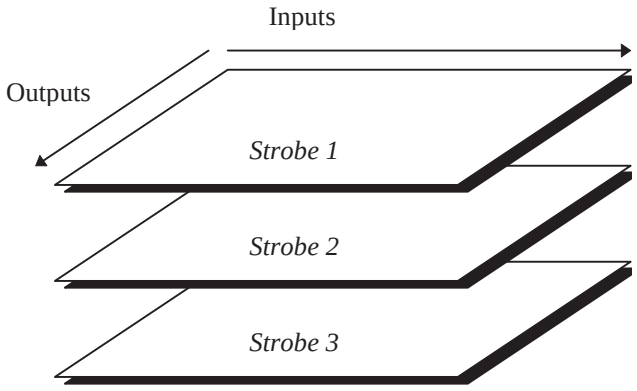
Source/Destination Block

A configuration item that indicates to the controller that it is not to switch the specified source to the specified destination for any level of control.

7.1 Glossary of Terms Continued:

Strobe

A third dimension used in addressing crosspoints on PESA matrices. The strobe may be used to differentiate between different types of matrices (e.g. video is on strobe 1, audio is on strobe 2, timecode is on strobe 3.) Many other manufacturers refer to strobes as levels.



User Account

A named item consisting of a set of privileges and an optional password. The user account provides a means of restricting router users to actions that they are capable of performing.

User Password

An eight character string entered by a user to allow the user to be able to use their router privileges.

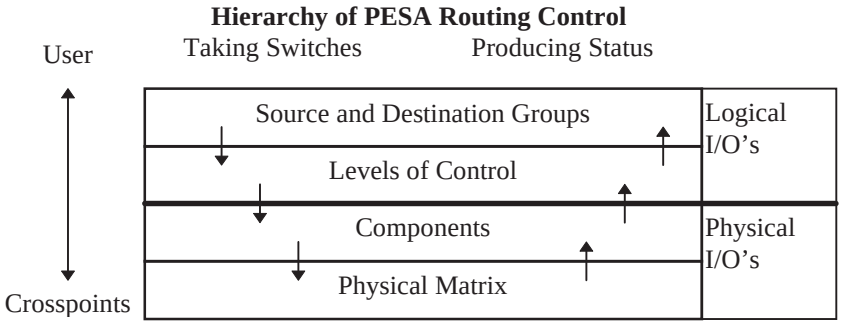
Virtual Matrix Mapping

A mapping of logical inputs and outputs into sources and destinations. Virtual matrix mapping provides a means of allocating the actual router inputs and outputs to maximize their usage.

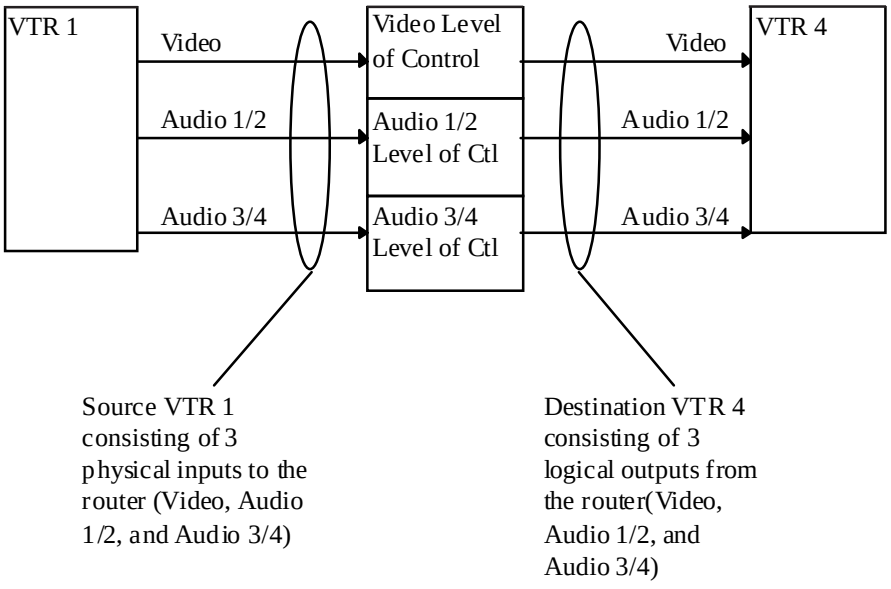
7.1 Glossary of Terms Continued:

Virtual Matrix Mapping Continued:

The following diagram describes the mapping layers used in software to turn a system of electronic crosspoints into a logical routing system.



The following is an example of a path of a source (VTR 1) to a destination (VTR 4) through a router. The path is defined for a three level system. The example shows how logical inputs and outputs are collected to make sources and destinations.



ADDENDUM

Cougar Video Frame RCP Port Addendum

This addendum is designed to be utilized as quick reference guide to the system interconnection between the Cougar Video Frame and the RCP Control Panels.

The pinout for the RCP Port Connectors on the rear panel of the Cougar Video Frame is as follows:

Pin 1	+DATA
Pin 2	-DATA
Pin 3	Shield

The pinout for the Control Port Connector on the rear panel of the RCP Control Panel is as follows:

Pin 1	-DATA
Pin 2	Shield
Pin 3	+DATA

The twisted-pair cables between the Cougar Video Frame RCP Port Connectors and the RCP Control Panels must be connected as shown in Figure 1. Please refer to Figures 2 and 3 also when making control panel connections to the Cougar Video Frame.

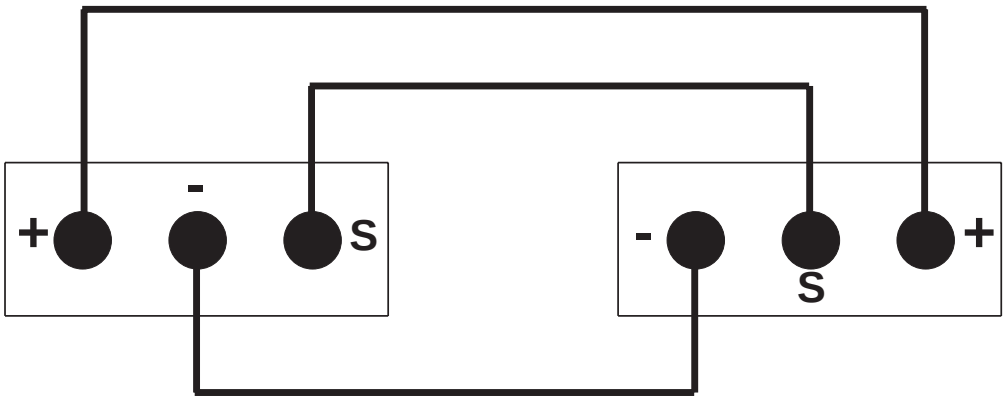
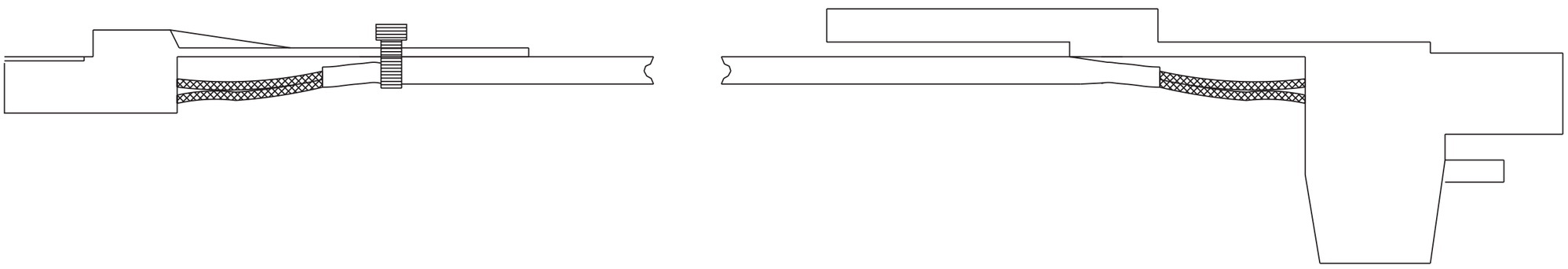
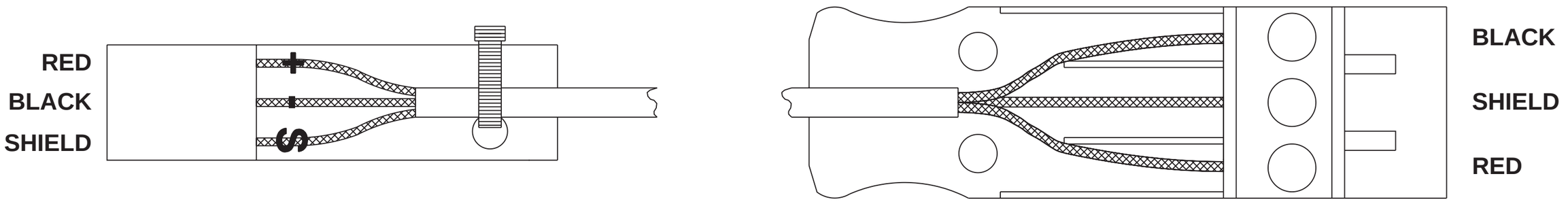


Figure 1 Cougar Video Frame and RCP Control Panel Interconnection

ADDENDUM

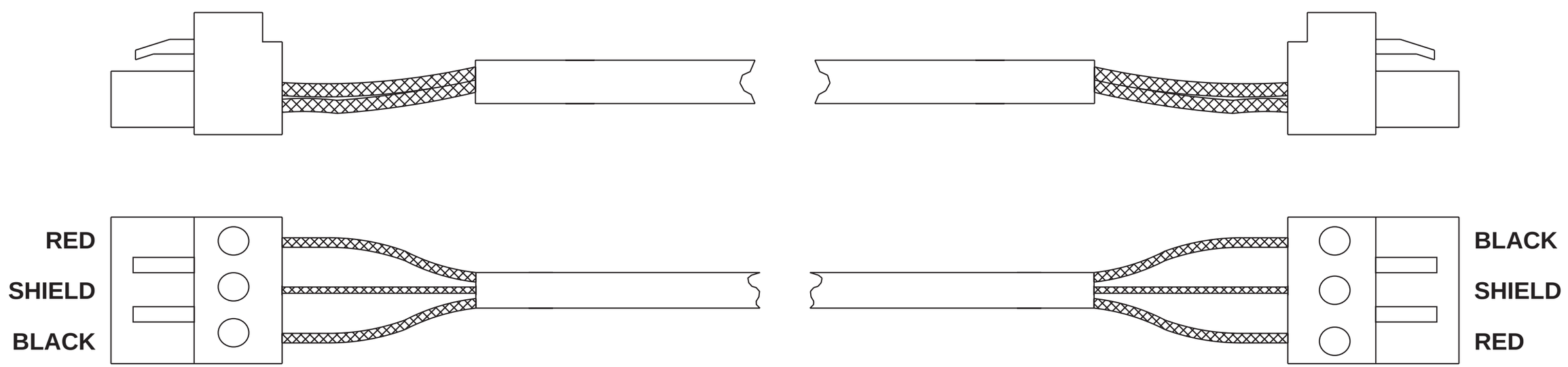




NOTE: THIS CABLE DIAGRAM REPRESENTS THE CONNECTION OF A COUGAR OR JAGUAR VIDEO FRAME CONTROL PANEL PORT TO THE FIRST CONTROL PANEL IN A CONTROL PANEL PORT CONNECTION DAISY-CHAIN.

Figure 2 Cougar or Jaguar Video Frame Control Panel Port to the First Control Panel in a Daisy-Chain Connection

ADDENDUM



NOTE: THIS CABLE DIAGRAM REPRESENTS THE CONNECTION OF A CONTROL PORT TO A CONTROL PORT IN CONTROL PORT CONNECTION DAISY-CHAIN.

Figure 3 Control Panel Port to Control Panel Port Connection

ADDENDUM

Jaguar Video Frame RCP Port Addendum

This addendum is designed to be utilized as quick reference guide to the system interconnection between the Jaguar Video Frame and the RCP Control Panels.

The pinout for the RCP Port Connectors on the rear panel of the Jaguar Video Frame is as follows:

Pin 1	+DATA
Pin 2	-DATA
Pin 3	Shield

The pinout for the Control Port Connector on the rear panel of the RCP Control Panel is as follows:

Pin 1	-DATA
Pin 2	Shield
Pin 3	+DATA

The twisted-pair cables between the Jaguar Video Frame RCP Port Connectors and the RCP Control Panels must be connected as shown in Figure 1.

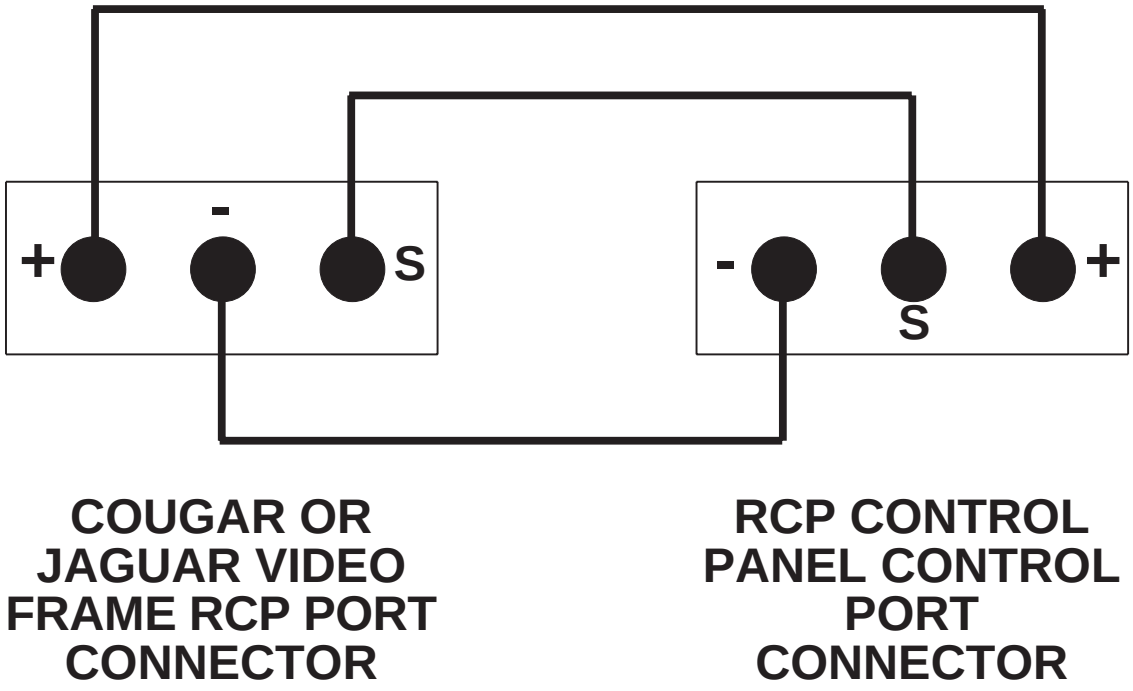
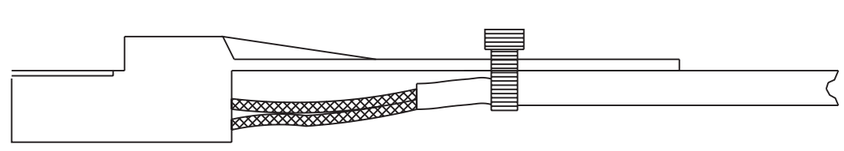
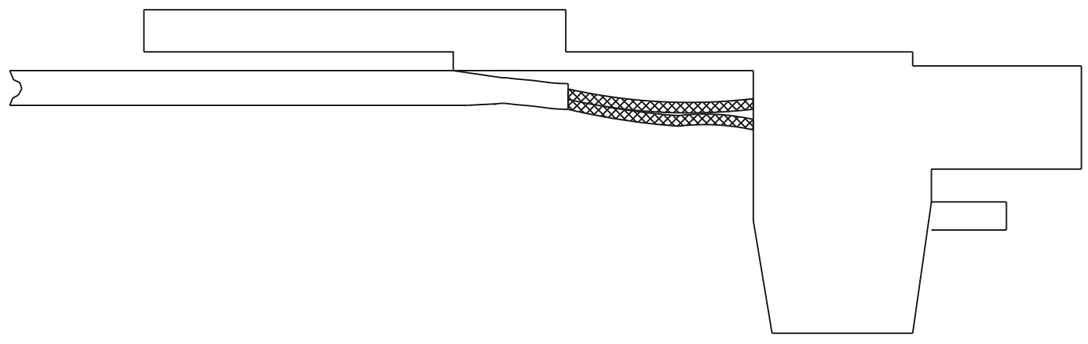
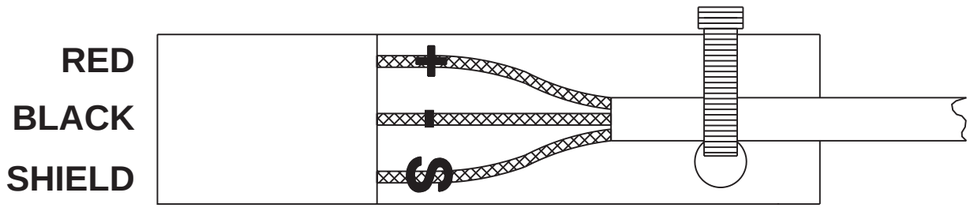


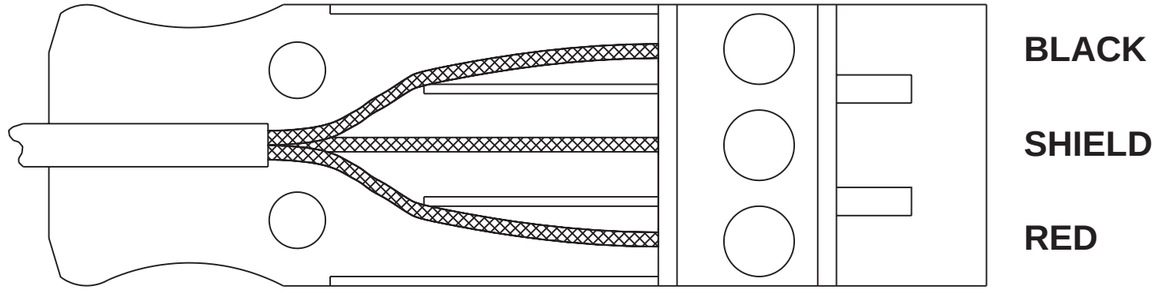
Figure 1 Jaguar Video Frame and RCP Control Panel Interconnection

ADDENDUM





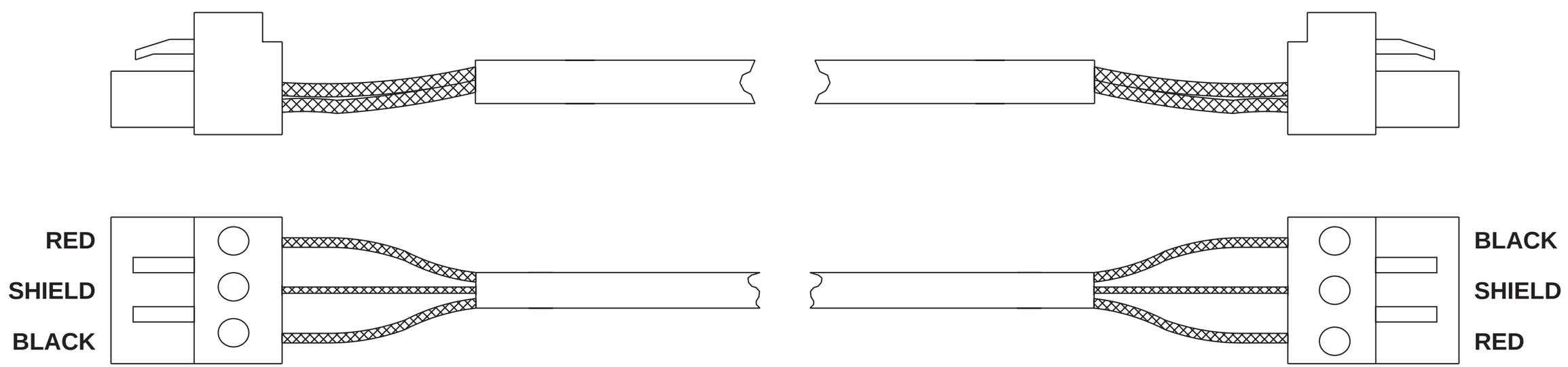




NOTE: THIS CABLE DIAGRAM REPRESENTS THE CONNECTION OF A COUGAR OR JAGUAR VIDEO FRAME CONTROL PANEL PORT TO THE FIRST CONTROL PANEL IN A CONTROL PANEL PORT CONNECTION DAISY-CHAIN.

Figure 2 Jaguar Video Frame Control Panel Port to the First Control Panel in a Daisy-Chain Connection

ADDENDUM



NOTE: THIS CABLE DIAGRAM REPRESENTS THE CONNECTION OF A CONTROL PORT TO A CONTROL PORT IN CONTROL PORT CONNECTION DAISY-CHAIN.

Figure 3 Control Panel Port to Control Panel Port Connection

ADDENDUM

Introduction

CAUTION

PS130 POWER SUPPLIES CONTAIN ELECTRICAL SHOCK HAZARDS AND SHOULD ONLY BE SERVICED BY QUALIFIED SERVICE PERSONNEL WITH EXPERIENCE IN SERVICING OFF-LINE SWITCHING REGULATORS.

CAUTION

There are no user serviceable parts contained in the PS130 Power Supply. All service performed on the PS130 Power Supply should be accomplished by qualified service personnel. **The internal circuits of the PS130 Power Supply contain dangerous voltage and current levels. Prior to servicing any PS130 Power Supply make absolutely sure that the AC line input is disconnected.**

NOTE

The PS130 Power Supply replaces the power supply formerly used to power the PESA equipment item referenced in the technical manual to which this addendum is attached. This addendum takes precedence over any mention of the former power supply in the technical manual for any PESA equipment items where the PS130 Power Supply is utilized.

This addendum contains the power connection, front door removal and replacement, power supply removal and installation, and fuse replacement instructions for the PS130 Power Supply. The purpose of this addendum is to provide technical information to the customer concerning the operation and servicing of the PS130 Power Supply.

ADDENDUM

General

CAUTION

HIGH LEAKAGE CURRENT AT 230 VAC

The PS130 Power Supply leakage current exceeds 3.5mA when used at 230VAC because of leakage through emission filter capacitors.

The PS130 Video Power Supply is responsible for providing a regulated ±8.9VDC @ 5.5A to the switching frame. The PS130 Power Supply is designed to operate within output specifications with AC line voltages ranges from 105 - 240 VAC and with AC line frequencies of 50/60 Hz automatically. 3.15A 250VAC AC line fuses provide over-load protection.

The PS130 Audio Power Supply is responsible for providing a regulated ±24VDC @ 2.35A to the switching frame. The PS130 Power Supply is designed to operate within output specifications with AC line voltages ranges from 105 - 240 VAC and with AC line frequencies of 50/60 Hz automatically. 3.15A 250VAC AC line fuses provide over-load protection.

CAUTION

Disconnect AC Power Cord Before Removing Power Supply.

In the event of a PS130 Power Supply failure, PESA suggets returning the malfunctioning unit to the PESA Service Department for replacement. **PS130 Power Supplies contain lethal voltages when operating and should only be serviced by technicians qualified to service off-line switching regulators.** Please call the PESA Service Department for a RMA number before returning any units for replacement. The service department's phone number is listed on the Service and Ordering Assistance Page.

ADDENDUM

Power Connections

CAUTION

PS130 POWER SUPPLIES CONTAIN ELECTRICAL SHOCK HAZARDS AND SHOULD ONLY BE SERVICED BY QUALIFIED SERVICE PERSONNEL AND/OR QUALIFIED TECHNICIANS.

CAUTION

THIS POWER SUPPLY USES AN INDIVIDUAL AC POWER CORD. DISCONNECT CORD BEFORE REMOVING SUPPLY.

Power Connect

To power-up a PS130 Power Supply and its associated routing switcher frame take the following steps:

1. Insert the power supply into the frame following the instructions in the Power Removal Section of this addendum.

2. Connect the power supply to the AC line.

3. Repeat steps 1 and 2 for a secondary power supply if applicable.

4. If applicable, connect any DC power looped to and from other frames in the routing switcher system to the unit under test.

Power Disconnect

To power-down a PS130 Power Supply, disconnect the AC power cord from the power supply's AC line input connector. To power-down a PS130 Power Supply and its associated routing switcher frame take the following steps:

1. If applicable, disconnect any DC power looped to and from other frames in the routing switcher system from the unit under test.

2. Disconnect the AC line from the primary PS130 Power Supply.

3. If applicable, disconnect the AC line from the secondary PS130 Power Supply.

ADDENDUM

Front Door Removal and Replacement

Front Door Removal (Removable Front Doors Only)

To remove the PESA equipment item's front door (cover) take the following steps:

1. Grasp the both the left and right front cover slide locks and push or pull them towards the center of the equipment item's front.

2. Once both slide locks are slide toward the center of the equipment items front, carefully pull the front door off the equipment item.

Front Door Installation (Removable Front Doors Only)

To install the PESA equipment item's front door (cover) take the following steps:

1. Align the front door with the front of the PESA equipment item.

2. Once the front door is aligned with the front of the PESA equipment item, slide the front door onto the equipment item until the slide locks snap into the locking provided on the equipment item's chassis.

ADDENDUM

Power Supply Removal and Replacement

CAUTION

Two AC Power Cords may be connected to this unit.

Power Supply Removal

To remove the PESA equipment item's power supply or power supplies take the following steps:

1. **Disconnect the AC power cord connected to the power supply to be removed.**

2. Remove or open the equipment item's front door.

3. Grasp the power supply slide lock and pull it toward the center of the supply.

4. Once the slide lock is slid toward the center of the supply, carefully pull the power supply out of the equipment chassis.

5. Repeat step 1 and steps 3 and 4 to remove any additional power supplies from the equipment item.

Power Supply Installation

To install the PESA equipment item's power supply or power supplies take the following steps:

1. Align the primary power supply with the primary set of power supply circuit card guides in the equipment item's chassis.

2. Carefully push the power supply into the chassis until the power supply connector makes initial contact with the backplane power connector. At this point, firmly but carefully continue pushing the power supply into the equipment chassis while making sure the power connectors are properly aligned. You may have to slide the power supply latch toward the center of the supply in order for the latch to move past the frame's metal work. Continue pushing the power supply until the power supply slide lock clicks into the power supply slide lock hole provided in the equipment chassis and the power connectors are firmly mated.

3. If additional power supplies are to be installed in the equipment chassis, align them with a set of power supply circuit card guides in the equipment item and repeat step 2.

ADDENDUM

Fuse Replacement

CAUTION

DOUBLE-POLE/NEUTRAL FUSING

To replace the PS13O Power Supply line fuses take the following steps:

1. **Disconnect the AC power cord from the power supply being serviced.**

2. Remove or open the front door of the equipment item containing the PS130 Power Supply needing serviced.

3. Remove the power supply from the equipment item. Refer to the Power Supply Removal Section of this addendum for power supply removal instructions.

4. Carefully pull the AC line fuse holder open. The fuse holder is located adjacent to the PS130 Power Supply AC line input connector.

5. **Replace the fuses with fuses of equal current and voltage rating.**

6. Carefully slide the AC line fuse holder closed.

7. Install the power supply back into the equipment chassis. Refer to the Power Supply Installation Section of this addendum for complete power supply installation instructions.

5. Reconnect the associated AC power cord.