

MANUAL PART NUMBER: 400-0172-003

VM2143VS

8-IN VIDEO/SYNC INPUT CARD FOR V-MATRIX™ WITH COVER PLATE USER'S GUIDE

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PRECAUTIONS / SAFETY WARNINGS 1

Please read this manual carefully before using your **VM2143VS**. Keep this manual handy for future reference. These safety instructions are to ensure the long life of your **VM2143VS** and to prevent fire and shock hazard. Please read them carefully and heed all warnings.

1.1 GENERAL

- Qualified ALTINEX service personnel, or their authorized representatives must perform all service.

1.2 INSTALLATION

- To prevent fire or shock, do not expose this unit to rain or moisture. Do not place the **VM2143VS** in direct sunlight, near heaters or heat radiating appliances, or near any liquid. Exposure to direct sunlight, smoke, or steam can harm internal components.
- Handle the **VM2143VS** carefully. Dropping or jarring can damage the card.
- Insert the card carefully into the slots of the V-Matrix™ without bending any edges.

1.3 CLEANING

- Clean only the connector area with a dry cloth. Never use strong detergents or solvents, such as alcohol or thinner. Do not use a wet cloth or water to clean the card. Do not clean or touch any component or PCB.

1.4 FCC / CE NOTICE

- This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if

not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

- Any changes or modifications to the unit not expressly approved by ALTINEX, Inc. could void the user's authority to operate the equipment.

ABOUT YOUR VM2143VS 2

VM2143VS 8-in V-MATRIX™ Video Input Card

The **VM2143VS** is an 8-In Video Input Card designed for use in a **V-Matrix™** System and can handle a wide array of signal formats. The **VM2143VS** can be used for video signals including Composite Video, S-Video, Component Video, RGsB, RGBS and RGBHV. Easily accessible jumpers allow the user to select AC or DC Couplings, as well as, High or Low input impedance for each of the 8 individual inputs.

The 8-Input Video Cards provide built-in ground loop isolation (GLI on Board™) through the use of differential inputs. This is an extremely important feature because it protects against hum bars and other interference caused by ground loops, which notoriously wreak havoc on large-scale matrix systems. Both the input and output video cards provide a bandwidth of 450 MHz @ -3dB, allowing them to pass extremely high-resolution computer video signals without signal degradation.

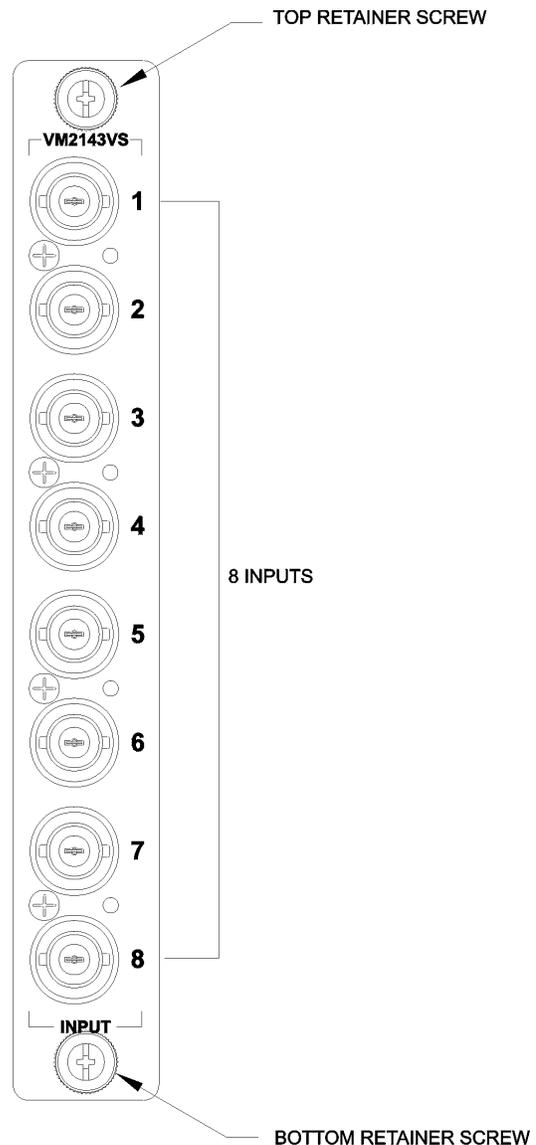
VM2143VS cards are “hot-swappable” with finger adjustable lock-down screws and secure, positive engagement card-edge connections into the V-Matrix™ Enclosure.

TECHNICAL SPECIFICATIONS 3

FEATURES/ DESCRIPTION	VM2143VS
Input	(8)
Input Connectors	8 Female BNC's
Level	1.2Vp-p
Impedance	75 Ohms, 1%/High Z Selectable by Jumper
Return Loss	<40dB @ 10MHz
Coupling	DC (Balanced)
Type	Isolated/Balanced
Bandwidth	450MHZ @ -3dB
Coupling	DC/AC Selectable by Jumper

Table 1. **VM2143VS**

PRODUCT DESCRIPTION 4



APPLICATION DIAGRAM

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Diagram 1 : Connections

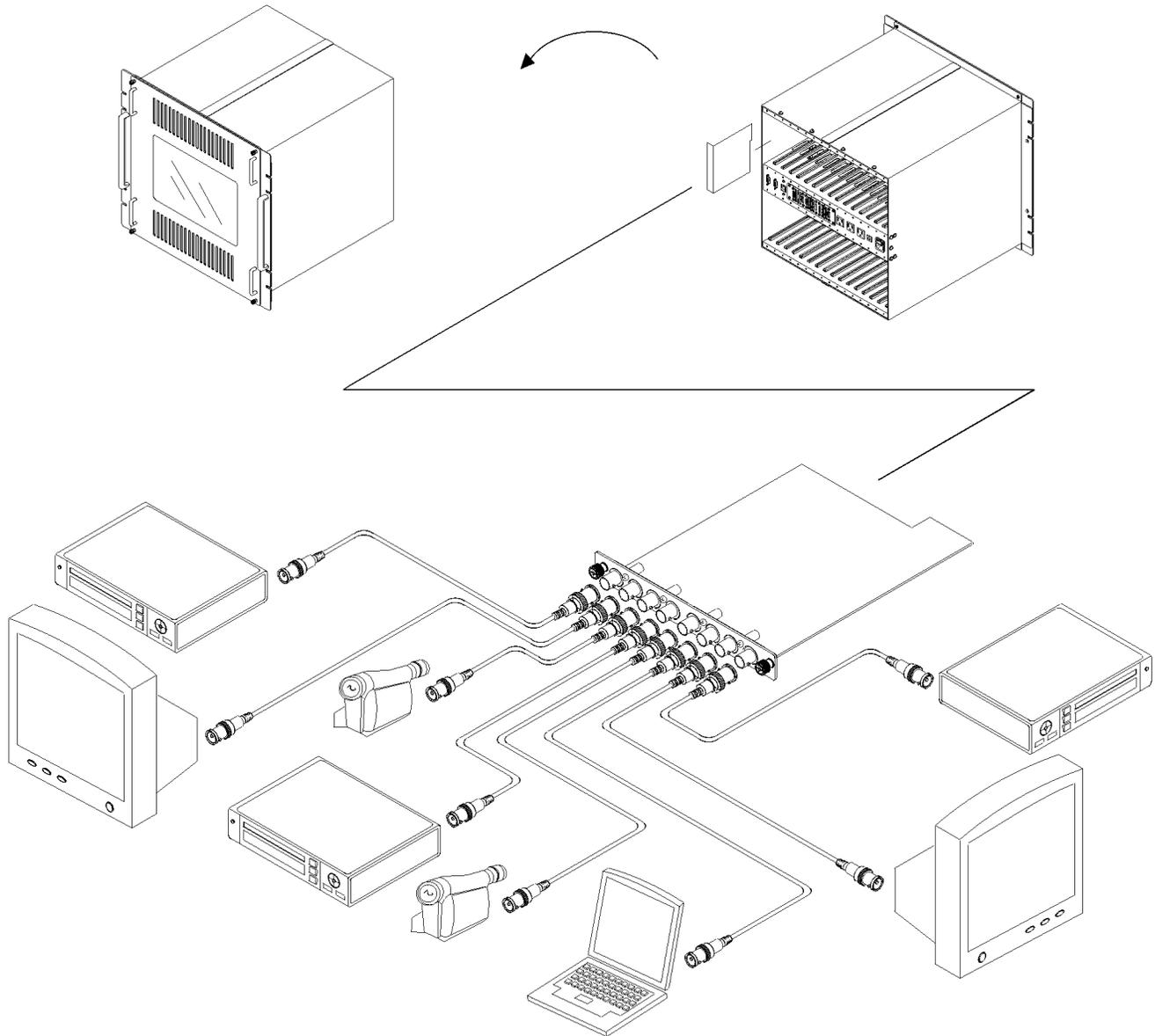
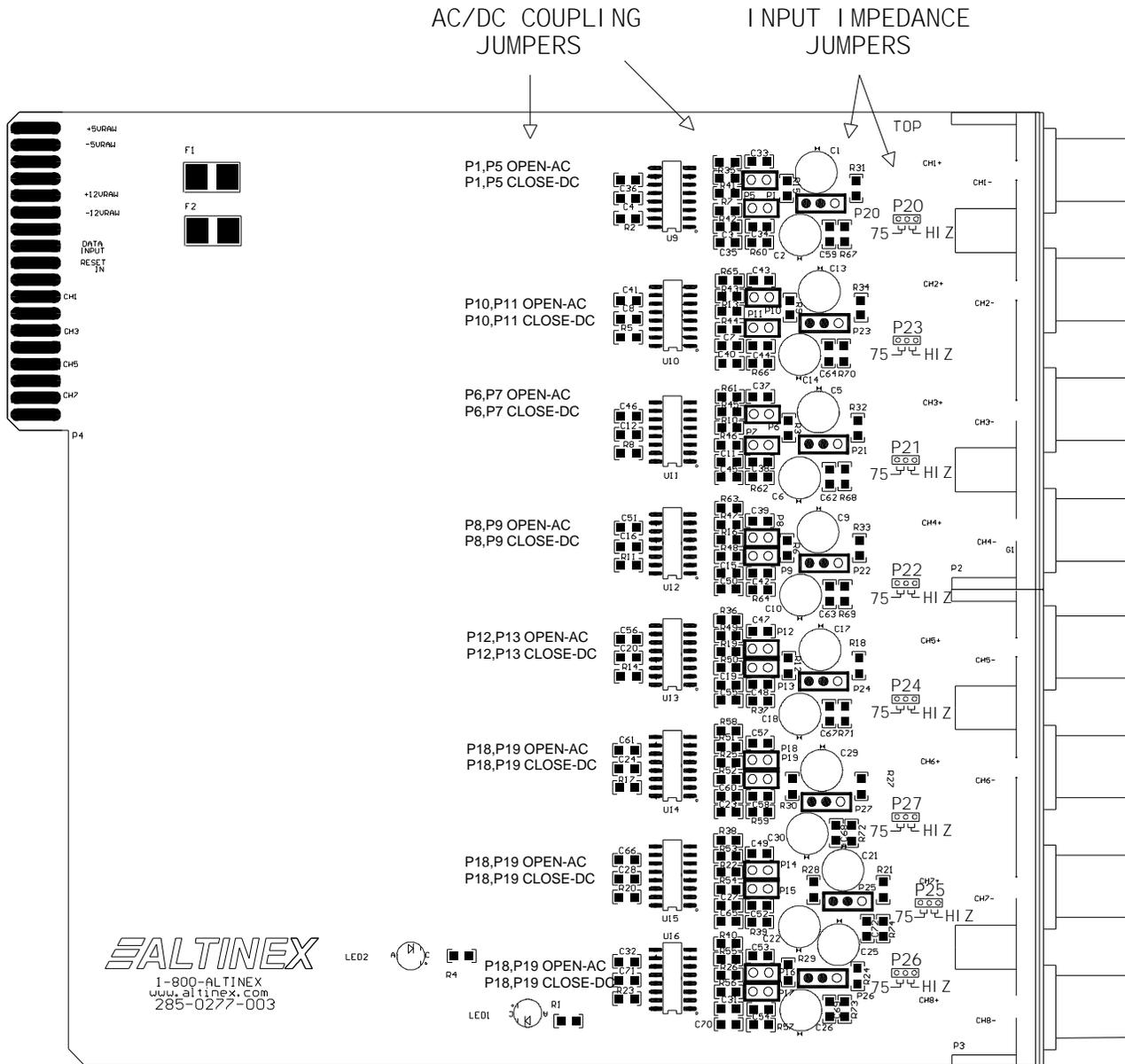


Diagram 2 : AC Coupled/75 Ohms

Jumper Settings for Video Signal
AC Coupled/75 Ohm Input Impedance

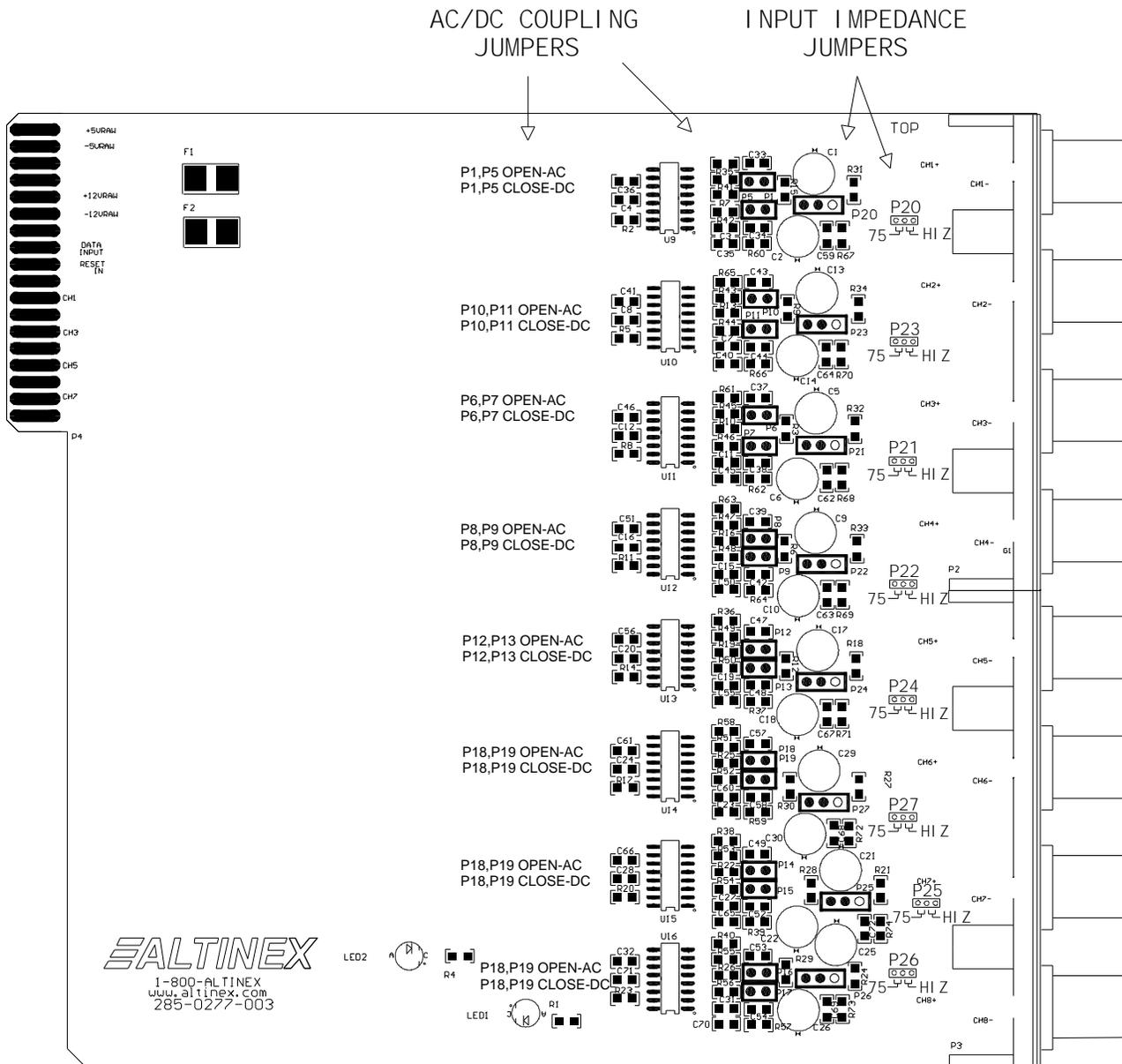


Note: In the diagram above, the jumpers are set for 75 ohms input impedance on the following ports: P20, P23, P21, P22, P24, P27, P25 and P26. **(Jumpered pins have dark circles.)**

The jumpers on P1, P5, P6, P7, P8, P9, P10, P11, P12, P13, P14, P15, P16, P17, P18 and P19 are removed for AC Coupling.

Diagram 3 : DC Coupled/75 Ohms

Jumper Settings for Video Signal
DC Coupled/75 Ohm Impedance

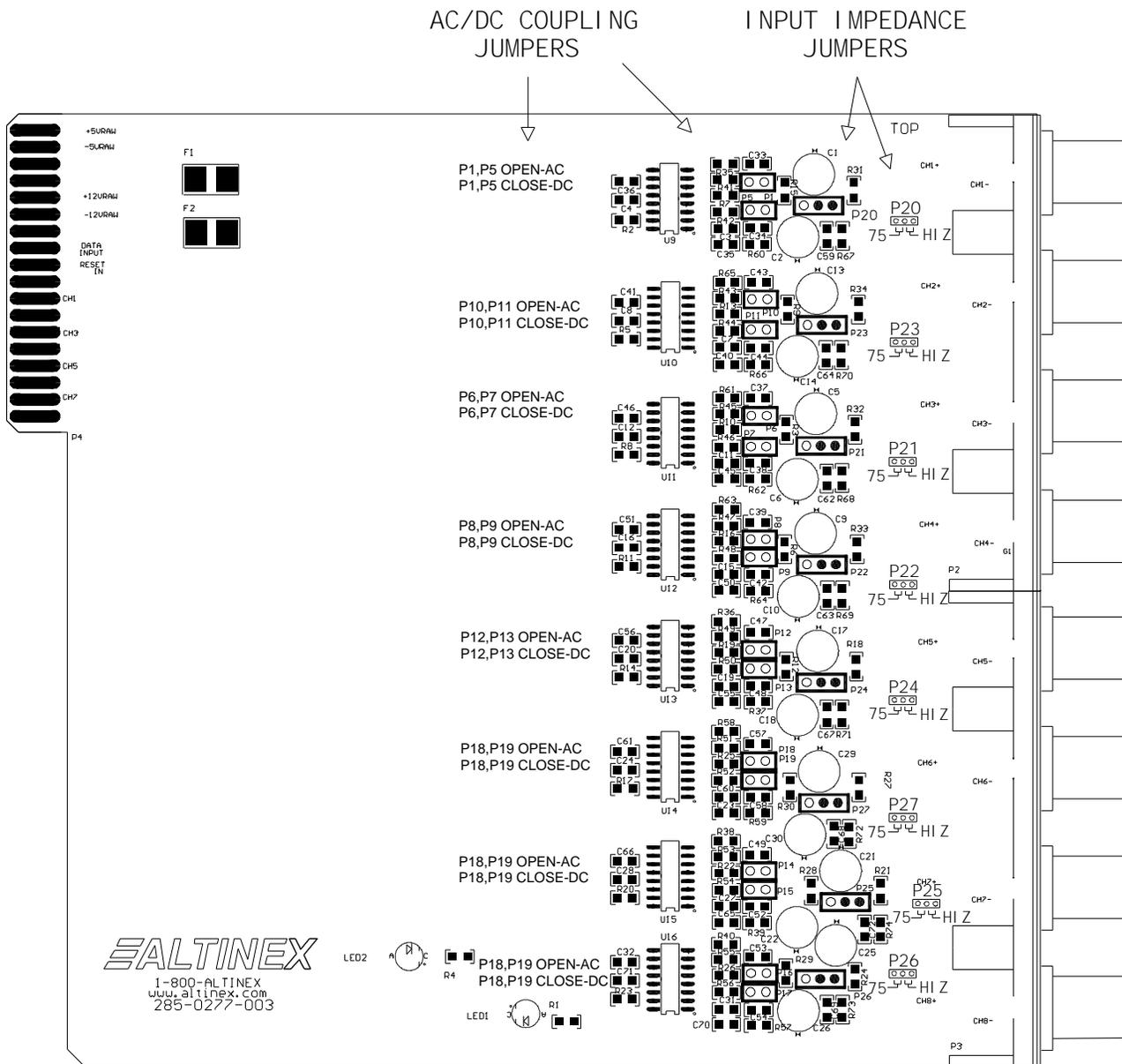


Note: In the diagram, above, the jumpers are set for 75 ohms input impedance on the following ports: P20, P23, P21, P22, P24, P27, P25 and P26. **(Jumpered pins have dark circles.)**

The jumpers on P1, P5, P6, P7, P8, P9, P10, P11, P12, P13, P14, P15, P16, P17, P18 and P19 are installed for DC Coupling.

Diagram 4 : AC Coupled/High Z

Jumper Settings for Video Signal
AC Coupled/High Impedance

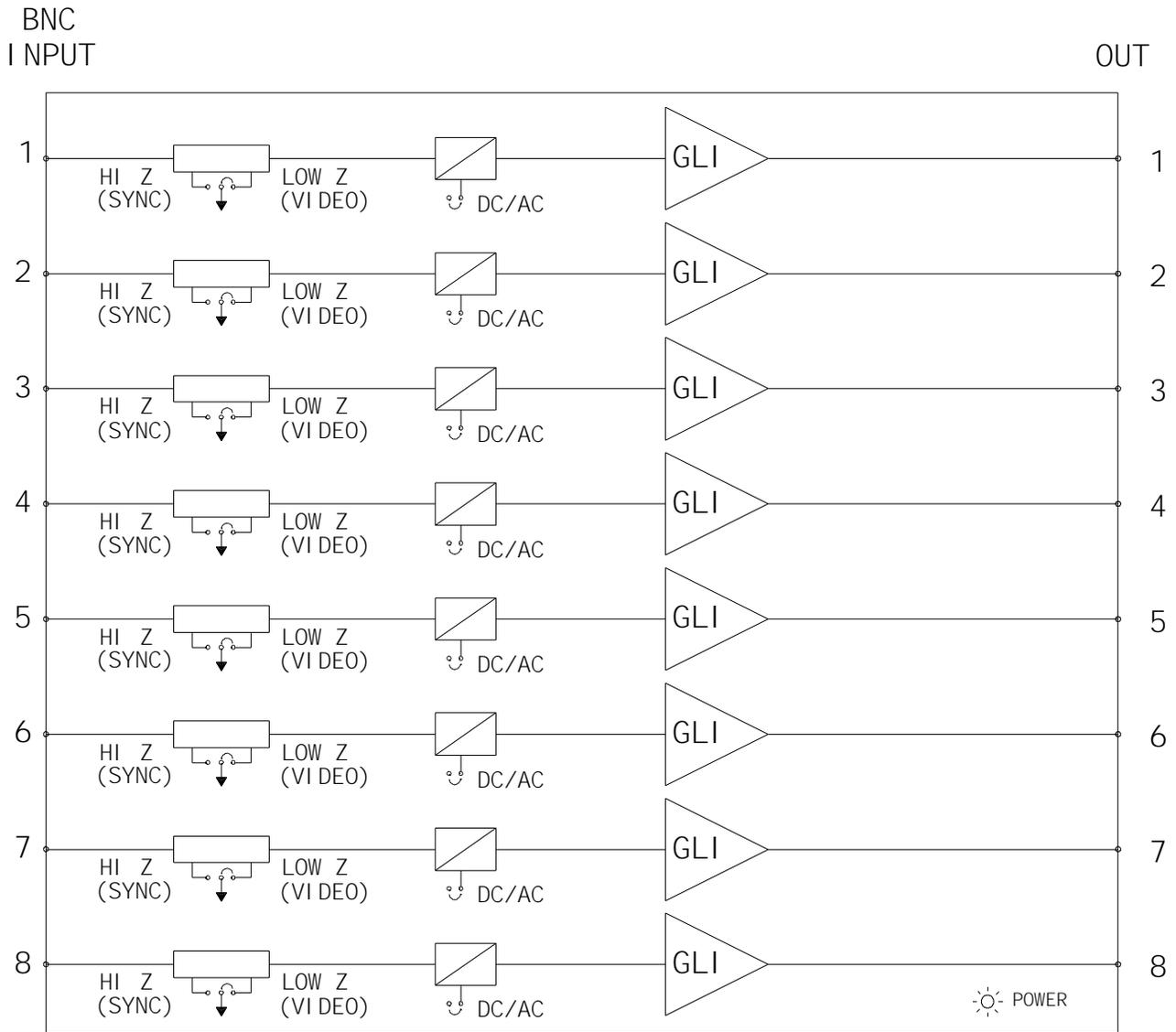


Note: In the diagram above, the jumpers are set for High impedance on the following ports: P20, P23, P21, P22, P24, P27, P25 and P26. **(Jumpered pins have dark circles.)**

The jumpers on P1, P5, P6, P7, P8, P9, P10, P11, P12, P13, P14, P15, P16, P17, P18 and P19 are removed for AC Coupling.

Diagram 6 : Internal View

VM2143VS Internal Block Diagram



INSTALLING YOUR VM2143VS 6

Step 1. Decide which type of input video signal will be used on each input and what the impedance requirements are of the input source. Refer to Diagram 2 through Diagram 5 for jumper settings. Note that DC Coupling is most commonly used with DVD players and VCR's and AC Coupling is most often used with video conferencing equipment and cameras.

Step 2. Slide the **VM2143VS** into one of the slots on the top half of the V-Matrix™ Enclosure. The top half of the enclosure is for input cards and the bottom half is for output cards. Make sure that the **VM2143VS** fits into place. Secure the card to the V-Matrix™ by tightening the retainer screws located on the top and bottom of each cover plate.

Step 3. Connect a cable from the video source to the input connector of the **VM2143VS**.

Note: The **VM2143VS** is an input card for the V-Matrix™ system. An output card, such as the **VM2144VS**, will need to be present in the output portion of the enclosure in order to get an output signal.

OPERATION 7

Refer to the VM2210BE V-Matrix™ Basic Enclosure User's Guide (P/N 400-0167-001) for complete instructions on using the VM2143VS as part of a V-Matrix™ System

The **VM2143VS** card will operate successfully as long as the card is installed properly and other technical specifications are followed.

TROUBLESHOOTING GUIDE 8

We have carefully tested and have found no problems in the supplied **VM2143VS**. However, we would like to offer suggestions for the following:

8.1 CARD LED'S ARE NOT ON

There are two LED's on the VM2143VS that indicate power is being supplied to the card. The LED's are toward the bottom of the card and facing to the left as viewed from the back of the enclosure. It may be necessary to remove other cards to see the LED's.

Cause 1: Enclosure has no power.

Solution: Make sure the V-Matrix enclosure is plugged in and the power switch is ON. The LED's on the front of the enclosure should be ON. If the enclosure has power and its LED's are ON, see Cause 2.

Cause 2: Card has no power.

Solution: Check the LED's on the card. Both must be ON for the unit to function properly. If one or both of the LED's are OFF, make sure the board is pushed in all the way. If the LED's are still not ON, see Cause 3.

Cause 3: Card cage slot has a problem.

Solution 1: Test the card in other slots of the enclosure. If the slot was damaged, the card may work in other slots. If other slots work and the LED's light, the problem is the card cage slot. The enclosure may require service. Call ALTINEX at (714) 990-2300. If the other slots do not work and the LED's are still not ON, see Solution 2.

Solution 2: Take any other known good card and verify that the slot used is good by seeing if the other card's LED's light in that slot. If they light, then the original card may be the source of the problem. Call ALTINEX at (714) 990-2300.

8.2 POOR DISPLAY QUALITY

Cause 1: Incompatible devices.

Solution: Make sure the video source and the display being connected are compatible devices. Check the manufacturer's specifications if necessary. If the devices are compatible, see Cause 2.

Cause 2: Jumpers settings are wrong.

Solution: Check the jumper settings per the diagrams in this manual. If there is a question as to which position the jumpers should be in, try each combination. Note which gives the best display quality.

Cause 3: Inferior cable quality.

Solution: If the image quality is poor, please make sure that high quality cables are being used. We recommend ALTINEX-made cables for best results.

8.3 NO DISPLAY

Cause 1: Cable connections are incorrect.

Solution: Make sure that cables are properly connected. First, ensure the correct input on the VM2143VS is receiving the input signal from the source. Next, make sure the selected output on the output card is connected to the display. Also, make sure that the continuity and wiring are good. If there is still no display, see Cause 2.

Cause 2: VM2143VS to output card path is not selected.

Solution: Verify the signal is being properly routed through the V-Matrix™ System. See RS-232 accessible commands for the VM2210BE V-Matrix™ Basic Enclosure User's Guide. If there is still no display, see Cause 2.

Cause 4: The card has a problem.

Solution 1: Look at the card and verify that there is no damage. If there is no damage, see Solution 2.

Solution 2: Verify that all IC's are seated in their sockets and that there are no jumpers missing. If there is still an error, see Solution 3.

Solution 3: Make sure the display has power and is turned ON. If there is still no display, see Cause 4.

Cause 4: Unknown problem.

Solution: Connect the source directly to the display. If possible, use the same cables as are being used with the V-Matrix™ System. If the display works properly, there may be a problem with the V-Matrix™ System or in the setup. Please, call Altinex at (714) 990-2300.

ALTINEX POLICY

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9.1 LIMITED WARRANTY/RETURN POLICY

Please see the Altinex website at www.altinex.com for details on warranty and return policy.

9.2 CONTACT INFORMATION

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