Model AD2096A
Alarm Interface Unit

Installation and Operating Instructions

This manual describes the installation and operating procedures for the American Dynamics AD2096A Alarm Interface Unit. The AD2096A Alarm Interface Unit, when used with American Dynamics Matrix Switching Systems, automatically calls specified cameras and preset scenes to specified monitors when contacts are activated external to the system.

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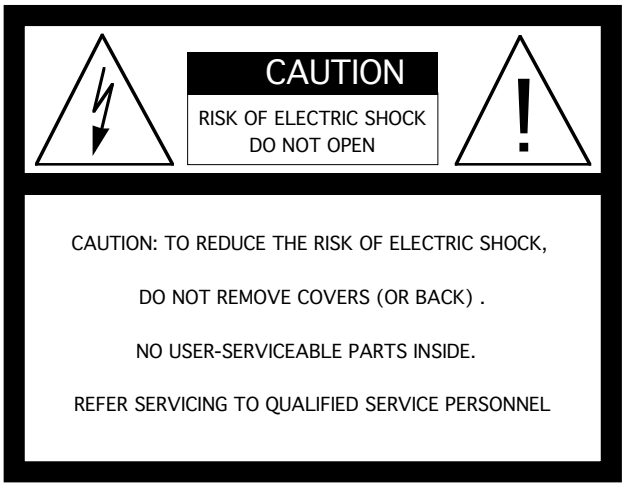
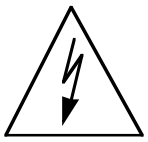
AMERICAN DYNAMICS

The installation of this product should be made by qualified service personnel and should conform to all local codes.





The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

WARNING

To reduce the risk of fire or shock hazard, do not expose this product to rain or moisture.

This equipment has been tested and found to comply 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.

UNPACKING AND INSPECTION

Unpack carefully. This is an electronic product and should be handled as such. Compare the items received with the packing list with your order.

Be sure to save:

1. The shipping cartons and insert pieces. They are the safest material in which to make future shipments of the product.
2. The IMPORTANT SAFEGUARDS sheet.
3. These Installation and Operating Instructions.

MAINTENANCE

User maintenance of this unit is limited to external cleaning and inspection. For specific recommendations refer to the IMPORTANT SAFEGUARDS sheet packaged with this product.

INSTALLATION AND SERVICE

If you require information during installation of this product or if service seems necessary, contact the Sensormatic Repair and Service Department at (800) 442-2225. You must obtain a Return Authorization Number and shipping instructions before returning any product for service.

Do not attempt to service this product yourself. Opening or removing covers may expose you to dangerous voltages or other hazards. Refer all servicing to qualified personnel.

QA301D

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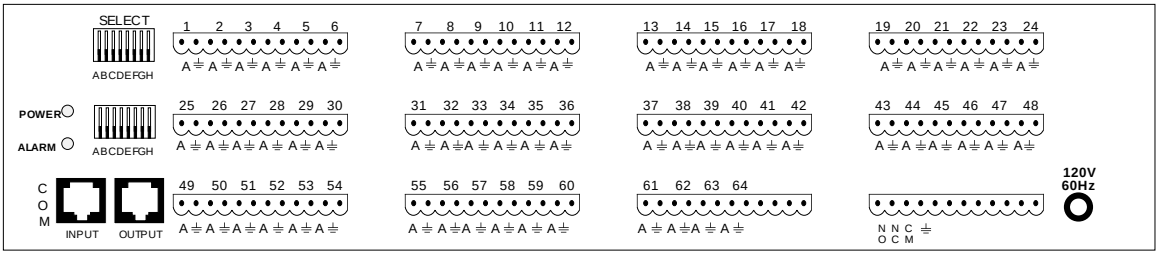


Figure 1 - AD2096A Alarm Interface Unit Rear Panel

DESCRIPTION

The AD2096A Alarm Interface Unit (AIU) is used with American Dynamics Matrix Switching Systems to provide automatic callup of a camera to a monitor when a specific alarm switch/contact input is activated. Each AD2096A AIU is set up to identify the matrix system video input and preset scenes with which it will be associated. The AD2096A has the capability to respond to 64 alarm inputs. The number of alarm inputs can be increased by cascading multiple AD2096A units.

FEATURES

- *UNIVERSAL MOUNT CABINET*
- *LED POWER INDICATOR ON REAR PANEL*
- *LED ALARM INDICATOR ON REAR PANEL*
- *DIP SWITCH SELECTION TO SET BAUD RATE*
- *DIP SWITCH SELECTION FOR CAMERA GROUP*
- *DIP SWITCH SELECTION TO ACCEPT NORMALLY OPEN OR NORMALLY CLOSED INPUTS*
- *SCREW TERMINAL WIRE CONNECTORS*
- *TERMINALS AVAILABLE TO ACTIVATE VCR OR OTHER DEVICES*

INSTALLATION

This installation should be made by qualified service personnel and should conform to all local codes. Safeguards must be taken to avoid unintentional operation by employees and maintenance personnel working about the premises, by falling objects, by customers, by building vibration, and by similar causes.

Mounting

The AD2096A cabinet may be surface or rack mounted in any convenient location with adequate ventilation. See Figure 2 for illustration of the mounting options.

- The AD2096A is shipped with mounting ears installed flush with the front panel, and can be mounted to the front of a standard 19" rack.

- The ears of the AD2096A can be removed and placed such that they are flush with the rear panel. This allows the AD2096A to be mounted to the rear of a rack that is equipped with mounting channels.

- The AD2096A can be mounted to the wall by installing the ears perpendicular the sides of the unit. The bottom or top covers can face toward the wall and the front or rear panel face upwards.

The AD2096A AIU is two rack units in height (3.5") and one unit wide (19"). For proper ventilation allow at least three feet (1m) from the rear of the racks to any wall and one EIA rack height (1 3/4"/4.5cm) between units.

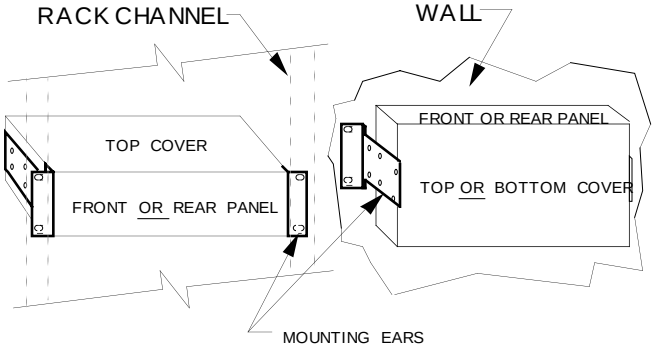


Figure 2 - Mounting Options

SETUP

Three 8-position DIP switches are used for AD2096A setup. The first two switches, S1 and S2, are located on the rear panel (see Figure 1, page 1). The top switch, S1, identifies the block of 64 alarm contacts (out of a possible 1024) which are connected to the AD2096A. The lower switch, S2, configures the AD2096A for either Normally Open (NO) or Normally Closed (NC) alarm contacts within each group of eight inputs of the selected block. Each group may be set to a different input type. The third switch, S3, is located internally on the AD2096A PC board (see Figure 3), and is used to select the RS-232 COM ports baud rates.

Tables 1, 2, and 3 show the switch settings which correspond to each DIP switch. A user fill-in block is provided under each table for the installer to record the switch settings.

Table 1 - S1, Block Setup
0 = OFF, 1 = ON

ALARM INPUT		SWITCH POSITIONS							
BLOCK	CAMERAS	A	B	C	D	E	F	G	H
1	1 - 64	0	0	0	0	0	0	0	0
2	65 - 128	0	0	0	0	0	0	0	1
3	129 - 192	0	0	0	0	0	0	1	0
4	193 - 256	0	0	0	0	0	0	1	1
5	257 - 320	0	0	0	0	0	1	0	0
6	321 - 384	0	0	0	0	0	1	0	1
7	385 - 448	0	0	0	0	0	1	1	0
8	449 - 512	0	0	0	0	0	1	1	1
9	513 - 576	0	0	0	0	1	0	0	0
10	577 - 640	0	0	0	0	1	0	0	1
11	641 - 704	0	0	0	0	1	0	1	0
12	705 - 768	0	0	0	0	1	0	1	1
13	769 - 832	0	0	0	0	1	1	0	0
14	833 - 896	0	0	0	0	1	1	0	1
15	897 - 960	0	0	0	0	1	1	1	0
16	961 - 1024	0	0	0	0	1	1	1	1

INSTALLERS NOTES - TABLE 1

CAMERA BLOCK ____ | | | | | | | | |

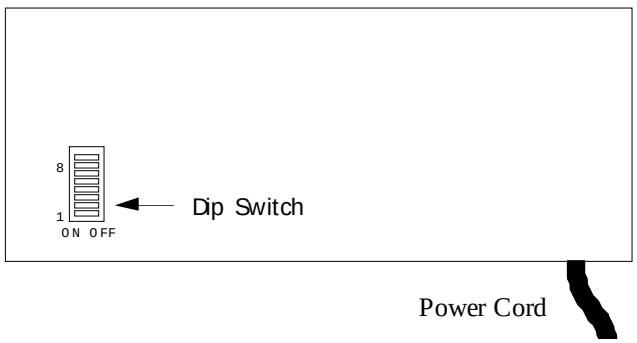


Figure 3 - AD2096A PCB Layout

Table 2 - S2, Input Type Setup
0 = OFF (Normally Open, NO)
1 = ON (Normally Closed, NC)

ALARM INPUT #s	SWITCH POSITION	ALARM INPUT STATE NO	ALARM INPUT STATE NC
1 - 8	H	0	1
9 - 16	G	0	1
17 - 24	F	0	1
25 - 32	E	0	1
33 - 40	D	0	1
41 - 48	C	0	1
49 - 56	B	0	1
57 - 64	A	0	1

INSTALLERS NOTES - TABLE 2

ALARM INPUT CONFIGURATION	A	B	C	D	E	F	G	H

CAUTION - Due to the presence of non-insulated components with hazardous voltages, the following internal adjustments should be performed by qualified service personnel only.

The baud rate of the two COM ports (INPUT and OUTPUT) is factory set at 1200. Verify the baud rate of the system being connected to the AD2096A by referring to the applicable system installation and operation manual. To change the baud rate of either port, select the correct DIP switch position by referring to Table 3 below. The two COM ports may be set to different baud rates, as indicated in the table.

Table 3 - S3, Baud Rate Setup
0 = OFF, 1 = ON

BAUD	SWITCH POSITIONS COM INPUT				COM OUTPUT			
RATE	1	2	3	4	5	6	7	8
300	0	0	0	0	0	0	0	0
600	0	0	0	1	0	0	0	1
1200	0	0	1	0	0	0	1	0
2400	0	0	1	1	0	0	1	1
4800	0	1	0	0	0	1	0	0
9600	0	1	0	1	0	1	0	1
19200	0	1	1	0	0	1	1	0

INSTALLER'S NOTES - TABLE 3

BAUD RATE
IN ____ OUT ____ | | | | | | | | |

CONNECTIONS

Use NEC Class 2 wiring only for all external connector pin connections. The wiring should also conform to all local codes.

Alarm Inputs

Eleven 12-pin connectors are provided on the rear panel of the AD2096A for alarm inputs. A mating screw-terminal connector, below, is supplied for each rear panel connector.

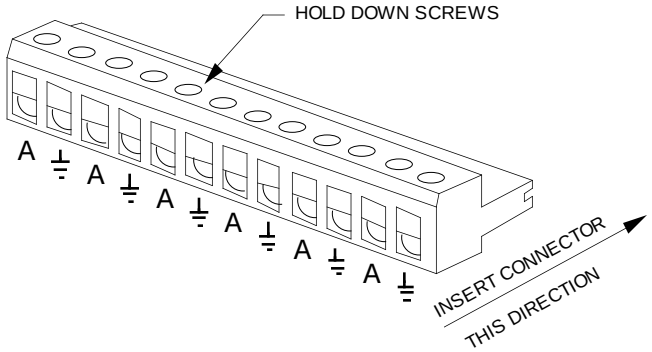


Figure 4 - Alarm Input Terminal Connector

Each connector is labeled with an alarm number (1 - 64), an "A", and a ground symbol. The "A" stands for alarm contact and the ground symbol for ground. Each alarm input connector contact open circuit voltage is 5.0 VDC. Closed circuit current is 0.2 mA, and a normally closed condition requires less than 15K ohms between “A” and ground.

Connections are made by inserting alarm contact and ground wires into the slots of the mating connectors and tightening the hold down screws. When all wires have been connected, insert the 12-pin connectors into the rear panel connectors.

Alarm Relay Output

The lower right connector on the rear of the AD2096A is a 12-pin connector which provides access to both Normally-Open (NO) and Normally-Closed (NC) contacts of an internal alarm relay. This relay is active when any alarm input is received (see page 4). The maximum relay contact ratings are: 0.25 amps current @ 30 Volts DC or RMS, and 10 VA power. A mating screw-terminal connector is provided.

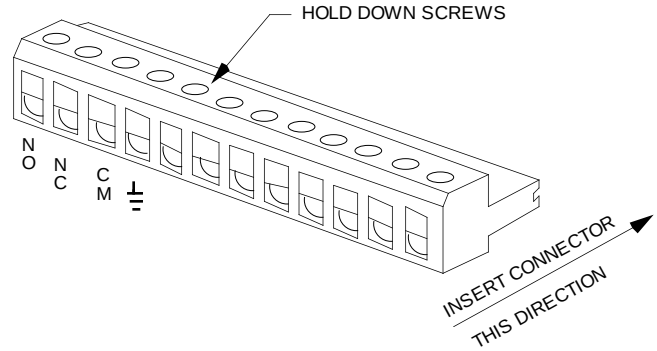


Figure 5 - Alarm Relay Terminal Connector

RS-232 Connectors

The two RS-232 COM connectors on the rear panel of the AD2096A are 8-pin, modular type RJ-45 connectors. One (1) 8-pin terminal box 2113-0019-01 and one (1) 7-foot modular cable 6003-0047-02 are supplied with each AD096A for connections to these ports.

The RS-232 port labeled COM OUTPUT is connected to a switching system input port or to another AD2096A AIU (see Cascading, below) using the supplied modular cable when distances between the units are no further than 7' apart.

For connection where distances exceed 7', or for connection to an AD1995 MegaPower CPU, the terminal box is used. Table 4 gives the pinouts for the terminal box. The maximum distance between terminal boxes shall not exceed 1000' (330m) using 18 AWG shielded cable, Belden 8770 or equivalent.

Table 4 - RS-232 Terminal Box Pinouts

Pin	Function
1	No Connection
2	Shield
3	No Connection
4	RCD
5	XMIT
6	No Connection
7	GND
8	No Connection

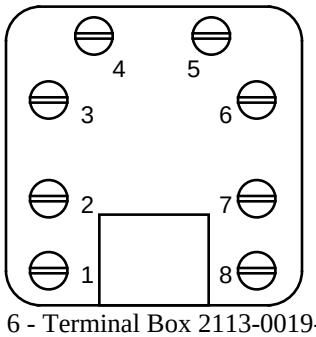


Figure 6 - Terminal Box 2113-0019-01

Cascading Multiple Units

If more than 64 alarm contacts are required, multiple AD2096A units can be cascaded. If the units are within 7' of the other, connect a modular cable from the COM OUTPUT port of the last AD2096A unit to the COM INPUT port of the next unit. If the AD2096A units are greater than 7' apart, terminal boxes must be used for port connections. Refer to the Typical System Connection for illustration of cascading.

OPERATION

Power Sources

Power is supplied via the appended 3-wire power cord. Power consumption is approximately eight watts.

The AD2096A is configured for 120VAC, 50/60Hz, primary power source. Operating power voltages must be held within the 105V and 125V range.

The AD2096-1 is configured for a 230VAC, 50/60 Hz primary power source. Operating power voltages must be held within the 198V and 250V range.

Powering Up

The AD2096A AIU does not contain a power On/Off switch. A green POWER LED indicator, located on the rear panel, illuminates when power is applied. If an alarm input is activated, the green ALARM LED on the rear panel will illuminate.

The 120 VAC units are supplied with a pendant 3-wire cord and plug for mating to the primary source outlet. The 230 VAC units are supplied with a Euro-style IEC 320 type inlet. A suitable, detachable cord should be connected between the IEC 320 inlet and power source. The cord should conform to all national and local use code requirements.

Note: DO NOT CONNECT THE EQUIPMENT TO THE POWER SOURCE UNTIL READY TO POWER UP.

THE SOCKET OUTLET SHALL BE LOCATED NEAR THE EQUIPMENT, AND SHALL BE READILY ACCESSIBLE.

Make all connections to the AD2096A Alarm Inputs and Output Relay connections and set the DIP switches as indicated on page 2 before applying power to the AD2096A.

Alarm Response Operation

Each alarm input signal is assigned an alarm contact number (ACN) by the AD2096A. The setting of DIP switch S1 (see page 2) determines the range of ACN's for each AD2096A. Depending on the Matrix Switching System capabilities, a maximum of 1024 alarm contacts (ACN's) can be programmed for alarm event response by that system.

When an alarm condition exists, the AD2096A AIU detects the closure (or opening) of the contact, depending on the DIP switch configuration (S2, page 2). The AD2096A AIU then issues an alarm message containing the corresponding alarm contact number (ACN), via the RS-232 COM OUTPUT Port, to the Matrix Switching System for camera callup to monitors.

When an alarm contact is detected, the AD2096A AIU also activates an internal relay, providing both an output closure (NO pin) and an opening (NC pin); this relay output can be used to turn on/off lights, VCRs, etc. The alarm relay output continues to be active until the alarm condition is removed. Once the alarm condition is deactivated (contact is cleared), the alarm relay is held for 10 seconds, then is deactivated.

Programming Alarm Contacts

Each alarm contact (ACN) input to an AD Matrix Switching System is armed for camera callup on a specific monitor. Individual camera inputs and camera salvos, each with preset scenes and auxiliary actions, may be programmed for automatic callup to monitors in response to alarm inputs.

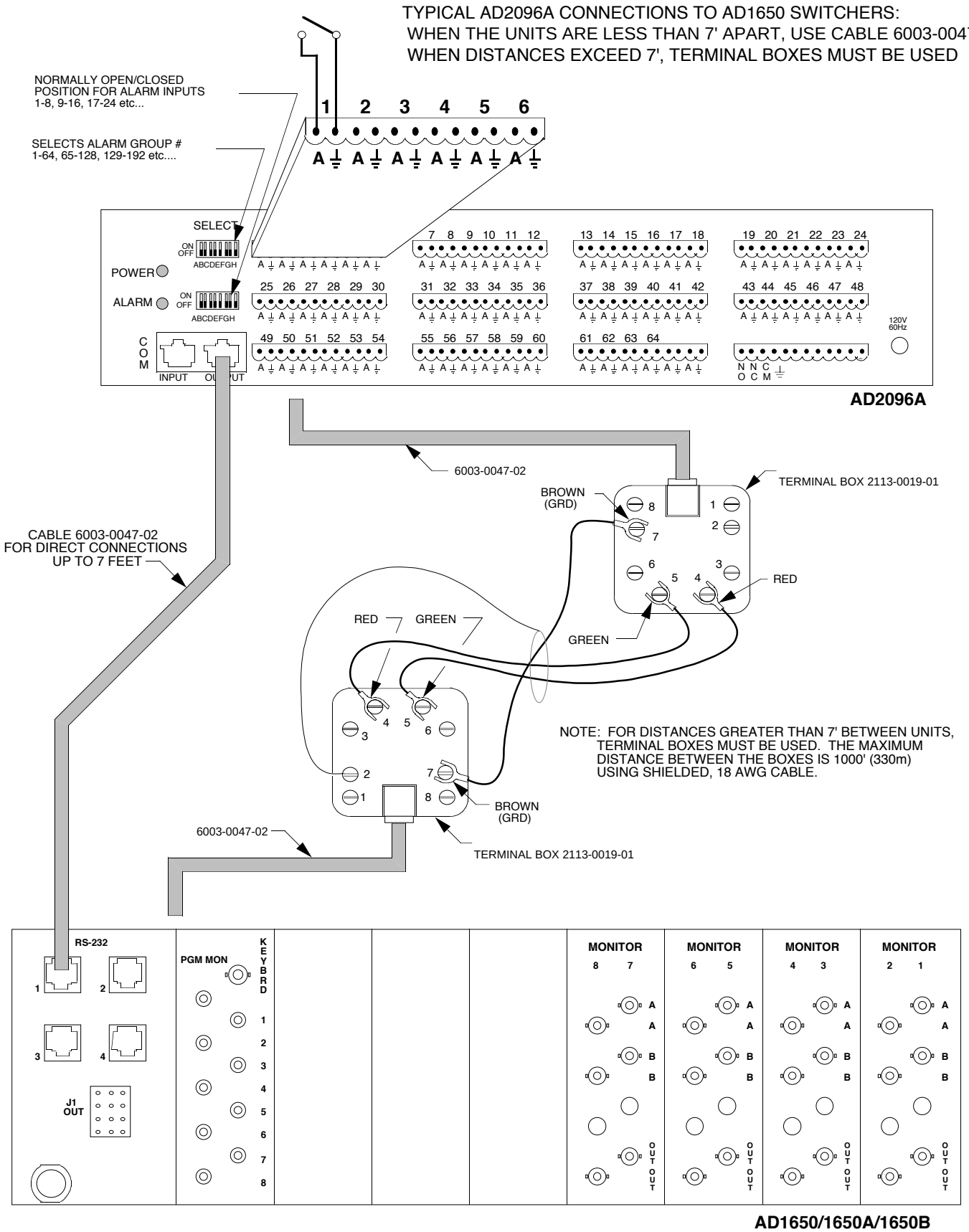
When the switching system is armed for alarm contact (ACN) inputs, the video input associated with the ACN is automatically displayed when that alarm input is detected by the AD2096A AIU and sent to the switching system. Refer to the Alarm Programming sections in the appropriate Matrix Switching System Installation Manual for the commands to arm alarm contacts, monitors, and cameras.

IF YOU ENCOUNTER ANY PROBLEMS OPERATING THIS UNIT, OR NEED ASSISTANCE, CALL OUR TECHNICAL SUPPORT CENTER:

within the United States 1-800-442-2225
outside the United States (845) 624-7640

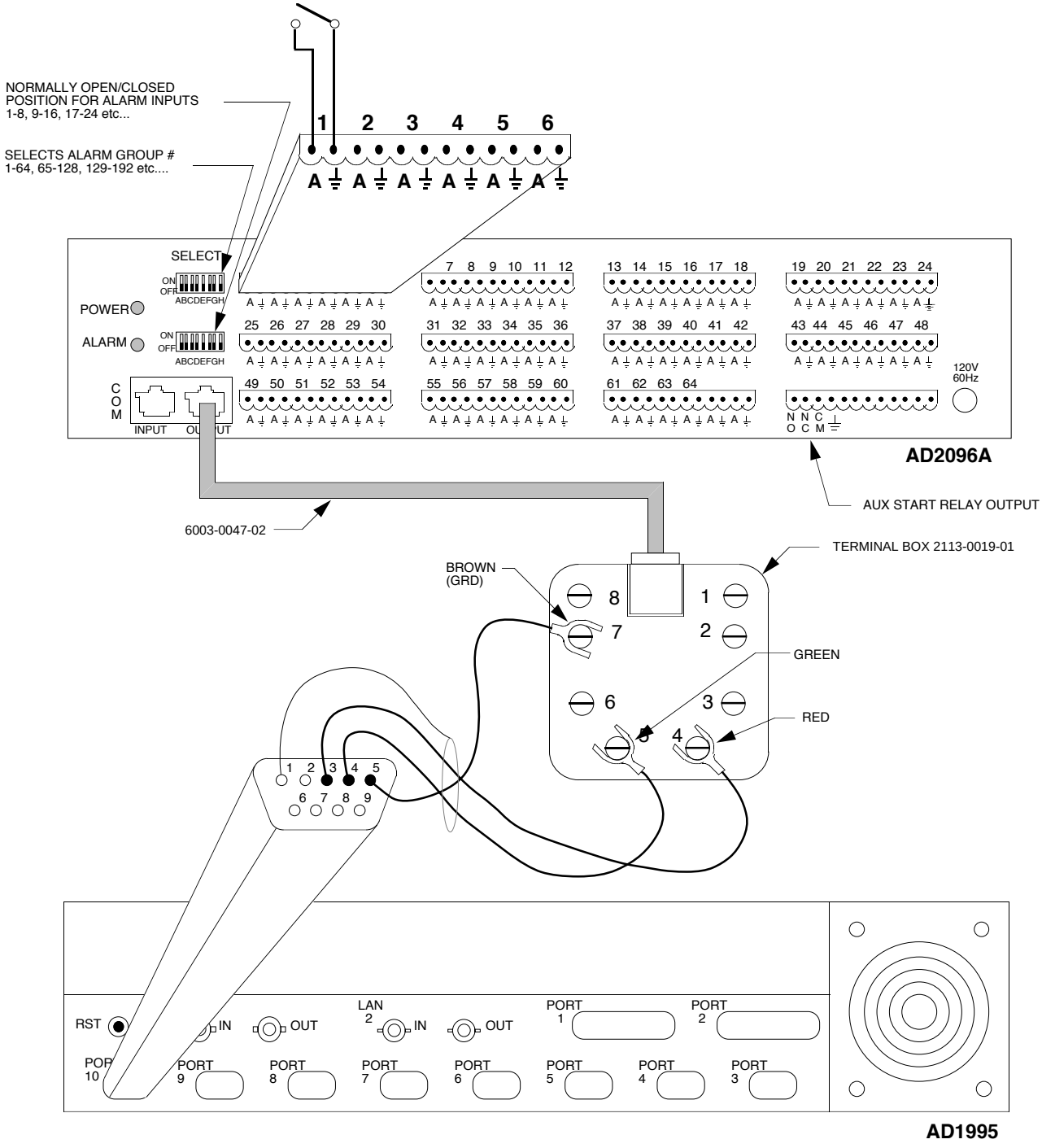
Typical System Connections

TYPICAL SYSTEM CONNECTIONS
AD2096A TO AD1650 Series



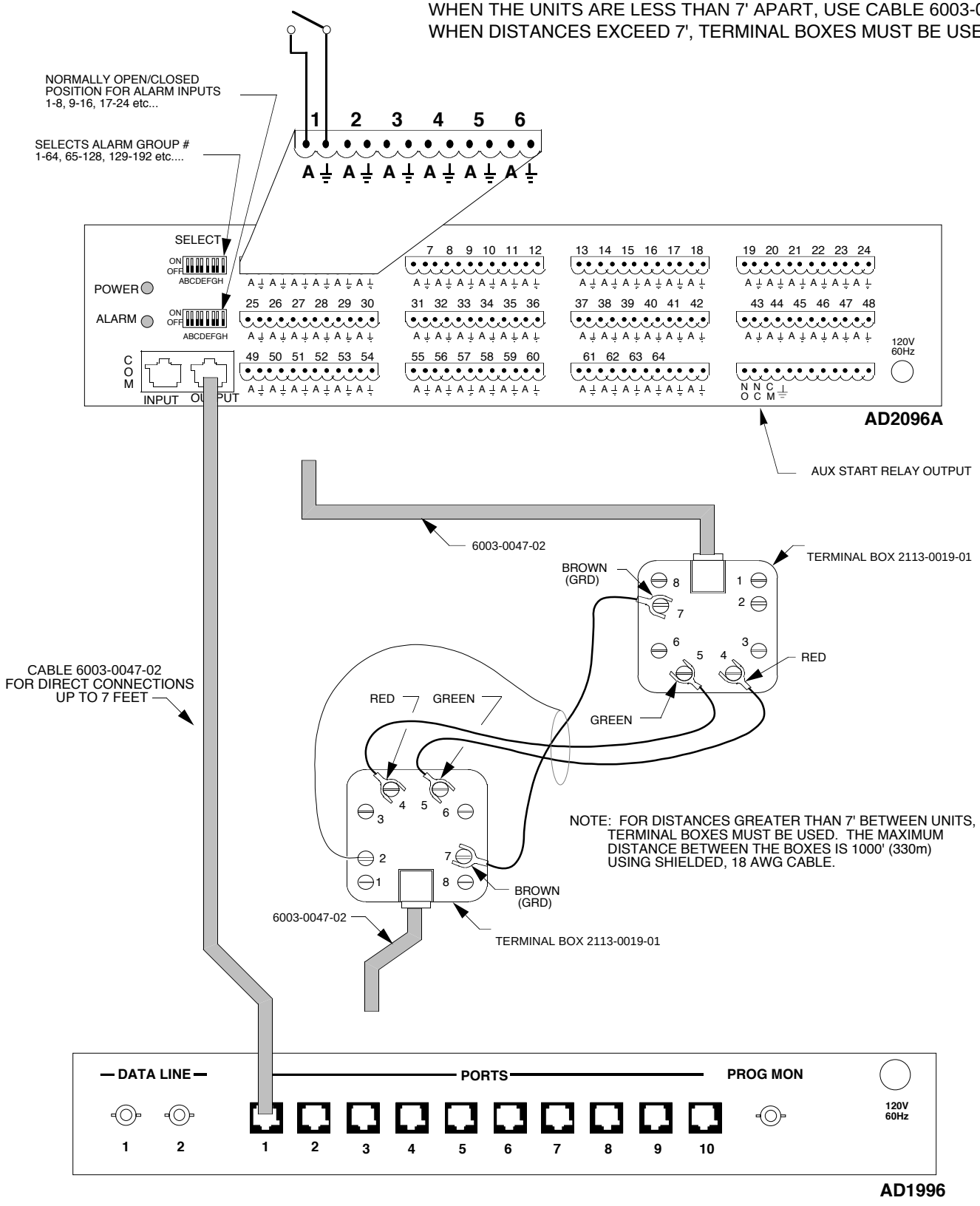
TYPICAL SYSTEM CONNECTIONS
AD2096A TO AD1995

FOR ALL CONNECTIONS TO AD1995 CPU, TERMINAL BOXES MUST BE USED. THE MAXIMUM DISTANCE BETWEEN THE BOX AND THE AD1995 CONNECTOR IS 1000' (330m) USING SHIELDED, 18 AWG CABLE.

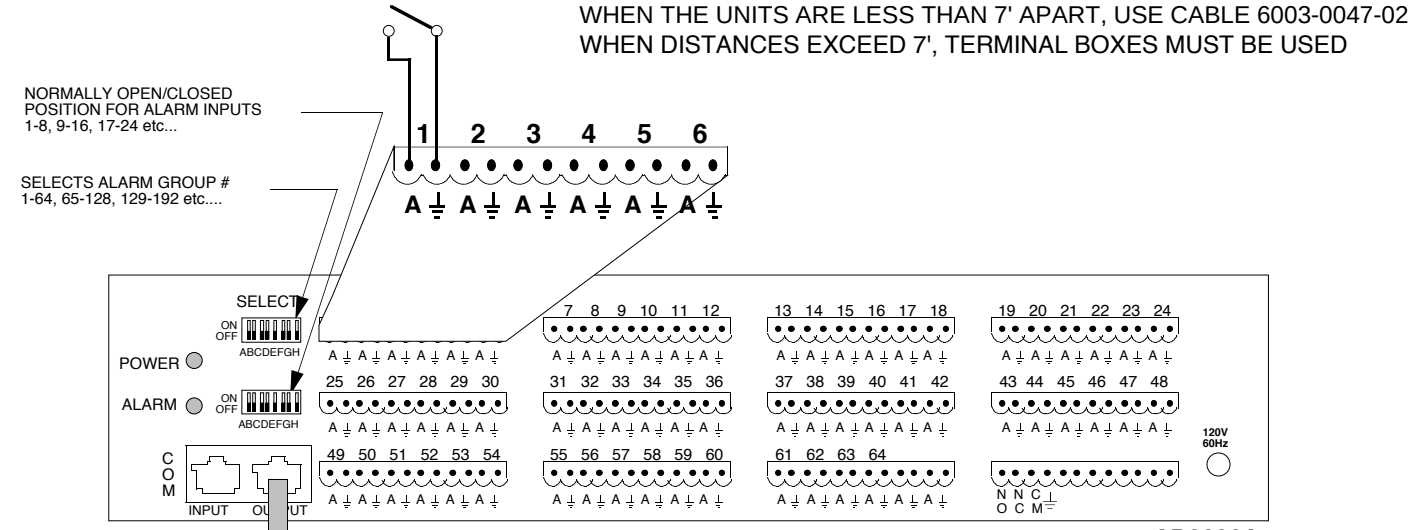


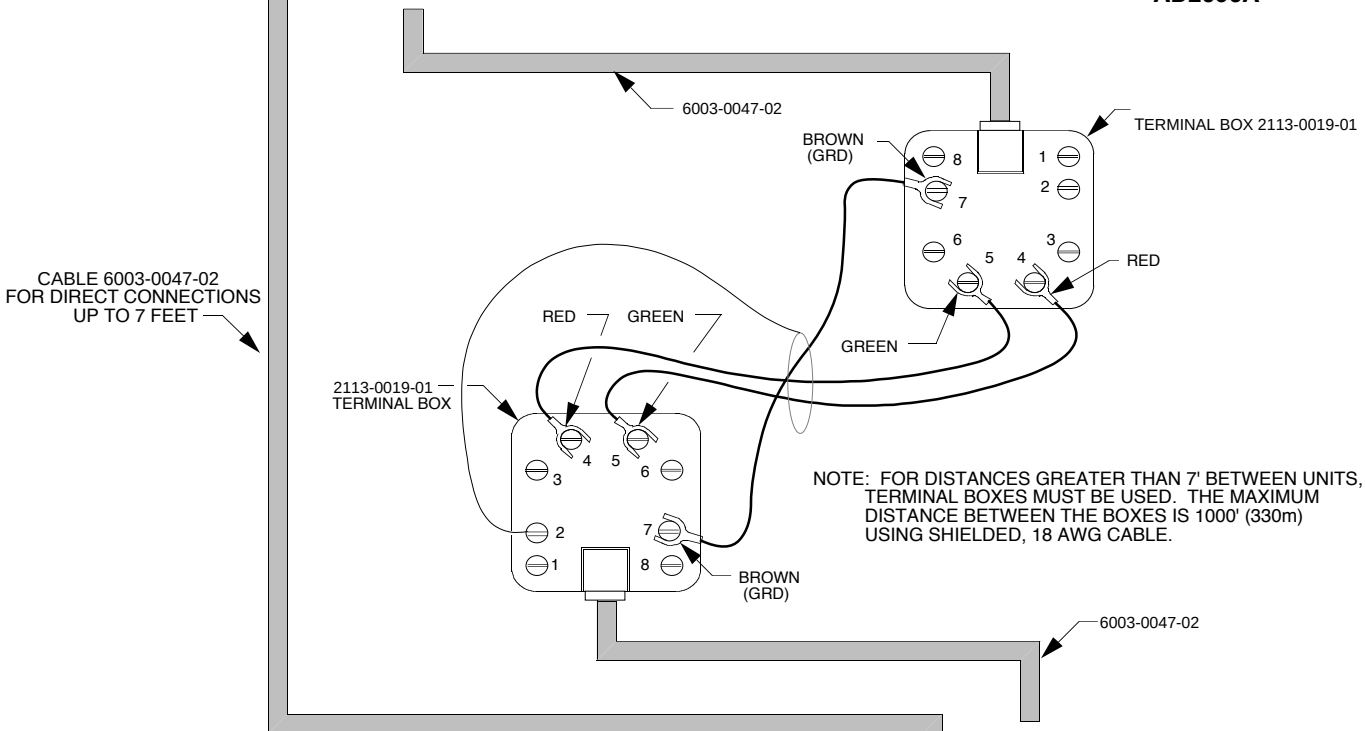
TYPICAL SYSTEM CONNECTIONS
AD2096A TO AD1996

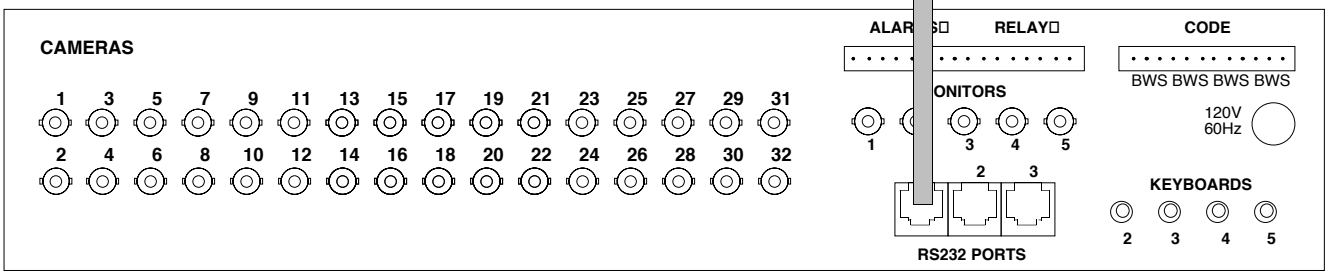
TYPICAL AD2096A CONNECTIONS TO AD1996 CPU:
WHEN THE UNITS ARE LESS THAN 7' APART, USE CABLE 6003-0047-02
WHEN DISTANCES EXCEED 7', TERMINAL BOXES MUST BE USED



TYPICAL AD2096A CONNECTIONS TO AD2150/2350 SWITCHERS:
WHEN THE UNITS ARE LESS THAN 7' APART, USE CABLE 6003-0047-02
WHEN DISTANCES EXCEED 7', TERMINAL BOXES MUST BE USED

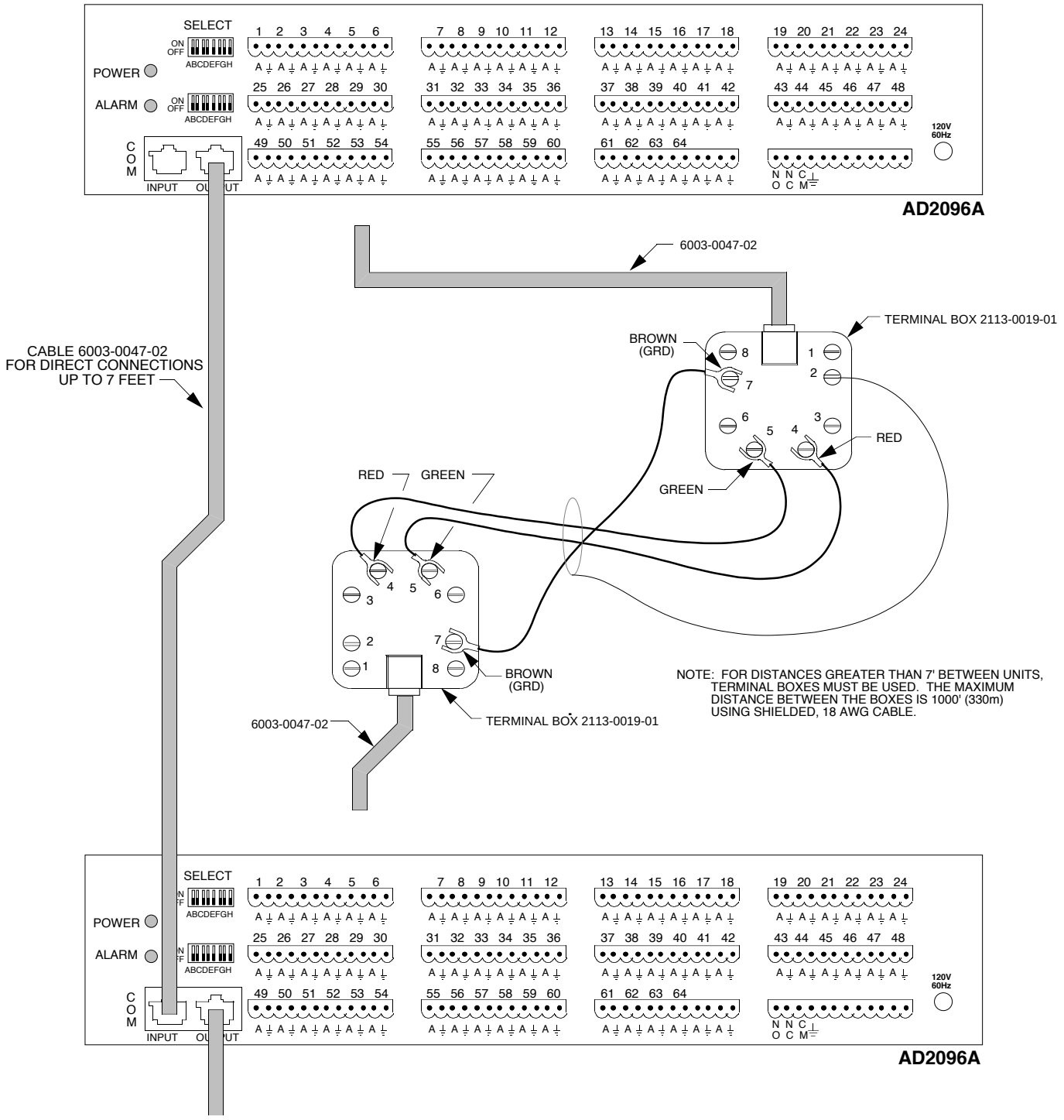




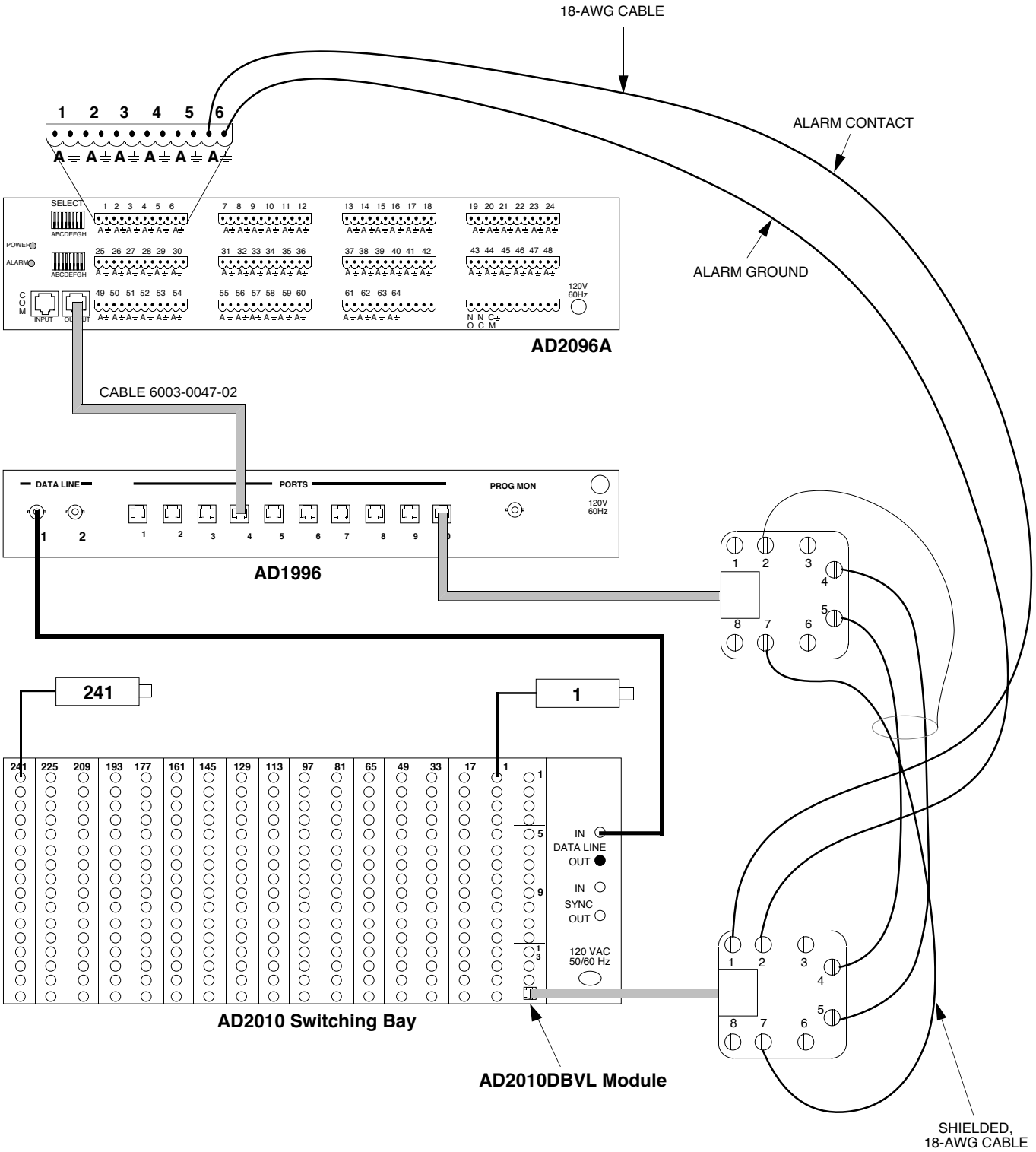


TYPICAL SYSTEM CONNECTIONS
Cascading Multiple AD2096A Units

TYPICAL CONNECTIONS TO CASCADE MULTIPLE AD2096A UNITS:
WHEN THE UNITS ARE LESS THAN 7' APART, USE MODULAR CABLE 6003-0047-02
WHEN DISTANCES EXCEED 7', TERMINAL BOXES MUST BE USED



TYPICAL SYSTEM CONNECTIONS
AD2010DBVL Module to AD2096A to AD1996



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- Block Setup 2
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Wall mounting 1

DECLARATION OF CONFORMITY

According to ISO/IEC Guide 22 and EN45014

Manufacturer's Name: Sensormatic Electronics Corporation

Manufacturer's Address: 1 Blue Hill Plaza
2nd Floor
Pearl River, New York, 10965 USA

Declares, that the product listed below:

Name/Type:	Alarm Interface Unit
Model Number:	AD2096-1

complies with all applicable directives as demonstrated by conformance to the following Product Specifications:

Safety:	EN 60950: 1992
EMC:	EN 50130-4: 1995 EN 55022: 1994 , Class B EN 61000-3-2: 1995 EN 61000-3-3: 1995 EN 61000-4-2: 1995 EN 61000-4-3: 1996 EN 61000-4-4: 1995 EN 61000-4-5: 1995 EN 61000-4-6: 1996 EN 61000-4-11: 1994

Supplementary Information:

The products herewith comply with the requirements of the Low Voltage Directive, 73/23/EEC as amended by 93/68/EEC, and the EMC Directive, 89/339/EEC as amended by 93/68/EEC.

Pearl River, NY, USA 15 December, 2000

Harold D. Johnson, Ph.D.
Director of Engineering

European Contact: Sensormatic France S.A.
7, rue Alexis de Tocqueville, Parc de Haute Technologie, 92183 ANTONY CEDEX

SPECIFICATIONS

Models

AD2096A: 120 VAC, 50/60 Hz
AD2096-1: 230 VAC, 50/60 Hz

Electrical

Input: AD2096A - 120 VAC, 50/60Hz, 8 W
AD2096-1 - 230 VAC, 50/60 Hz, 40 mA

Alarm Inputs

Contact Inputs: 64 inputs, each with contact and separate ground
Open Circuit Voltage: 5.0 VDC
Closed Circuit: Maximum Current: 0.2 mA, Maximum Resistance to Ground: 15K Ohms

Auxiliary Output Relay

Relay Outputs: Separate Normally Open (NO) and Normally Closed (NC) contacts
Power Rating: 10 VA
Voltage Rating: 30 Volts DC or RMS
Current Rating: 0.25 amps

Mechanical

Mounting: Desktop or rack mount
Dimensions: 3.5" H x 8" D x 17" W (89mm x 203mm x 432mm)
Weight: 7 lbs. (3.2 Kg)
Finish: Dark Shadow Gray

Sensormatic Video Systems Division
One Blue Hill Plaza
Pearl River, New York 10965
(845) 624-7600
Technical Support Center: 1-800-442-2225
FAX: 845-624-7685

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