



NOTES	SHEET NO.	REV.	SEC.
SUPERSEDES INSTRUCTION MANUAL X408-1293	X408	994	11

INSTRUCTIONS FOR INSTALLATION AND OPERATION

MODEL V1200X-DL DISTRIBUTION LINE CONTROL

1. INTRODUCTION

This manual provides installation procedures for the V1200X-DL Distribution Line Control. Only a qualified technician should install this unit. This equipment must be installed in conformance with the national, state, and local electrical codes.

The V1200X-DL Distribution Line Control provides independent communication lines from a transmitter/CPU to several remote control panels or camera receivers. The V1200X-DL has one input and ten output terminals. Refer to Figure 1.

The distribution line can be used to create a star configuration of up to ten controls or receivers (Figure 2). A building block concept can be used to enable installation of more than ten receivers or remote control panels (Figure 3). For instance, V1200X-DL units can be connected in a daisy-chain configuration. Each distribution line can use nine output lines to control panels or receivers and the tenth line can be used to loop out to the next V1200X-DL. The signal is constantly

refreshed in each unit, allowing full line driving characteristics from unit to unit.

The primary advantages of incorporating V1200X-DL distribution line control units in a VPS installation are ease of wiring and protection from system communication failure. Without the distribution line, all remote control panels and receivers must be connected in series. With this series configuration, if one unit in the series is inoperative, then all consecutive units become inoperative. The star configuration (Figure 2) protects from such communication failure.

Star configuration is especially practical when large distances between remote control units, receivers and transmitters are required. Wiring consists of shielded, dual twisted-pairs. The V1200X-DL contains circuitry for surge protection of the communication line.

The V1200X-DL complies with UL standard 1409 and the requirements for an FCC Class A computing device.

2. INSTALLATION

The V1200X-DL should only be installed by a qualified technician using approved materials and wiring practices

in conformance with the national, state, and local electrical codes.

2.1 Unpacking and Inspection

All Vicon equipment is tested and inspected before leaving the factory. It is the carrier's responsibility to deliver the equipment in the same condition as it left the factory.

2.1.1 INSPECTION FOR VISIBLE DAMAGE

Immediately inspect the cartons upon delivery. On all copies of the carrier's freight bill, make a note of any visible damage.

WARNING: TO PREVENT RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

Product specifications subject to change without notice.



Vicon part number 8006-8408-03-00

VICON INDUSTRIES INC. 525 BROAD HOLLOW ROAD, MELVILLE, N.Y. 11747 TEL: (516) 293-2200 FAX: 516-293-2627
TOLL FREE: 1-800-645-9116 (OUTSIDE OF NEW YORK) INFOFAX: 1-800-287-1207

IMPORTANT SAFEGUARDS

GRAPHIC SYMBOL EXPLANATION

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.

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 unit.

1. Read Instructions - All the safety and operating instructions should be read before the video product is operated.

2. Retain Instructions - All the safety and operating instructions should be retained for future reference.

3. Heed Warnings - All warnings on the video product and in the operating instructions should be adhered to.

4. Follow Instructions - All operating and use instructions should be followed.

5. Cleaning - *Step a applies to equipment that can be disconnected from the CCTV system without seriously jeopardizing security. Step b applies to equipment that must operate continuously such as video switching equipment at military installations.*

a. Disconnect this video product from its power source before cleaning. Do not use caustic, abrasive, or aerosol cleaners. Use a damp cloth for cleaning.

b. Use a damp cloth to clean the equipment. Do not allow moisture or liquids to enter any vents. Do not use caustic, abrasive, or aerosol cleaners.

6. Attachments - Do not use attachments not recommended by Vicon as they may cause hazards.

7. Water and Moisture - Do not use this video product in any location where it may be exposed to water or moisture. *This does not apply to outdoor camera housings, outdoor pan-and-tilt drives, and other equipment designed for direct exposure to outdoor environments.*

8. Accessories - Do not place this video product on any unstable surface or table. The video product may fall, causing serious injury to a person and serious damage to the video product. Use only with a mounting accessory recommended by Vicon, or sold with the video product. Any mounting of the video product should follow Vicon's instructions, and a mounting accessory recommended by Vicon should be used.

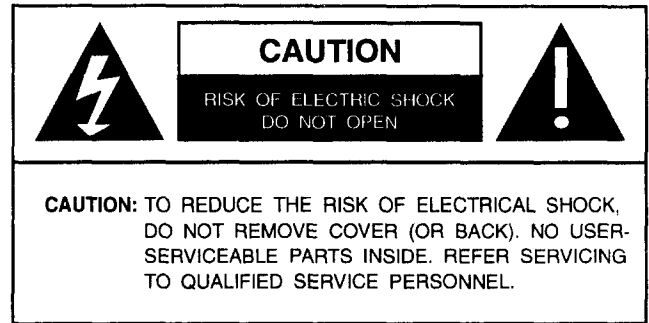
9. Ventilation - Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the video product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the video product on a rug or other similar surface. This video product should never be placed near or over a radiator or heat register. This video product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or Vicon's instructions have been adhered to.

10. Power Sources - This video product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your installation site, consult your Vicon dealer or local power company. For video products intended to operate from battery power, or other sources, refer to the operating instructions.

11. Grounding - This applies to video products equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug only fits into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

12. Power-Cord Protection - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the video product.

13. Outdoor Cable Grounding - If an outside cable system is connected to the video product, be sure the cable system is grounded so as to provide some protection against voltage surges and built-up static



charges. Section 810 of the National Electrical Code, ANSI/NFPA 70-1984, provides information with respect to proper grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

14. Lightning - For added protection for this video product when it is not used for long periods of time, disconnect it from its power source and from the cable system. This prevents damage to the video product due to lightning and power-line surges.

15. Power Lines - An outside cable system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside cable system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

16. Overloading - Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

17. Object and Liquid Entry - Never push objects of any kind into this video product through openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the video product.

18. Servicing - Do not attempt to service this video product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

19. Damage Requiring Service - Disconnect this video product from its power source and refer servicing to qualified service personnel under the following conditions. *Note that step c does not apply to outdoor camera housings, outdoor pan-and-tilt drives and other equipment specifically designed for direct exposure to outdoor environments.*

- When the power-supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the video product.
- If the video product has been exposed to rain or water.
- If the video product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video product to its normal operation.
- If the video product has been dropped or the cabinet has been damaged.
- When the video product exhibits a distinct change in performance - this indicates a need for service.

20. Replacement Parts - When replacement parts are required, be sure the service technician has used replacement parts specified by Vicon or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

21. Safety Check - Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks to determine that the video product is in proper operating condition.

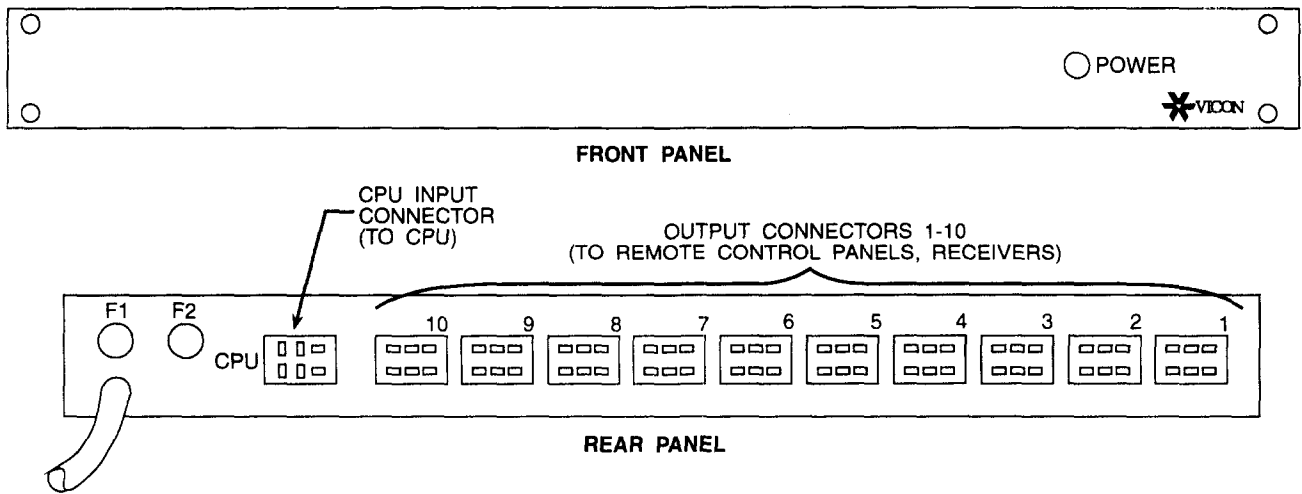
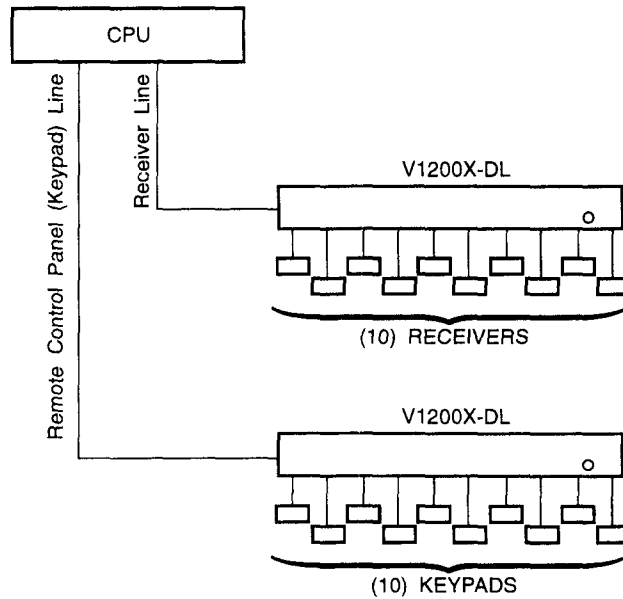


Figure 1
V1200X-DL Front and Rear Panels



- NOTES:
1. Any combination of receivers can be used.
 2. Any combination or remote control panels (keypads) can be used.
 3. Receivers and keypads can NOT both be connected to the same V1200X-DL.

Figure 2
V1200X-DL Star Configuration of Remote Control Panels

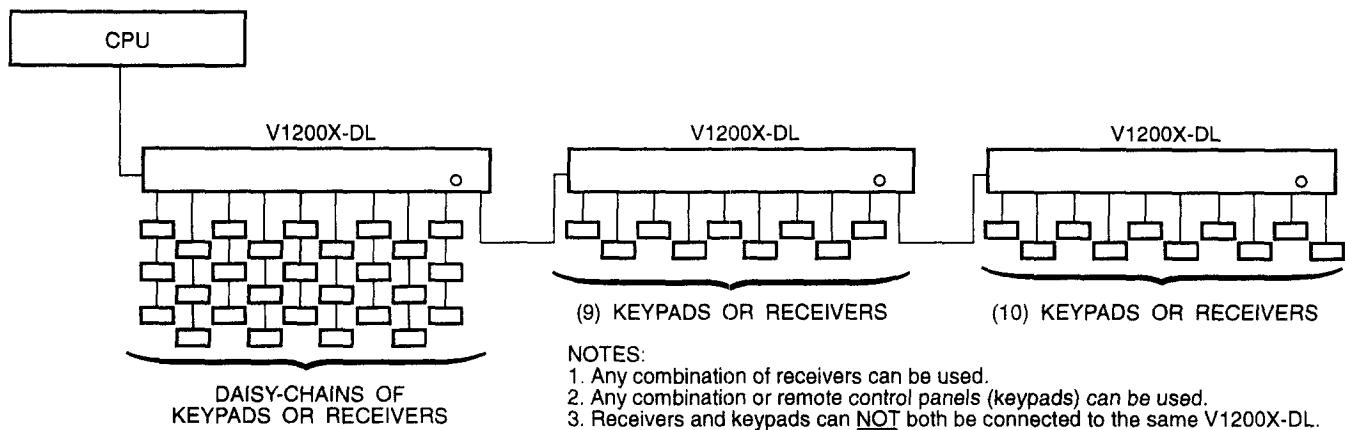


Figure 3
V1200X-DL Installation Variations

Make sure the carrier's agent (the person making the delivery) signs the note on all copies of the bill. If the agent does not have claim forms, contact the carrier's office.

2.1.2 INSPECTION FOR CONCEALED DAMAGE

As soon as possible after delivery, unpack the unit, and inspect it for concealed damage. Do not discard the

carton or packing materials. If the unit is damaged, contact the carrier immediately and request forms for filing a damage claim. Make arrangements for a representative of the carrier to inspect the damaged equipment.

If the equipment must be returned for repair, follow the Shipping Instructions at the end of this manual.

2.2 Mounting the V1200X-DL into a Rack

The V1200X-DL may be mounted into any standard EIA 19-inch rack. To mount the distribution line, proceed as follows:

1. Slide the V1200X-DL into a standard EIA 19-inch rack mounting unit.

2. Secure the unit to the rack using four 10-32 screws (Figure 1).

2.3 Cable Connections

This section provides information on the cabling required to connect the system components. The tables in this section include configurations of source and destination connectors. "Source" and "destination" do not indicate the origin of specific signals. Instead, "source" indicates the unit being discussed and "destination" refers to the equipment to which it is connected.

There are eleven connectors on the rear panel of the V1200X-DL. Ten of these, numbered 1-10, connect to keypads, receivers, or other DLs. (Keypads and receivers may not be connected to the same DL.) The other connector, labelled CPU, connects either to the CPU or to one of the connectors 1-10 on a DL closer to the CPU.

In the following instructions, the CPU connector will be referred to in quotation marks ("CPU") to distinguish these references from references to the CPU itself.

The connectors supplied in the accessory pack to mate with connectors 1-10 and "CPU" on the V1200X-DL rear panel are NOT identical. The connectors all have identical pin arrangements on their wiring sides. However, the side of the connector which plugs into connectors 1-10 (distribution line output) on the V1200X-DL rear panel is different from that of connector "CPU" (distribution line input). Refer to Figures 1 and 4. When assembling one of these connectors, make sure its mating face matches that of its mating rear panel connector.

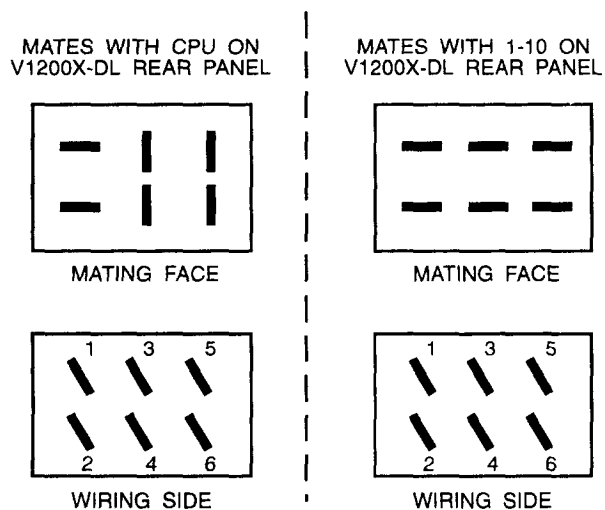


Figure 4
Mating Connectors

2.3.1 CPU TO V1200X-DL

NOTE: The CPU is connected to the V1200X-DL via shielded, dual twisted-pair cable. Each twisted pair **MUST** be individually shielded.

1. Select the connector from the accessory pack which mates with connector "CPU" on the V1200X-DL rear panel. Refer to Figure 4.
2. Assemble the connector to one end of a dual twisted-pair cable at the distribution line end of the cable. Refer to Table 1 and Figures 5 and 6.
3. Connect the cable connector to connector "CPU" on the rear panel of the V1200X-DL. Refer to Figure 1.
4. Route the cables to the CPU. Connect the cable to the appropriate CPU connector. Follow the connection instructions in the CPU instruction manuals.

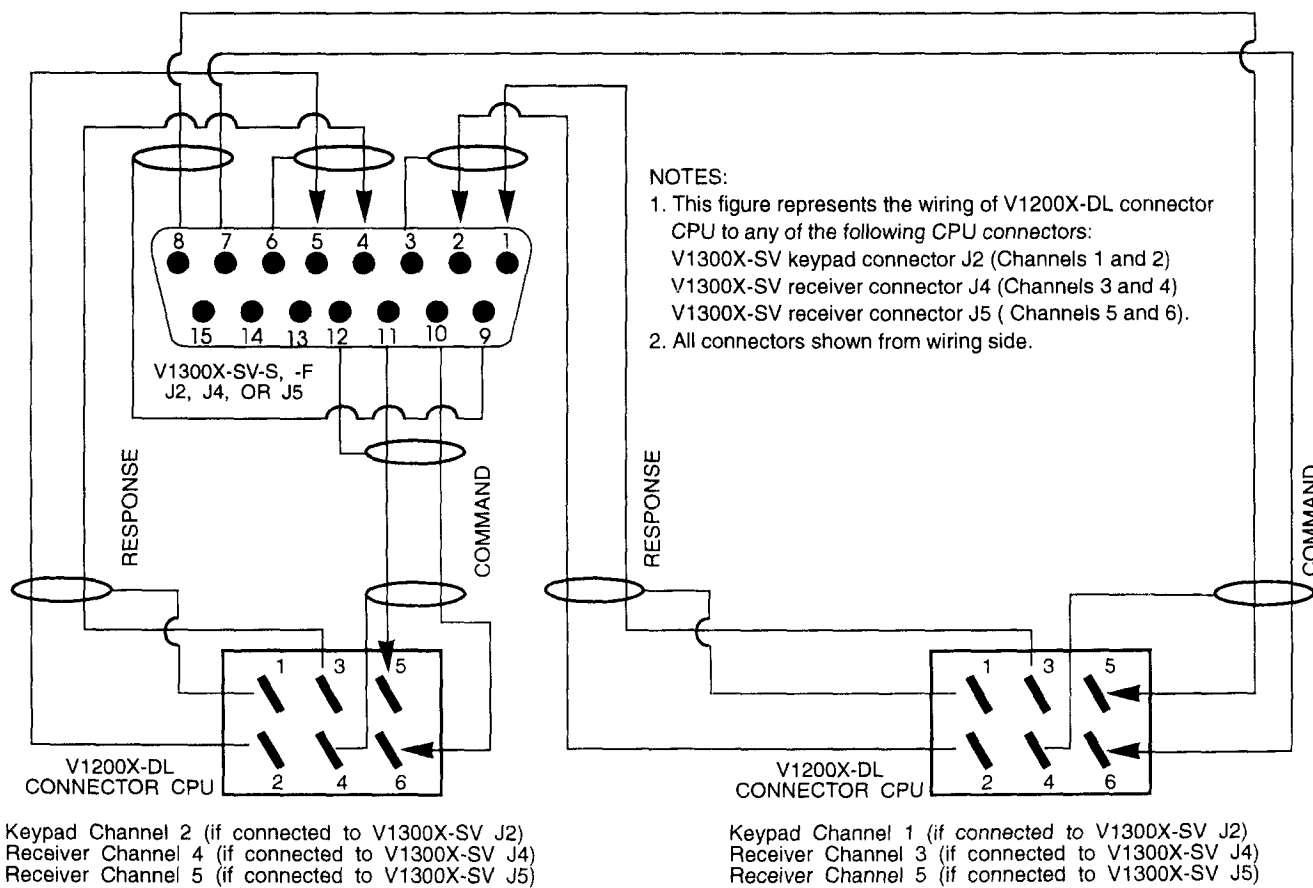


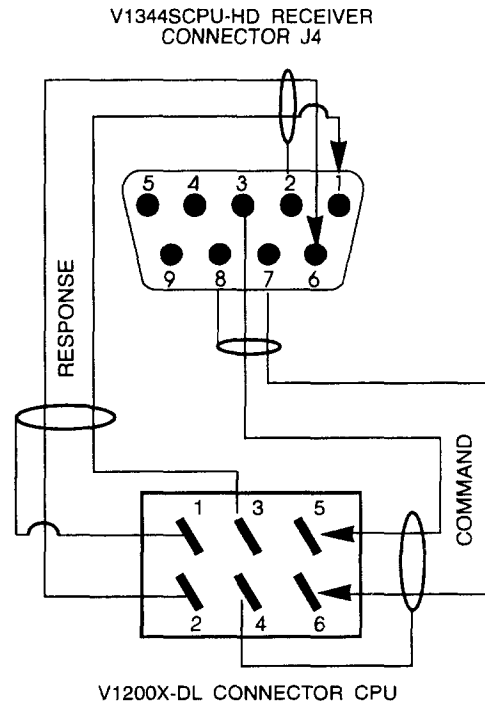
Figure 5
Typical VPS1300 CPU-to-V1200X-DL Wiring

2.3.2 V1200X-DL TO V1200X-DL

CAUTION: All unused connector 1-10 positions **▲** must be terminated with an end-of-line jumper. Connect a jumper between pin 5 (RESPONSE IN -) to pin 4 (GROUND).

NOTE: The V1200X-DL distribution line controls are connected to each other via shielded, dual twisted-pair cable. Each twisted pair **MUST** be individually shielded.

1. Select a connector from the accessory pack which will mate with connectors 1-10 on the first V1200X-DL rear panel. Refer to Figure 4.
2. Assemble the connector to one end of a dual twisted-pair cable near the first distribution line. Refer to Table 2 and Figure 7.
3. Connect the cable connector to one of the DL output connectors (1-10) on the rear panel of the first V1200X-DL. Refer to Figure 1.
4. Select the connector from the accessory pack which mates with connector "CPU" on the second V1200X-DL rear panel. Refer to Figure 4.
5. Assemble the connector to the end of the dual twisted-pair cable near the second distribution line. Refer to Table 2 and Figure 7.



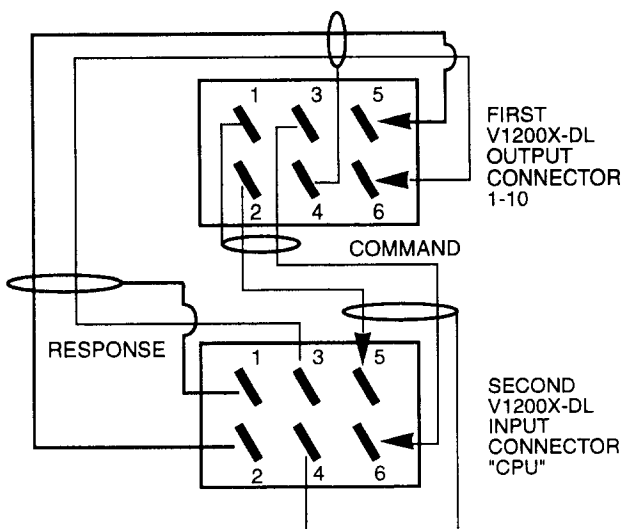
NOTE: ALL CONNECTORS SHOWN FROM WIRING SIDE

Figure 6
Typical VPS1344 CPU-to-V1200X-DL Wiring

6. Connect the cable connector to connector "CPU" on the rear panel of the second V1200X-DL. Refer to Figure 1.

TABLE 1
CONNECTIONS BETWEEN 1300X CPU AND V1200X-DL

Source		Destination							
V1200X-DL "CPU" Connector		V1300X-SV-S,-F CPU Keypad Connector J11		V1300X-SV-S,-F CPU Receiver Connector J4		V1300X-SV-S,-F CPU Receiver Connector J5		V1344SCPU-HD CPU Keypad Connector J3	V1344SCPU-HD CPU Receiver Connector J4
Pin No.	Signal Name	Channel 1 Pin No.	Channel 2 Pin No.	Channel 3 Pin No.	Channel 4 Pin No.	Channel 5 Pin No.	Channel 6 Pin No.	Pin No.	Pin No.
1	GND	3	6	3	6	3	6	2	2
2	RESPONSE OUT-	2	5	2	5	2	5	6	6
3	RESPONSE OUT +	1	4	1	4	1	4	1	1
4	GND	9	12	9	12	9	12	8	8
5	COMMAND IN -	8	11	8	11	8	11	3	3
6	COMMAND IN +	7	10	7	10	7	10	7	7



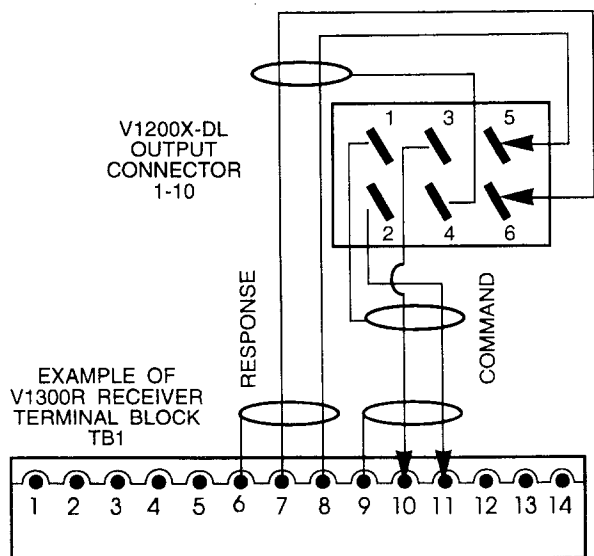
NOTE: ALL CONNECTORS SHOWN FROM WIRING SIDE

Figure 7
V1200X-DL-to-V1200X-DL Wiring

2.3.3 V1200X-DL TO RECEIVER

CAUTION: All unused connector 1-10 positions must be terminated with an end-of-line jumper. Connect a jumper between pin 5 (RESPONSE IN -) to pin 4 (GROUND).

NOTE: Since receivers and remote control panels use different command sequences, do NOT connect receivers and controls to the same V1200X-DL.



NOTE: ALL CONNECTORS SHOWN FROM WIRING SIDE

Figure 8
V1200X-DL-to-Receiver Wiring

TABLE 2
CONNECTIONS FROM V1200X-DL TO V1200X-DL

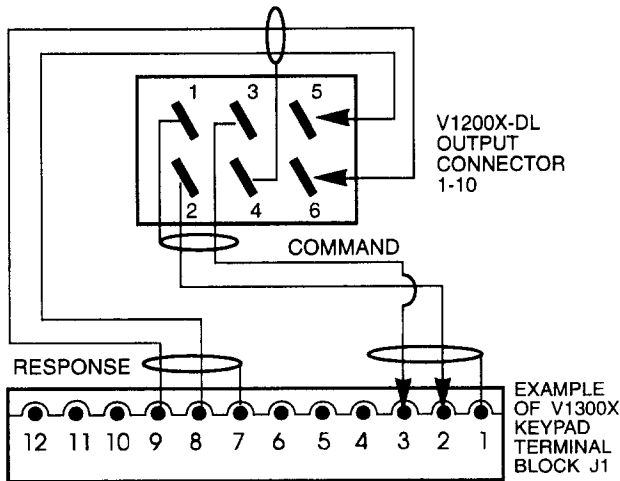
Source		Destination
V1200X-DL Output Connector 1-10		V1200X-DL Connector "CPU"
Pin No.	Signal Name	Pin No.
1	GND	4
2	COMMAND OUT -	5
3	COMMAND OUT +	6
4	GND	1
5	RESPONSE IN -	2
6	RESPONSE IN +	3

NOTE: The V1200X-DL is connected to the receivers via shielded, dual twisted-pair cable. Each twisted pair **MUST** be individually shielded.

1. Select a connector from the accessory pack which mates with connectors 1-10 on the first V1200X-DL rear panel. Refer to Figure 4.
2. Assemble the connector to one end of a dual twisted-pair cable near the distribution line. Refer to Table 3 and Figure 8.
3. Connect the cable connector to one of the DL output connectors (1-10) on the rear panel of the V1200X-DL. Refer to Figure 1.
4. Route the cables to the receiver. Connect the cable to the appropriate receiver connector. Follow the connection instructions in the receiver instruction manuals.
5. Repeat these procedures until all receiver connections have been made.

TABLE 3
CONNECTIONS FROM V1200X-DL TO RECEIVER

Source		Destination	
V1200X-DL Output Connector 1-10		V1200R-LM-1, -2	V1200R and V1300R Receivers
Pin No.	Signal Name	Terminal Block Position	Terminal Block Position
1	GND	8	9
2	COMMAND OUT -	6	11
3	COMMAND OUT +	7	10
4	GND	11	6
5	RESPONSE IN -	9	8
6	RESPONSE IN +	10	7



NOTE: ALL CONNECTORS SHOWN FROM WIRING SIDE

Figure 9
V1200X-DL-to-Remote Control Panel Wiring

TABLE 4
CONNECTIONS FROM V1200X-DL
TO REMOTE CONTROL PANEL

Source		Destination
V1200X-DL Output Connector 1-10		V1200 and V1300 Remote Control Panels
Pin No.	Signal Name	Terminal Block Position
1	GND	1
2	COMMAND OUT -	2
3	COMMAND OUT +	3
4	GND	7
5	RESPONSE IN -	8
6	RESPONSE IN +	9

2.3.4 V1200X-DL TO REMOTE CONTROL PANELS

CAUTION: All unused connector 1-10 positions must be terminated with an end-of-line jumper. Connect a jumper between pin 5 (RESPONSE IN -) to pin 4 (GROUND).

NOTE: Since receivers and remote control panels use different command sequences, do NOT connect receivers and controls to the same V1200X-DL.

NOTE: The V1200X-DL is connected to the remote control panels via shielded, dual twisted-pair cable. Each twisted pair MUST be individually shielded.

1. Select a connector from the accessory pack which mates with connectors 1-10 on the first V1200X-DL rear panel. Refer to Figure 4.
2. Assemble the connector to one end of a dual twisted-pair cable near the distribution line. Refer to Table 4 and Figure 9.
3. Connect the cable connector to one of the DL output connectors (1-10) on the rear panel of the V1200X-DL. Refer to Figure 1.
4. Route the cables to the remote control panel. Connect the cable to the appropriate remote control panel connector. Follow the connection instructions in the remote control panel instruction manuals.
5. Repeat these procedures until all remote control panel connections have been made.

2.4 Applying Power

After completing the wiring procedures in section 2.3, apply electrical power to the V1200X-DL by plugging the line cord into an appropriate power source (wall outlet). The V1200X-DL does not have a power

ON/OFF switch; the unit is powered on whenever it receives power from the power source. The POWER LED on the front panel glows red whenever the distribution line is energized.

3. MAINTENANCE


Repairs should only be attempted by a qualified technician in an adequately equipped facility. If trouble

shooting is necessary, refer to Figures 10 and 11 and the Replacement Parts List.

3.1 Fuse Replacement

Two fuses, F1 and F2 (Figure 1) are located on the rear panel of the V1200X-DL. Both fuses are rated at 1/4 A, 3AG. To replace a fuse, proceed as follows:

1. Turn the fuse cap counterclockwise until the fuse cap is released from its rear panel connector. Pull the fuse cap out of the rear panel.
2. Pull the fuse out of the fuse cap.

CAUTION: Use only the correct replacement fuse  (1/4 A, 3AG). Using a fuse with a different current (amperes) rating can result in component damage and/or fire.

3. Insert the replacement fuse into the fuse cap.
4. Insert the fuse and fuse cap into the rear panel connector.
5. Align the two tabs inside the fuse cap with the two grooves inside the opening of the rear panel connector. Push the fuse cap into the rear panel and turn the fuse cap clockwise until the fuse cap is secure against the rear panel.

Shipping Instructions

Use the following procedure when returning a unit to the factory:

1. Call or write Vicon for a Return Authorization (R.A.) at one of the locations listed below. Record the name of the Vicon employee who issued the R.A.

VICON INDUSTRIES INC.
525 Broad Hollow Rd.
Melville, NY 11747
516-293-2200 1-800-645-9116

For service or returns from countries in Europe, contact

VICON INDUSTRIES (U.K.) LTD
Brunel Way
Segensworth East
Fareham, PO15 5TX
United Kingdom
44/(0) 489/577775 Fax: 44/(0) 489/578923

2. Attach a sheet of paper to the unit with the following information:
 - a. Name and address of the company returning the unit
 - b. Name of the Vicon employee who issued the R.A.
 - c. R.A. number
 - d. Brief description of the installation
 - e. Complete description of the problem and circumstances under which it occurs
 - f. Unit's original date of purchase, if still under warranty
3. Pack the unit carefully. Use the original shipping carton or its equivalent for maximum protection.
4. Mark the R.A. number on the outside of the carton on the shipping label.

REPLACEMENT PARTS LIST

Reference Designation	Part Number	Description
U1, U4, U6, U10	8004-8371-00	IC, 26LS31 DIP16
U2, U5, U7, U8	8004-8372-00	IC, 26LS32 DIP16
U3, U9	8004-8449-00	IC, 74LS20
U11	8004-8449-01	IC74LS27
U3, U9, U11	8003-8953-00	SOCKET, IC, 14-pin, AMP No. 641261-3 Burndy
U1, U2, U4, U5, U6, U7, U8, U10	8003-8954-00	SOCKET, IC, 16-pin, DILB 16-P108 Burndy or AMP 2-641262-3
VR1, VR2	1806-5045-01	REGULATOR, LM7805CT National
C1-C11, C14, C15, C17, C18	1802-0027-74	CAPACITOR, 0.1 uf, 50 VDC, ceramic
C16, C19	1802-0005-37	CAPACITOR, 1000 uf, 16 VDC, electrolytic, radial
C12, C13	1802-0005-06	CAPACITOR, 4.7 uf, 50 VDC, electrolytic, radial
R2, R3, R5, R6, R7, R8, R10, R13, R16, R17, R20, R22, R26, R27, R30, R31, R32, R33, R35, R36, R39, R40, R43, R44, R46, R47, R49, R51, R55, R56, R59, R61	8002-8329-01	RESISTOR, 100 ohm, 1/4 W, 5%
R1, R4, R21, R23, R28, R37, R48, R53, R54, R60, R62	8002-8531-00	RESISTOR, 220 ohm, 1/4 W, 5%
R9, R11, R12, R14, R15, R18, R19, R24, R25, R29, R34, R38, R41, R42, R45, R50, R52, R57, R58, R63	8002-8939-00	RESISTOR, 18 kohm, 1/4 W, 5%
CR1-CR4	1804-0001-16	DIODE, 1N4001 DO41
J1-J11	8000-9735-00	CONNECTOR, PCB, ale, 6-pin, 9-350258-1
--	1806-5046-01	LINE CORD
--	8001-8966-01	LAMP, 115 V, neon, 47001AI Industrial Devices
F1, F2	8001-7450-00	FUSE, 1/4 A, 3AG, slo-blo, 250 V, Littelfuse
--	8001-7510-00	FUSEHOLDER, 342028L Littelfuse
T1	1800-0239-01	TRANSFORMER, 24 V at 50 mA, PCB-mount
--	1806-5000-00	TERMINAL BOARD
--	1806-5003-04	CONNECTOR, panel, female, 6-pin, SI-3306-AB
--	1806-5003-05	CONNECTOR, panel, female, 6-pin, SI-3306-8-AB
E1-E4, E6, E7, E9-E46	1809-0002-01	TRANSIENT SUPPRESSOR, 1.5 KE7.5C GSI or Motorola
--	8000-9736-00	CONNECTOR, cable, female, 6-pin, 1-0350241-9
--	1806-5002-13	CONNECTOR, cable, male, 6-pin, PI-3306-8-CCT-FR
--	1806-5002-12	CONNECTOR, cable, male, 6-pin, PI-3306-CCT-FR

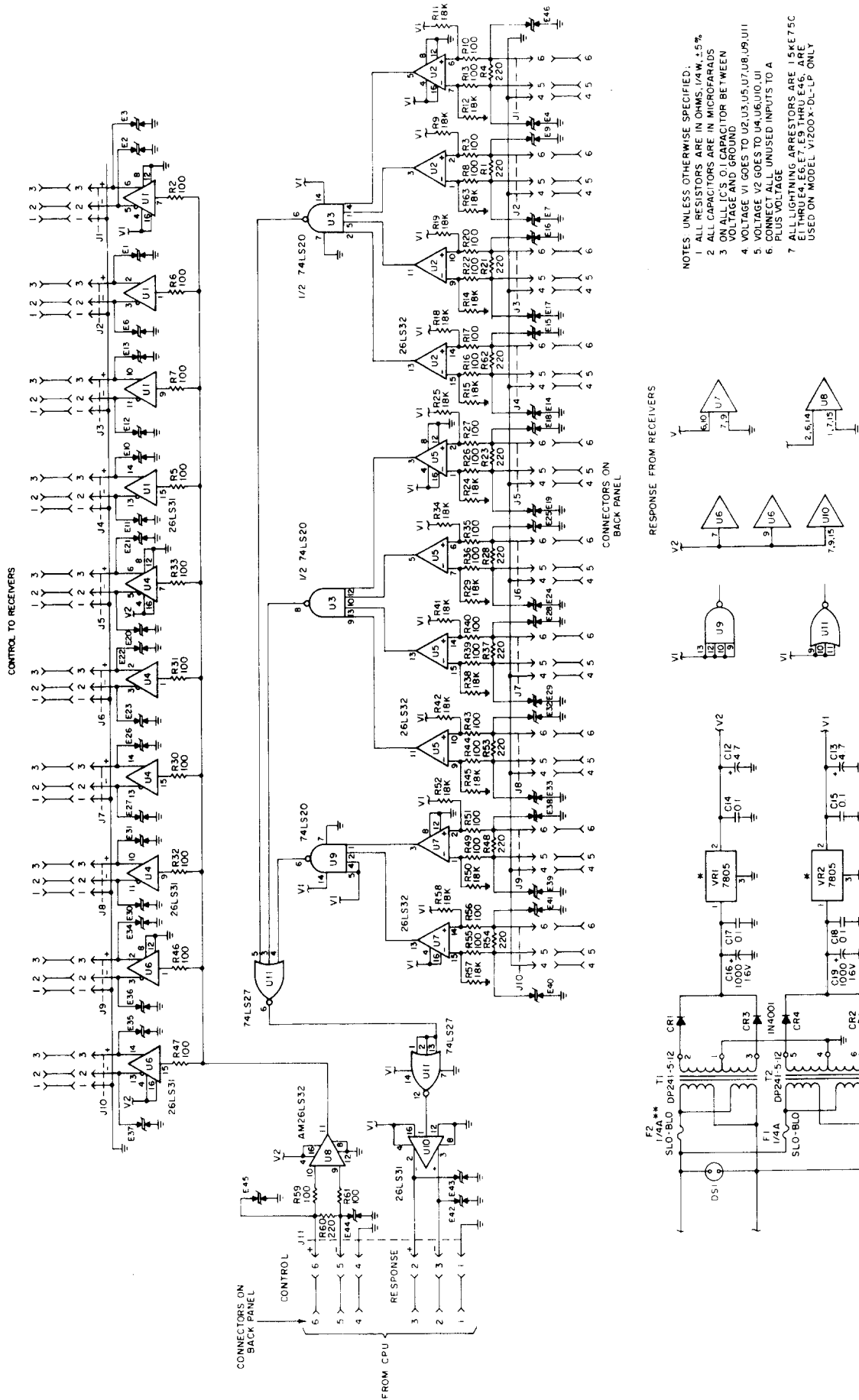


Figure 10
Schematic Diagram

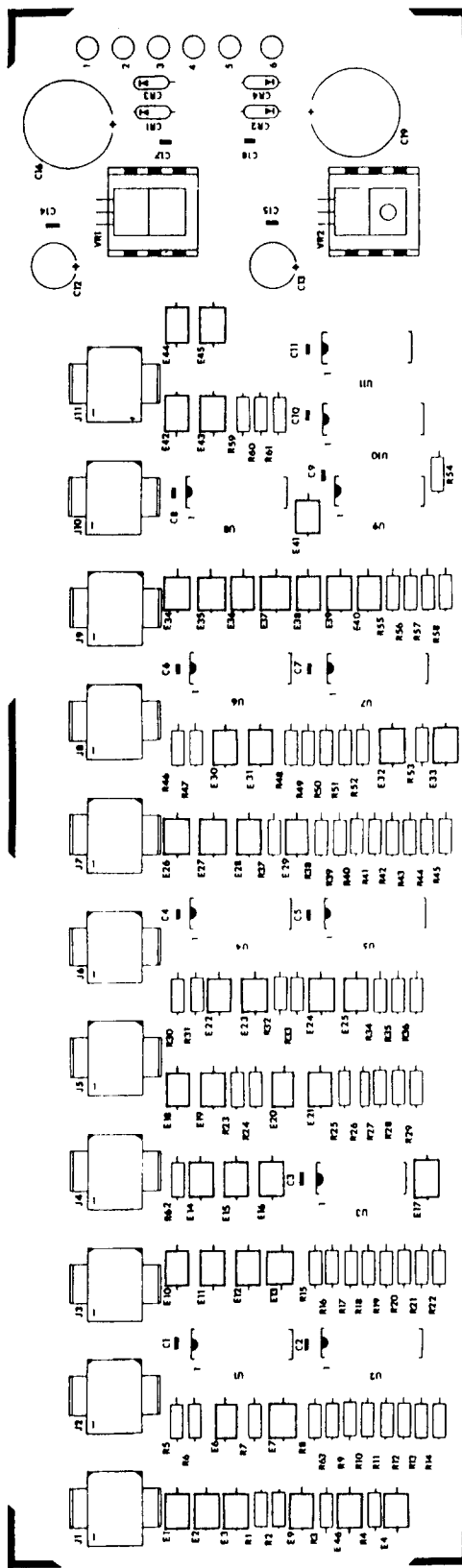


Figure 11
Parts Location Diagram