USER'S MANUAL

VGA Extender™ II

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Introduction

Thank you for purchasing the VGA Extender II. This unique product allows you to operate a VGA monitor, keyboard and PS-2 type mouse up tp 700 feet away from your computer.

The VGA Extender is supplied with the following components:

1	Transmitter
1	Receiver
2	6 Vdc power transformer
1	6 ft. VGA jumper cable
2	6 ft. Keyboard and Mouse jumper cables
1	User's Manual

In addition, there may be optional cables which you may have ordered. The Transmitter and Receiver connect to each other using a special composite cable made of 3 coax cables and 10 low capacitance twisted pairs of cable in one jacket. This cable is available on a cut-to-length basis from Communications Specialities or from the dealer where you purchased this product.

P/N 100778 Rev. D

Installation

1. Locate the Transmitter within 6 ft. of the computer.
2. Connect the provided 6 ft. VGA jumper cable, from the VGA output of the computer to the connector marked VGA on the transmitter.
3. If your computer is an IBM PS/2 or other compatible using a 6-pin mini-DIN keyboard connector, connect one of the 6 ft. mini-DIN to mini-DIN cables supplied from the Keyboard port on the PS/2 to the connector on the transmitter marked KEYBOARD. If your computer is a PC using a standard 5-pin DIN connector you need to purchase the CAB-17 cable adapter for use with standard AT-type keyboard ports.
4. If your computer is an IBM PS/2 or other compatible using a 6-pin mini-DIN mouse connector, connect the other 6 ft. mini-DIN to mini-DIN cable supplied from the mouse port on the PS/2 to the connector on the Transmitter marked MOUSE.
5. Using the chart below, adjust the rotary switch on the front of the transmitter according to the length of cable between your Tranmitter and Receiver.

CABLE LENGTH	**POSITION (for VGA modes up to 640 x 480)**
0-125 feet	1 "SHORT"
125-250 feet	2
250-375 feet	3
375-500 feet	4
500-600 feet	5
600-725 feet	6 "LONG"

CABLE LENGTH	POSITION (for Super-VGA & XGA modes)
0-100 feet	1 "SHORT"
100-175 feet	2
175-250 feet	3
250-325 feet	4
325-425 feet	5
425-500 feet	6 "LONG"

6. The transmitter is configured at the factory to properly support VGA or XGA color monitors when the PC boots up. If you are using either a monochrome or 8514/A type monitor, then 2 internal jumper plugs must be repositioned. The chart below shows the jumper plug settings:

MONITOR TYPE	CONNECT PLUGS AT JP-1 POSITIONS:
VGA Color	2 and 4 and 5
XGA	1 and 2 and 4
8514/A	1 and 2 and 5
Monochrome	3 and 4 and 5

The internal jumper plugs can be accessed by:

* Removing the front panel knob

* Removing the two phillips screws on either side of the REAR panel

* Sliding the rear panel and circuit board out of the case by holding onto the case with one hand and holding the rear bezel with the other. Pull on the bezel to remove it from the case.

* The jumper header JP-1 is located towards the rear of the board.

7. At the remote location, connect the VGA monitor to the connector on the Receiver marked MONITOR.

8. If you have a PS/2 type keyboard and mouse, connect them to the connectors on the Receiver marked KEYBOARD and mouse, respectively.

9. If you have a standard PC or PC-AT type keyboard, use the adapter cable CAB-18.

NOTE: Only a PS/2 type mouse can be used with the VGA Extender II system.

10. Connect the CAB-21 cable (connects the Transmitter to the Receiver) to the Transmitter connector marked RECEIVER. Connect the other end of the CAB-21 cable to the Receiver connector marked TRANSMITTER. Make sure you tighten the jack screws on the connectors!

Note: If you purchased the CAB-21 cable without connectors on it, see WIRING THE CAB-21 CABLE on the following page.

11. Connect the power transformers supplied to the Transmitter and Receiver.

12. Plug the power transformers into a 110 VAC wall outlet. The front panel LED should glow red on the equipment indicating the units are properly powered.

13. This completes the installation.

14. As an option, a VGA monitor can be connected to the Transmitter connector marked MONITOR. This monitor may be located up to 100 feet from the computer. CSI sells CAB-19 extension cable for this purpose.

Note: If multiple VGA monitors need to be driven from either the Transmitter's or Receiver's MONITOR output, Communications Specialties manufactures a line of distribution amplifiers for VGA that can drive multiple monitors at distances up to 200 feet.

Wiring The CAB-21 Cable

The CAB-21 cable used to connect the Transmitter to the Receiver is a specifically designed composite cable which includes 3 low-loss coax cables and 10 low capacitance twisted pairs of 29 gauge wire. You may order this cable pre-terminated from Communications Specialties (TERM-2).

If you prefer to terminate your own cable, the wiring for the each end of the cable is as follows:

PIN#	COAX/PAIR	FUNCTION	PVC	TEFLON
1	Red-Center	Red Video	Red	Red
2	Green-Center	Green Video	Green	Green
3	Blue-Center	Blue Video	Blue	Blue
4	1	H-sync+	Black	Red
5	1	H-sync-	White/Black	White
6	2	V-sync+	Brown	Red
7	2	V-sync-	White/Brown	Green
8	3	KeyData T+	Red	Brown
9	3	KeyData T-	White/Red	Blue
10	Red-Shield	Red-Ground	Red Shield	Red Shield
11	Green-shield	Green-Ground	Green Shield	GreenShield
12	Blue-Shield	Blue Ground	Blue Shield	Blue Shield
13	4	KeyClock T+	Orange	Orange
14	4	KeyClock T-	White/Orange	Yellow
15	5	MouseData T+	Yellow	Violet
16	5	MouseData T-	White/Yellow	Grey
17	6	MouseClock T+	Green	Pink
18	6	MouseClock T+	White/Green	Tan
19	7	KeyData R+	Blue	Black
20	7	KeyData R-	White/Blue	Green
21	8	KeyClock R+	Violet	White
22	8	KeyClock R-	White/Violet	Blue
23	9	MouseData R+	Grey	Violet
24	9	MouseData R-	White/Grey	Yellow
25	10	MouseClock R+	Pink	Red
26	10	MouseClock R-	White/Pink	Orange

Connect the drain wire of the outer braid shield to either the metal body of the connector or to the metal connector hood.

Wiring for both ends of the cable are the same.

Constant Keyboard Circuit

A unique feature of VGA Extender II is the Constant Keyboard circuit in the Transmitter. This circuit interfaces between the PC and the remote keyboard. It makes the PC think there is always a keyboard connected even if the remote keyboard is disconnected or the power is lost to the Receiver unit. Most application programs will crash when the keyboard is re-connected or when power is re-applied. Constant keyboard prevents this from occuring.

FCC User Information

WARNING: This equipment generates, uses, and can radiate radio frequency energy and, if not used in accordance with the instruction manual, may cause interference with radio communications. It has been tested and found to comply with the limits for Class A computing device pusuant to Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such intereference when operated in a commercial environment.Operation of this equipment in a residential area is likely to cause interference in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

Troubleshooting

Improper setting of the Transmitter front panel DIP switches for cable length can cause one or more of the following problems:

No detail on remote monitor: This is caused by setting the cable length knob for a distance shorter than the length of the CAB-21 cable in use.

White or "ringing" edges to the right of any vertical line on the monitor: This is caused by setting the cable length knob for a distance longer than the length of the CAB-21 cable in use.

Vertical "bands" of one color on the remote monitor: This is caused by either the CAB-21 cable being improperly wired (check the coax connections) or the connectors of the CAB-21 not being pushed in all the way into the mating connectors on the Transmitter and/or Receiver.

Erractic operation of the keyboard or mouse: This is caused by either the CAB-21 cable being improperly wired (check the coax connections) or the connectors of the CAB-21 not being pushed in all the wayinto the mating connectors on the Transmitter and/or Receiver.

Limited Warranty

Communications Specialties, Inc. (CSI) warrants that for a period of one year after purchase by Buyer, VGA Extender II will be free from defects in material and workmanship under normal use and service. A Return Material Authorization (RMA) number must be obtained from CSI before any equipment is returned by the Buyer. All material must be shipped to CSI, Hauppauge, New York, at the expense and risk of the Buyer. Units returned to the Buyer will be shipped freight collect.

CSI's obligation under this warranty will be limited, at its option, to either repair or replacement of defective units, including free materials and labor, at its customer service facility in Hauppauge, New York. In no event shall CSI be responsible for any incidental or consequential damages or loss of profits or goodwill.

CSI shall not be obligated to replace or repair equipment damaged by fire, war, acts of God or similar causes, or equipment that has been serviced, altered, improperly installed or abused.

RMA numbers and repairs can be obtained from:

Communications Specialties Headquarters
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Please have your serial number available (found on the bottom of the unit) when contacing us.