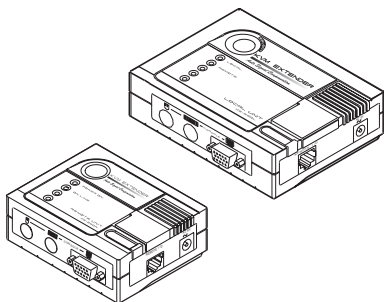


# KVM EXTENDER



## USER MANUAL

# CE-250

Read this guide thoroughly and follow the installation and operation procedures carefully in order to prevent any damage to the units and/or any devices that connect to them.

This package contains:

- ◆ 1 CE-250L KVM Extender (Local Unit)
- ◆ 1 CE-250R KVM Extender (Remote Unit)
- ◆ 1 CS Custom KVM Cable
- ◆ 2 Power Adapters
- ◆ 1 User Manual

If anything is damaged or missing, contact your dealer.

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**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ◆ Reorient or relocate the receiving antenna;
- ◆ Increase the separation between the equipment and receiver;
- ◆ Connect the equipment into an outlet on a circuit different from that which the receiver is connected;
- ◆ Consult the dealer or an experienced radio/television technician for help.



## OVERVIEW

Because the CE-250 KVM Extender System allows access to a computer system from a remote console (keyboard, monitor, and mouse), it is perfect for factory and construction sites, or any type of installation where the console needs to be in a conveniently accessible location, but you want the system equipment to reside in a safe place - away from dust, dirt, and harsh environmental influences.

The CE-250 System is also useful for control and security purposes, where you can have the system unit in a secure area at the same time that you put the console in a location that offers convenient access.

The CE-250 KVM Extender provides the ideal means to access the remote system box, since it improves on previous designs by using inexpensive Category 5 cable - the kind commonly used in Ethernet networks - instead of bulkier, more expensive, standard cables. Category 5 cabling makes for a much neater, more convenient, more reliable data transfer connection.

The CE-250 features a custom ASIC to ensure the utmost in reliability and compatibility, and can also sense the distance to the system and automatically adjust the gain to compensate.

Setup is as easy as can be - simply connect the computer system box and local console to the Local CE-250 Module; run the Cat. 5 cable to the Remote CE-250 Module (up to 150 meters away); and plug the remote console into the Remote Module.

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**Note:** You can control numerous remote systems from a single console by combining the CE-250 with a KVM switch.

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## FEATURES

- ◆ Built-in ASIC for greater reliability and compatibility
- ◆ Cat 5 cable to connect the local and remote units – up to 150 meters apart
- ◆ Dual console operation – control your system from both the local and remote PS/2 keyboard, monitor, and mouse consoles
- ◆ Push button selection – of the active console
- ◆ High resolution video – up to 1280 x 1024
- ◆ Supports VGA, SVGA, and multisync monitors
- ◆ Local monitor supports DDC; DDC2; DDC2B
- ◆ Automatic gain control – automatically adjusts signal strength to compensate for distance
- ◆ Easy to install – no software required – connecting cables to the devices is all it takes

## SYSTEM REQUIREMENTS

### CONSOLES

- ◆ A VGA, SVGA, or Multisync monitor capable of the highest resolution that you will be using on any computer in the installation
- ◆ A PS/2 style keyboard
- ◆ A PS/2 style mouse

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- Note:** 1. If you connect a DDC type monitor to the Local Unit, the monitor that connects to the Remote Unit must be able to support the highest video resolution that the DDC monitor can provide.
2. You must use the same brand and model of mouse on both the local and remote units.
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## COMPUTERS

The following equipment must be installed on each computer that is to be connected to the system:

### With PS/2 Type Connectors:

- ◆ A VGA, SVGA, or Multisync card
- ◆ A 6-pin mini-DIN mouse port
- ◆ A 6-pin mini-DIN Keyboard port

### With AT Type Connectors:

- ◆ A VGA, SVGA or Multisync card
- ◆ A DB-9 (standard serial), mouse port plus mouse adapter (part # 2A-105)\*
- ◆ A 5-pin DIN (standard AT), keyboard port plus keyboard adapter (part # 2A-106)\*

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\* Not included - requires separate purchase.

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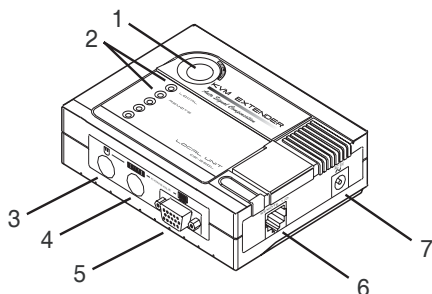
## CABLES

- ◆ Although it is possible to use standard KVM cables to link computers with PS/2 type keyboard and mouse ports to the CE-250L, for optimal signal integrity, and to simplify the layout, we strongly recommend that you use the high quality CS Custom KVM Cable that is provided with this package.
- ◆ It is not possible to use standard KVM cables to link computers with AT type keyboard and mouse ports to the CE-250L. For those computers, CS Custom KVM Cables must be used.
- ◆ Category 5 cable is the minimum required to connect the local and remote CE-250 units. Cable of a lesser standard will result in degrading the video signal. For best performance, we strongly recommend Category 5 cable.

## COMPONENTS

### THE LOCAL UNIT (CE-250L)

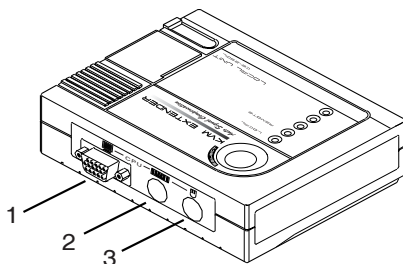
#### Front View:



#	Description	Function
1	Operating Mode Selection Switch	Pressing this button toggles between the operating mode choices: <ul style="list-style-type: none"><li>◆ Local: only the local console can control the system(s)</li><li>◆ Auto: both consoles can control the system(s).</li></ul>
2	LEDs	The Local Unit has two LEDs to indicate the operating status of the Local and Remote units (see <i>CE-250L (Local Unit)</i> , p. 11).
3	Mouse Port	The local PS/2 mouse plugs into this connector.
4	Keyboard Port	The local PS/2 keyboard plugs into this connector.
5	Monitor Port	The local monitor plugs into this connector.
6	Remote I/O	The Cat 5 twisted pair cable that connects to the Remote Unit plugs into this connector.
7	Power Jack	The cable from the AC Power Adapter plugs into this jack.

## THE LOCAL UNIT (CE-250L)

### Rear View:

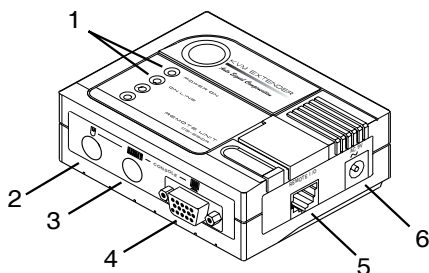


#	Description	Function
1	Monitor Port	The HDB-15 Video connector of the KVM cable that connects to the computer's Video port plugs into this connector.
2	Keyboard Port	The Keyboard connector of the KVM cable that connects to the computer's Keyboard port plugs into this connector.
3	Mouse Port	The Mouse connector of the KVM cable that connects to the computer's Mouse port plugs into this connector.

**Note:** If you are combining the CE-250 with a KVM switch, the KVM cable connects back to the respective ports on the Console section of the switch.

## THE REMOTE UNIT (CE-250R)

### Front View:



#	Description	Function
1	LEDs	The Remote Unit has two LEDs (Power and On Line) to indicate the operating status of the Local and Remote units (see <i>CE-250R (Remote Unit)</i> , p. 11).
2	Mouse Port	The remote PS/2 mouse plugs into this connector.
3	Keyboard Port	The remote PS/2 keyboard plugs into this connector.
4	Monitor Port	The remote monitor plugs into this connector.
5	Remote I/O	The Cat 5 twisted pair cable that connects back to the Local Unit plugs into this connector.
6	Power Jack	The cable from the AC Power Adapter plugs into this jack.



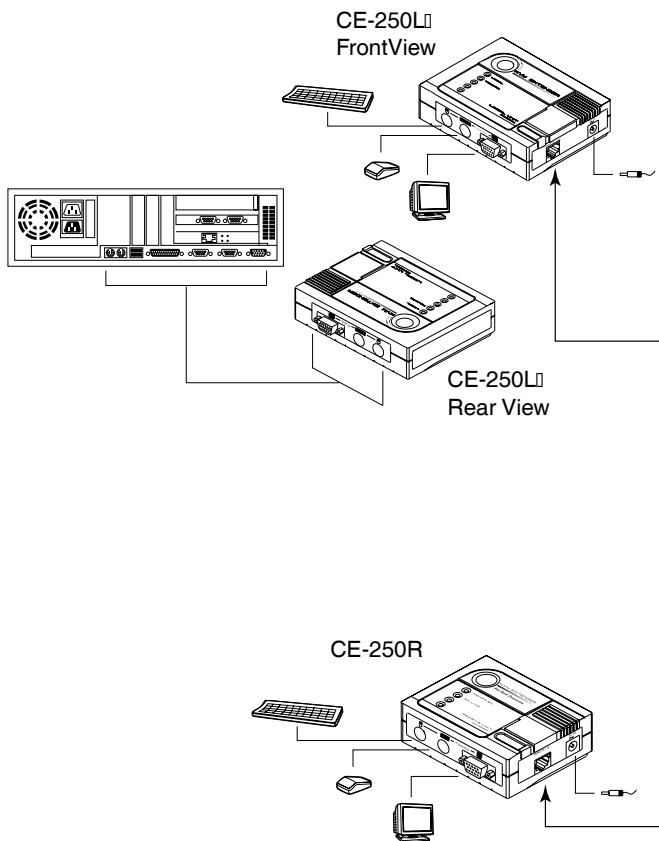
## INSTALLATION

Setting up the CE-250 KVM Extender system is simply a matter of plugging in the cables. Refer to the installation diagram on the following page and do the following:

1. Make sure that all the equipment to be connected up is powered Off.
2. Plug the cables from the local console devices (mouse, keyboard, monitor), into their ports on the Console side of the Local Unit (CE-250L).
3. Plug the appropriate connectors on the KVM cable supplied with this unit into the CPU side of the CE-250L. Each connector is marked with an appropriate icon to indicate which it is.

**Note:** The female monitor connector is the one that plugs into the CE-250L.

4. Plug the connectors on the other end of the cable into the appropriate ports on the computer (or Console section of the KVM switch - if you are using one). Each connector is marked with an appropriate icon to indicate which it is.
5. Plug either end of the Category 5 twisted pair cable into the CE-250L's Remote I/O port.
6. Plug one of the power adapters (supplied with this package) into an AC source; plug the adapter's power cable into the CE-250L's Power Jack
7. Plug the other end of the Category 5 twisted pair cable into the I/O port of the Remote Unit (CE-250R).
8. Plug the cables from the remote console devices (mouse, keyboard, monitor), into their ports on the Console side of the CE-250R.
9. Plug the second power adapter (supplied with this package) into an AC source; plug the adapter's power cable into the CE-250R's Power Jack.



## OPERATION

The Local and Remote Units each have two LEDs to indicate their operating status, as shown in the tables, below:

### CE-250L (LOCAL UNIT)

LED	Operating Mode	
	Local	Auto
Local	Lights to indicate that the local console is active (the Remote LED is out).	<ol style="list-style-type: none"><li>1. Lights when the local console is active (the Remote LED is out).</li><li>2. Turns off when the remote console is active (the Remote LED turns on).</li><li>3. Flashes on and off alternately with the Remote LED when neither console is active.</li></ol>
Remote	The LED is Off	<ol style="list-style-type: none"><li>1. Lights when the remote console is active (the Local LED is out).</li><li>2. Turns off when the local console is active (the Local LED turns on).</li><li>3. Flashes on and off alternately with the Local LED when neither console is active.</li></ol>

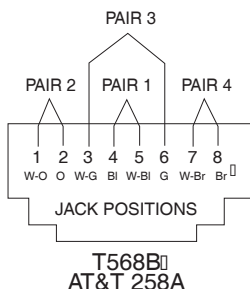
### CE-250R (REMOTE UNIT)

LED	Indication
Power	<ol style="list-style-type: none"><li>1. Lights steadily to indicate that the connection to the Local Unit is ok.</li><li>2. Flashes when there is a problem with the connection to the Local Unit.</li></ol>
On Line	<ol style="list-style-type: none"><li>1. Lights when the remote console is active.</li><li>2. Is Off when the local console is active.</li><li>3. Is Off when there is a problem with the connection to the Local Unit.</li></ol>

## TROUBLESHOOTING

Problem	Action
No video	Make sure that all cables are securely plugged into their sockets.
Poor video quality.	The video quality can be improved by reducing the refresh rate.

## TP WIRING DIAGRAM



## TP PIN ASSIGNMENTS

Pin	Assignment
1	V OUT B
2	/V OUT B
3	V OUT G
4	V OUT R
5	/V OUT R
6	/V OUT G
7	/DO
8	DO

## SPECIFICATIONS

Function		CE-250L	CE-250R
Connectors	Keyboard	2 x 6-pin Mini-DIN F	1 x 6-pin Mini-DIN F
	Mouse	2 x 6-pin Mini-DIN F	1 x 6-pin Mini-DIN F
	Monitor	1 x HDB-15 M 1 x HDB-15 F	1 x HDB-15 F
LEDs		1 x Local	1 x Power On
		1 x Remote	1 x On Line
Function Keys		1 x Local/Auto Select	N/A
Cable Length		150m [500'] (max.)	
Video Resolution		1280 x 1024; DDC; DDC2; DDC2B	
Power Consumption		AC 9V, 2.7W (max.)	AC 9V, 4.0W (max.)
Housing		Plastic	
Weight		0.30kg	0.22kg
Dimensions (L x W x H)		13 x 10 x 3.5 cm	10 x 8 x 3.5 cm

\* DDC, DDC2, and DDC2B support is for the Local monitor only.

## **LIMITED WARRANTY**

IN NO EVENT SHALL THE DIRECT VENDOR'S LIABILITY EXCEED THE PRICE PAID FOR THE PRODUCT FROM THE DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT, DISK OR ITS DOCUMENTATION.

The direct vendor makes no warranty or representation, expressed, implied, or statutory with respect to the contents or use of this documentation, and specially disclaims its quality, performance, merchantability, or fitness for any particular purpose.

The direct vendor also reserves the right to revise or update the device or documentation without obligation to notify any individual or entity of such revisions, or update. For further inquiries please contact your direct vendor.