



## HANDS-FREE VIDEO INTERCOM SYSTEM

OWNER'S MANUAL  
INSTALLATION AND OPERATION

## TABLE OF CONTENTS

Important Safety Instructions	1
Warning	2
FCC Class B Notice	3
Introduction	4
Identifying the Parts	
Monitor	5
Function Keys Instruction/Picture Retrieval	6
Camera	7
Monitor Terminal Connections	8
Camera Terminal Connections	9
Installation	
Testing Units	10
Monitor & Camera	11-12
Installation Tips	13
Operation	
Door Camera & Monitor	14
Appendix 1 - Connecting a Magnetic Contact	15
Appendix 2 - Connecting an Electric Door Strike	16
Troubleshooting Guide	17
Technical Specifications: CHF-650 Model	18
Technical Specifications: MHF-250 Model	19
Warranty	20

## IMPORTANT SAFETY INSTRUCTIONS

**WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THE MONITOR OR POWER ADAPTER TO WATER OR MOISTURE.**

- ◆ Read Instructions - All the safety and operating instructions should be read before operating this equipment. These instructions should be retained for future reference.
- ◆ Heed Warnings - All warnings on the equipment and in the operating instructions should be adhered to. All instructions regarding care and operation of this equipment should be followed.
- ◆ Power Sources - Equipment should only be connected to the power supply specified in the operating instructions or as marked on the equipment.
- ◆ Power Cord Protection - Keep cable cords and plugs clear of other objects, particularly at the point where they exit the equipment.
- ◆ Cleaning - Clean the equipment by wiping with a soft cloth (do not use any abrasive agents or water).
- ◆ Non-use Periods - Power cords should be unplugged from the outlet when left unused for a long period of time.
- ◆ Object and Liquid Entry - Take care not to drop objects or liquids on any part of the equipment.
- ◆ Damage Requiring Service - The unit should be serviced by a qualified service personnel when:
  - The power supply cord or the plug has been damaged or
  - Objects have fallen, or liquid has been spilled onto the equipment or
  - The equipment has been exposed to rain or
  - The equipment does not appear to operate normally or exhibits a marked change in performance or
  - The equipment has been dropped and/or the enclosure has been damaged.
- ◆ Servicing - Do not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to as Qualified Distributor's Service Personnel.

## WARNING

**WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THE MONITOR OR POWER ADAPTER TO WATER OR MOISTURE.**

CAUTION: DO NOT OPEN. RISK OF ELECTRICAL SHOCK.

CAUTION! TO REDUCE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER OR BACK. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

### EXPLANATION OF TWO SYMBOLS



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 risk of electrical 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 appliance.

**WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THE MONITOR TO RAIN OR MOISTURE.**

## FCC CLASS B NOTICE

**NOTE:**

This equipment has been certified and found to comply with the limits regulated by FCC, EMC, and LVD. Therefore, it is designed to provide reasonable protection against interference and will not cause interference with other appliance usage. However, it is imperative that the user follows this manual's guidelines to avoid improper usage which may result in damage to the unit, electrical shock, and fire hazard or injury. In order to improve the feature functions and quality of the product, the specifications are subject to change without notice from time to time.

**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 instructions, may cause harmful interference with 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 connect the interference by one or more of the following measures:

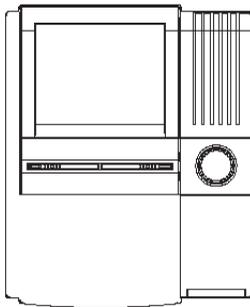
- Reorient or relocate the monitor unit,
- Increase the separation between the monitor and camera,
- Connect the equipment on a separate outlet,
- Consult the dealer or an experienced radio or television technician for help.

# INTRODUCTION

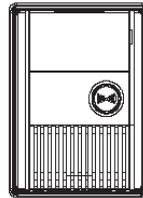
Thank you for purchasing the Cyrex Hands-Free Video Intercom System. This intercom system allows you to identify and communicate with callers at the door, from the security and convenience of any room in your house. Visitors activate the system by pressing a call button on the outdoor camera, which sounds a doorbell chime as well as turning on the inside video monitor. A two-way intercom then lets you speak with visitors after first visually identifying them. It consists of a monitor station and an outdoor doorbell/camera unit.

Additional accessories such as an electronic door strike or magnetic contacts can also be used with this system.

For more information regarding the complete line of Cyrex products, please visit [www.cyrexnetworks.com](http://www.cyrexnetworks.com).



Hands-Free Monitor



Weatherproof Doorbell Camera



Adapter



Screw



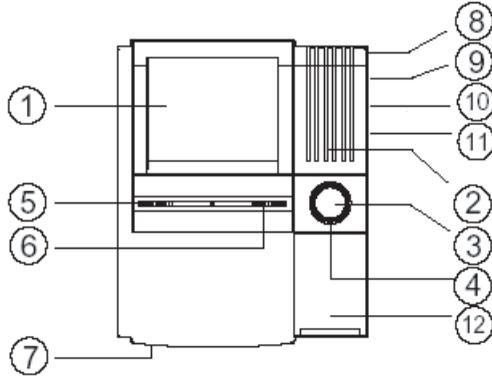
Allen Wrench



Wall Mount Plate

**Note:** Please remove the transparent film from the camera and monitor screen before using the system.

## IDENTIFYING THE PARTS



1. 4" B/W Flat CRT or Color LCD Screen \*  
- Displays image delivered from the door camera
2. Hands-Free Audio Intercom  
- Emits audio from the door camera
3. Lock Release Button  
- Press to remotely unlock the door (requires optional electric door release)  
OR  
- Press to manually activate camera unit to monitor activities.
4. Door Status Indicator Light  
- Door light illuminates to show whether the door is open or closed when an optional magnetic contact switch is used.
5. Speak-Out Button (PTT - Push To Talk)  
- When pressed, you can talk and the visitor can only listen in at the door camera location
6. Speakerphone Button (Two-Way)  
- When pressed, it allows for two-way conversation between the monitor and the camera unit. Holding this button for 2 seconds turns off the monitor.
7. Microphone
8. Brightness Tuner
9. Sharpness Tuner
10. Bell Volume Tuner
11. Speakerphone Volume Tuner
12. Flip-down Panel  
- Where function keys such as "Photo Rec", "Play Alter", "Clock Adj", and "Mode Exit" are located.

\* Depending on model number.

# IDENTIFYING THE PARTS

(continued)

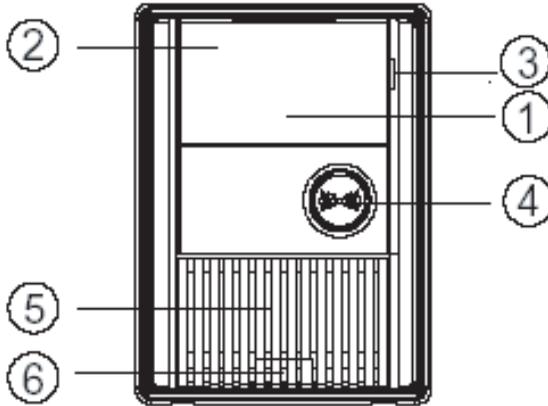
## Operation Notes:

1. Once power is on, set Time and Date first before further operation.
2. All function keys except "PHOTO REC" are functional when unit is on standby status.
3. The "PHOTO REC" function is available only when an image is displayed on the screen.



1. Photo Rec Function Key:
  - By pressing this button, the system will capture additional pictures in the Monitoring mode and/or after the doorbell is activated. (Picture memory stored in B/W)
2. Play/Alter Function Key
  - Adjust time
  - Play recorded images/Retrieve picture memory
3. Clock Adj Function Key
  - Enter into "Set Time" mode
  - Shown as "Year/Month/Day" - "Hour/Minute"
4. Mode Exit Function Key

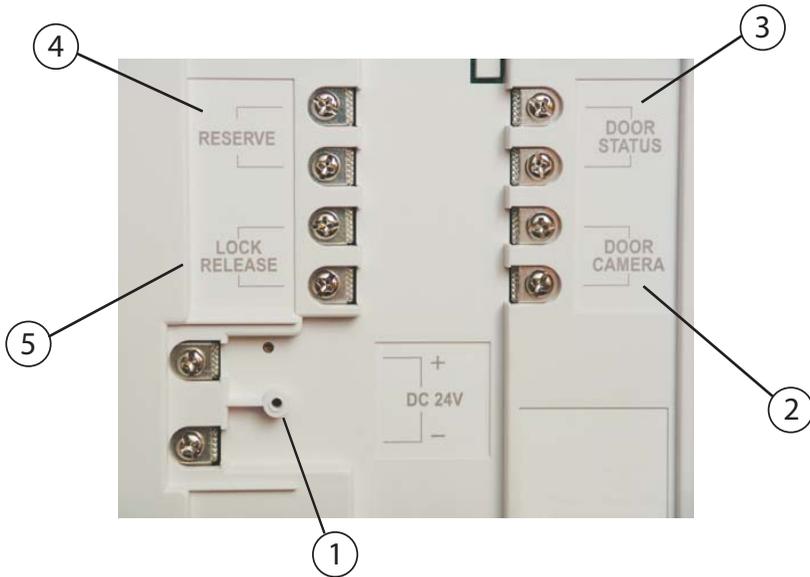
## IDENTIFYING THE PARTS (continued)



1. High Resolution 1/3" B/W or Color CCD Camera \*
2. LED Emitters
  - Light emitting diodes (LED) provide supplemental lighting to enhance night viewing.
3. Microphone
4. Illuminated Call Button with Chime
  - Press this button to ring the doorbell chime and activate the monitor.
5. Speaker
  - Emits sound from the monitor.
6. Screw Cover
  - This cover conceals the screw of the mounting bracket.

\* Depending on model number.

## IDENTIFYING THE PARTS (continued)



1. Power Adapter Connection
  - Remove the screw and the plastic cover to connect the 24VDC power adapter from the back of the monitor to a wall outlet using the supplied adapter. The terminal connection at the monitor is a Y-terminal and the +/- leads need to be inserted and screwed into the corresponding contacts (refer to the 24VDC illustration above).
2. Door Camera
  - Connect two conductor 18AWG wire (300 feet max) from the terminals marked "Door Camera" on the monitor to the terminals on the camera unit marked "Monitor".
3. Door Status
  - Connect two wires from this terminal to an optional magnetic contact for door status. A NO contact can be obtained at a local electronics supply store.
4. Reserve
  - These terminals are not connected and should not be used.
5. Lock Release
  - Connect the wires from this dry contact terminal to an optional electric door strike (24V DC 1A max).

## IDENTIFYING THE PARTS (continued)



1. Reserve  
- These terminals are not connected and should not be used.
2. Volume Control  
- To adjust the microphone volume for the doorbell camera.
3. Monitor  
- Connect two wires from this terminal to the monitor, marked "Door Camera".

# INSTALLATION

## TESTING UNITS

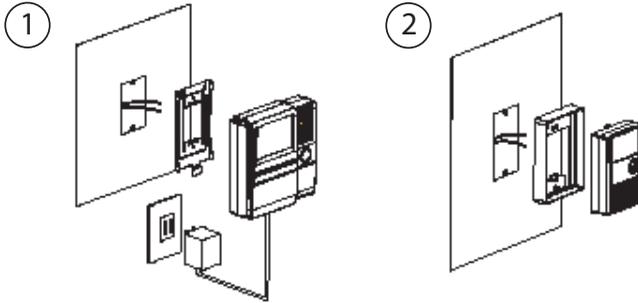
It is recommended that you test the doorphone system before mounting it in order to adjust the settings to the desired levels. Below are instructions on what to look for when testing:

1. Test the monitor by following these steps:
  - a) Press the call button at the camera unit. If there is power, the screen will turn on and display live video.
  - b) Check and adjust the bell volume, picture quality and speakerphone volume.
2. Test the camera by following these steps:
  - a) Press the call button at the camera
  - b) Press the monitor's speakerphone button to initiate hands-free conversation.
  - c) Adjust the door camera's speakerphone volume at the back of the door camera (under the rubber cover).

# INSTALLATION

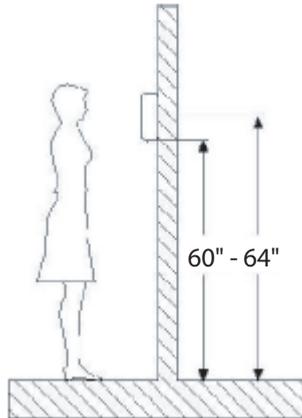
(continued)

Important!!! Note: Turn off the power to all units before connecting or disconnecting cables.



1. Monitor Installation: Choose a suitable location inside your home and fasten the wall mount plate on the wall using the screws provided.

2. Camera Installation: Fasten the wall mount bracket for the camera at a height between 60" - 64" from the ground so the lens of the camera is situated at eye level of the visitor.

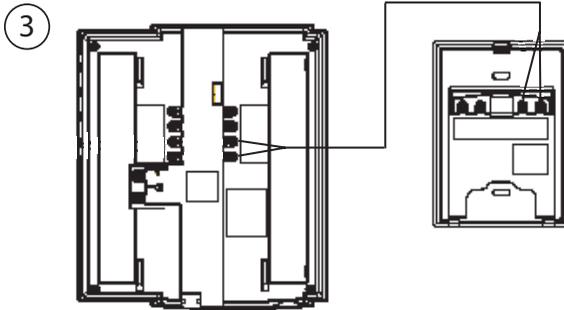


Note: Instead of running new cables, you may use your existing doorbell wiring. If you choose to use your existing doorbell wiring, the doorbell camera would be powered by the hands-free monitor and the previous doorbell would not be functional.

# INSTALLATION

(continued)

Important!!! Note: Turn off the power to all units before connecting or disconnecting cables.



3. Connect Camera to Monitor: Connect two conductor 18AWG wires from the doorbell camera to the monitor. Connect the two wires on the Monitor Input marked "Door Camera".
4. Power Up the System: Remove the screw and the plate on the back of the monitor. Connect the 24VDC/1A power supply to the Y-shaped terminal and connect the power supply to the wall outlet.

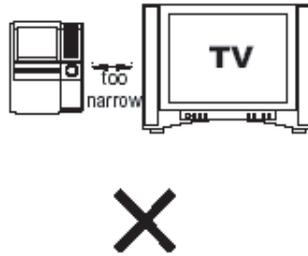
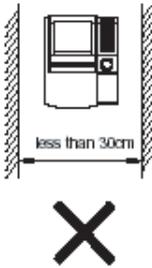
Note: Instead of running new cables, you may use your existing doorbell wiring. If you choose to use your existing doorbell wiring, the doorbell camera would be powered by the hands-free monitor and the previous doorbell would not be functional.

# INSTALLATION

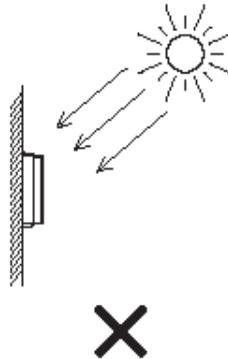
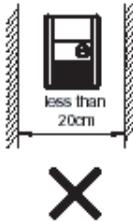
(continued)

## INSTALLATION TIPS

- Narrow space may cause feedback or echo on the speakerphone function.
- Positioning too close to a high powered magnetic device may cause audio/video interference.



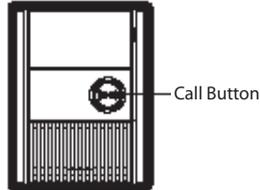
- Direct sunshine on the camera can cause a blurry picture on the monitor.



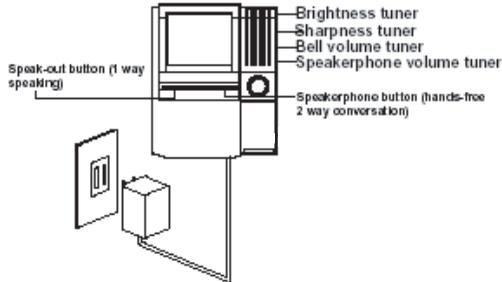
# OPERATION

Below is a typical sequence depicting how the doorphone system is used:

1. The visitor presses the Call button, which activates the monitor inside your home.



2. One-way audio and video at the camera becomes active, so the visitor can be seen and heard. If there is no answer on the indoor monitor, then the system will automatically shut off after 30 seconds.
3. The person at the monitor can press the speak-out button to talk to the visitor. Pressing the speakerphone button on the monitor allows for hands-free conversation between the person at the monitor and the visitor (two-way audio).



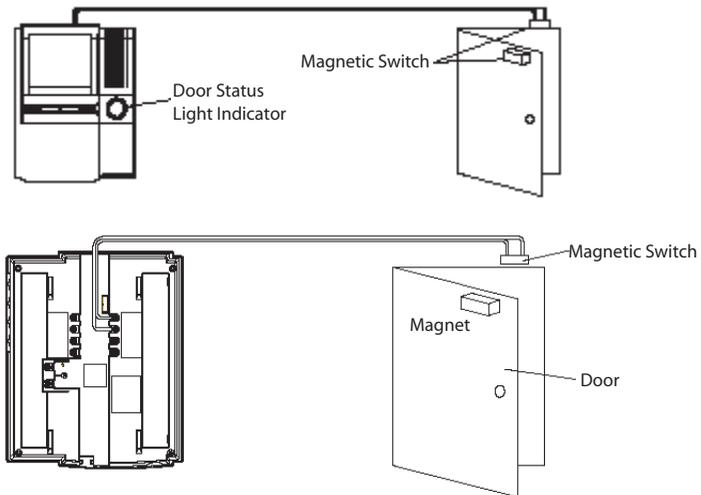
4. Once a positive identification is made, then you can press the door release button to open the door (provided that an optional electronic door strike is installed).
5. If a set of magnetic contacts are installed and connected to the monitor, when the door is opened (Normally Open contact) the door status light will illuminate.
6. The system will automatically disconnect after 90 seconds.

# APPENDIX #1

## CONNECTING A MAGNETIC CONTACT FOR A DOOR

Note: This magnetic contact can be purchased at most electronic or security supply stores.

You can see if a door is open or closed using an optional NO/NC (Normally Open/Normally Closed) magnetic contact.



Connect two wires (18AWG) from the monitor input, marked "Door Status" (non-polarized) to a two-terminal magnetic contact, mounted on the door frame. Mount the magnetic section on the door, as shown above.

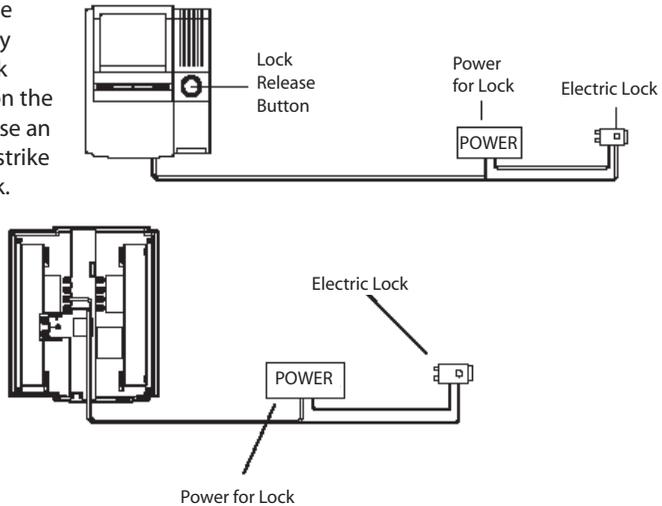
- a) If the magnetic contact is NC (Normally Closed), when the door is opened, the Door Status light on the monitor will illuminate.
- b) If the magnetic contact is NO (Normally Open), when the door is opened, the Door Status light on the monitor will turn off.

## APPENDIX #2

### CONNECTING OPTIONAL ELECTRONIC DOOR STRIKE OR MAGNETIC LOCK TO A DOOR

Note: Please follow all installation and safety guidelines of the electronic door strike.

You can open the door remotely by pressing the lock release button on the monitor to release an electronic door strike or magnetic lock.



Connect two wires (18AWG) from the monitor input, marked "Lock Release" to the Electronic Door Strike. One wire from the monitor will connect to the positive terminal on the power supply. The other wire from the monitor will connect to the positive terminal on the door strike unit. A third wire will connect from the negative terminal on the power supply to the negative terminal on the door strike unit.

- ❖ **Important Note on Power Supply**  
You will need to install a power supply that is compatible with the electronic door strike installed.

For example, if a 12VDC/320mA Electronic Door Strike is used, then a compatible power supply would be 12VDC/500mA (the power supply should have a higher current rating than the door strike so that it can handle the requirement).

**CAUTION:** If the current is overloaded on the lock, it may cause damage to the monitor and door strike unit.

# TROUBLESHOOTING

Before requesting service, check the troubleshooting guide to solve the problem.

PROBLEM	SOLUTION
No Power (no picture on monitor)	Make sure AC plug is firmly inserted into the AC outlet. Make sure the Y-shaped terminal is firmly inserted into the 24VDC input on the monitor unit. Check to ensure polarity is correct (long=positive, short=negative).
System is on but no picture on the monitor	Make sure the cable is firmly connected between the monitor and the camera. Adjust the brightness and sharpness controls.
Sound is too low	Adjust the volume control.
Picture is too dark or too white.	Adjust the brightness and sharpness controls.

NOTE: Be sure to use this product with the AC adapter supplied by the manufacturer.

# TECHNICAL SPECIFICATIONS

## CHF-650 Model

### COLOR MONITOR

Screen:	4" Color LCD Monitor
Resolution:	330 TV Lines
Audio:	Hands-Free with 2-way open voice
Auto Timer:	Auto shut off after 30 seconds (unanswered calls) and 90 seconds (answered calls)
Operating Temp:	32°F ~ 104°F (0°C ~ 40°C)
Power Supply:	110VAC, 60Hz, 16W adapter
Dimensions:	6.69" (W) x 8.18" (H) x 2.13" (D)
Max Wiring Distance:	300' with 18AWG wire

### DOORBELL CAMERA

Image Sensor:	1/3" Color CCD (Day and Night)
Resolution:	380 TV Lines
Lens:	3.6mm lens
Illumination:	Infrared LED
Lux:	1.0 lux
Operating Temp:	-13°F ~ 122°F (-25°C ~ 50°C)
Dimensions:	3.94" (W) x 5.24" (H) x 1.38" (D)

\*\* Because our products are subject to continuous improvement, Cyrex Networks Corporation reserves the right to modify product designs and specifications without notice and without incurring any obligations. E & O.E.

# TECHNICAL SPECIFICATIONS

## MHF-250 Model

### B/W MONITOR

Screen:	4" B/W Flat CRT Monitor
Resolution:	420 TV Lines
Audio:	Hands-Free with 2-way open voice
Auto Timer:	Auto shut off after 30 seconds (unanswered calls) and 90 seconds (answered calls)
Operating Temp:	32°F ~ 104°F (0°C ~ 40°C)
Power Supply:	110VAC, 60Hz, 16W adapter
Dimensions:	6.69" (W) x 8.18" (H) x 2.13" (D)
Max Wiring Distance:	300' with 18AWG wire

### DOORBELL CAMERA

Image Sensor:	1/3" B/W CCD
Resolution:	380 TV Lines
Lens:	3.6mm lens
Illumination:	Infrared LED
Lux:	0.1 lux
Operating Temp:	-13°F ~ 122°F (-25°C ~ 50°C)
Dimensions:	3.94" (W) x 5.24" (H) x 1.38" (D)

\*\* Because our products are subject to continuous improvement, Cyrex Networks Corporation reserves the right to modify product designs and specifications without notice and without incurring any obligations. E & O.E.

## WARRANTY

Cyrex Networks Corporation warrants this home security product to be free from defects in material and workmanship for a period of ONE (1) year from the date of purchase.

If the product is found to be defective, please contact the vendor/installer. The vendor will then ship the item(s) back to Cyrex Networks Corporation for repair. Please DO NOT send your product(s) directly to Cyrex Networks Corporation.

This warranty does not cover any expenses incurred in the removal and installation of the product. Cyrex Networks Corporation shall not be responsible for equipment that is damaged during installation. Any damage incurred during installation caused by installer error, neglect, carelessness or non-conformity to manufacturer specifications is not covered under the Cyrex warranty.

Cyrex Networks Corporation cannot warrant an item that has been damaged, improperly used, altered or physically damaged. Any damage as a result of abuse or misuse of the equipment, customer interfaces of peripheral equipment, operator error or negligence, fire, flood, lightning, accident, use of improper supplies, or other cause beyond normal usage of the equipment, will not be covered under warranty.

CYREX NETWORKS CORPORATION SHALL, IN NO EVENT, BE LIABLE TO CUSTOMER FOR INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES OR COMMERCIAL LOSS FROM ANY CAUSES, OR FOR LOSS, DAMAGE OR EXPENSE DIRECTLY OR INDIRECTLY ARISING FROM THE USE OF THE EQUIPMENT OR ARISING FROM CUSTOMER'S INABILITY TO USE THE EQUIPMENT EITHER SEPARATELY OR IN COMBINATION WITH ANY OTHER EQUIPMENT. IN NO EVENT SHALL CYREX NETWORKS CORPORATION'S LIABILITY EXCEED THE PURCHASE PRICE OF THE PRODUCTS.

**C Y R E**

C Y R E X N E T W O R K S



<http://www.cyrexnetworks.com>  
[info@cyrexnetworks.com](mailto:info@cyrexnetworks.com)