

**VIKING PRODUCT MANUAL**

COMMUNICATION &amp; SECURITY SOLUTIONS

Vandal Resistant  
Handsfree Video Doorbox  
April 27, 2018

## Vandal Resistant Handsfree Doorbox with Built-In Color Video Camera

*Answer your door or gate from the safety of your telephone!*

The **W-3005** is a weather resistant, handsfree video doorbox designed to provide quick and reliable handsfree communication and CCTV video of who is at your door or gate. The **W-3005** can interface directly with the unused telephone line input of nearly any phone system. One or two doorboxes can also share an existing residential phone line when used with a **C-1000B** doorbox controller.

When the "Call" button is pressed, the doorbox generates a standard or custom ring cadence of an adjustable number of rings. For noisy environments, the doorbox's new louder speaker output and "Push-to-Talk" feature can be used.

The **W-3005-EWP** shares all of the features of the **W-3005** in addition to Enhanced Weather Protection (EWP) for outdoor installations where the unit is exposed to precipitation or condensation. EWP



**W-3005**  
Brushed 316  
Stainless Steel



**W-3005 shown**  
with optional **VE-5x5**  
Surface Mount Box

products feature foam rubber gaskets and boots, sealed connections, gel-filled butt connectors, as well as urethane or thermal plastic potted circuit boards with internally sealed, field-adjustable trim pots and DIP switches for easy on-site programming. For more information, see **DOD 859**.

### Features

- Built-in high resolution color video camera with wide viewing angle, tilt/swivel adjustments and wide operating temperature
- Audio and video transmission on one CAT5E cable
- **Vandal Resistant Features:** 14 gauge louvered 316 marine grade stainless steel faceplate with permanent laser etched graphics, stainless steel speaker/mic screen, heavy duty metal "Call" button, scratch resistant powder coating (optional **VE-5x5**) and hexdrive mounting screws
- **Weather Resistant Features:** Marine grade 316 stainless steel faceplate, screws and push button switch. Switch internally sealed per IP67. Mylar speaker. Self-draining mic mount. Faceplate, mic and speaker gaskets. Weather resistant powder paint on optional **VE-5x5**.
- Volume adjustments for microphone and speaker
- Blue call progress / night light LED
- High output speaker amplifier with volume adjustment POT
- 20 Hz ring generator (6.0 REN ring load maximum)
- Selectable ring cadence (standard, double, short/short/long, or short/long/short)
- Selectable number of rings (2, 3, 10 or 30)
- Selectable "Push-to-Talk" feature for noisy environments
- **W-3005-EWP** is designed to meet IP66 Ingress Protection Rating (see **DOD 859** for more information)
- Connect to a phone system's unused trunk input, FXO port or a Viking **C-1000B** Controller

### Applications

- Ideal for noisy locations in "Push-to-Talk" mode
- Commercial, industrial or residential door security
- Door or gate communication
- Truck stop/gas station fuel island communication
- Use with the **C-1000B** controller for single line residential systems or when the operation of door strikes or gate openers is necessary (see **DOD 155**)

**www.VikingElectronics.com**  
**Information: 715-386-8861**

### Specifications

**Power:** 120V AC/13.8V AC 1.25A UL listed adapter provided

**Dimensions:** Overall - 5.0" x 5.0" x 2.25" (127mm x 127mm x 57.2mm) Plastic Rough-In Box - 4.0" x 4.0" x 2.12" (102mm x 102mm x 54mm)

**Shipping Weight:** 3.2 lbs (1.45 Kg)

**Operating Temperature:** -15°F to 130°F (-26°C to 54°C)

**Humidity:** W-3005 - 5% to 95% non-condensing humidity,

W-3005-EWP - Up to 100% condensing humidity

**Connections:** (7) Gel filled butt connectors (3M Scotchlok UR2)

*(See page 2 for complete specifications)*

## Specifications

### Doorbox Specifications

**Power:** 120V AC/13.8V AC 1.25A UL listed adapter provided

**Dimensions:** Overall - 127mm x 127mm x 57.2mm (5.0" x 5.0" x 2.25") Plastic Rough-In Box - 102mm x 102mm x 54mm (4.0" x 4.0" x 2.12")

**Shipping Weight:** 1.81 Kg (4 lbs)

**Ringer Output:** 20 Hz, 6.0 REN load maximum

**Maximum Loop Length:** 1.9 Km (6300 ft) - 24 AWG twisted pair

**Maximum Power Run with CAT5E Wire:** 1 pair = 150 ft, 2 pair = 300 ft, 3 pair = 450 ft

**Note:** Power run length may be increased, see **Wiring** section.

### Camera Specifications-

**Power:** 6-22V DC 150mA (12V DC UL Listed adapter included)

**Image Sensor:** 1/4" color CMOS

**Video Output:** 1 VP-P composite, NTSC, 75 ohms

**Resolution:** 420 lines (640 x 480 @ 30fps / 307,200 pixels)

**Sensitivity:** 0.025 LUX (50 IRE) F 1.2 3200K

**Lens:** 2.1mm, conical pinhole

**FOV (Field of View):** 80° Horizontal, 60° Vertical, 100° Diagonal

**Tilt/Swivel Adjustment:** Vertical +/- 20°, horizontal +/- 30° (see **Diagram A** below)

**IR Compatibility:** This camera is equipped with an OLP (Optical Low Pass) filter to maintain correct video color in outside applications. The standard camera is **NOT** compatible with IR illuminators. If IR illumination is required, you will need to replace the existing camera with a Viking model **VCAM-1IR**. For more information, see **DOD# 190**.

**Maximum Wire Run Length:** 1000 ft with \*RG59/RG6 for video and CAT5 for power (1 pair) and entry phone audio (1 pair). 150 ft with CAT5E for video, power and entry phone audio (longer video runs are possible by using video balun transceivers, see **Installation** section F, page 5).

\* **Note:** RG59 or RG6 with solid center conductor and 95% bare copper braid shield.

### Doorbox / Camera Specifications

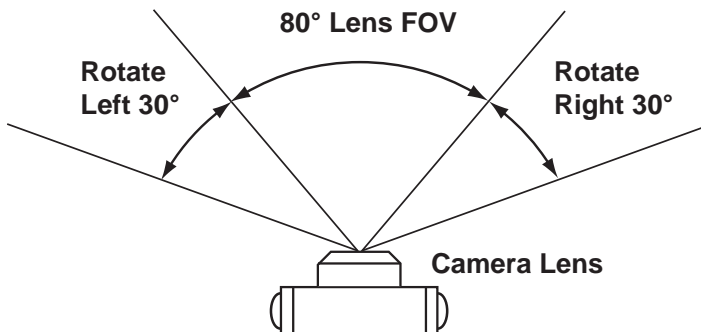
**Operating Temperature:** -26° C to 54° C (-15° F to 130° F)

**Humidity:** Standard model: 5% to 95% non-condensing, EWP model: Up to 100%

**Connections:** (5) gel-filled butt connectors (3M Scotchlok UR2)

**Recommended Surface Mount Box:** Viking model **VE-5x5** (DOD# 424)

## Diagram A Camera Horizontal Field of View:



## Features Overview

**Speaker:** Mylar speaker with rubber gasket to maintain water-tight seal and eliminate water deterioration.

**Speaker Screen:** Stainless steel speaker screen with 0.018" diameter holes to prevent punctures from paperclips, etc.

**Microphone:** Omni-directional microphone with protective water-resistant cloth.

**Mounting Screws:** (4) 6-32 x 3/4" Marine grade 316 stainless steel, flat head, 5/64" hexdrive screws (included).

**Faceplate:** 14 gauge Marine grade 316 stainless steel faceplate.

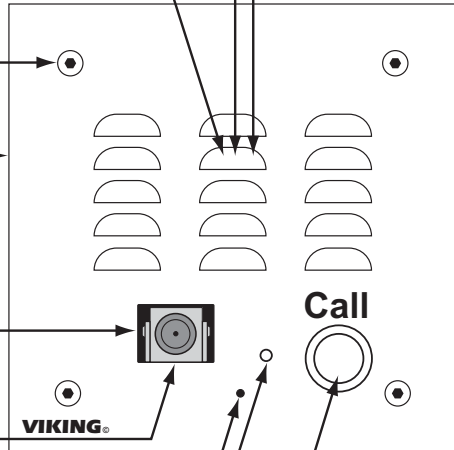
**Color Video Camera:** Wide operating temperature range of -30°F to 150°F, NTSC composite video output with 420 lines of resolution, 80° wide viewing angle lens, tilt and swivel adjustments for aiming towards visitors.

**Protective Camera Window:** Impact resistant polycarbonate lens with scratch resistant coating and water-tight gasket.

**Condensation Drain Hole**

**LED:** Lights blue for "Call Progress / Night Light" indication.

**Push Button Switch:** Push to initiate call, push again to disconnect. Solid 316 stainless steel internally sealed per IP67.



**Speaker Volume**

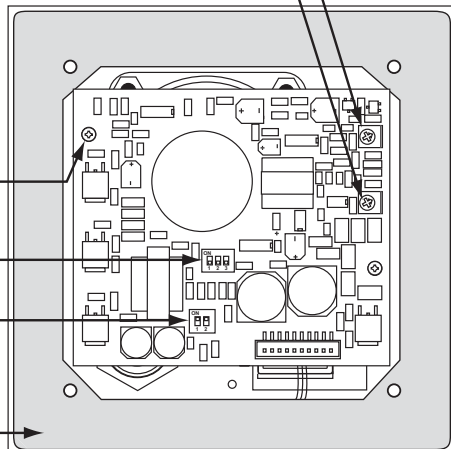
**Microphone Volume**

**Earth Ground:** To increase surge protection, loosen the screw labeled ⊕ (as shown) and fasten a wire with spade terminal (included) from the mounting screw to Earth Ground (grounding rod, water pipe, etc.)

**S1 DIP Switches (see page 7):**

**S2 DIP Switches (see page 7):**

**Faceplate Gasket:** 1/8" thick closed cell PVC to provide a water-tight seal.

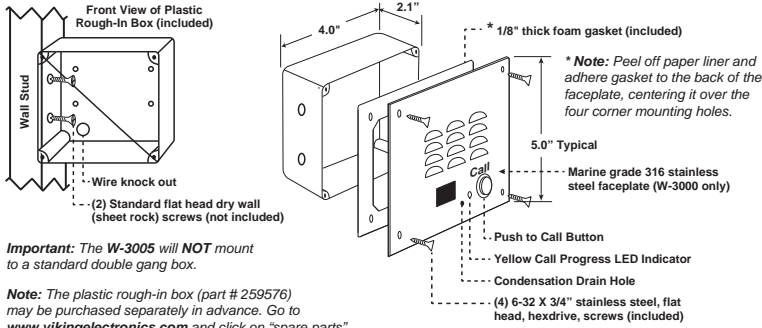


# Installation

**IMPORTANT:** Electronic devices are susceptible to lightning and power station electrical surges from both the AC outlet and the telephone line. It is recommended that a surge protector be installed to protect against such surges.

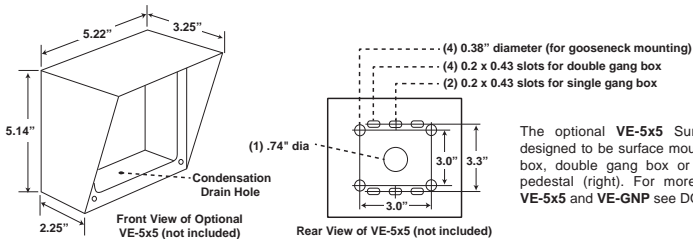
## A. Mounting

**Caution:** When warm air comes in contact with cold surfaces, such as outside walls, it causes condensation. To help prevent condensation from accumulating inside the **W-3005**, bring conduit into the bottom of the unit. If this is not possible, drill a 1/4" diameter hole in the bottom of the plastic rough-in box.

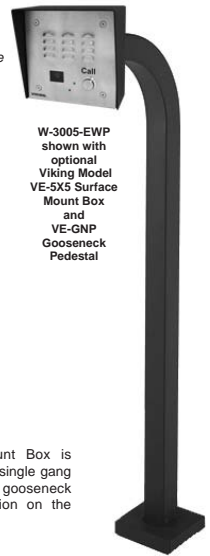


**Important:** The **W-3005** will **NOT** mount to a standard double gang box.

**Note:** The plastic rough-in box (part # 259576) may be purchased separately in advance. Go to [www.vikingelectronics.com](http://www.vikingelectronics.com) and click on "spare parts".

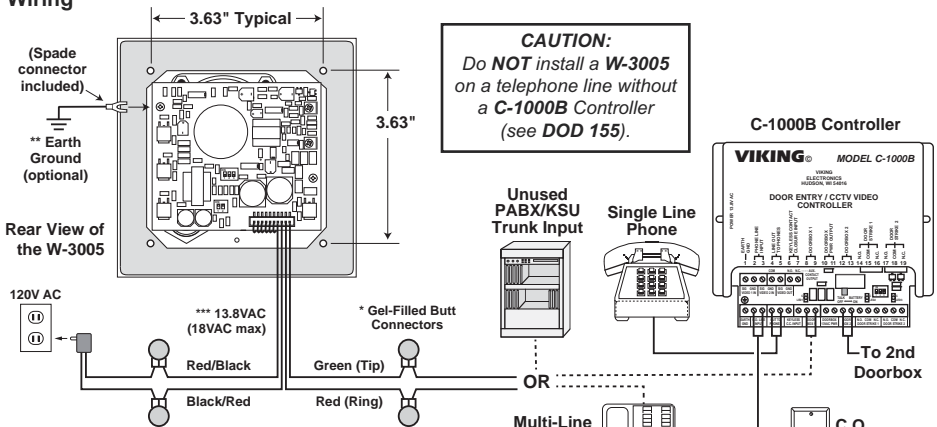


The optional **VE-5x5** Surface Mount Box is designed to be surface mounted to a single gang box, double gang box or **VE-GNP** gooseneck pedestal (right). For more information on the **VE-5x5** and **VE-GNP** see DOD 424.



**W-3005-EWP** shown with optional **VIKING Model VE-5x5** Surface Mount Box and **VE-GNP** Gooseneck Pedestal

## B. Wiring



**CAUTION:**  
Do **NOT** install a **W-3005** on a telephone line without a **C-1000B** Controller (see **DOD 155**).

**\* Note:** The gel-filled (water-tight) butt connectors are designed for insulation displacement on 19-26 gauge wire with a maximum insulation of 0.082 inches. Cut off stripped wire ends prior to terminating.

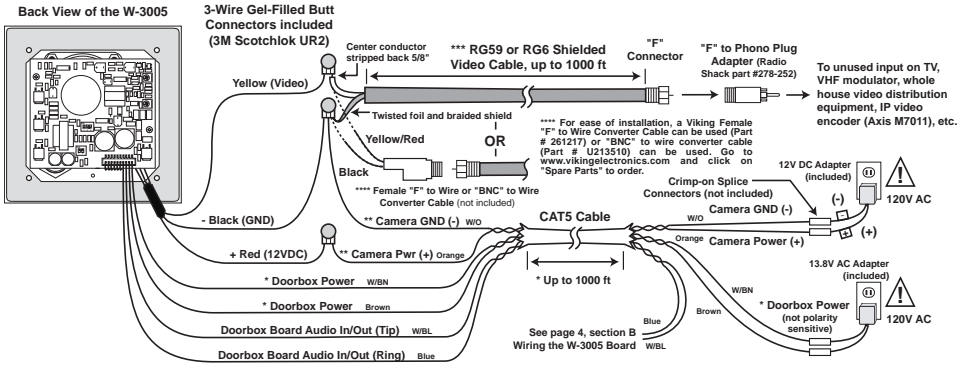
**\*\* Note:** To increase surge protection, loosen the PCB mounting screw labeled  $\oplus$  (as shown above) and fasten a wire with spade terminal (included) from the mounting screw to Earth Ground (grounding rod, water pipe, etc.)

**\*\*\* Warning:** The power run wire length is limited to 150 ft of CAT5 wire. Longer power runs will require heavier gauge wire (doubling or tripling pairs) and/or a higher voltage power adapter. Voltage at the doorbox power input connections must not exceed 18VAC RMS.



## D. Wiring the W-3005 Camera

### 1. Using RG59 for Video and CAT5 for Camera Power and Phone Board Audio (Recommended)

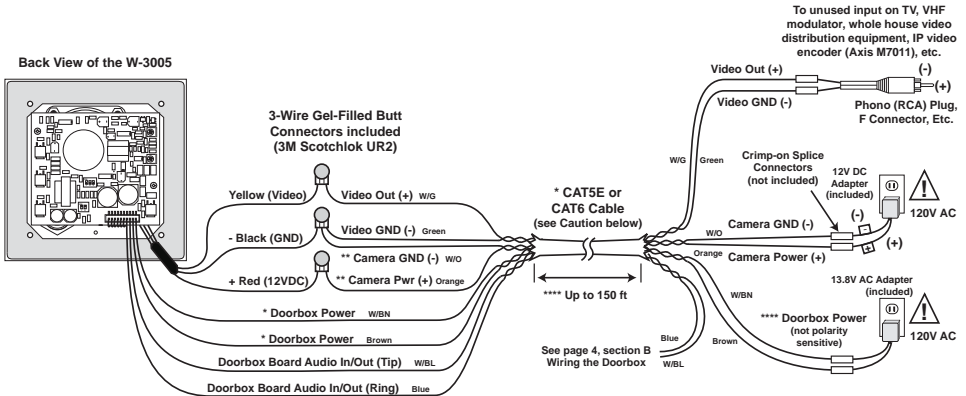


**\* Warning:** The doorbox power run wire length is limited to 150 ft of single pair 24 AWG CAT5E wire. Longer power runs will require heavier gauge wire (doubling pairs) and/or a higher voltage power adapter. Voltage at the doorbox power input connections must not exceed 18VAC RMS.

**\*\* Note:** The maximum camera power supply wire run length is 1000 ft of 24 gauge wire (CAT 5/6), longer runs are possible by doubling pairs, increasing the wire gauge or using up to a 22V DC 200mA power adapter.

**\*\*\* Note:** RG59 or RG6 with solid center conductor and 95% bare copper braid shield.

### 2. Using CAT5E or CAT6 for Video, Camera Power and Phone Board Audio (see Caution below)



**\* Note:** Up to 150 ft video cable run length can be achieved using CAT5E or CAT6 cable. Longer cable runs can be used if a passive or active video Balun transceiver is used on each end of the cable. Generally, passive transceivers can achieve up to 750 ft cable runs where active transceivers can achieve up to 3000 ft runs depending on cable type, etc. The type of video balun transceiver required is specific to your cable run length. For more information on video balun transceivers go to: [www.northernvideo.com](http://www.northernvideo.com).

**\*\* Note:** The maximum camera power supply wire run length is 1000 ft of 24 gauge wire (CAT 5/6), longer runs are possible by doubling pairs, increasing the wire gauge or using up to a 22V DC 200mA power adapter.

**\*\*\* Note:** RG59 or RG6 with solid center conductor and 95% bare copper braid shield.

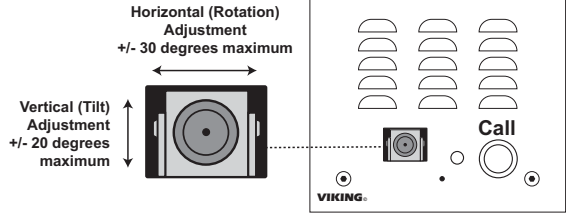
**\*\*\* Warning:** The doorbox power run wire length is limited to 150 ft of single pair 24 AWG CAT5E wire. Longer power runs will require heavier gauge wire (doubling pairs) and/or a higher voltage power adapter. Voltage at the doorbox power input connections must not exceed 18VAC RMS.

**Caution:** When routing CAT5E or CAT6 cable, maintain a minimum distance of 3 ft from any parallel high voltage wire (110 VAC) and a minimum of 2 ft from crossing any high voltage wire. For installations where RF noise is expected (commercial applications) or wire runs are near high voltage (110 VAC) wires, a shielded video cable such as RG6 is recommended.

## E. Adjusting the Camera

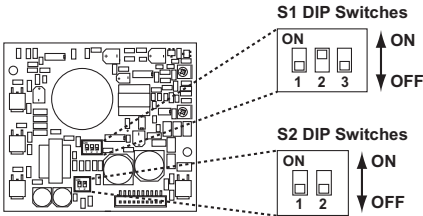
The camera can be tilted and rotated to your desired position. A portable service (test) monitor can be used to determine the correct viewing angle during installation.

**Important:** To prevent the edge of the faceplate from being viewed in the video image, do not rotate the camera beyond 30 degrees or tilt beyond 20 degrees.



## Programming

### A. DIP Switches



*Note: All switches shown in factory default settings.*

### S1 DIP Switch Settings

Switch 1	Switch 2	Ring Output
OFF	OFF	2 rings
ON	OFF	3 rings
OFF	ON	10 rings (default)
ON	ON	30 rings

Switch 3	Communication Mode
OFF	Normal Handsfree Mode (default)
ON	Push-To-Talk Mode

### S2 DIP Switch Settings

Switch 1	Switch 2	Ring Cadence
OFF	OFF	Standard: 1 sec on, 3 secs off (default)
ON	OFF	Double: 1 sec on, 0.5 sec off, 1 sec on, 3.5 sec off
OFF	ON	Short/Short/Long: 0.5 sec on, 0.5 sec off, 0.5 sec on, 0.5 off, 1 sec on, 3 secs off
ON	ON	Short/Long/Short: 0.5 sec on, 0.5 sec off, 1 sec on, 0.5 sec off, 0.5 sec on, 3 secs off

### B. Handsfree Operation (S1 Dip Switch 3 - OFF)

When the "Call" button is pressed, the call progress LED will turn off and the **W-3005** will begin generating a 20 Hz ring signal. The caller at the **W-3005** will hear an audio ring back signal while the LED flashes. When the inside party has answered, the LED will light until the inside party hangs up. At that point, the LED will turn off for approximately one second and then light steady to illuminate the **W-3005** after dark.

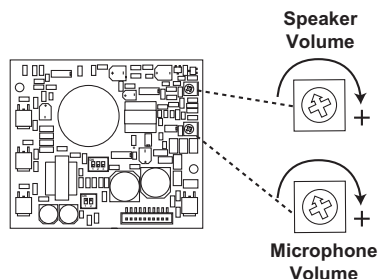
### C. Push-To-Talk Operation (S1 Dip Switch 3 - ON)

In extremely noisy locations, the "Push-to-Talk" mode should be used. To switch to the "Push-to-Talk" mode, place DIP switch 3 in the ON position (see **Dip Switch Programming**). To initiate a call, momentarily press the "Call" button to generate the ring signal. After the inside party has answered, press and hold the call button to talk. Release the call button to listen.

### D. Microphone and Speaker Volume Adjustment POTs

In certain noisy locations, the microphone volume may need to be decreased. A microphone POT (see right) is provided on the **W-3005**'s circuit board to increase or decrease the microphone volume. However, in extremely noisy locations the microphone POT adjustment may not be enough to allow two-way talk path. In this case the "Push-to-Talk" mode should be used as shown above (see section **C** above).

**Note:** Both POTs come factory set in the middle position. A speaker volume POT is also provided for increasing or decreasing the speaker audio as needed.



## Operation

In the idle state, the **W-3005** provides 24V DC talk battery. The LED remains lit for night time visibility. When the "Call" button is pressed, the **W-3005** generates a standard or custom ring cadence (adjustable from 2-30 rings). The LED will turn off and then begin flashing during ringing. When the call is answered, ringing will stop and the LED will light steady. When the called party hangs up, the LED will turn off momentarily and then remain lit for the idle state. The **W-3005** color video camera operates completely independently of the **W-3005** Doorbox. With power supplied to the camera, it will continuously output a video signal.

## Warranty

### IF YOU HAVE A PROBLEM WITH A VIKING PRODUCT, CONTACT: VIKING TECHNICAL SUPPORT AT 715-386-8666

Our Technical Support Department is available for assistance Monday through Friday 8am - 5pm central time. So that we can give you better service, before you call please:

1. Know the model number, the serial number and what software version you have (see serial label).
2. Have your Product Manual in front of you.
3. It is best if you are on site.

#### RETURNING PRODUCT FOR REPAIR

The following procedure is for equipment that needs repair:

1. Customer must contact Viking's Technical Support Department at 715-386-8666 to obtain a Return Authorization (RA) number. The customer MUST have a complete description of the problem, with all pertinent information regarding the defect, such as options set, conditions, symptoms, methods to duplicate problem, frequency of failure, etc.
2. Packing: Return equipment in original box or in proper packing so that damage will not occur while in transit. Static sensitive equipment such as a circuit board should be in an anti-static bag, sandwiched between foam and individually boxed. All equipment should be wrapped to avoid packing material lodging in or sticking to the equipment. Include ALL parts of the equipment. C.O.D. or freight collect shipments cannot be accepted. Ship cartons prepaid to: **Viking Electronics, 1531 Industrial Street, Hudson, WI 54016**
3. Return shipping address: Be sure to include your return shipping address inside the box. We cannot ship to a PO Box.
4. RA number on carton: In large printing, write the R.A. number on the outside of each carton being returned.

#### RETURNING PRODUCT FOR EXCHANGE

The following procedure is for equipment that has failed out-of-box (within 10 days of purchase):

1. Customer must contact Viking's Technical Support at 715-386-8666 to determine possible causes for the problem. The customer MUST be able to step through recommended tests for diagnosis.
2. If the Technical Support Product Specialist determines that the equipment is defective based on the customer's input and troubleshooting, a Return Authorization (R.A.) number will be issued. This number is valid for fourteen (14) calendar days from the date of issue.
3. After obtaining the R.A. number, return the approved equipment to your distributor, referencing the R.A. number. Your distributor will then replace the product over Viking using the same R.A. number.
4. **The distributor will NOT exchange this product without first obtaining the R.A. number from you. If you haven't followed the steps listed in 1, 2 and 3, be aware that you will have to pay a restocking charge.**

#### TWO YEAR LIMITED WARRANTY

Viking warrants its products to be free from defects in the workmanship or materials, under normal use and service, for a period of two years from the date of purchase from any authorized Viking distributor. If at any time during the warranty period, the product is deemed defective or malfunctions, return the product to Viking Electronics, Inc., 1531 Industrial Street, Hudson, WI., 54016. Customer must contact Viking's Technical Support Department at 715-386-8666 to obtain a Return Authorization (R.A.) number.

This warranty does not cover any damage to the product due to lightning, over voltage, under voltage, accident, misuse, abuse, negligence or any damage caused by use of the product by the purchaser or others. This warranty does not cover non-EWP products that have been exposed to wet or corrosive environments. This warranty does not cover stainless steel surfaces that have not been properly maintained.

**NO OTHER WARRANTIES.** VIKING MAKES NO WARRANTIES RELATING TO ITS PRODUCTS OTHER THAN AS DESCRIBED ABOVE AND DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTIES OR MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

**EXCLUSION OF CONSEQUENTIAL DAMAGES.** VIKING SHALL NOT, UNDER ANY CIRCUMSTANCES, BE LIABLE TO PURCHASER, OR ANY OTHER PARTY, FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL OR EXEMPLARY DAMAGES ARISING OUT OF OR RELATED TO THE SALE OR USE OF THE PRODUCT SOLD HEREUNDER.

**EXCLUSIVE REMEDY AND LIMITATION OF LIABILITY.** WHETHER IN AN ACTION BASED ON CONTRACT, TORT (INCLUDING NEGLIGENCE OR STRICT LIABILITY) OR ANY OTHER LEGAL THEORY, ANY LIABILITY OF VIKING SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE PRODUCT, OR AT VIKING'S OPTION, REFUND OF THE PURCHASE PRICE AS THE EXCLUSIVE REMEDY AND ANY LIABILITY OF VIKING SHALL BE SO LIMITED.

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### Product Support: 715-386-8666

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