

VIKING

TECHNICAL Practice

TELECOM SOLUTIONS FOR THE 21ST CENTURY

**W-3005/
W-3005-EWP**
Vandal Resistant
Handsfree Video Doorbox
October 3, 2007

Vandal Resistant Handsfree Doorbox with Built-In Color Video Camera



W-3005 shown with
optional VE-5x5

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 installation in harsh environments. EWP products feature rubber gaskets and boots, hand soldered silicon sealed connections, gel filled butt connectors, urethane potted circuit boards with internally sealed, field adjustable trim pots and DIP switches for easy on-site programming.

Features

- Built-in high resolution color video camera with wide viewing angle, tilt/swivel adjustments and wide operating temperature of -30°F to 150°F
- Audio and video transmission on one CAT5E cable
- **Vandal Resistant Features:** 14 gauge louvered stainless steel faceplate with stainless steel speaker/mic screen, heavy duty metal "Call" button, impact and scratch resistant camera lens and hex drive mounting screws
- **Weather Resistant Features:** Mylar speaker, faceplate gasket, mic and speaker gasket, internally sealed (IP67) push button switch, sealed camera lens, potted camera circuit board, stainless steel phone and camera mounting hardware
- Optional Enhanced Weather Protection (**EWP**) conforms to NEMA requirements
- Volume adjustments for microphone and speaker
- Yellow call progress/night light LED
- High output speaker amplifier with volume adjustment POT
- 20 Hz ring generator (3.0 REN ring load maximum)
- Selectable ring cadence (standard or 2 short rings)
- Selectable number of rings (2, 3, 10 or 30)
- Selectable "Push-to-Talk" feature for noisy environments
- Optional **VE-5x5** surface mount box available

 **Need More Information on EWP?**
Call (715) 386-4345 and select 859.

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

Phone...715.386.8861

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: 1.45 Kg (3.2 lbs)
Operating Temperature: -26°C to 54°C (-15°F to 130°F)
Humidity: W-3005 - 5% to 95% non-condensing humidity, W-3005-EWP - Up to 100% condensing humidity
Connections: W-3005 - (4) position screw terminal strip and (3) gel filled butt connectors (3M Scotchlok UR2), W-3005-EWP - (7) Gel filled butt connectors (3M Scotchlok UR2)

(See page 2 for complete specifications)

<http://www.vikingelectronics.com>

Warranty

IF YOU HAVE A PROBLEM WITH A VIKING PRODUCT PLEASE CONTACT: VIKING TECHNICAL SUPPORT AT (715) 386-8666

Our Technical Support Department is available for assistance Monday 8am - 4pm and Tuesday to 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 Technical Practice 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 P.O. 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 the counter at no charge. The distributor will then return the product to 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.**

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 one year from the date of purchase from any authorized Viking distributor or 18 months from the date manufactured, whichever is greater. 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.

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.

IT IS EXPRESSLY UNDERSTOOD AND AGREED THAT EACH AND EVERY PROVISION OF THIS AGREEMENT WHICH PROVIDES FOR DISCLAIMER OF WARRANTIES, EXCLUSION OF CONSEQUENTIAL DAMAGES, AND EXCLUSIVE REMEDY AND LIMITATION OF LIABILITY, ARE SEVERABLE FROM ANY OTHER PROVISION AND EACH PROVISION IS A SEPARABLE AND INDEPENDENT ELEMENT OF RISK ALLOCATION AND IS INTENDED TO BE ENFORCED AS SUCH.

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, 3.0 REN load maximum
Maximum Loop Length: 1.9 Km (6300 ft) - 24 AWG twisted pair
Maximum Power Run: 38.1 m (125 ft) - 24 AWG twisted pair
Note: Power run length may be increased, see **Wiring** section.

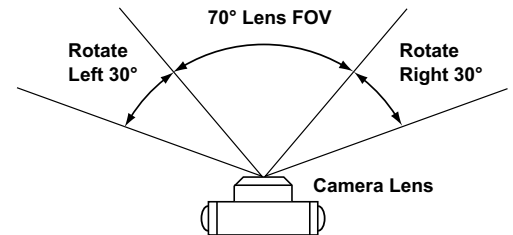
Doorbox / Camera Specifications

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: Standard model: (3) gel-filled butt connectors (3M Scotchlok UR2), EWP model: (5) gel-filled butt connectors (3M Scotchlok UR2)
Recommended Surface Mount Box: Viking model **VE-5x5 (Fax Back Document 424)**

Camera Specifications

Power: 5-9V DC regulated 150mA (6V DC 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: 0.26 LUX (20 IRE) F 2.0
Lens: 3.4mm, pinhole 70° FOV (Field of View)
Tilt/Swivel Adjustment: Vertical +/- 20°, horizontal +/- 30° (see **Diagram A**)
Maximum Wire Run Length: 1000 ft with *RG59/RG6 for video and CAT5 for power (doubled pairs) and entry phone audio. 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.

Diagram A
Camera Field of View:



Features Overview

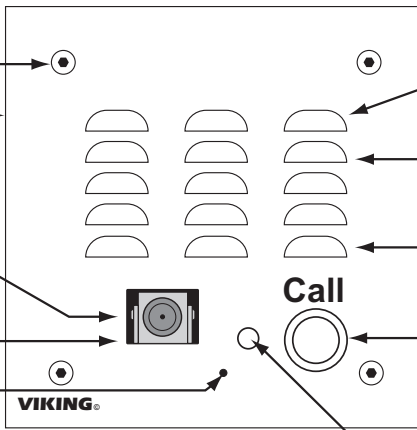
Mounting Screws: 6-32 x 0.75" long flathead with 5/64" hexdrive, 18-8 stainless steel to prevent corrosion.

Faceplate: 14 gauge 304 stainless steel.

Color Video Camera: Wide operating temperature range of -30°F to 150°F, NTSC composite video output with 420 lines of resolution, 70° 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



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

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.

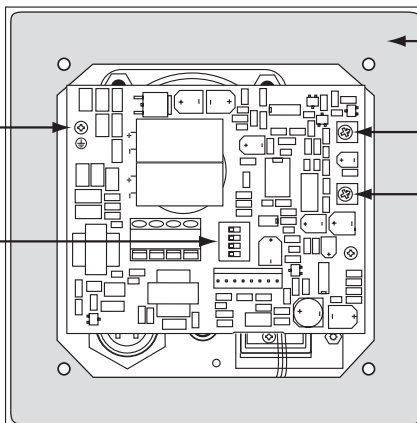
Push Button Switch: Push to initiate call, push again to disconnect. Solid 304 stainless steel internally sealed per IP67.

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

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.)

DIP Switches (see page 5):

- 1: Ring Cadence
- 2 & 3: Ring Count
- 4: Communication Mode



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

Speaker Volume

Microphone Volume

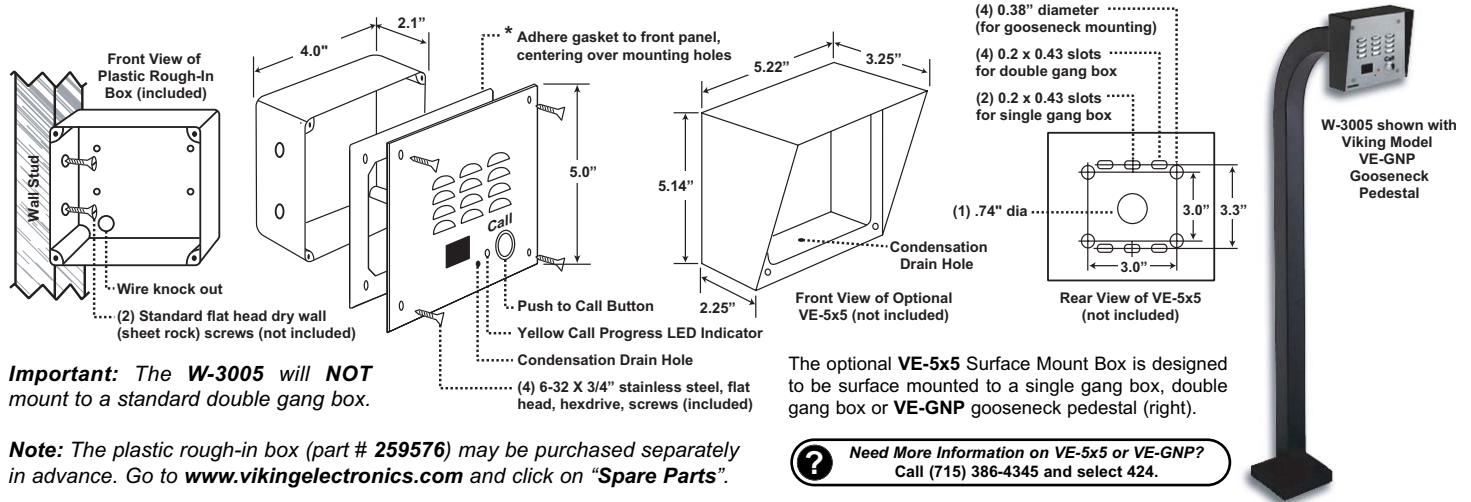
Installation

A. Mounting

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. Contact Panamax at (800) 472-5555 or Electronic Specialists Inc. at (800) 225-4876.

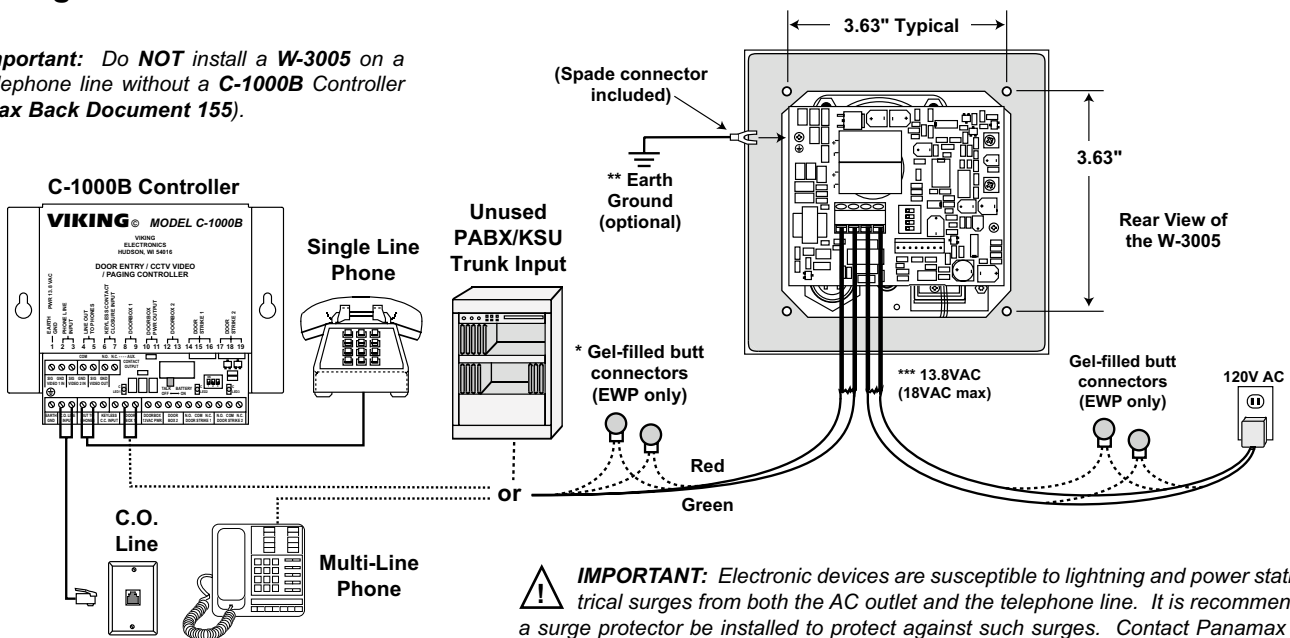
Caution: When warm air comes in contact with cold surfaces, such as outside walls and conduits, it causes condensation. To prevent condensation from accumulating inside the **W-3005** always bring conduit into the bottom of the unit. If this is not possible, drill a 1/4" diameter hole in the bottom of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

***Note:** Peel off paper liner and adhere gasket to the back of the faceplate, centering it over the four corner mounting holes. Be careful to position the modular jack inside the chassis as not to damage the components on the circuit board.



B. Wiring the W-3005 Board

Important: Do **NOT** install a **W-3005** on a telephone line without a **C-1000B** Controller (Fax Back Document 155).



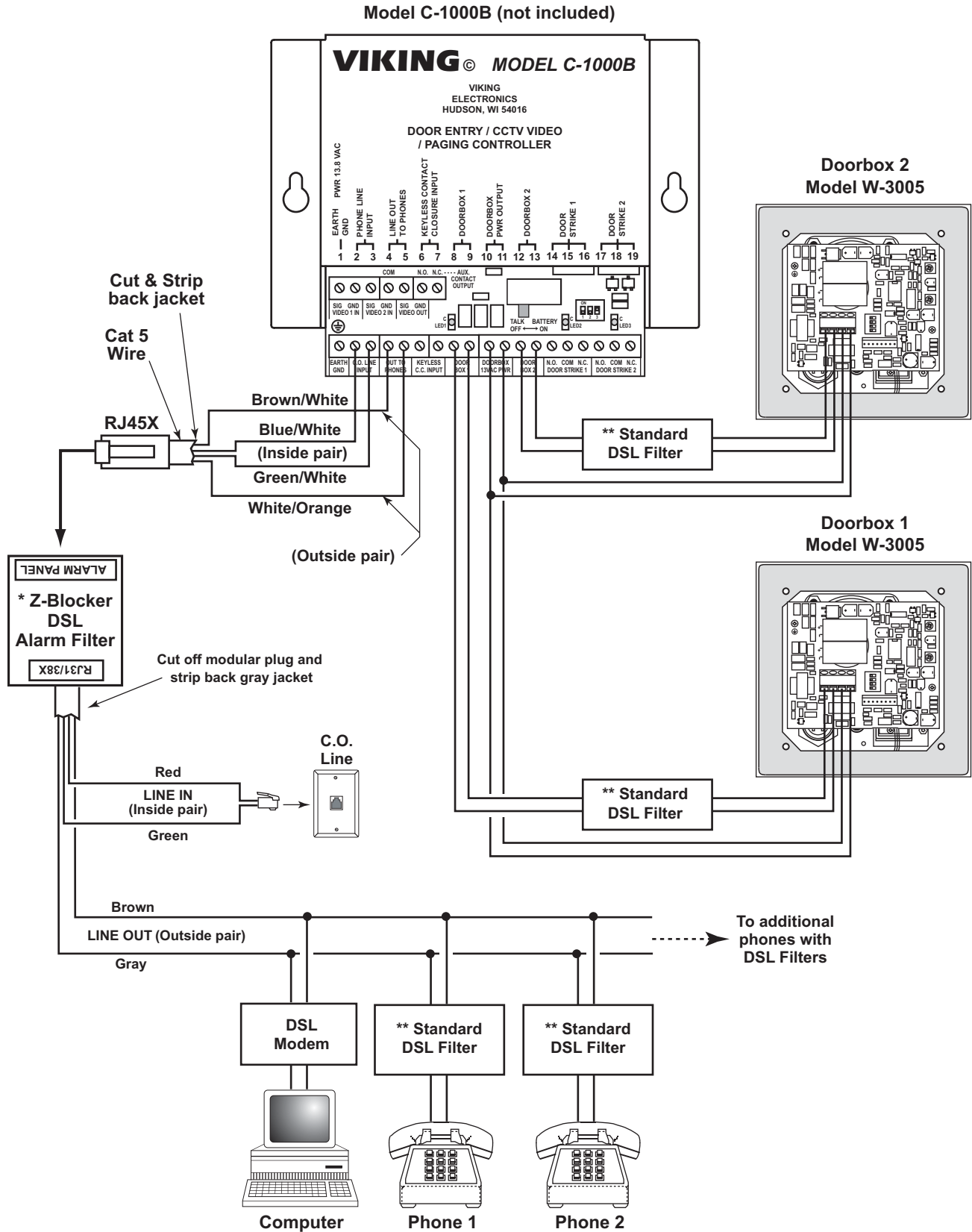
*** Note:** The gel-filled (water-tight) butt connectors are designed for insulation displacement on 19-26 guage wire with a maximum insulation of 0.082 inches. Do not strip wires prior to terminating.

**** 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 doorbox power run wire length is limited to 125 ft of 24 AWG wire. Longer power runs will require heavier gauge wire (doubling pairs) and/or a higher voltage power adapter. Power runs from 125 - 250 ft of 24 AWG wire are possible using a Radio Shack 18VAC adapter (part # 273-1690). Voltage at the doorbox power input connections must not exceed 18VAC RMS.

C. Using W-3005(s) and a C-1000B on a DSL Line

The **C-1000B** can be installed on a DSL line by using a DSL PJ31X Alarm Filter and single line DSL filters.



Recommended DSL Filters:

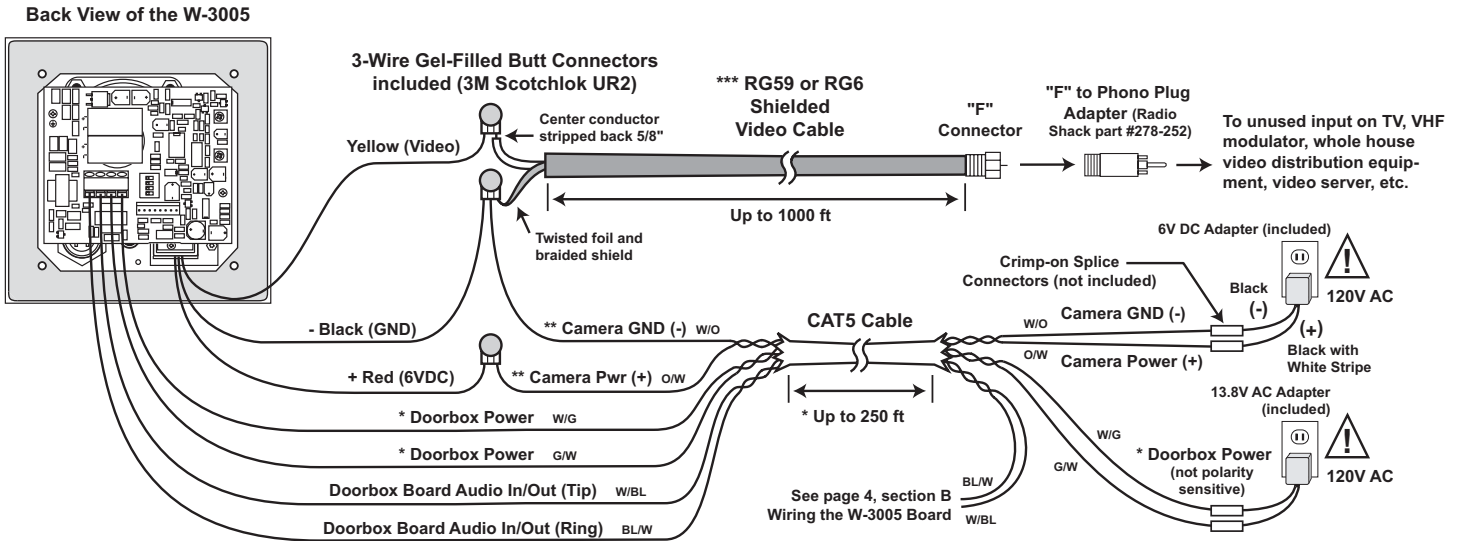
* Excelsus Z-Blocker Alarm Panel DSL Filter Z-A431PJ31X-A

** Excelsus Z-Blocker Single Line DSL Filter Z-275P2J

For technical information or to buy Excelsus Filters, go to www.excelsus-tech.com

D. Wiring the W-3005 Camera

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

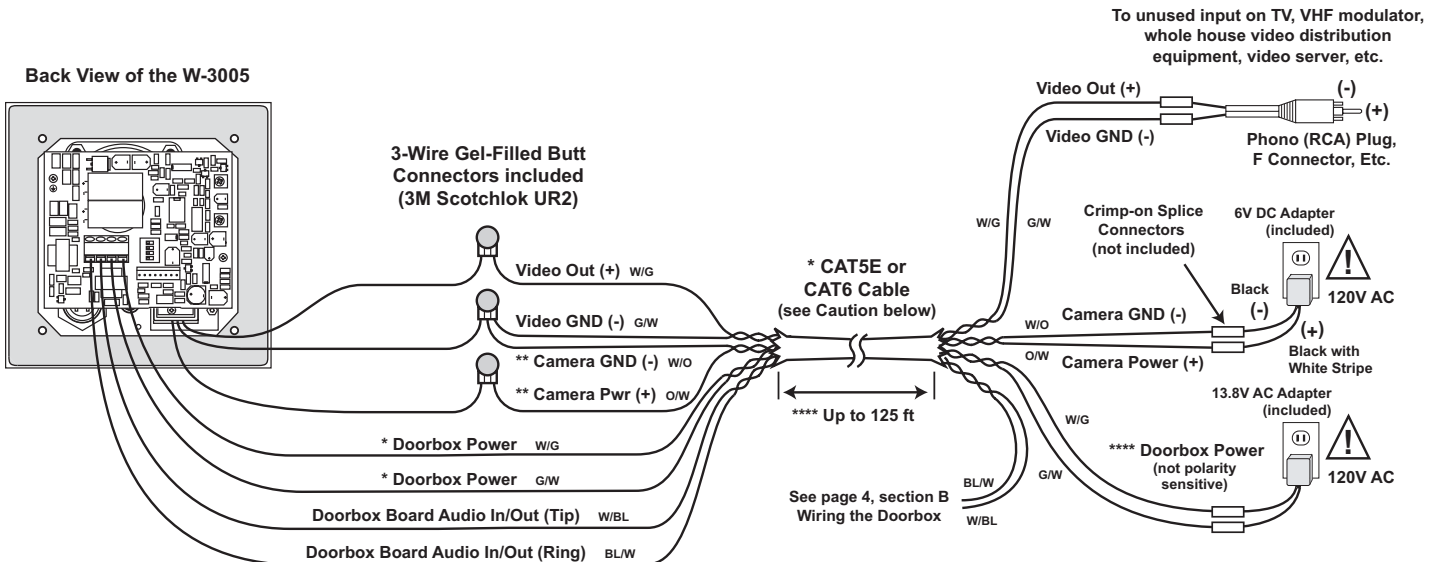


*** Warning:** The doorbox power run wire length is limited to 125 ft of 24 AWG wire. Longer power runs will require heavier gauge wire (doubling pairs) and/or a higher voltage power adapter. Power runs from 125 - 250 ft of 24 AWG wire are possible using a Radio Shack 18VAC adapter (part # 273-1690). Voltage at the doorbox power input connections must not exceed 18VAC RMS.

**** Note:** The maximum camera power supply wire run length is 500 ft of 24 gauge wire (CAT 5/6), longer runs are possible by doubling pairs or increasing the wire gauge.

***** 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.

**** Note:** The maximum camera power supply wire run length is 500 ft of 24 gauge wire (CAT 5/6), longer runs are possible by doubling pairs or increasing the wire gauge.

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

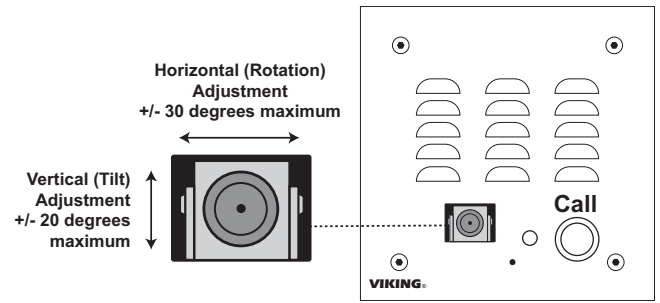
***** Warning:** The doorbox power run wire length is limited to 125 ft of 24 AWG wire. Longer power runs will require heavier gauge wire (doubling pairs) and/or a higher voltage power adapter. Power runs from 125 - 250 ft of 24 AWG wire are possible using a Radio Shack 18VAC adapter (part # 273-1690). 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

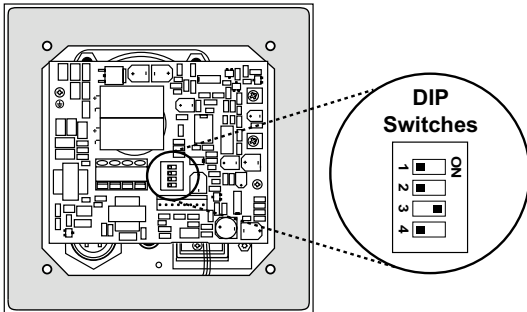
The camera can be tilted and rotated to your desired position. A portable service (test) monitor can be used to determine the correct viewing angle during installation.

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



Sw 1	Ring Cadence
OFF	Standard: (1 second ON, 3 seconds OFF)
ON	Custom (2 short rings): 0.5 seconds ON, 0.25 seconds OFF, 0.5 seconds ON, 3 seconds OFF

Sw 2	Sw 3	Ring Output
OFF	OFF	2 Ring
ON	OFF	3 Rings
OFF	ON	10 Rings
ON	ON	30 Rings

Sw 4	Communication Mode
OFF	Normal Handsfree Mode
ON	Push-to-Talk Mode

B. Handsfree Operation (Dip Switch 4 - 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.

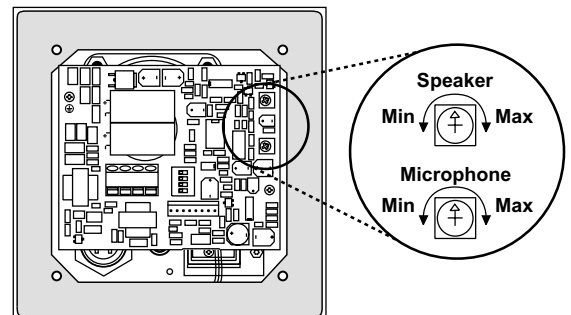
C. Push-To-Talk Operation (Dip Switch 4 - ON)

In extremely noisy locations, the "Push-to-Talk" mode should be used. To switch to the "Push-to-Talk" mode, place DIP switch 4 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 (double) 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.

Other Related Products

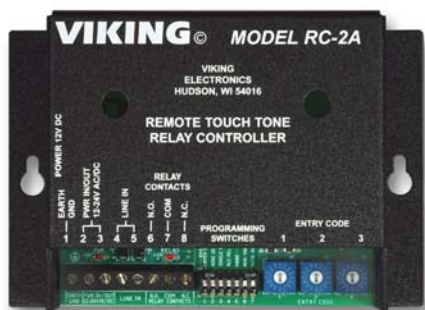
C-1000B Door Entry Controller

The **C-1000B** allows single line phones or phone systems to share a phone line with one or two doorboxes or paging amplifiers. The **C-1000B** provides two Touch Tone controlled relays to operate door strikes or gate openers and **provides doorbox triggered CCTV camera switching**. Doorboxes and paging amplifiers can now be used on single line, residential or home office applications as well as on fully loaded systems, because they are no longer limited to installation on unused trunk ports. The **C-1000B** expands the potential installation sites for many peripherals such as doorboxes and paging amplifiers.



? Need More Information on the C-1000B?
Call (715) 386-4345 and select 155.

RC-2A Remote Touch Tone Controller



The **RC-2A** Remote Controller provides remote relay operation from any standard Touch Tone telephone.

The controller is designed to be installed either locally or remotely. For local installations the **RC-2A** can be installed in series on any analog communications path, such as analog C.O. lines, analog PABX/KSU stations or **Viking's W-Series Doorboxes**, and will passively monitor for Touch Tone commands. For off-premise applications, the **RC-2A** will answer analog C.O. lines or PABX/KSU stations after a selectable ring delay. A field programmable access code can also be programmed to prevent unauthorized usage. The **RC-2A** will then allow remote relay operation.

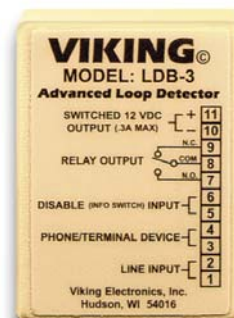
? Need More Information on the RC-2A?
Call (715) 386-4345 and select 160.

LDB-3 Advanced Ring/Loop Detector

The **LDB-3** Advanced Loop Detector monitors an analog phone line for ringing and/or an off hook condition. A built-in relay can be activated when either of these conditions are detected. This is ideal for monitoring line status or for providing a visual indication of such.

The **LDB-3** can be used with any W-Series doorbox to provide a dry contact closure when the button is pressed on the doorbox and can be maintained while communicating with the doorbox if desired. This contact closure can be used to trigger a security camera or activate a doorbell system.

The **LDB-3** comes complete with a 12 VDC power adapter, and can also provide switched 12VDC .35 Amp output to power external lights, etc. during ringing and/or off-hook conditions.



? Need More Information on the LDB-3?
Call (715) 386-4345 and select 409.

Product Support Line...715.386.8666

Fax Back Line...715.386.4345

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