

## ***Boost the Ringing Power of the 24 Line Cisco VG224 Voice Gateway, or any other Analog Lines***



The **RG-224** ring generator is designed to reshape and increase the ringing power of up to 24 analog PABX extensions, FXS ports, IP phone system analog ports, or any other telecom devices which provides ringing.

The **RG-224** duplicates the incoming ring cadence allowing it to be compatible with custom ringing features.

Each line is capable of ringing four 1 REN or eight 0.5 REN telephones and does not affect normal operation of the telephone line or features, such as caller ID, call waiting, hookswitch flash features, CPC signaling, etc.

### **Features**

- True Sine wave ring signal output
- Boosts ring to 4 REN
- Caller ID compatible
- Easy RJ-21X installation
- Compatible with distinctive ringing services
- Will not affect normal line operation
- Reshapes troublesome square wave ringing
- Fax and modem compatible
- Not compatible with pulse dialing

### **Applications**

- Boosts ringing power of the Cisco VG 224 twenty four line voice gateway
- Boost ringing on FXS ports or IP phone system analog ports that are weak or fail
- Boost ring power on analog PABX/KSU stations that are weak or fail
- Reshapes troublesome distorted ringing signals

### **Specifications**

**Power:** (2) 120V AC / 15V AC 2.2A UL listed adapter provided

**Dimensions:** 483mm x 241mm x 44mm (19" x 9.5" x 1.75")

**Shipping Weight:** 4.8kg (10.5 lbs)

**Environmental:** 0°C to 32°C (32°F to 90°F) with 5% to 95% non-condensing humidity

**Incoming Ring Detection:** 20-150 VAC

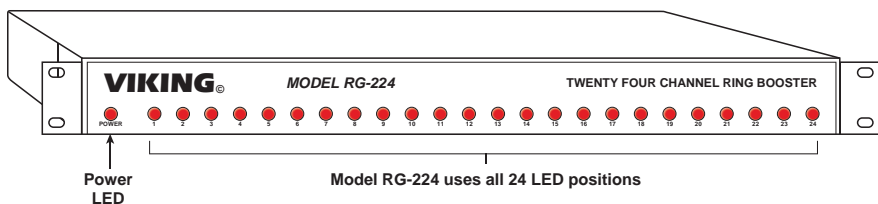
**Ring Generator:** 90 VAC nominal, 55 VAC @ 4 REN load

**Ringwave Shape:** Sine wave

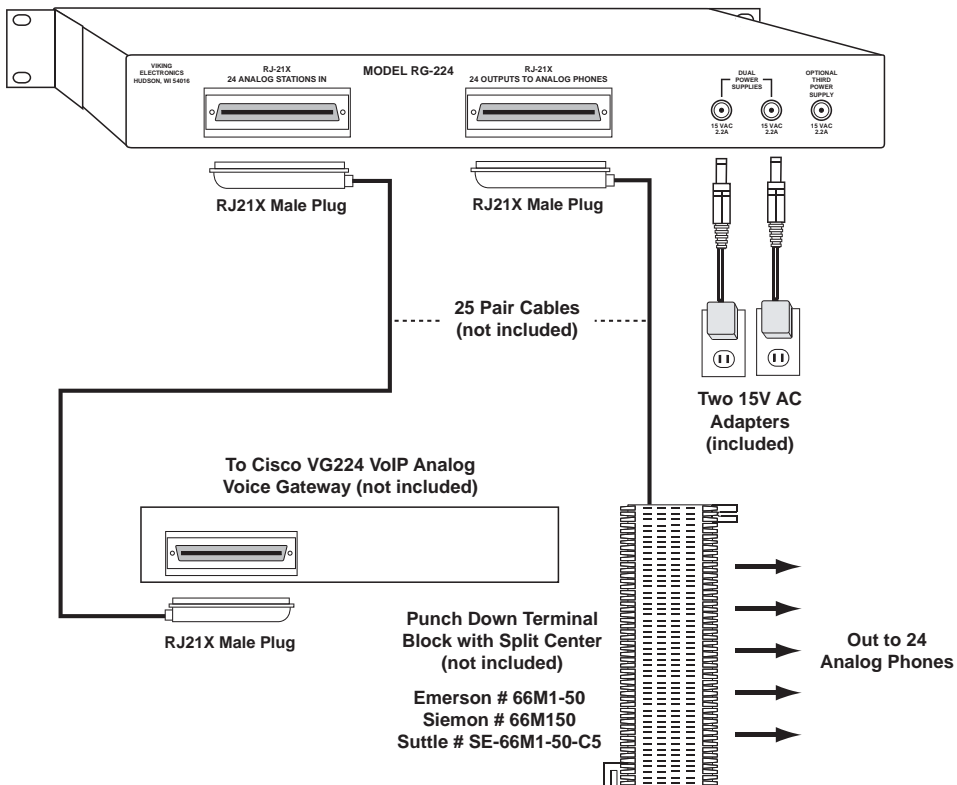
**Connections:** (2) RJ-21X female connectors

**[www.vikingelectronics.com](http://www.vikingelectronics.com)  
Information: (715) 386-8861**

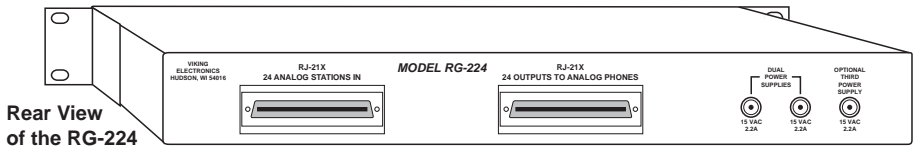
## Front View of the RG-224



## Rear View of the RG-224

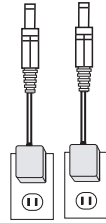
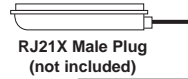
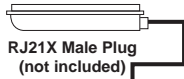


# Wiring



**Rear View  
of the RG-224**

**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.



**Two 15V AC  
Adapters  
(included)**

## 24 ANALOG STATIONS IN

**Note:** Analog station inputs are polarity sensitive. If wired in reverse polarity, the RG-224 may trip ringing after the first ring.

W/BL	1T	W/BL	1T
BL/W	1R	BL/W	1R
W/O	2T	W/O	2T
O/W	2R	O/W	2R
W/G	3T	W/G	3T
G/W	3R	G/W	3R
W/BN	4T	W/BN	4T
BN/W	4R	BN/W	4R
W/S	5T	W/S	5T
S/W	5R	S/W	5R
R/BL	6T	R/BL	6T
BL/R	6R	BL/R	6R
R/O	7T	R/O	7T
O/R	7R	O/R	7R
R/G	8T	R/G	8T
G/R	8R	G/R	8R
R/BN	9T	R/BN	9T
BN/R	9R	BN/R	9R
R/S	10T	R/S	10T
S/R	10R	S/R	10R
BK/BL	11T	BK/BL	11T
BL/BK	11R	BL/BK	11R
BK/O	12T	BK/O	12T
O/BK	12R	O/BK	12R
BK/GN	13T	BK/GN	13T
GN/BK	13R	GN/BK	13R
BK/BN	14T	BK/BN	14T
BN/BK	14R	BN/BK	14R
BK/S	15T	BK/S	15T
S/BK	15R	S/BK	15R
Y/BL	16T	Y/BL	16T
BL/Y	16R	BL/Y	16R
Y/O	17T	Y/O	17T
O/Y	17R	O/Y	17R
Y/G	18T	Y/G	18T
G/Y	18R	G/Y	18R
Y/BN	19T	Y/BN	19T
BN/Y	19R	BN/Y	19R
Y/S	20T	Y/S	20T
S/Y	20R	S/Y	20R
V/BL	21T	V/BL	21T
BL/V	21R	BL/V	21R
V/O	22T	V/O	22T
O/V	22R	O/V	22R
V/G	23T	V/G	23T
G/V	23R	G/V	23R
V/BN	24T	V/BN	24T
BN/V	24R	BN/V	24R
V/S	EARTH	V/S	EARTH
S/V	GROUND	S/V	GROUND

## 24 ANALOG STATIONS OUT TO PHONES

## Operation

The **RG-224** has 24 analog line circuits that pass through the unit. One RJ-21X connector has 24 inputs, and a second RJ-21X has 24 outputs. When any line is idle, the **RG-224** provides a “copper-thru” path from input to output. Whenever the **RG-224** detects a ringing signal on any incoming line, that output is switched to its dedicated internal sine wave ring generator to ring the phones. In between rings the **RG-224** switches that line back to “copper-thru” so caller-ID may pass through. When the line is answered and in use, the **RG-224** again provides a “copper-thru” path from input to output.

There are 24 front panel Channel LEDs showing the status of each of the 24 line circuits. Each LED lights dim showing the line is not ringing and in the “copper-thru” state. The LED will light bright when ringing is being generating. If a ring generator’s fault protection circuit engages, that Channel LED will go out. A fault may possibly be reset by momentarily unplugging power to the **RG-224** for a few minutes. Unplugging power to the **RG-224** will not drop any calls, nor disable the ability to make inbound or outbound calls, although inbound ringing will not be boosted.

The **RG-224**’s front panel POWER LED lights bright to show proper power supply voltage. If the internal power supply voltage sags below a set level, the POWER LED will turn off. If the POWER LED occasionally turns off, a third 15VAC / 2.2A power supply adapter can be added to the OPTIONAL THIRD POWER SUPPLY jack. This will help maintain proper operating voltages during heavy usage periods. Visit [www.vikingelectronics.com](http://www.vikingelectronics.com), click on SPARE PARTS and order power supply part number **PS-3**.

## 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 8:00am - 5:00pm 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 RA 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 Viking product 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-EWPP 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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