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TECHNICAL Practice

TELECOM SOLUTIONS FOR THE 21ST CENTURY

RG-224
**24 Line Ring
Shaper / Booster**

January 18, 2012

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 adapters 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

Phone...715.386.8861

info@vikingelectronics.com

http://www.vikingelectronics.com

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 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 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 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 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 ever 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. This warranty does not cover non-EWP products that have been exposed to wet or corrosive environments.

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.

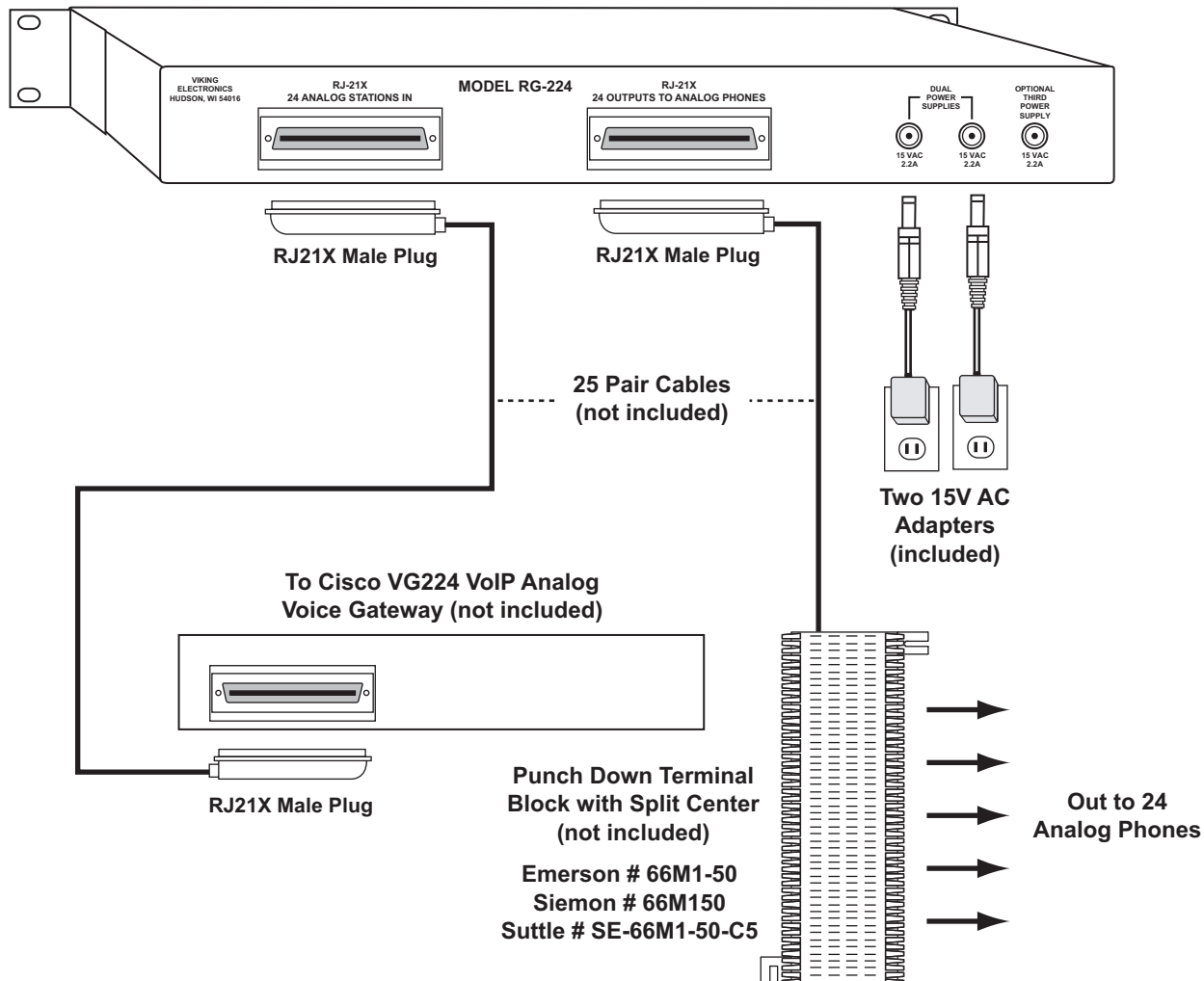
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EXCLUSIVE REMEDY AND LIMITATION OF LIABILITY. WHETHER IN AN ACTION BASED ON CONTRACT, TORT (INCLUDING NEGLIGENCE OR STRICT LIABILITY) OR ANY OTHER LEGAL THEORY, ANY LIABILITY OF VIKING SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE PRODUCT, OR AT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

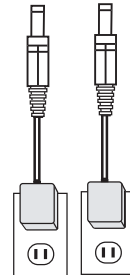
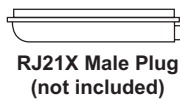
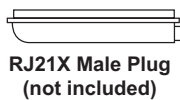
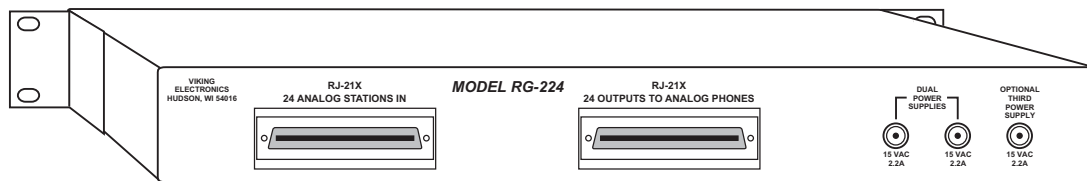
Installation

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.

24 Analog Stations In

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

24 Analog Stations Out to Phones

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

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

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, click on SPARE PARTS and order power supply part number **PS-3**.

Other Products



The **RG-204** ring generator is designed to reshape and increase the ringing power of up to 4 analog PABX extensions, FXS ports, IP phone system analog ports, or any other telecom devices which provides ringing. The **RG-204** duplicates the incoming ring cadence allowing it to be compatible with custom ringing features. **For more information on the RG-204, see DOD# 417.**



The **RG-212** ring generator is designed to reshape and increase the ringing power of up to 12 analog PABX extensions, FXS ports, IP phone system analog ports, or any other telecom devices which provides ringing. The **RG-212** duplicates the incoming ring cadence allowing it to be compatible with custom ringing features. **For more information on the RG-224, see DOD# 419.**



The **RG-4** ring generator is designed to reshape and increase the ringing power of a single existing analog line, PABX extension, FXS port, IP phone system analog port or any other telecom device which provides ringing. The **RG-4** duplicates the incoming ring cadence allowing it to be compatible with custom ringing features. **For more information on the RG-4, see DOD# 416.**



The **RG-10A** high power ring generator is designed to increase the ringing power of a single existing telephone line, PABX extension, or any other telecom device which provides ringing up to 12 REN. The **RG-10A** duplicates the incoming ring frequency and cadence allowing it to be compatible with custom ringing features. **For more information on the RG-10A, see DOD# 420.**

Due to the dynamic nature of the product design, the information contained in this document is subject to change without notice. Viking Electronics, and its affiliates and/or subsidiaries assume no responsibility for errors and omissions contained in this information. Revisions of this document or new editions of it may be issued to incorporate such changes.