

VIKING

TECHNICAL Practice

TELECOM SOLUTIONS FOR THE 21ST CENTURY

PA-15

**15 Watt Paging Amp with
Background Music and
Loud Ringing**

July 18, 2012

Add Paging, Loud Ringing and Background Music to Centrex, PABX, IP or Key Systems



The **PA-15** interfaces with virtually any telephone system to provide 15 watts of paging power - enough to drive fifteen 8-ohm paging horns or speakers.

The **PA-15** provides 36V talk battery for interfacing with an **FXO** or unused analog line input/trunk port. With the flip of a switch, the unit can connect to a **FXS** or PABX/Centrex station ring trip port or connect to a 600 ohm paging port. When interfacing with systems that do not provide a paging contact closure, the built-in voice activation (**VOX**) is in control.

After paging, the **PA-15** auto disconnects on CPC, busy signal, silence or default disconnect timer (helps prevent accidental paging system lock-up if phone is hung-up incorrectly). The unit will generate adjustable loud ringing from an independent ringing analog **FXS** / PABX / Centrex station or from a dry contact closure. The **PA-15** can provide background music (muted during page) if connected to an external music source.

Replaces the CPA-7B, provides twice the power and many new features (shown in bold below).

Features

- **15 Watts of paging power**
- **Drive up to (15) 8-ohm speakers**
- 600 Ohm output to drive additional amplifiers
- Select: **FXO** (loop start), **FXS** (ring trip) or paging port (**VOX** relay) interface mode
- Independent volume controls for Paging, Ringing Tones and **Background Music**
- **36V DC talk battery** for interfacing with **FXO** or unused phone system line input/trunk port
- Compatible with 24V to 48V **FXS** (ring trip) analog station operation
- 800 Hz pre-announce page tone (**on/off**)
- Provides "Night Bell" warble tone via contact closure or **independent ringing analog circuit**
- **Choose one of four ringing sounds:**
 - Electronic warble (traditional loud ringer)
 - Double gong (two identical "gong" tones)
 - Quadruple chime (four descending chime tones)
 - Door chime (ding-dong)
- Night transfer switch input
- CPC detection for immediate disconnect
- **Busy signal detect disconnect**
- **Adjustable silence time out disconnect**
- Programmable **VOX** trigger sensitivity and time out
- 16 to 72 second (or off) default disconnect timer

Applications

- Page from virtually any POTS, Centrex, PABX, digital or IP phone system
- Amplified loud paging
- Loud ringing
- Night bell
- Background music **in all paging modes**
- **Loud ringing + door chime over paging**

Specifications

Power: 120V AC/13.8V AC 1.25 A, UL listed adapter provided
Amplifier: 15 watts - to power up to (15) 8-ohm speakers (cascadable to drive additional speakers)
Dimensions: 133 mm x 89 mm x 44 mm (5.25" x 3.5" x 1.75")
Shipping Weight: 1.36 kg (3 lbs)
Environmental: 0°C to 32°C (32°F to 90°F) with 5% to 95% non-condensing humidity
Speakers: (1) 25AE paging horn provided - use additional 25AE, 30AE and 35AE speakers to complete the system (DOD# 498)
Sound Pressure Level: 115dB, 1KHz @ 1m with (1) 25AE Paging Horn (included), each additional horn will drop the output level of all horns by ≈1dB (see Page Power Chart, DOD# 895)
Talk Battery Output: 36V DC (loop current 36mA nominal)
Maximum Speaker Cable Length: 91 m (300 ft) 18 AWG
Connections: 14 cage clamp screw terminals

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 - 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.

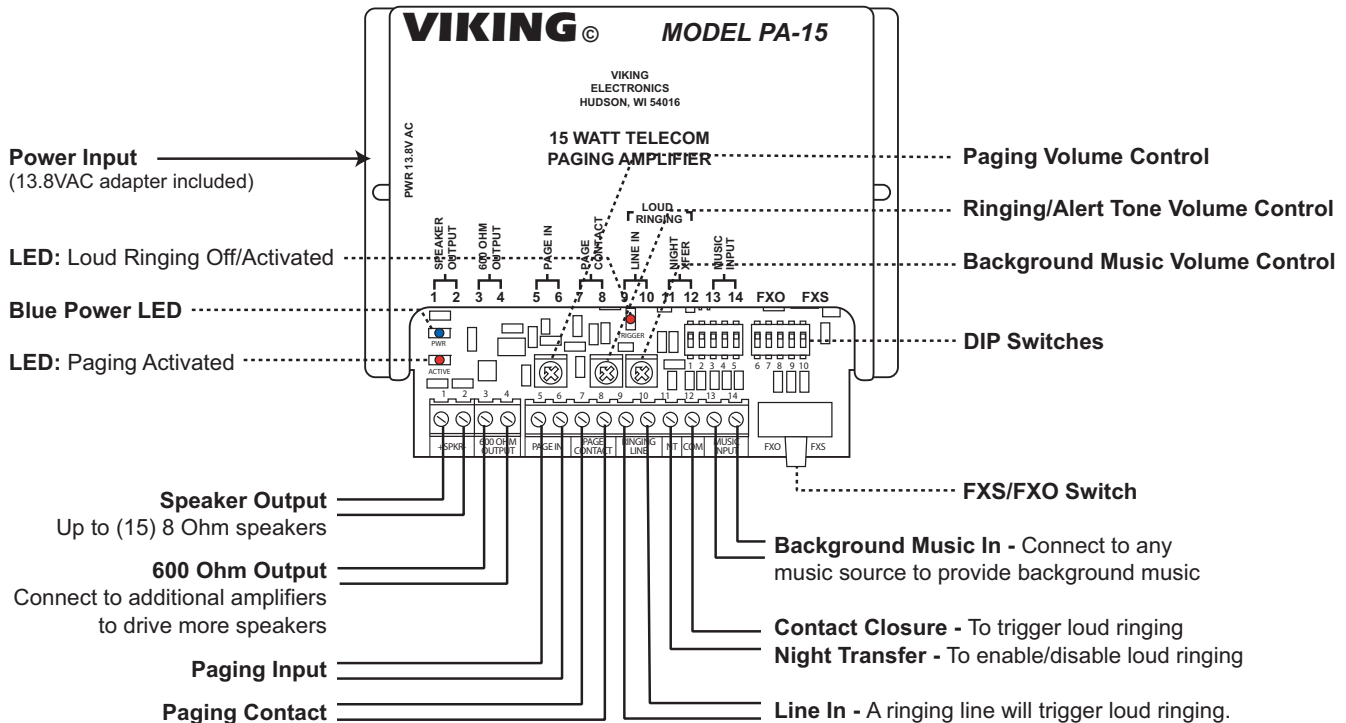
NO OTHER WARRANTIES. VIKING MAKES NO WARRANTIES RELATING TO ITS PRODUCTS OTHER THAN AS DESCRIBED ABOVE AND DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTIES OR MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

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.

Features Overview



Installation and Programming

A. Amplified Loud Paging

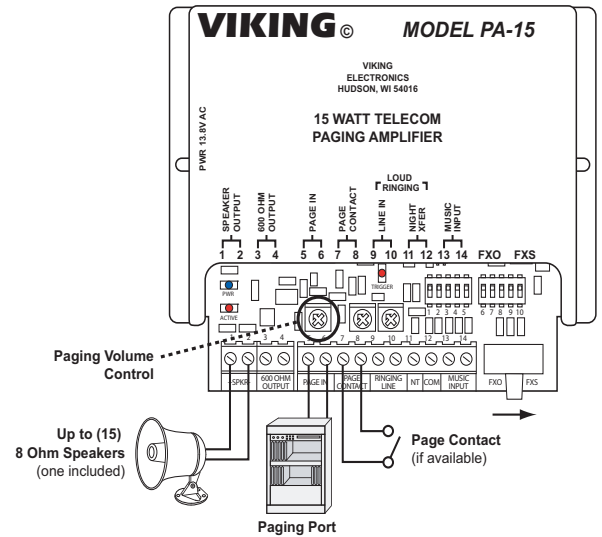
1. Paging Port

Step 1	Move the FXS/FXO switch to the FXS position.
Step 2	Move DIP switch 6 to ON.
Step 3	Connect terminals 5 and 6 to the paging port.
Step 4	Connect terminals 7 and 8 to the paging contacts (if available).*
Step 5	Adjust the page volume control to the desired volume.

* **Note:** If paging contacts are not available, VOX is in control. See **Programming** section E for VOX adjustments.

Important: Page Alert Tone is not given when page contacts are not provided.

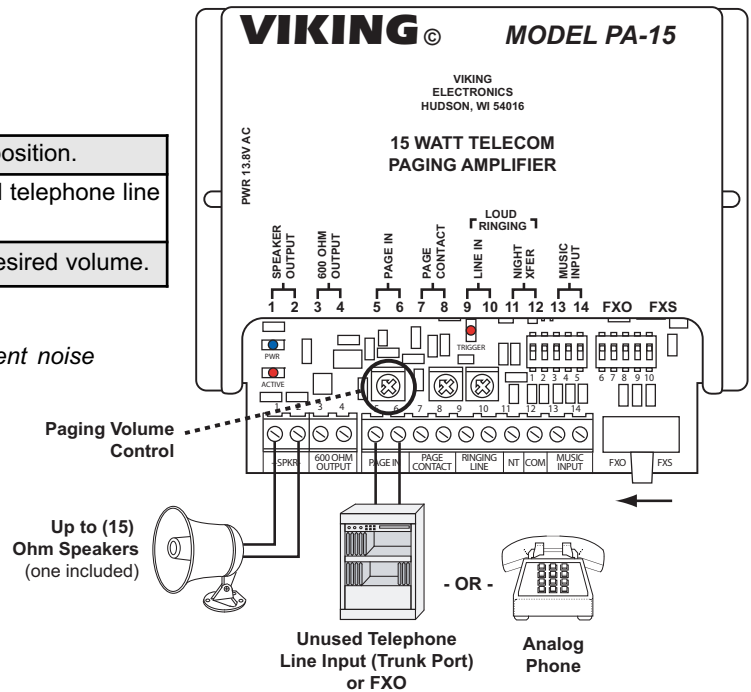
Note: For information on speakers to use, ambient noise levels and speaker wiring, see **DOD# 498**.



2. Trunk/Line Port

Step 1	Move the FXS/FXO switch to the FXO position.
Step 2	Connect terminals 5 and 6 to an unused telephone line input (trunk port) or FXO.
Step 3	Adjust the page volume control to the desired volume.

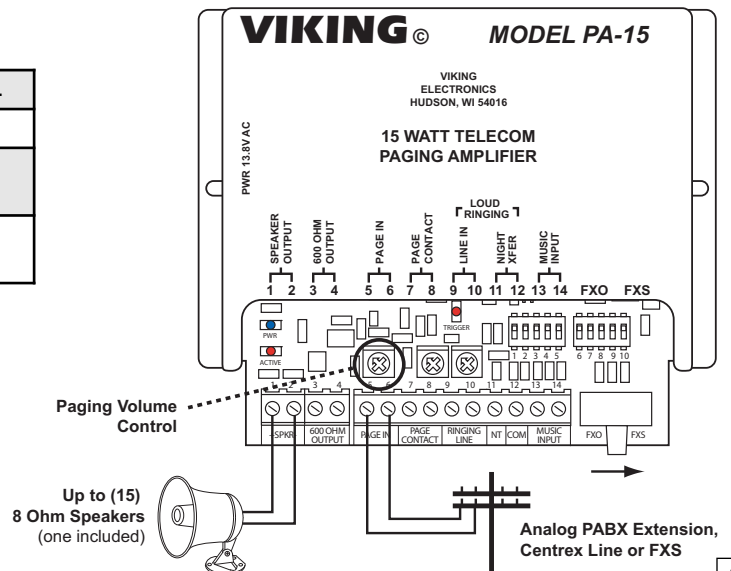
Note: For information on speakers to use, ambient noise levels and speaker wiring, see **DOD# 498**.



3. Ring Trip

Step 1	Move the FXS/FXO switch to the FXS position.
Step 2	Move DIP switch 6 to OFF.
Step 3	Connect terminals 5 and 6 to an analog PABX extension, Centrex Line or FXS.
Step 4	Adjust the page volume control to the desired volume.

Note: For information on speakers to use, ambient noise levels and speaker wiring, see **DOD# 498**.

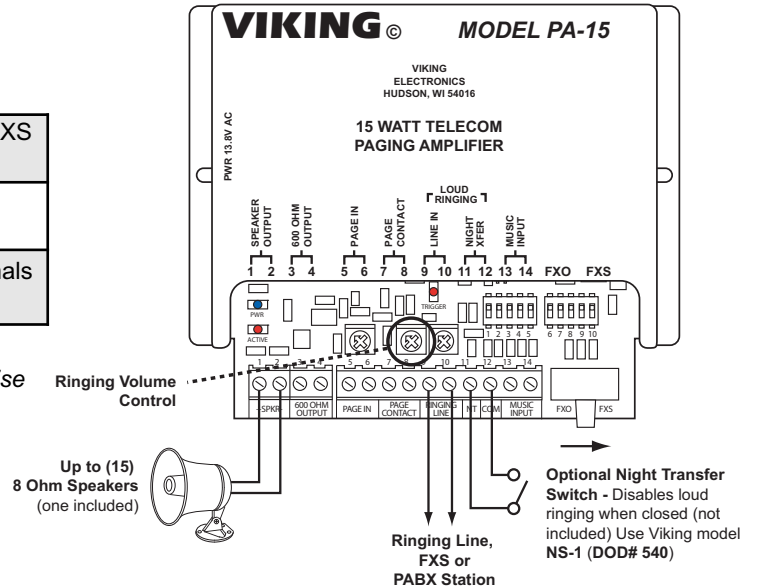


B. Loud Ringing/Night Bell

1. Ringing Analog Line

Step 1	Connect terminals 9 and 10 to a ringing line, FXS or analog PABX station.
Step 2	The ringing volume control may be adjusted to required level.
Step 3	A night transfer switch may be added to terminals 11 and 12 to enable and disable loud ringing.

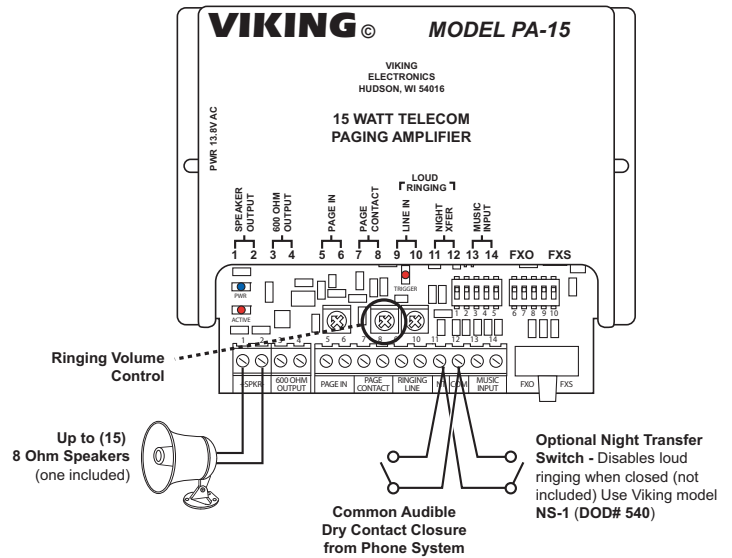
Note: For information on speakers to use, ambient noise levels and speaker wiring, see **DOD# 498**.



2. Dry Contact (Common Audible) Closure from Phone System

Step 1	Connect the common audible dry contact closure to terminals 11 and 12 .
Step 2	A dry contact closure will initiate loud ringing when the Night Transfer switch is open.

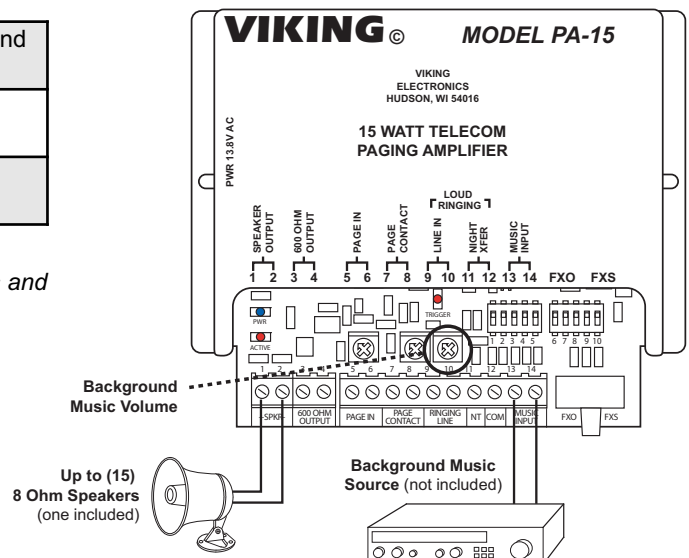
Note: For information on speakers to use, ambient noise levels and speaker wiring, see **DOD# 498**.



C. Adding Background Music to Your Paging System in All Page Modes

Step 1	Connect a background music source to the background music input terminals 13 and 14 .
Step 2	Adjust the background music volume control to the desired level.
Step 3	Background music will mute when paging or loud ringing/night bell is active.

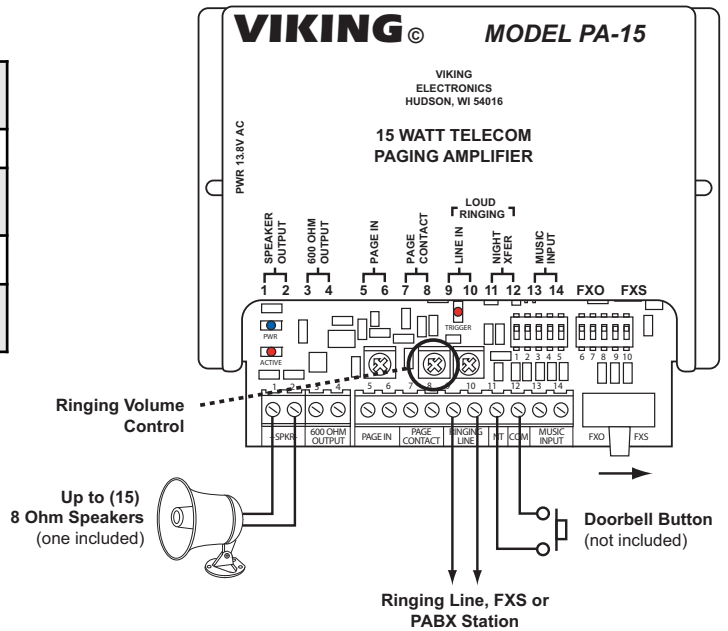
Note: For information on speakers to use, ambient noise levels and speaker wiring, see **DOD# 498**.



D. Loud Ringing + Door Chime

Step 1	Connect terminals 9 and 10 to a ringing line, FXS or analog PABX station.
Step 2	Move DIP switch 5 to ON.
Step 3	The ringing volume control may be adjusted to the required level.
Step 4	Connect a doorbell button to terminals 11 and 12 .
Step 5	Set ringing sound output (DIP switches 1 and 2) to something other than door chime.

Note: For information on speakers to use, ambient noise levels and speaker wiring, see **DOD# 498**.

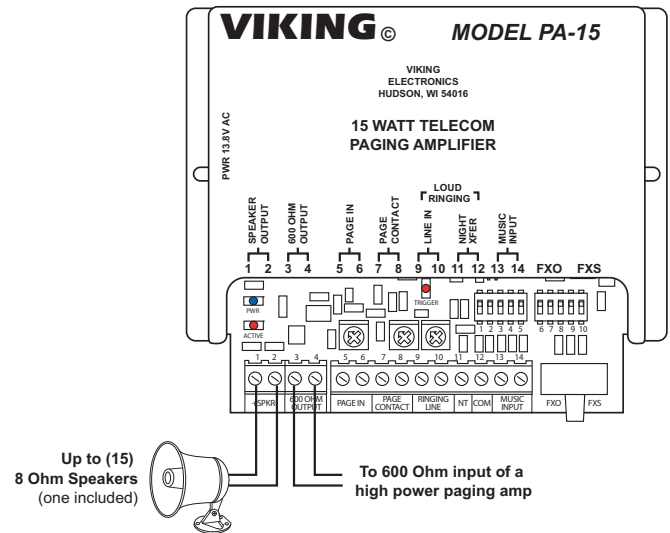


E. Additional Paging Power

When more than (15) 8 ohm speakers are required, an additional paging amp can be added.

Step 1	Connect the main PA-15 as described on previous pages.
Step 2	Connect the PA-15 600 Ohm Output (terminals 3 and 4) to a second paging amp input.

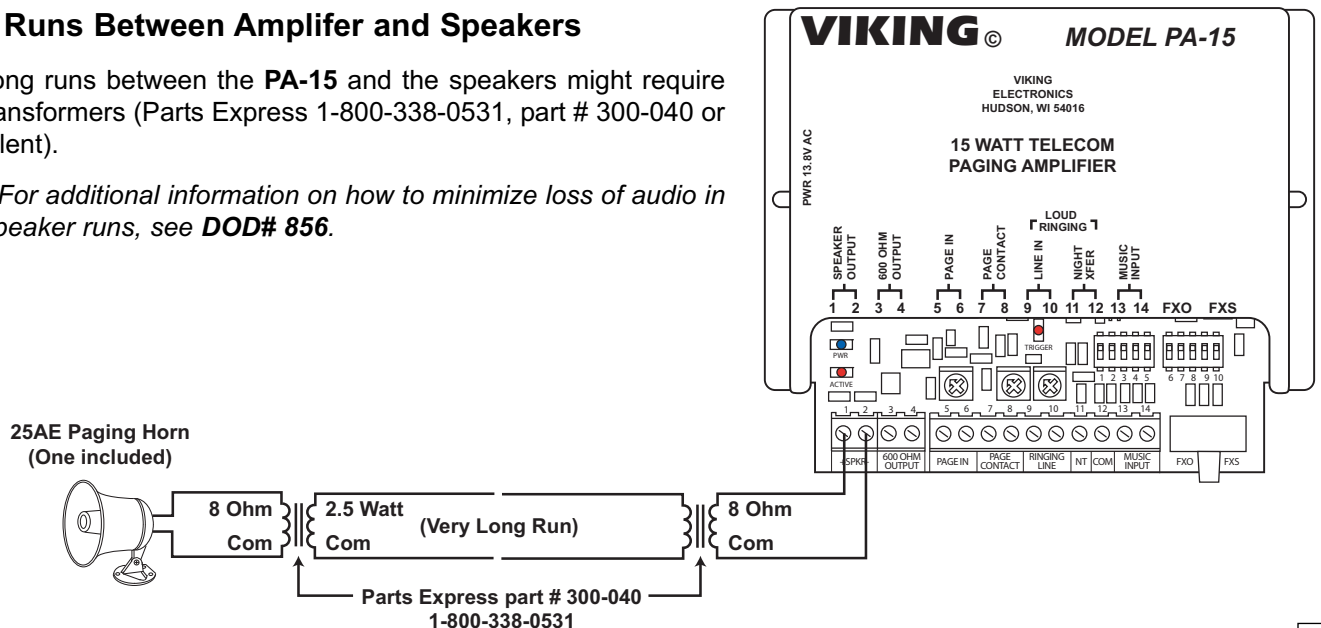
Note: For information on speakers to use, ambient noise levels and speaker wiring, see **DOD# 498**.



F. Long Runs Between Amplifier and Speakers

Very long runs between the **PA-15** and the speakers might require 70V transformers (Parts Express 1-800-338-0531, part # 300-040 or equivalent).

Note: For additional information on how to minimize loss of audio in long speaker runs, see **DOD# 856**.



G. DIP Switch Programming and Volume Controls

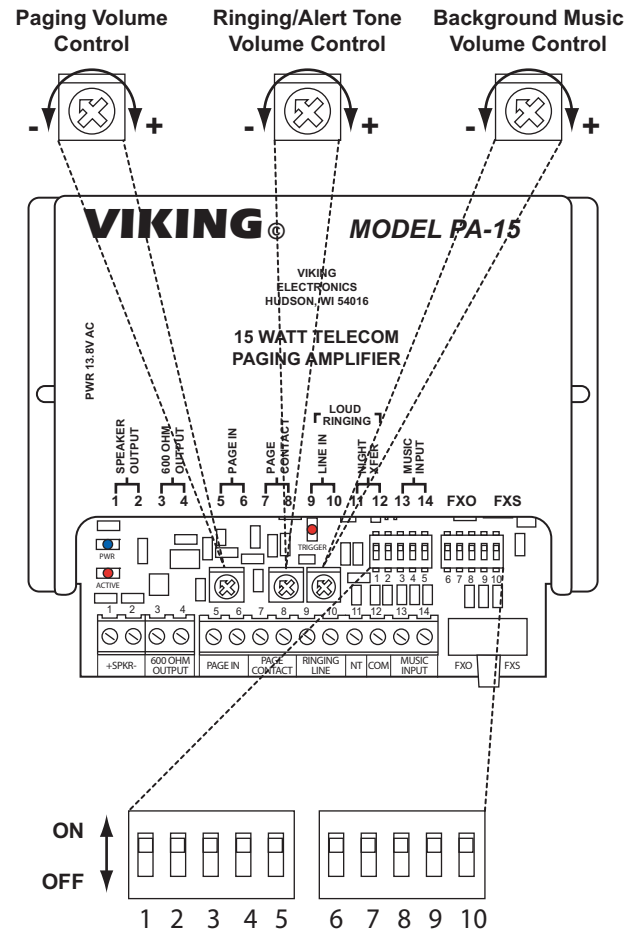
Switch 1	Switch 2	Sound Output Description
OFF	OFF	Electronic warble
OFF	ON	Double gong
ON	OFF	Quadruple chime
ON	ON	Door chime

Switch 3	Switch 4	Silence Time Out
OFF	OFF	Off
OFF	ON	2.5 seconds
ON	OFF	5.0 seconds
ON	ON	10 seconds

DIP Switch	Position	Description
5	ON	Loud ring + door chime
5	OFF	Normal

DIP Switch	Position	Description
6	ON	600 Ohm page port mode
6	OFF	FXS (ring trip), FXO (trunk input)
7	ON	Minimum VOX sensitivity
7	OFF	Maximum VOX sensitivity
8	ON	Pre-announce page tone ON
8	OFF	Pre-announce page tone OFF

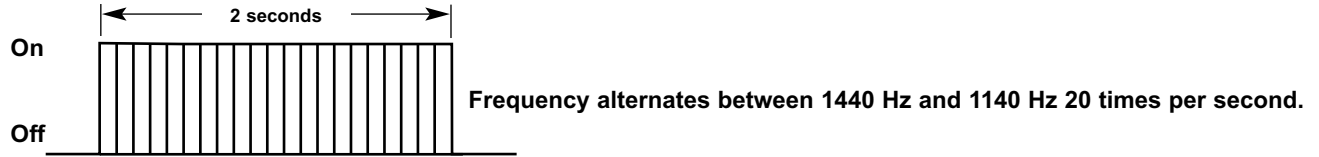
Switch 9	Switch 10	Default Timer	Busy Detection
OFF	OFF	Off	On
OFF	ON	16 seconds	On
ON	OFF	36 seconds	On
ON	ON	72 seconds	Off



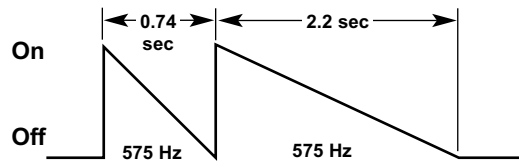
Sound Output Specifications

All tones require a minimum of 180ms of ringing voltage (or contact closure) to trigger. Once triggered, the electronic warble will sound per the chart below when the ringing stops or contacts open for at least 50ms.

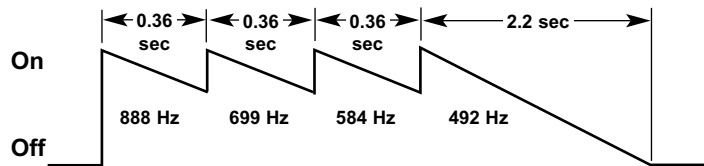
A. Electronic Warble (Traditional Loud Ringer)



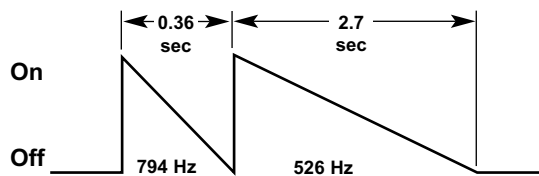
B. Double Gong (Two "Gong" Tones)



C. Quadruple Chime (Four Descending Chime Tones)



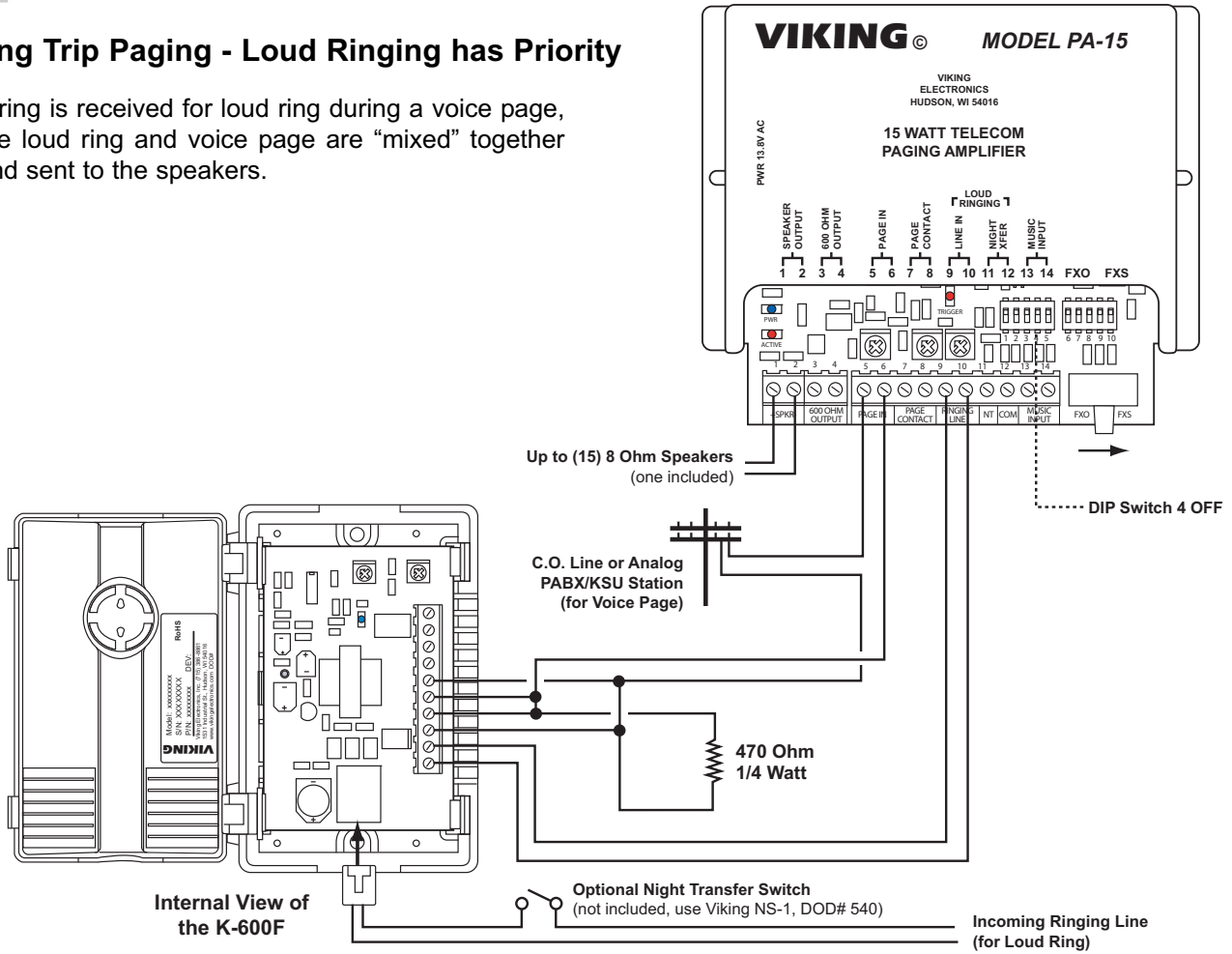
D. Door Chime (Ding-Dong)



Applications

A. Ring Trip Paging - Loud Ringing has Priority

If ring is received for loud ring during a voice page, the loud ring and voice page are "mixed" together and sent to the speakers.



Product Support Line...715.386.8666

Fax Back Line...715.386.4345

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