APPLICATION Note

TELECOM SOLUTIONS FOR THE 21ST CENTURY

Paging Power

July 17, 2019

Viking Paging Amplifiers

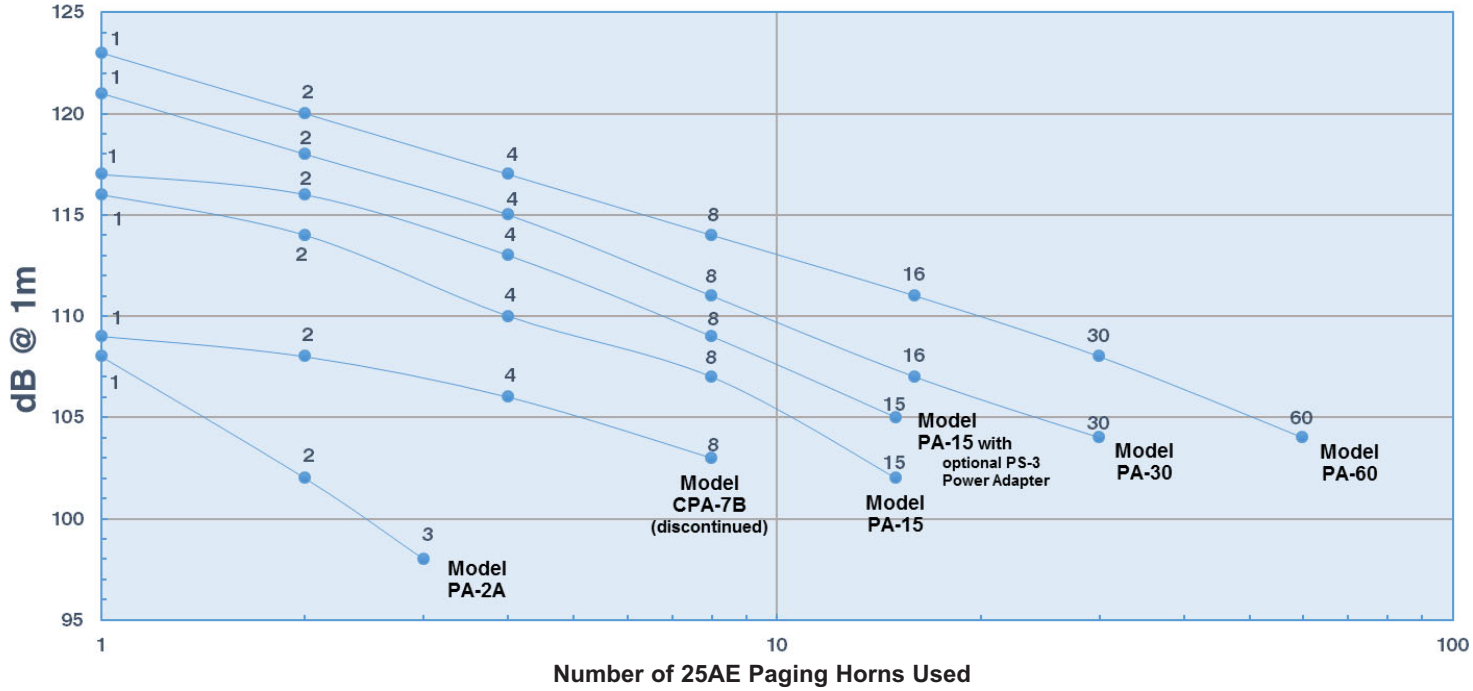
Multi-Line Loud Ringer/2 Watt Paging Amplifier The **PA-2A** monitors up to 6 analog lines for ringing or can be activated by a phone system contact closure. A loud electronic warble, a chime, a gong or a door chime can be selected to announce incoming calls. To page, connect to a paging port or unused trunk input or FXO port on a phone system. The **PA-2A** includes one paging horn and power supply. See DOD# 485 for more info.

General Purpose 15 Watt Telecom Paging Amplifier The **PA-15** allows paging from a Key, PABX or Centrex paging port, or connect to an unused trunk input or FXO port (36 volts of talk battery). The **PA-15** can also answer a ringing analog PABX station, Centrex, C.O. line or FXS, to allow paging, then disconnect on CPC, busy, silence or 16 to 72 sec (on/off) default timer. Four electronic tones are available for loud ringing. Power supply included. See DOD# 486 for more info.

30 Watt Professional Telecom Paging Amplifier The **PA-30** provides paging from the phone system paging port or connect to an unused trunk input or FXO port (provides 40 volts of talk battery). The **PA-30** has separate inputs and volume controls for paging, auxiliary source, loud ringing and background music. A contact closure or ringing line can activate loud ringing. A warble, double gong, quadruple chime or door chime sound can be selected. Power supply included. See DOD# 489 for more info.

60 Watt Compact Two Zone Amplifier to Drive up to 60 Paging Speakers The **PA-60** can directly drive up to sixty (60) 8 ohm paging speakers or one hundred (100) 70 volt or 25 volt paging speakers. Both channels can be fed the same input so the **PA-60** can be used as a single large amplifier, or each channel can be fed different inputs so the **PA-60** can be used as a two zone amplifier. See DOD# 493 for more info.

A. Paging Power Chart for Viking Paging Amplifiers



Notes: Maximum sound pressure output at each 8 Ohm paging horn. Disregarding any power loss through long wire runs. 25AE paging horn nominalized to 105dB @ 1W @ 1m.

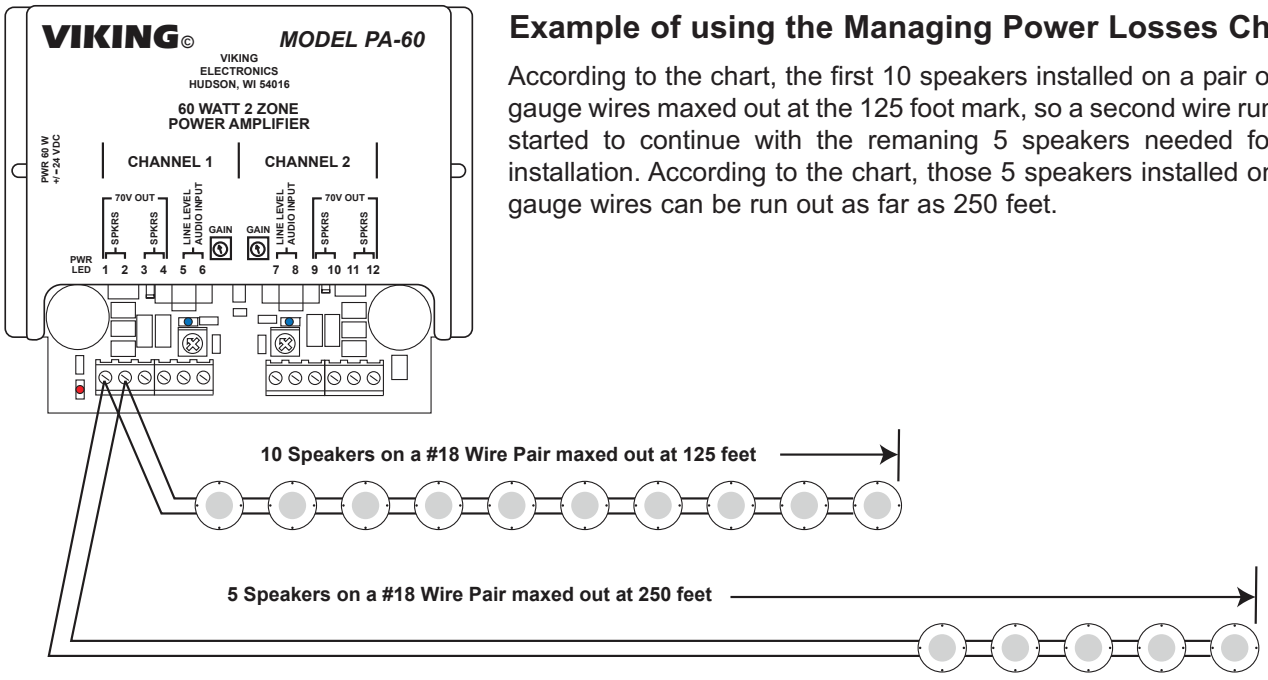
B. Managing Power Losses

The chart below shows the maximum recommended length (in feet) for the number of 8 Ohm speakers on a wire pair to maintain a volume loss of less than 5dB. Once the length limit has been reached for the wire gauge used, if additional speakers are needed, start back at the amplifier with a second parallel wire run. If the length limit is reached again, start a third run, etc. See examples below.

Wire Gauge Size	1	2	3	4	5	6	8	10	12	15
#16	2,000'	1,000'	665'	500'	400'	330'	250'	200'	165'	135'
#18	1,250'	625'	420'	315'	250'	210'	155'	125'	105'	85'
#20	800'	400'	265'	200'	160'	130'	100'	80'	65'	50'
#22	500'	250'	165'	125'	100'	80'	60'	50'	40'	35'
#24	315'	155'	105'	80'	60'	50'	40'	30'	25'	20'

Number of 8 Ohm Speakers on Each of the Two Wire Runs

Note 1: *Mount the amplifier close to where the speakers are installed to minimize the speaker wire run lengths.*
Note 2: *Using half the recommended distance or half as many speakers per run will keep the volume lost limited to 3db.*
Note 3: *Doubling up the wires will allow double the length, or reduce the amount of volume loss.*
Note 4: *Heavier gauge wire, fewer speakers per run, and shorter runs will all minimize volume loss.*
Note 5: *Use 70-Volt or 25-Volt speakers in applications that require wire run lengths greater then specified in the chart. As a general rule of thumb, 70V speakers will allow for wire run lenghts up to 100 times longer, and 10 times longer wire lengths can be achived with 25V speakers.*



Example of using the Managing Power Losses Chart:

According to the chart, the first 10 speakers installed on a pair of #18 gauge wires maxed out at the 125 foot mark, so a second wire run was started to continue with the remaning 5 speakers needed for the installation. According to the chart, those 5 speakers installed on #18 gauge wires can be run out as far as 250 feet.

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