TECHNICAL
Practice
TELECOM SOLUTIONS FOR THE 21ST CENTURY

MTG-10
Multi-Tone Generator

May 1, 2001

Generate Multiple Tones for Any Paging System

Viking's model **MTG-10** is a multi-tone generator designed to add multiple contact-controlled audio tones to paging systems or 600 ohm inputs.

The **MTG-10**'s audio input can be connected to any paging source, such as a phone system paging port or background music. When a contact closure is provided to one of the inputs, the paging or background music is faded out and the appropriate tone is generated over the paging system. The siren or the evacuation whoop always have priority and over-ride any other tone being generated.

The **MTG-10** can also be configured to provide a tone every 15 seconds to notify callers that their conversation is being recorded.

Phone…715.386.8861

Tone Descriptions

- Siren

- Interrupted 784Hz Tone

- Door Chime (Ding-Dong)

- Warble (Electronic Ring)

- Double Gong

- Evacuation Whoop (ANSI/NFPA compliant, temporal slow whoop)

- Telephone Recording Disclosure Tone (500ms beep, every 15 seconds)

- Double Chime

- Quadruple Chime

- Double Buzz

http://www.vikingelectronics.com

Made in the U.S.A.

Features

- Ten available tones, organized into two groups of five tones

- Contact initiated

- Built-in background audio source fade-in/out

- Priority ANSI compliant evacuation and siren tones

- Telephone recording disclosure tone repeats every 15 seconds
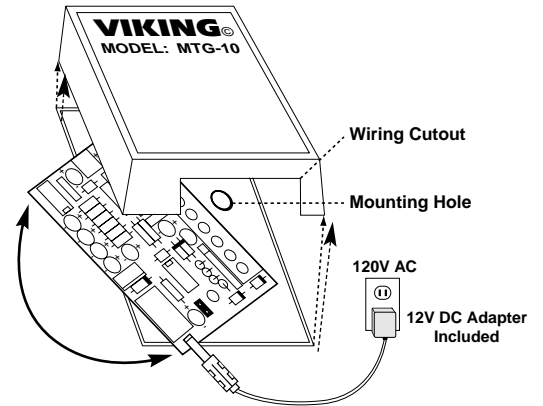
info@vikingelectronics.com

Specifications

Power: 120V AC/12V DC 500mA UL listed adapter provided
Dimensions: 74mm x 53mm x 25mm (2.9" x 2.1" x 1.0")
Shipping Weight: 0.4 kg (0.86 lbs)
Environmental: 0°C to 32°C (32°F to 90°F) with 5% to 95% non- condensing humidity
Input Impedance: 600 ohms
Output: Capable of driving 600 to 100K ohms impedance
Maximum Output Level: +5dbm into 600 ohms
Evacuation Tone: ANSI compliant
Connection: 10 position cage clamp terminal strip

Installation

The **MTG-10** is designed to be wall mounted using either screws or the included foam tape.

1. Remove the cover from the **MTG-10**.
2. Mount the unit on a wall, using either the included foam tape or screws. Make sure there is easy access to the internal terminal block. The internal board of the **MTG-10** can be rotated exposing the two mounting holes in the chassis.
3. Once mounted, swing the board back into position.
4. Install wiring as shown in **Programming** below.
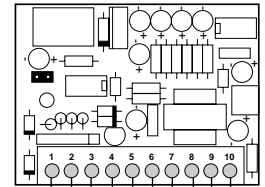5. Replace cover making sure the wiring passes through the wiring cutout.

Programming

A. Tone Generator Only

If the **MTG-10** is to be used strictly as a tone generator, connect pins **9** & **10** of the **MTG-10** to the audio input of a paging amplifier. In this mode, no input signal is required, only a contact closure for the desired tone.
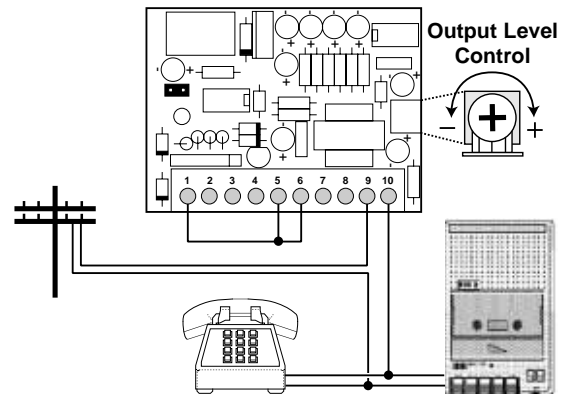
B. Tone Generation and Background Music Control

If the application requires background music to be interrupted by the tone, connect the background music source to audio input pins **7** & **8**. The audio output pins **9** & **10** connect to the audio input of a paging amplifier.

Tone Selection (pins 1 - 5)
Common Ground (pin 6)
Audio Input (pins 7,8)
Audio Output (pins 9,10)

C. Telephone Recording Disclosure Tone

In some states, to legally record a telephone conversation, both parties must be alerted to the fact that you are recording their conversation. One common method of reminding callers that they are being recorded is to provide a periodic alert tone during the call. To create a telephone recording disclosure tone at 15 second intervals, wire the **MTG-10** as shown to the right. Then jumper pins **1** and **5** with pin **6**. When the unit is powered up, it will go into alert tone mode. ***Note:*** *The shunt **JP1** may be in or out.*
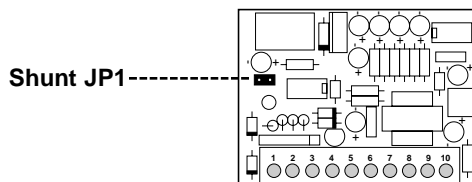
Output Level Control

D. Output Volume Level

The output level of the tones can be adjusted by adjusting the **Output Level Control** as shown in the diagram above. This does not affect the level of the audio input.

Operation

A. Tone Group Selection

The **MTG-10** features two groups of user controllable tones selected by removing or inserting shunt **JP1** (see diagram below and chart to the right). ***Note:*** *A steady 784hz tone is available by using special software model **M10-CT**.*

Shunt JP1

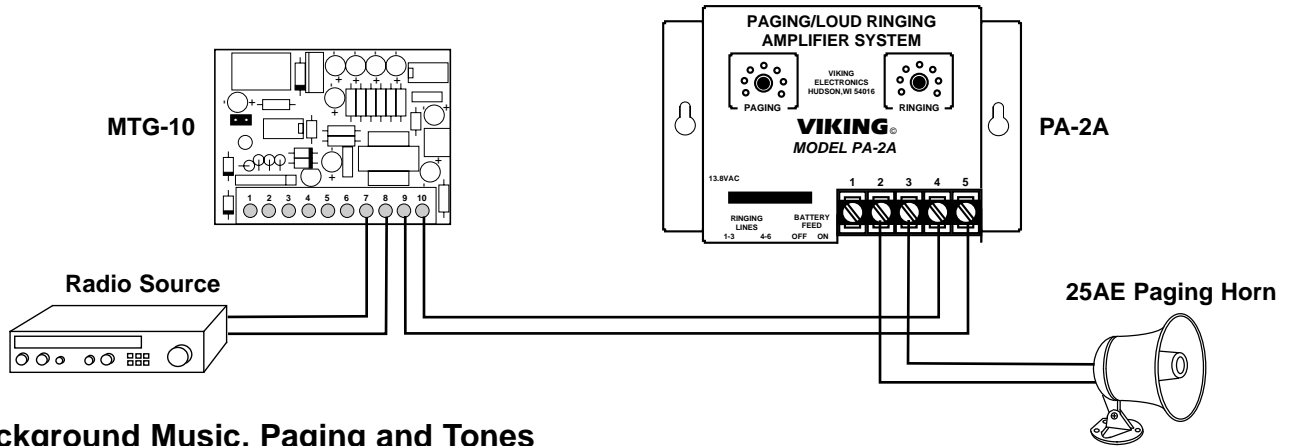| Tone		Shunt	Pin Number
Group 1	Siren	In	1
	Interrupted 784hz Tone	In	2
	Door Chime (Ding Dong)	In	3
	Warble (Electronic Ring)	In	4
	Double Gong	In	5
Group 2	Evacuation Whoop	Out	1
	Interrupted 784hz Tone	Out	2
	Double Chime	Out	3
	Quadruple Chime	Out	4
	Double Buzz	Out	5

B. Individual Tone Selection

An individual tone may be energized by shorting pin 6 (common ground) to the corresponding pin of the desired tone. The tones will continue for as long as the closure is maintained. If background music is passed through the **MTG-10**, it will be faded out during the tone and then faded back in.
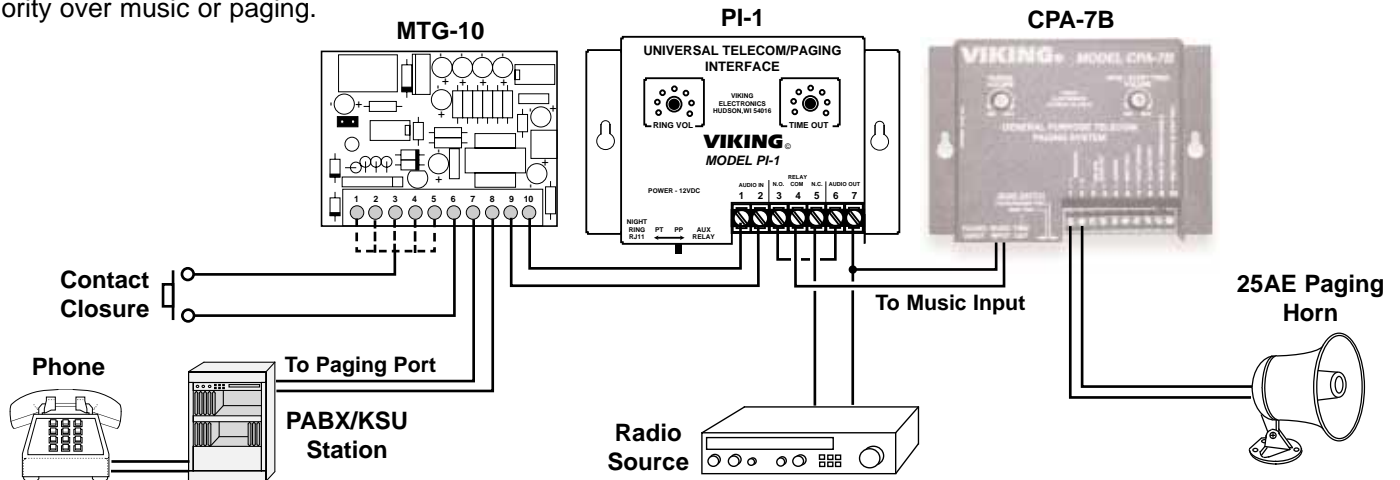
Applications

A. Amplifying MTG-10 Tones with a PA-2A

In this application, the tones from the **MTG-10** are amplified by a Viking **PA-2A** Paging/Loud Ringing Amplifier. Whenever the **MTG-10** receives a contact closure on one of its inputs, it generates the selected tone. Whether the paging amp amplifies the tone when other inputs are activated depends on the the priority the paging amp places on this particular input. If the **MTG-10** has been installed to generate emergency tones, its output should have top priority so that any emergency tone will be amplified and sent to the paging speakers.

MTG-10

PAGING/LOUD RINGING
AMPLIFIER SYSTEM

PAGING   VIKING ELECTRONICS
HUDSON,WI 54016   RINGING

VIKING
MODEL PA-2A

13.8VAC   1 2 3 4 5

RINGING LINES   BATTERY FEED
1-3   4-6   OFF   ON

PA-2A

Radio Source

25AE Paging Horn

B. Background Music, Paging and Tones

In this application, the **MTG-10** is used with a Viking **PI-1** and a **CPA-7B** to provide paging with background music which can be interrupted by tones from the **MTG-10**. The **PI-1** provides switching between background music and paging, the **CPA-7B** provides the amplification, and the **MTG-10** is wired in such a way that its tones will always be given priority over music or paging.

MTG-10   PI-1   CPA-7B

UNIVERSAL TELECOM/PAGING
INTERFACE

RING VOL   VIKING ELECTRONICS
HUDSON,WI 54016   TIME OUT

VIKING
MODEL PI-1

POWER - 12VDC

RELAY
AUDIO IN N.O. COM N.C. AUDIO OUT
1 2 3 4 5 6 7

NIGHT RING PT PP AUX RELAY
RJ11

VIKING   MODEL CPA-7B
GENERAL PURPOSE TELECOM PAGING SYSTEM

Contact Closure

To Music Input

25AE Paging Horn

Phone   To Paging Port

PABX/KSU Station

Radio Source

Other Products

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

VIKING MODEL CPA-7B
GENERAL PURPOSE TELECOM PAGING SYSTEM

PAGING MUSIC TIME
INPUT INPUT OUT

CPA-7B

The **CPA-7B** is a cost effective, multi-purpose, telecom paging system. The **CPA-7B** provides 6 watts of low noise, high fidelity power for many telecom paging and night bell applications. Multiple units can be cascaded to power more speakers for larger paging applications.

The **CPA-7B** can be interfaced to ringing Centrex/C.O. lines, analog PABX/KSU stations, unused trunk inputs, as well as standard paging ports.

For loud ringing, the **CPA-7B** generates an adjustable loud warble from a dry contact closure or a ringing Centrex/C.O. line or analog PABX/KSU station.

The **CPA-7B** is easy to install and can eliminate the installation of multiple bells, relays and paging cards. For more information, retrieve **Fax Back Document 455**.

Add Paging and Multiple Line Loud Ringing to Any Phone System!

The **PA-2A** provides loud ringing and paging to electronic key systems, 1A2 Key systems, PABX's as well as No-KSU phones and multi-line phones. Paging is accomplished by connecting the **PA-2A** to a paging port or unused C.O. line input of nearly any phone system.

The **PA-2A** will also generate an adjustable loud warble from up to 6 incoming C.O. lines or from a dry contact closure. An external "night transfer" switch can be added to turn loud ringing on or off in night bell applications.

The **PA-2A** is easy to install and eliminates the installation of multiple bells, relays and paging cards. The unit comes complete with a power supply, amplifier and (1) paging horn. For more information on the **PA-2A**, retrieve **Fax Back Document 485**.

PA-2A

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

Now you can integrate any phone system with your public address or distributed amplifier audio system. **Viking**'s Universal Telecom/Paging Interface allows you to provide paging from any phone (or selected phones) instead of from a microphone. You can also provide background music and electronic night bell over the audio system.

The **PI-1** has a built-in voice activated (VOX) or AC ring activated relay which provides D.P.D.T. contacts for muting the background music during paging or electronic night bell. These contacts are necessary when interfacing with systems such as Panasonic, SW Bell, Intertel, etc., which do not provide a paging contact closure

In the event a paging port is not available, the **PI-1** can provide talk battery to allow connection of the public address system to an unused trunk input on the phone system.

PI-1

The electronic night bell feature is activated by a standard ringing C.O. line, analog PABX/KSU station circuit or by a common audible contact closure provided by the phone system. For more information, retrieve **Fax Back Document 490**.

Add Time Controlled Alert Tones and Emergency Signals to Your Paging System

Viking's **CTG-1** Clock Controlled Tone Generator will provide accurately timed alert tones over an existing paging system.

The **CTG-1** can be programmed to output single, double, or triple alert tones or buzzer sounds on up to 128 events in a 24 hour period. The **CTG-1** also provides three contact inputs for triggering an emergency siren, an evacuation signal, or a doorbell sound.

The **CTG-1** is easily programmed, and requires 60Hz power to maintain the time base. For more information on the **CTG-1**, retrieve **Fax Back Document 460**.

CTG-1

Product Support Line…715.386.8666   *Fax Back Line…715.386.4345*