

Telecommunication Peripheral Products
Technical Practice

CTG-1
Clock Controlled
Tone Generator
September 7, 2000

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



Viking's model **CTG-1** is a clock controlled tone generator designed to provide accurately timed alert tones or buzzer sounds over an existing paging system.

The **CTG-1** can be programmed to output single, double or triple alert tones or buzzer sounds with up to 128 events in a 24 hour period. These tone/buzzer sounds are ideal for indicating the start and end of shifts, break times, lunch periods, etc. for factories, schools,

or any business requiring an audible indication of specified times.

The **CTG-1** has three contact closure inputs for triggering an emergency siren, evacuation signal or a door bell sound.

<http://www.VikingElectronics.com>
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Features

- Accurate 24 hour digital time clock displays hours and minutes
- User programmable 24 hour, 128 event timer
- Programmable single, double or triple alert sound output (selectable tone or buzzer)
- Three contact closure controlled sounds:
 - 1) Emergency siren (yelp) sound
 - 2) Temporal (slow whoop) evacuation signal
*NFPA/ANSI compliant when used with supporting equipment
 - 3) Doorbell (chime) sound
- Volume controllable, 600 ohm line level audio output
- Non-volatile programming memory
- Battery backup for maintaining clock time
- Battery backup charging circuit for charging 9V NiCad/NiMh batteries
- DPDT relay contacts for muting paging and background music during event tones
- One year warranty

Sales...(715) 386 - 8861

Made in the U.S.A.

Applications

- Signal the beginning and end of class periods, breaks, and lunch periods for schools
- Signal the beginning and end of shifts, breaks, and lunch periods for factories and other businesses
- Provides a door bell and/or alarm sounds over an existing paging system, for such applications as door entry, fire, severe weather, etc.
- Use with **Viking's** digital announcers, to provide timed messages

Specifications

Power: 120V AC/13.8V AC 1.25A UL listed adapter provided
Dimensions: 133mm x 91mm x 44mm (5.25" x 3.6" x 1.75")
Weight: 0.9 Kg (2 lbs)
Environmental: 0°C to 32°C (32°F to 90°F) with 5% to 95% non-condensing humidity
Connections: 10 position cage clamp terminal strip
Battery Backup: 9V non-rechargeable or rechargeable battery (not included) maintains clock time for over 8 hours
Time Base: 60Hz AC power line. Battery backup accuracy: +/- .002%
Audio Output: 600 ohm with volume adjust potentiometer, maximum level = 0 dBm across 600 ohm load
Relay Output: DPDT rated 125V AC, 30 W (resistive load)

Installation

Diagram 1

Clock and Event Time Setting Button: Press the + or -/CANCEL buttons to increase or decrease time. The -/CANCEL switch is also used to cancel an alert tone/buzzer sound event when reviewing programming.

Alert Tones

Programming Buttons: After setting an event time, press single, double or triple to program 1, 2 or 3 alert tones/buzzer sounds for that event time.

9V Battery Backup Connection:

A standard or rechargeable (NiCad/NiMh) 9V battery must be installed here to maintain the clock time during power outages.

Battery Charge Shunt:

Note: Factory set default is OFF. For rechargeable batteries, move the Battery Charge shunt to the ON position.

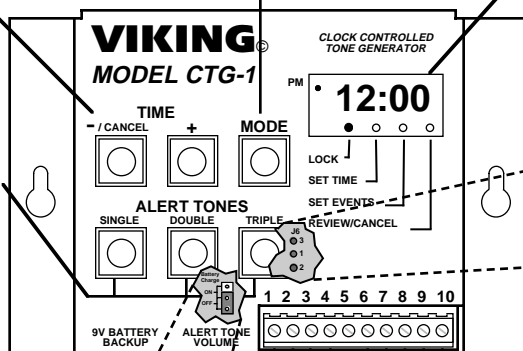
CTG-1 Output Volume Control:

Turn clockwise to increase volume of alert tones/buzzer sounds, emergency and door bell (chime) sounds (See Diagram 2 below).

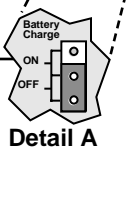
Mode Button: Press to place the CTG-1 in the Lock, Set Time, Set Events or Review/Cancel modes.

Clock, Event Time and Mode Display

Secondary Relay Contacts: These activate in conjunction with pins 3, 4 and 5. You may solder to these PCB pads if a second set of relay contacts are required.



Detail B



Detail A

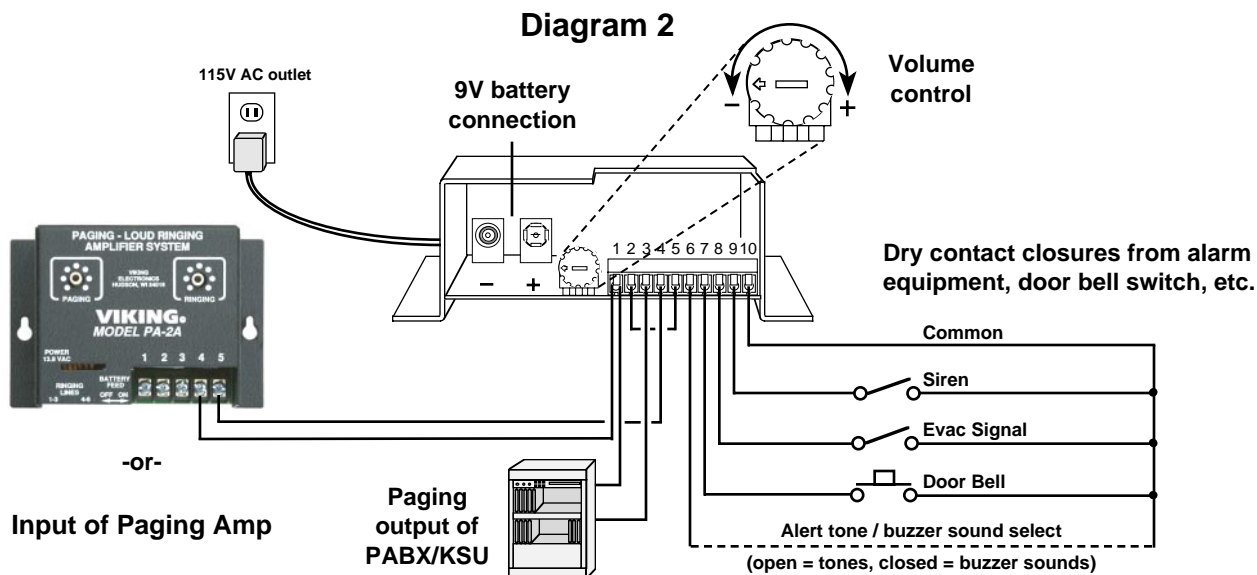
- 10. Common
- 9. **Emergency Siren (Yelp):** Continuous while shorted to pin 10 (common).
- 8. **Evacuation Sound (Temporal Slow Whoop):** Continuous while shorted to pin 10 (common).
- 7. **Doorbell Chime Sound (Ding Dong):** Repeated continuously while shorted to pin 10 (common).
- 6. **Alert Tone/Buzzer*:** Short to common pin 10 for buzzer sound, leave open for tones.
- 5. **Normally Open Relay Contact**
- 4. **Common Relay Connection**
- 3. **Normally Closed Relay Contact**
- 1-2. **600 Ohm Audio Out Pair:** Line level output. Connect to input of paging amplifier.

***Note:** When the alarm buzzer sound is selected (pin 6 shorted to pin 10), a double or triple programmed event will be sounded twice, approximately three seconds apart.

A. Typical Installation on the Paging Port of a Phone System

Connect the CTG-1 between your phone system and your paging amplifier as shown in **Diagram 2** below. A 9V battery must be installed in the CTG-1 to maintain clock time during a power outage. Either a standard or rechargeable 9V battery will maintain the clock time for over 8 hours.

Note: When using a rechargeable 9 volt battery, the battery charging shunt must be in the ON position (see **Detail A** above). When using a non-rechargeable 9 volt battery, this shunt must be in the OFF position.



Programming

A. Setting Clock Time

1. Press the **MODE** button repeatedly until the **SET TIME** indicator lights.
2. Increase or decrease the clock time by pressing the **+** or **-/CANCEL** button until the desired time is displayed.
3. Leave the set time mode by pressing the **MODE** button.

Note: Either the **+** or **-/CANCEL** button **MUST** be pressed at least once prior to leaving the set time mode. The clock will then start to run the moment you leave the set time mode, allowing you to synchronize the **CTG-1** with your building clocks.

B. Setting Timed Alert Tones

1. Press the **MODE** button repeatedly until the **SET EVENTS** indicator lights.
2. Increase or decrease the event time by pressing the **+** or **-/CANCEL** button until the desired event time is displayed.
3. Press one of the single, double, or triple **ALERT TONES** buttons to choose the desired tone you wish to output at the specific event time. A single, double, or triple confirmation beep should be heard.

Note: If more than 128 events have been entered, a long beep will be heard indicating that the event memory is full.

C. Reviewing and/or Canceling Timed Alert Tones

1. Press the **MODE** button repeatedly until the **REVIEW/CANCEL** indicator lights.
2. Press one of the **ALERT TONES** buttons (single, double, or triple) repeatedly to rotate through the event times associated with that alert tone button.

Note: Event times are stored in the order of programming, not chronologically.

3. Press the **-/CANCEL** button to permanently cancel an event tone. The next consecutive event for that specific alert tone will then be displayed.

D. Adjusting Output Volume

1. Short pins **7** and **10** together. The door bell sound will then begin to chime.
2. Adjust the volume control potentiometer (see **Diagram 2** in **Installation**, section **A**).

E. Activating Contact Closure Alarm Tones

To activate the following sounds, short the corresponding pins with a dry contact closure (see **Diagram 2** in **Installation**, section **A**).

1. Door Bell (Ding Dong) - Short pin **7** to pin **10**.
2. Evacuation Sound (Slow Whoop) - Short pin **8** to pin **10**.
3. Siren (Yelp) - Short pin **9** to pin **10**.

Note: While the appropriate contact closure is maintained the sounds will be repeated continuously.

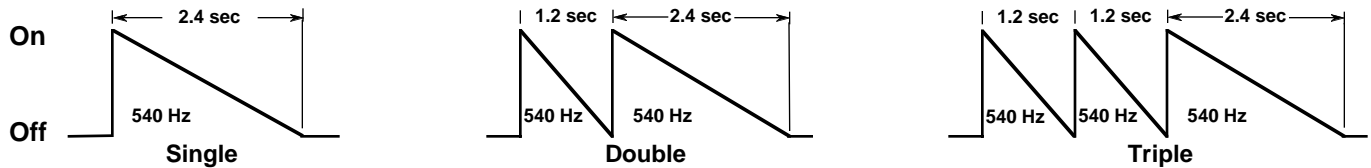
When finished programming, press the **MODE** button until the **LOCK** indicator lights. In the lock mode, the time and alert tone keys will be disabled and the current time will be displayed with the colon flashing once per second.

Operation

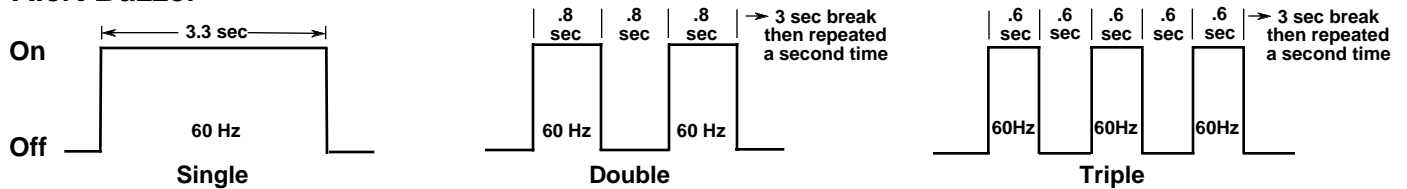
When the clock time matches an event time, the **CTG-1** will output the corresponding single, double or triple alert tone or buzzer sound. The **CTG-1** will also open terminals 3 and 4 (normally closed) and close terminals 4 and 5 (normally open), allowing the capability of switching out the audio from the phone system and switching in the alert tone from the **CTG-1**. Similarly, while a contact closure is made shorting pins 7, 8 or 9 to pin 10, the **CTG-1** will continuously output the corresponding sound (door bell, evacuation signal or emergency siren). This will also open terminals 3 and 4, and close terminals 4 and 5 for the duration of the contact closure input.

Sound Output Specifications

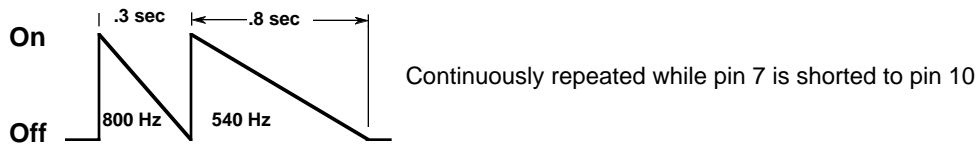
A. Alert Tone (Bong)



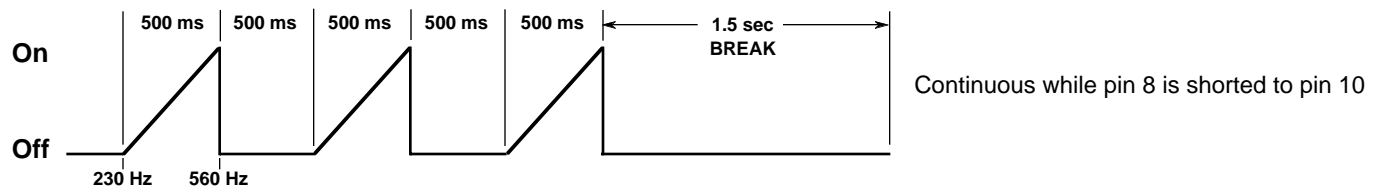
B. Alert Buzzer



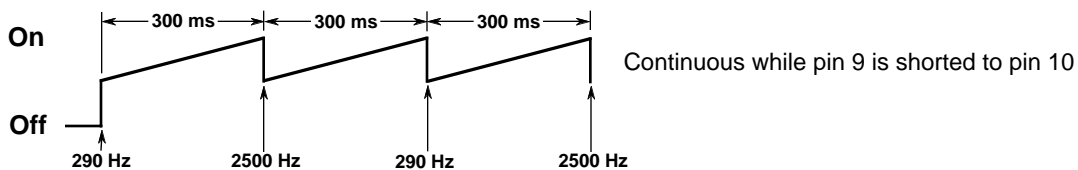
C. Door Bell (Ding Dong)



D. Evacuation Signal (Temporal Slow Whoop)

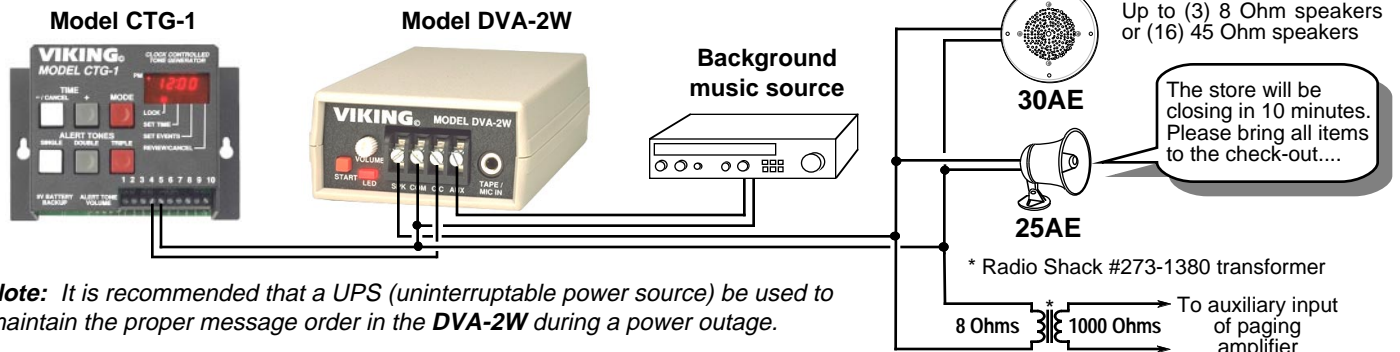


E. Siren (Yelp)



Other Applications

Use Viking's **DVA-2W** digital voice announcer (**Fax Back Document # 110**) in conjunction with a **CTG-1** to provide time activated promotional voice messages over an existing paging system. The **CTG-1** will be used only to provide time activated contact closures to the **DVA-2W** for initiating multiple (up to 4 minutes total length) promotional messages.



Note: It is recommended that a UPS (uninterruptable power source) be used to maintain the proper message order in the **DVA-2W** during a power outage.

Product Support Line...(715) 386-8666

Fax Back Line...(715) 386-4345

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