

Clever Little Box.

TPG-5

Tone Generator

User Instructions



Tone Pulse Generator



www.cleverlittlebox.com

Introduction:



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The **TPG-5** Tone Generator incorporates the latest microcontroller technology and offers a choice of five audio tones suitable for line level inputs of P.A. amplifiers:

Tone 1 - “Whooping” tone signal.

Tone 2 - Two tone signal.

Tone 3 - Greenwich Mean Time pips (GMT).

Tone 4 - Single tone signal.

Tone 5 - Chime.

No tone priority hierarchy exists with the TPG-5.

Tone signal output is activated by external contact closure to one of the five tone inputs. If Tone 5 is activated the chime tone will be generated once and then stop. If the external contact closure to any of the Tones 1 to 4 is momentary, the activated tone will be present for approximately 6 seconds and then stop. If the external contact closure to any of the tones 1 to 4 is latched (held closed), the activated tone will be present until such time that the contact is opened plus an additional period of up to 6 seconds.

A set of voltage-free S.P.C.O. contacts are provided to allow other external equipment to be controlled during operation of the tone generator.

The TPG-5 is supplied in a metal case that can be wall, table or rack mounted. It is powered by 240v AC mains and/or 24v DC supply.

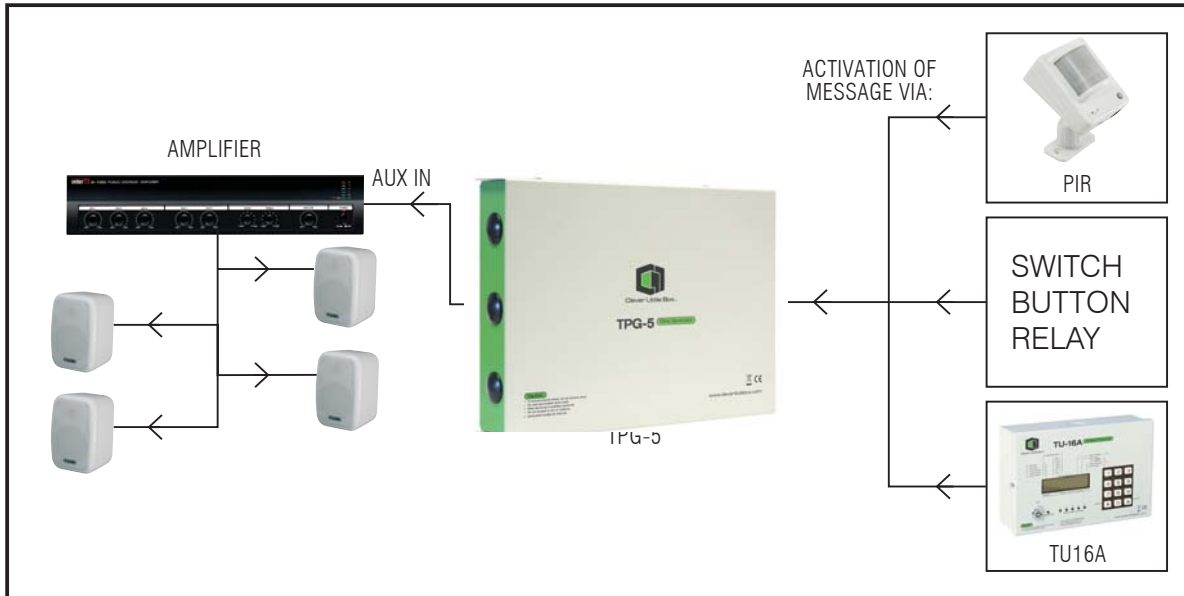


Technical Specifications:



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Suggested System Diagram:



Specifications:

Audio output:	0.7v RMS over the frequency range
Output configuration:	Unbalanced
Activation:	Voltage-free contact closure
S.P.C.O. rating:	1A @ 24v DC, 0.5A @ 125v AC
Connections:	Screw terminals on PCB
Power consumption:	3VA @ 240v AC, 50mA @ 24v DC
Dimensions (mm):	162(H) x 220(W) x 44(D) mm
Weight:	1.8kg

• CIE-Group reserves the right to alter the above specifications without prior notice



• **Tone 1:**

- Tone 1 produces a “whooping” signal.
- Activation is by remote switch operation to TONE 1 input.
- Fit a momentary type push button switch if automatic reset of the tone is required after 6 seconds.
- Fit a latching type switch if the tone is required to be continuous, i.e. active for the period that the switch is latched ON.

• **Tone 2:**

- Tone 2 produces a two tone signal.
- Activation is by remote switch operation to TONE 2 input.
- Fit a momentary type push button switch if automatic reset of the tone is required after 6 seconds.
- Fit a latching type switch if the tone is required to be continuous, i.e. active for the period that the switch is latched ON.

• **Tone 3:**

- Tone 3 produces Greenwich Mean Time pips (5 short, 1 long).
- Fit a momentary type push button switch for this tone.
- Automatic reset of the signal takes place at the end of the pips.

• **Tone 4:**

- Tone 4 produces a single tone signal.
- Activation is by remote switch operation to TONE 4 input.
- Fit a momentary type push button switch if automatic reset of the tone is required after 6 seconds.
- Fit a latching type switch if the tone is required to be continuous, i.e. active for the period that the switch is latched ON.

• **Tone 5:**

- Tone 5 produces a chime signal.
- Activation is by momentary remote switch operation to TONE 5 input. One of four chime signals can be selected, see Chime Jumper Settings.



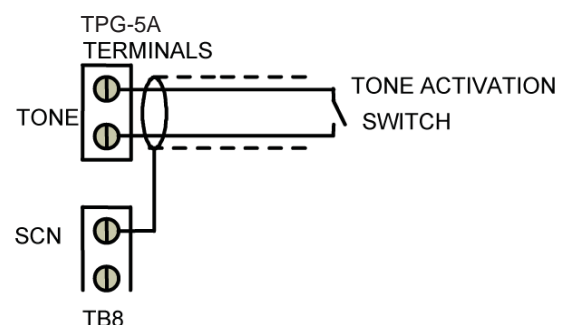
Terminal Block	Designation	Description
TB7	Tone 3	Switch closure across these two terminals will activate the GMT pips.
TB7	Tone 4	Switch closure across these two terminals will activate the single tone signal.
TB6	Tone 5	Switch closure across these two terminals will activate the chime signal.
TB5	SIG OUT	These two terminals provide the audio tone signal output which is suitable for line level inputs of P.A. amplifiers.

Chime Jumper Settings.

The combined settings of the PCB jumpers JP1 and JP2 selects the chime as follows:

	JP1	JP2
2 Chimes (Default)	1 to 2	2 to 3
4 Chimes descending	2 to 3	2 to 3
4 Chimes ascending	2 to 3	1 to 2
Random	1 to 2	1 to 2

Connection to the tone activation terminals must be by means of 2-core screened cable. The screen must be connected at the TPG-5 end only to terminal block TB8 that is marked 'TONE I/P SCREENS', the other end of the screen must be left open i.e., not connected.



Configuration & Connection Details:



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All connections are via knock-out holes on the sides of the box and onto screw terminals located on the printed circuit board. All external wiring to the tone activation terminals (see below) must be run in screened cable and the screens connected to the terminals marked “tone i/p screens”. The screen at the other end of the cable must not be connected to anything, i.e., isolated.

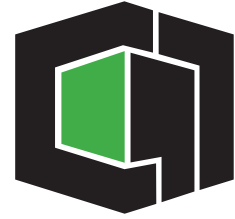


WARNING: Under no circumstances must any wiring or maintenance be carried out to the unit whilst the mains power is connected.

Terminal Block	Designation	Description
TB7	L (Live) N (Neutral) E (Earth)	240v AC supply terminals (please ensure that the supply cord is held firmly in place by the cable clamp next to the terminals).
TB2	+24v 0v	24v DC input supply terminals
TB4	NO NC COM	Set of potential free relay contacts for control of external equipment. Relay is energised during tone activation. Normally Open contact Normally Closed contact Common contact

External wiring for tones 1 to 5 activation must be run in screened cable and terminated as follows:

TB8	Tone i/p Screens	The screens of the external cables for tone activation to be connected to these terminals. The screen at the other end of the cables must not be connected to anything.
TB3	Tone 1	Switch closure across these two terminals will activate the “whooping” tone signal.
TB3	Tone 2	Switch closure across these two terminals will activate the two tone signal.



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