



Mini-Gen Mk2 Tone and Voice Message Generator

Mini-Gen Mk2 is a low cost, compact audio tone and voice message generator board for fire alarm systems. It connects directly to the Warning System (Bells) output of a fire alarm system, and produces 20W rms of tone and speech into a 100V speaker line.

Features

- 12V and 24V versions
- 100V rms "line" output - 20W max. load per unit
- Generates NZ/Aust Alert/Evacuate voice messages
- AS 2220 Alert Tone (with "soft start")
- AS 2220 Evacuate Tone
- ISO 8201 T3 Evacuate Signal with key words
- "RH3" Sounder Tone
- Recorded Bell signal
- Auto Alert/Evacuate changeover (1 min, 3 min)
- Input for external selection between ALERT and EVAC signal
- Synchronisation of up to 5 units
- Compatible with supervised & unsupervised outputs
- Polarity reversal (2-wire) or 4-wire supervision compatible
- Automatic shutdown if output shorted
- Unpackaged circuit board format

Description

Mini-Gen Mk2 has been designed to connect directly to Tyco fire alarm panels, but may be connected to other suitable panels. It utilises the fire alarm panel's warning system output supervision to supervise the wiring (from the panel to the unit and from the unit to the speakers) for open and short circuit faults.

Mini-Gen Mk2 is available in 2 versions:

- PA1025 for 12V Operation
- PA1026 for 24V Operation

Operation

Mini-Gen Mk2 illuminates its green "ON" LED and generates the selected voice/tone combination whenever power is applied to the DC IN terminals. With power reversed it draws no current. Signal/tone selection is by fitting mini-jumpers in combinations to pins, allowing a variety of options.

Asserting ALERT-low activates the Alert signal if available with the selected option. Up to five Mini-Gen Mk2s may be synchronised by linking their SYNCH- terminals.

If the 100V line is over-loaded (eg. short circuit), Mini-Gen will stop generating the warning signal and illuminate its yellow LED until the overload is removed.

Specifications

Model	24Vdc	12Vdc <i>where different</i>
Mechanical		
Dimensions	36 x 93 x 67mm (HWD)	
Weight	0.25 kg	
Mounting Pattern	Ø4 x 4, 83 x 57mm; 4 standoffs supplied (height 9.5mm) for Ø6 in 0.8-1.6mm sheet metal	
Electrical		
Supply Voltage	18 to 29 Vdc	9 to 14.5Vdc
Quiescent Current	Nil	
Operating Current (20W load)	1.2A @ 27Vdc	2.2A @ 13Vdc
Connections	Screw Type, 4mm ²	
Tone Options	Tone and voice / Tone only NZ speech / Aust speech Auto changeover / No changeover 1 minute / 3 minute changeover ISO 8201 / AS 2220 Recorded bell for Alert RH3 for Evacuate (not all combinations are available)	
Environmental		
Operating Temp.	0°C to +45°C	
Storage Temperature	0°C to +70°C	
Relative Humidity	0 to 95% non-condensing	
Outputs		
Power Output (rms) ¹	20W into 100V line @ 27Vdc 150nF line capacitance (1.5km maximum TPS)	20W into 100V line @ 13Vdc 150nF line capacitance (1.5km maximum TPS)
	15W into 100V line @ 27Vdc 200nF line capacitance (2km maximum TPS)	15W into 100V line @ 13Vdc 200nF line capacitance (2km maximum TPS)
Overload Indications	Automatic shutdown at 180% nominal overload On - Green LED, Overload - Yellow LED steady, Speech Memory Fault - Yellow LED flashing ALERT- : Pull below 1.2V (@ 1.3mA) to select Alert signal in preference to Evac signals SYNCH- : Synchronises signals between up to 5 Mini-Gen Mk2s or ISO 8201 Strobe Driver modules	
Inputs		
Links	2-wire or 4-wire input supervision (link 2-W)	
Signal/Tone Selection	Mini Jumper links (31 combinations of 5 links possible)	
1. Power reduces with reduction of input voltage		
Part Numbers		
	PA1026	PA1025

Connection

The simplest method of connection is 2-wires in, 2-wires out. This is ideal for unsupervised alarm system outputs or those supervised by polarity reversal (as with most Tyco NZ panels). For these, the 2-wire supervision link must be fitted.

Removing the 2-wire mini-jumper link allows use of the dedicated Supervision terminal on Mini-Gen Mk2 for a 4-wires in, 2-wires out supervised connection to a panel with clean relay contacts and a separate supervision input (as with most Tyco Australian panels).

The c.i.e. supervises the 100V speaker line while the output is not active. Capacitively coupled 100V line speakers must be used and the appropriate end-of-line resistor (EOLR) must be installed at the end of the speaker run and sometimes at the input to Mini-Gen Mk2 itself.

The speaker circuit end-of-line resistor must be capable of handling 100Vrms. For values below 2.7k this will need to be a higher power device. The power dissipated in the 100V EOLR must be included in the total load calculations. The capacitors must be bipolar, rated at 10V minimum.

Synchronisation with ISO 8201 Strobe Driver module(s) is only effective if 'tone only' mode is selected on the Mini-Gen Mk2.

Approvals

Mini-Gen Mk2 complies with NZS 4512:2003 "Fire Detection and Alarm Systems in Buildings"
FPANZ listing number VF/419



tel: 1300 552 559
simplexfire.au@tycoint.com
www.simplexfire.com.au

Tyco reserves the right to alter specifications without notice in line with its policy of continuous product improvement.

A **tyco** COMPANY