

Description

The EV40 is a compact single zone emergency warning device that produces *Alert* and *Evacuation* tones to meet the requirements of NZS4512 when triggered by a Fire Alarm Control Panel (FACP).

When triggered it produces 40-watts of speaker load and may be installed into most fire alarm control panels or used as a stand-alone unit in its own enclosure. Speaker line monitoring ensures that system integrity is maintained at all times.

Applications

The EV40 is a cost effective controlled solution for internal emergency warning in;

- ✓ hospitals / nursing homes
- ✓ schools
- ✓ computer rooms
- ✓ small office complexes
- ✓ accommodation facilities, restaurants, night clubs.

Technical

At the heart of an EV40 single zone emergency warning system is a microprocessor that controls timing, input / output and generates the alert and evacuation tones,.

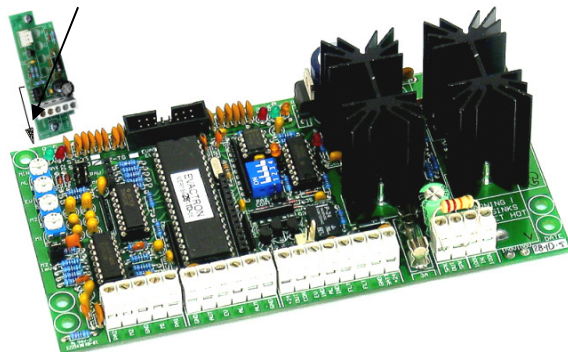
If an FACP warning system input is received when the control panel is switched to the AUTO position the EV40 will begin to output the alert tone for a duration determined by the setting of the 4 way DIL switch. The set duration is termed the changeover timeout and ranges from 0 sec to a maximum of 540 sec. If the time out is set to 0 sec then the alert tone is bypassed and the evacuation tone commences immediately. The operator can manually stop the tone sequence by turning the keyswitch to the ISOLATE position.

Amp 1 & 2 provides 40watts of audio output at 8 ohms which in turn feeds TX1 which provides the impedance matching to a 100 volt speaker line. The "ALERT" and "EVAC" level controls adjust the output level of each set of tones.

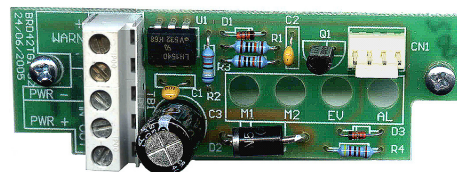
Short or open circuit speaker faults will be detected by the fault monitoring circuitry and will result in the illumination of the FAULT indicator mounted on the front panel control plate and "SPEAKER SHORT" (red) or "SPEAKER OPEN" (yellow) LEDs on the main board.

A microphone (Product code 222-XXXX) is used to provide the public address capabilities.

Termination Board



EV40 PCB



EV40 Termination Board

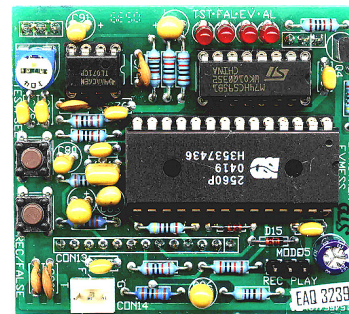
Summary of Features

- ✓ Alert and Evacuation tones to NZS4512
- ✓ Speaker Line monitoring
- ✓ Adjustable ALERT and EVAC level control
- ✓ FACP input
- ✓ "Alert" / "Evacuation" changeover time out – 0 to 540 seconds in 30 second steps
- ✓ Short circuit protection
- ✓ Fault indication
- ✓ Large 2.5mm² terminals for field wiring
- ✓ P. A. microphone input
- ✓ Voice messaging (optional)

Voice Messaging

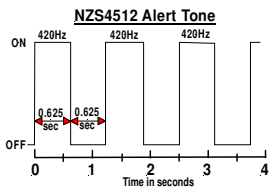
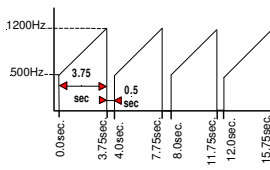
The optional voice messaging PCB plugs directly onto the main board in the position shown in the Wiring Diagram.

Message – "Evacuate using the nearest exit"



Voice Messaging PCB Layout

Specifications

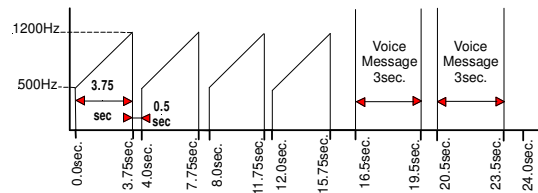
SUPPLY VOLTAGE	23.5 to 28 VDC
QUIESCENT CURRENT	140mA
NOISE & DISTORTION	
MAX. CURRENT DRAW	2.8A
MAX. SPEAKER LOAD	40 Watt [RMS, PEP ??]
ALERT TONE	 <p>Nzs4512: 420Hz pulsed for 0.625 sec at 1.25 sec intervals</p>
EVACUATION TONE	 <p>Nzs4512: Sweep tone 500-1200 Hz for 3.75 sec at 4 sec intervals</p>
SPEAKER EOL RESISTOR	22kΩ
Mic 1 Audio I/P	1mV
Mic 2 Audio I/P	1mV or
Set M2 Jumper	100mV music level

DIMENSIONS (mm)	
Main EV40 unit	170L x 90W x 60H
Switch control	90L x 35W x 40D
Message Board (Optional)	63L x 35W x 18D

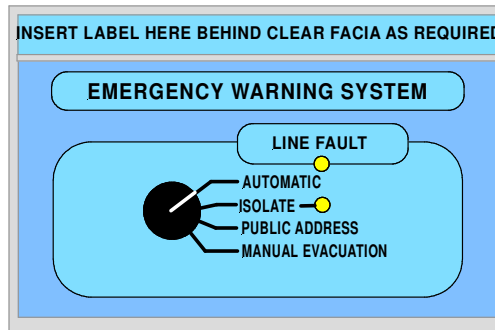
Voice Messaging Board

SUPPLY VOLTAGE	Regulated +5VDC * Any supply above +6VDC will permanently damage the board
QUIESCENT CURRENT	mA
OUTPUT LEVEL	Line level @10KΩ
I/P-START PLAY	Low-Momentary high- Low
I/P-ENABLE PLAY-	Low

Order Code	Description
222-0020	Nzs4512 tones
222-0007	Public Address mic and pre-amp
222-0028	Verbal Messaging upgrade kit



Evacuate Tone and Message Timing



Front Control Panel Layout

Controls

When control switched to;

AUTOMATIC - emergency warning tones and if applicable voice messaging is under the control of the microprocessor and outputted to the speaker system when it receives a "warning system" signal from the FACP.

ISOLATE – the emergency warning system is isolated from the FACP "warning system" signal and even if the signal is present there will be no output.

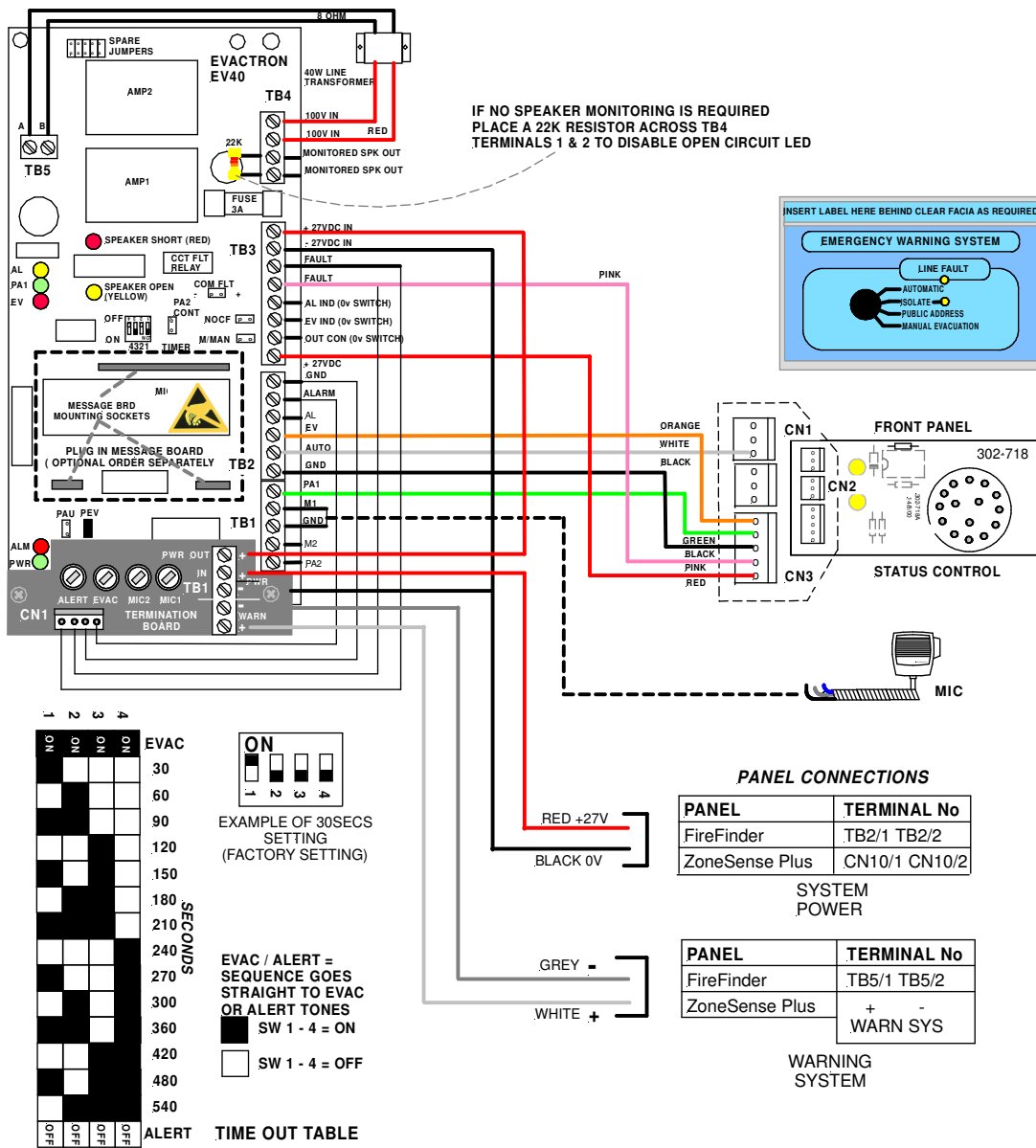
PUBLIC ADDRESS – the emergency warning system can be used locally as a PA system.

MANUAL EVACUATION – the emergency warning evacuate signal/s will be transmitted over the system.

Indicators

LINE FAULT - In the event of an open or short circuit speaker line the LINE FAULT indicator (yellow) will be illuminated

ISOLATE - the LED will be illuminated (yellow) when the warning system is isolated



Wiring diagram of an EV40 single zone EWS with P.A. and Voice Messaging fitted

Jumper settings

PEV: - PA + Evac – must be inserted when a selector switch is connected.

PAU: - PA in Auto – if inserted allows Mic 1 input (hand held microphone) to be used in “Auto” (with no FACP alarm) and paging in “Evac” mode.

PA2 CONT: - PA2 Control – if inserted allows the PA2 input to also switch the Control Output.

M2 1milli volt: - if inserted enables a 1mV microphone input for Mic 2, not inserted enables the input for 100mV line level (background music etc.)