

AMPAC INTEGRATED BASE LOOP SOUNDER

An addressable audible occupant warning device

Features

The sounder offers;

- ✓ Signals that are compliant with national standards AS1670 and NZS4512
- ✓ Two output level settings, 50-75 and 75-95db
- ✓ Volume adjustment within each setting
- ✓ Synchronisation of “alert” and “evacuation” signals
- ✓ Unique acoustic self test
- ✓ Fitting of an optional lid (white) that converts the device to a stand-alone sounder.
- ✓ Moulded polycarbonate construction
- ✓ Stainless steel contacts that accept solid or stranded cables of up to 2.5mm².



Integrated Base Loop Sounder shown with XPERT card and optional lid

Description

The loop powered Integrated Base Loop Sounder is incorporated into the standard XP95 / Discovery mounting base that is compatible with the **FireFinder™** Fire Alarm Control Panel.

The sounder supports ALERT and EVAC signals and is fully programmable for staged evacuation within **FireFinder™**.

Note: Verbal messaging is not supported

Benefits

The low output level setting is useful where a fire alert is initially intended to warn staff only (eg hospitals) while the high range is for general use.

Synchronisation of signals ensures the integrity of the signal is maintained, that is, signals from different sounders do not merge into one signal that could be mistaken for a different signalling signal.

During the self test the sounder effectively listens to itself when it is switched on. If no sound is detected a fault signal is returned to the Fire Alarm Control Panel when the sounder is polled.



Integrated Base Loop Sounder Shown with Optional Detector

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PDS201-0110

Specifications

	AS1670.4	NZS4512
Operating Voltage	14 to 28VDC	14 to 28VDC
Quiescent Current	200µA @ 24VDC	200µA @ 24VDC
Alarm Current	5 mA (max)	5 mA (max)
Sounder Output	92 dBA (max)	95 dBA (max)
Signals		
<i>Signal 1 - Alert</i>	0.625 sec on/off @ 420Hz	0.625 sec on/off @ 420Hz
<i>Signal 2 - Evacuation</i>	3 beats 0.5 sec on/off with 1.5 sec off freq 500Hz to 1.2kHz	3.75 sec on, 0.25 sec off and freq 500Hz to 1.2kHz
Cable Size	2.5mm ² max	2.5mm ² max
Dimension	115φ x 25Dmm	φ115 x 25Dmm
Number per loop	39 (recommended max)	
Order Code		
Sounder	(Aust) 201-0110	(NZ) 201-0111
Lid	201-0114	

Addressing

The integrated base loop sounder responds to an individual address set by an onboard 8 way DIL switch.

In addition it also responds to a group address and a pulse-mode synchronisation address which is embedded in the unit.

Group addressing is set by the 4 way DIL switch but is not supported by *FireFinder™*. Given it is not supported the switch is factory set to all ON (DISABLED). If the switch was set to any number other than the default 127, a pre-set analogue value of 4 would be transmitted to the FACP to indicate a fault.

The integrated base loop sounder is normally polled by its individual address. It responds as described in the section PROTOCOL BIT USAGE.

If more than one integrated base loop sounder is activated at any one time it is possible for the sounders to be out of synchronisation which could result in a signal that is different than intended for the purpose. To prevent this the synchronisation address '0' is sent by the *FireFinder™* at regular intervals to align the timing of all sounders on the system. The outcome being that the sounders are synchronised with each other in both 'alert' and 'evacuate' modes.

Address Setting / Output Level

The address of the sounder is set using seven segments of the eight- segment DIL switch. The eighth segment is used to adjust the range of the output level while the volume control adjusts the actual level within the selected range. Segments 1- 7 of the switch are set to "0" (ON) or "1", using a small screwdriver or similar tool.



(L) Output Level Setting SW8 - 0 = 50 – 75dBA
1 = 75 – 92dBA

Example of Sounder Addressing and Output Level Range Setting

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Self Test

The self test is an important safety feature that has been incorporated into the integrated base sounder. When it is switched on it tests itself by checking the actual sound output. If no sound is detected within 5 seconds of the Integrated Base Sounder being switched on it will transmit an analogue value of 1 (= sounder fault) when it is next polled by the **FireFinder™**.

This test can also be used during commissioning or periodical maintenance. Simply create an alarm to activate the sounder for at least 5 seconds and check the control panel for a fault signal.

Protocol Compatibility

The sounder will operate only with control equipment using the Apollo XP95 / Discovery protocol.

Protocol Bit Usage

The output (or forward command) bits from the control panel have the following function:

Output bit 2 is used to apply individual addressing. Individual addressing is selected by setting output bit 2 of the individual address to logic 1 on two or more consecutive cycles and output bit 2 of the group address to logic 0 on two or more consecutive pollings. All other output bit 2 combinations result in the application of the individual address mode.

When output bit 1 is set to logic 1 on two or more consecutive pollings, the 'alert' signal is sounded.

When output bit 0 is set to logic 1 on two or more consecutive pollings, the 'evacuate' signal is sounded. The sounder will also output the "evacuate signal if both output bit 1 and output bit 0 are set to logic 1 on two or more consecutive pollings.

The seven bits which are then transmitted by the control panel correspond to the individual address (as set on the relevant DIL switch) of the device to be polled. These bits may also be set to zero to enable the unit to respond to the embedded address '0'.

After the integrated base sounder has been addressed by the control equipment, it returns data if (and only if) its individual address has been applied. The response after individual addressing will however reflect whatever commands have been set by the individual address mode. The response is as follows:

The interrupt bit is always set to '0'.

The analogue value bits are set to report a pre-set analogue value of 16 in quiescent condition' and 4 if the group address is incorrectly set. A value of 1 is reported if the sounder fails to emit a sound after being switched on.

The input bits confirm the execution of the commands given by the output bits as follows:

Bit 2 is set to logic '0' for individual addressing.

Bit 1 is set to logic '0' when the sounder is not operated and to logic '1' to indicate that the sounder has been switched to operate in 'alert' mode.

Bit 0 is set to logic '0' when the sounder is not operated and to logic '1' when it is operated in 'evacuate' mode. If both bits 1 and 0 are set to '1', this also indicates that the sounder is in 'evacuate' mode.

The type bits are used to identify the type of unit responding. The type code of the integrated base sounder is 001 00 (bits 2,1, 0,4,3). Bits 2, 1 and 0 of the type code are sent immediately after the input bits. The remaining two bits are sent in the XP95 protocol extension.

The integrated base sounder transmits seven bits to confirm its address and then places one bit to indicate that the device is using the XP95 protocol

The alarm flag is not placed by the sounder.

The next two bits sent are the extended type code bits-f bits 4, 3) which, in this case, are '00'.

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The following five bits, extension of the analogue value, are not used.

The parity bit is set to '0' or '1' in the same way as it is by XP95 detectors.

The final seven bits, alarm/interrupt address, are not used, since the sounder has no alarm reporting function.

Synchronisation

All sounders are able to recognise address '0' and synchronise on the receipt of this address.

Under normal conditions the **FireFinder™** FACP keeps the system synchronised by sending out synchronisation pulses every 20 minutes.

Type Code

The sounder type code is 001 00. (bits 210 43).

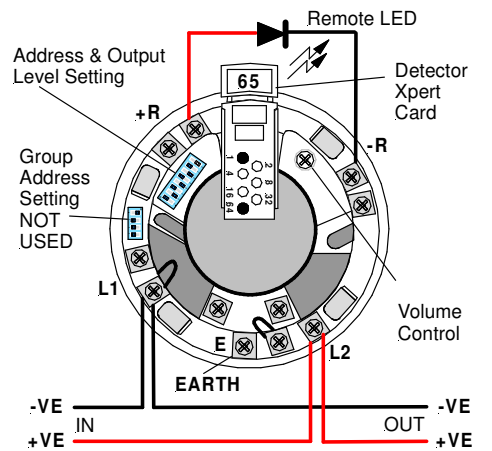
Cabling

Note: The sounders are polarity sensitive (supply reversal protected).

Observing polarity connect the positive and negative loop cables to the L2 and L1 terminals respectively.

The wiring terminals accept solid or stranded cables up to 2.5mm².

Functional earth or screen cables may be terminated to the EARTH connection.



Base Layout and Cabling