

IMP402

Operating Instructions

Baldwin Boxall Communications Ltd.

Wealden Industrial Estate, Farningham Road
Crowborough, East Sussex, TN6 2JR

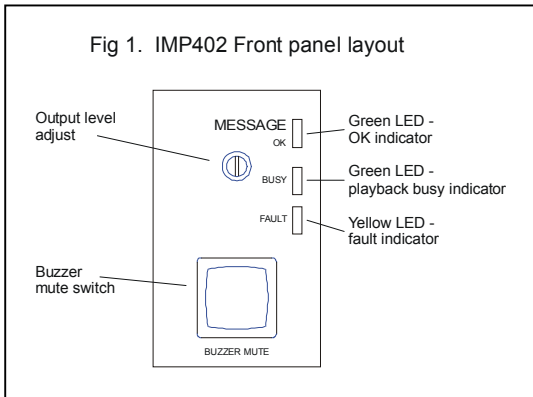
Telephone: 01892 664422 Fax: 01892 663146

Website: www.baldwinboxall.co.uk

Email: mail@baldwinboxall.co.uk

BALDWIN BOXALL
COMMUNICATIONS

IMP402 DIGITAL MESSAGE REPEATER



The IMP402 Digital Message Repeater is used in Voice Alarm systems in particular to replay Alert and Evacuation messages. The module can be used in all systems that require a pre-recorded message to be available. Messages can be activated by a time clock or by integration with the Fire Alarm system. The module is EPROM based for playback only of messages. A single message can be a maximum of **64** seconds long.

We will record onto the module your pre-recorded messages, or you can select a suitable message from our library. A list of our standard messages is available on request. It is important that your recordings are professionally made, giving clear reproduction. Also give consideration to the suitability of the voice for the type of message being replayed. For example should it be male or female?

The audio output signal may be routed via the master gain and tone controls on an MS1 stage etc. by selecting the MS switch 'ON', or direct to the main output of the mixer or amplifier that the IMP402 is installed in by selecting PA switch 'ON'. See Fig 4 for details.

Note. Only one of these switches should be selected on at any one time.

If a pre-alarm tone i.e. IMP23 or a chime IMP33 is required to precede the message, select chime switch 'ON' to trigger the appropriate IMP module. See Fig 4 for details.

Under normal, i.e. non fault conditions, the green OK LED will be illuminated, the internal relay will be energised and the buzzer will be silent. The fault indicator may be checked by pressing the buzzer mute button.

The internal fault surveillance system will announce a fault if any of the following conditions arise:

- (a) Absence of satisfactory audio output level.
- (b) Abnormal DC off set present on the digital to analogue converter (DAC) output. This could be due to a faulty EPROM, DAC or other digital processing devices within the IMP402.
- (c) Higher priority input over-riding but not providing a restoration signal.

PLEASE NOTE. If an IMPX is required to over-ride an IMP402, the IMPX REST switch must be selected 'ON' to prevent a fault condition.

A fault is indicated by a flashing LED indicator together with the buzzer sounding 1 second on, 1 second off. By pressing the buzzer mute switch the LED will illuminate continuous and the buzzer will only sound 1 second every 30 seconds. Operation of the buzzer mute does not affect the fault output produced by the relay contacts. The fault indicator and message content may be tested by pressing the buzzer mute button.

The message is played back on an internal speaker and not broadcast through the system unless there is an alarm condition.

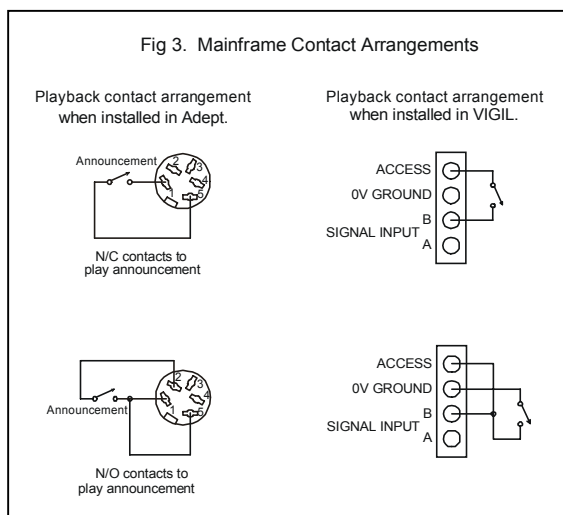
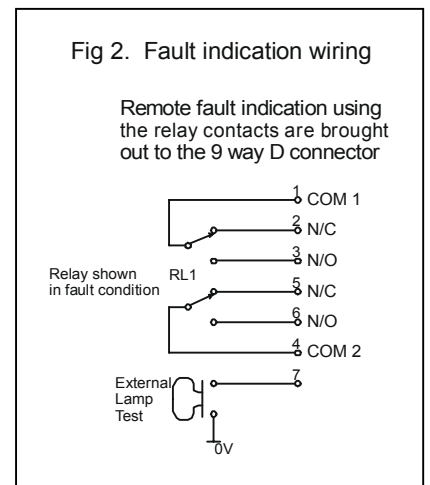
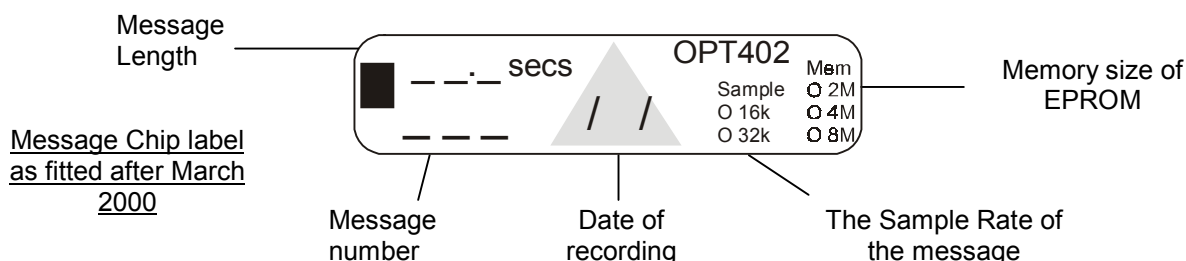


Figure 3 illustrates methods of interfacing both normally open and normally closed contacts to playback the message.

INTERNAL CONTROLS AND CONFIGURATION

The IMP402 has various internal controls that have to be set depending on the message length, the size of EPROM fitted and the sample rate of the message.

The message can be recorded on three sizes of EPROM and at two sample rates. The configuration of the individual message is shown on the message chip label (relevant circles 'filled in') together with the message length in seconds, the message number, and the date of recording:



Modules supplied direct from the factory will already have been configured in-house to suit the chip(s) fitted.

As from March 2000, by default the message chips are 4MB and the sample rate is 32 kHz.

Modules supplied before this date will normally have been recorded on a 2MB chip and sampled at 16kHz. 'Older' style message chips can be easily identified as the label is as follows:

Message Chip label
as fitted **before**
March 2000



These message chips are almost all 2MB with a sample rate of 16kHz. (See type ¹ below)

To use a chip with the label shown above the IMP402 must be configured as shown in the table below.

Table to Show Jumper settings for Eprom sizes and Sample Rates

Message Type	Sample Rate	Eprom Size	Jumper Name						
			LK1	LK3	LK4	2M	4M	8M	
	16kHz ¹	2M ¹	On	On	--	On	--	--	¹ 'Old' style setting
	16kHz	4M	--	On	--	--	On	--	
	32kHz	2M	On	--	--	On	--	--	² 'New' Default setting
	32kHz ²	4M ²	--	--	--	--	On	--	
	32kHz	8M	--	--	On	--	--	On	

See Fig 4 for locations of these jumpers.

Table to Show Message Length Switch Settings

Switch Number	Message Length for 32kHz Sample Rate	Message Length for 16kHz Sample Rate
1.	0.25	0.5
2.	0.5	1
3.	1	2
4.	2	4
5.	4	8
6.	8	16
7.	16	32
8.	32	64

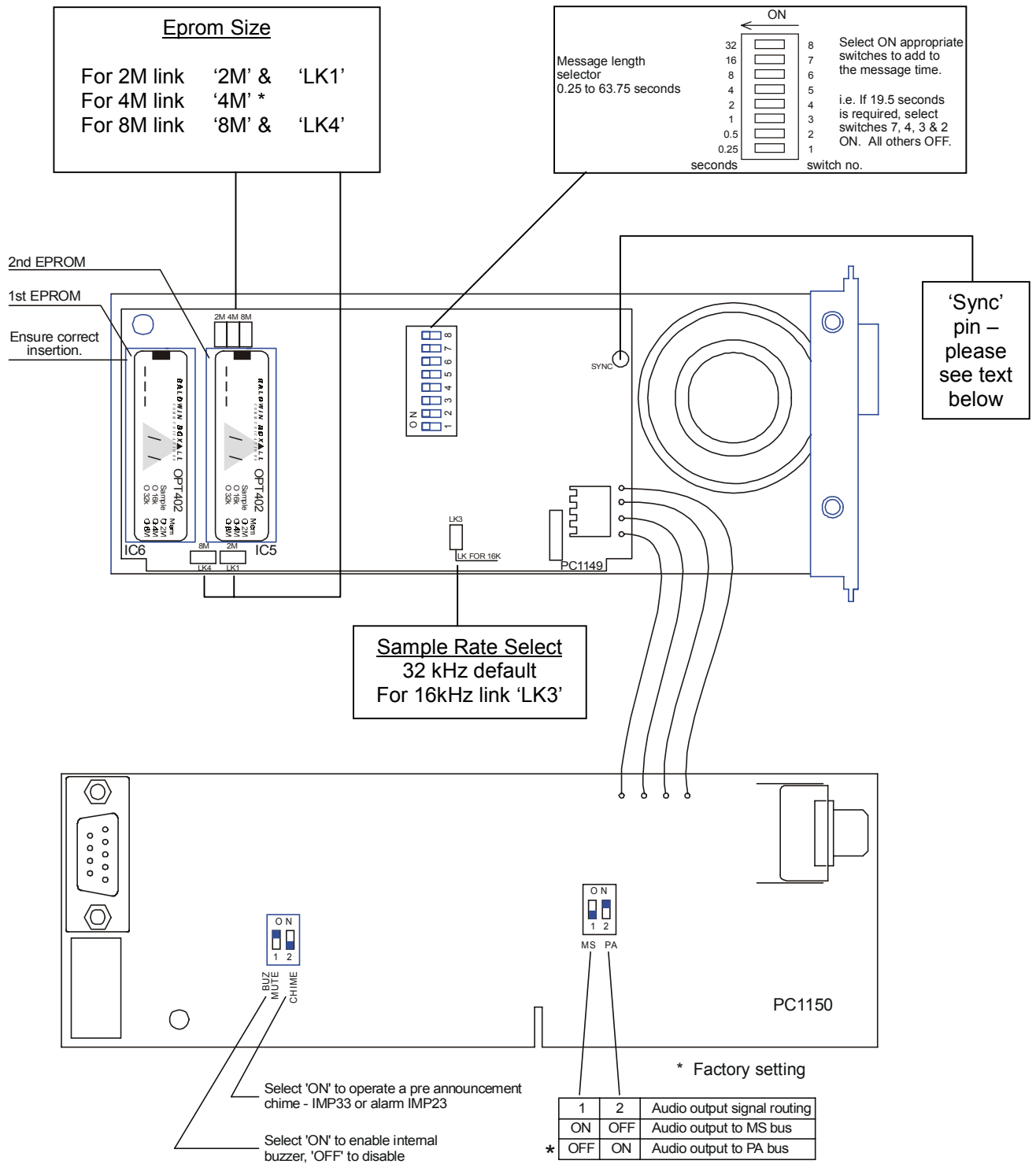
Please note: if 16kHz sample rate is selected then the value of each switch is doubled.

For 19 seconds at **32kHz** select Switches 7, 4, and 3 (16+2+1=19).

For 19 seconds at **16kHz** select Switches 6, 3, and 2 (16+2+1=19).

The length of the message in seconds should be set up using the correct combination of switches as described above. If the message length is set incorrectly the unit will either 'chop' the end off the message or will go into an alarm condition because of a prolonged silence.

Fig 4 - Switch and Jumper Settings for the IMP402 Module



'Sync' pin – this connector is only used when more than one IMP402 is to be triggered from the same input. It is unused under normal circumstances.

Note: if when installed the message plays back very high pitched and too fast then the sample rate has been set incorrectly. Ensure LK3 is linked to reduce the sample rate to 16kHz.

IMP402 Specification

Overall frequency response, record to playback -3dB :	100Hz to 12kHz
Sampling frequency :	32kHz default, 16kHz by link selection
Maximum message duration :	64 seconds one message
Signal to noise ratio :	Better than 60dB
Monitor loudspeaker amplifier output :	300mW
Fault relay contacts to remote indicator :	2 changeover contacts 100V @ 1A max. See Fig. 2
Front panel controls :	Volume (preset) Buzzer mute (lamp test, message listen)
Front panel indicators :	Fault, busy & module OK
Internal controls :	Dual in line switches to select facilities Link selection for Memory Size Link selection for Sample Rate
Message initialisation :	Normally open or normally closed contacts. See Fig. 4
Power consumption (Standby no fault) :	45 mA



Low Voltage Directive
73/23/EEC as amended
by 93/68/EEC

EMC Directive
89/336/EEC as amended
by 92/31/EEC and 93/68/EEC

Applies only when the items
are correctly fitted and operated
in or with products of our
manufacture and are installed
in a recommended enclosure