

**Operation of Programmable
Input/Output Modules for use on
Signifire Analogue Addressable
Fire Alarm Control Panels**

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PIO

The PIO modules allow for connection of outputs and inputs local to the panel, without using loop controlled input or output modules such as Hochiki CHQ-S or CHQ-R units.

There are 3 PIO module types which can be controlled via the panels cause & effects programming. The modules are treated in exactly the same way as look field devices. They are on loop zero of the cause and effects programming software.

The 3 types of PIO modules are :-

- (1) K4001 16 input 8 output module.
(Switched – ve inputs & outputs)
- (2) K4002 8 input 16 output module.
(Switched – ve inputs & outputs)
- (3) K4006 8 way programmable sounder module
(Each output is fitted with a 500mA fuse)

The PIO modules have been designed to allow several modules to be installed at the panel.

They plug into connector (C010) of the AN101 PCB on the front door of the panel via a 26 way ribbon cable.

The total number of inputs and outputs that can be supported on any one panel is "16" inputs & "32" outputs.

The inputs and outputs can be redefined using the App-Conf download software.

The cards can be configured as follows :

Input Module Configuration

- (1) General purpose inputs (up to 16)
- (2) Inputs used as fault monitoring for sounders (up to 16)

Output Module Configuration

- (1) Zone expansion from 49-80 (32 O/P's)
- (2) Additional programmable sounder outputs (up to 16)

Note

- (1) All general purpose inputs can be redefined (refer to App-Conf config program)
- (2) Outputs can be configured as zones (zones 49-80) but must be assigned from 49-80 in blocks of 8 outputs once zones are allocated any remaining outputs can then be assigned.

PIO module No.1 (16 I/P 8 O/P) (K4001)

This module has 16 programmable purpose inputs. Each input is operated by switching a –ve(Ov) into the input. Each input can be reconfigured (refer to App-Conf config program) and have a 40 character text message programmed via the App-Conf download software.

Each input has a yellow led to indicate when an input has been operated.

The 8 programmable outputs on this module are open collector (switched –ve) outputs, and can be fully programmed via the App-Conf download software.

Each output has a red led to indicate when it has been operated.

The module has 3 links (SW1) which are used to select the output address bank. (See PIO bank selection table figure 1).

PIO module No.2 (8 I/P 16 O/P) K4002)

This module has 8 programmable general purpose inputs. Each input is operated by switching a –ve (0v) into the input. Each input can be configured (refer to App-Conf config program) and have a 40 character text message programmed via the App-Conf download software.

Each input has a yellow led to indicate when an input has been operated.

The 16 programmable outputs on this module are open collector (switched –ve) outputs, and can be fully programmed via the App-Conf download software.

Each output has a red led to indicate when it has been operated.

The module has 3 links (SW1) which are used to select the output address bank. (See PIO bank selection table figure 1).

PIO module No. 3 (8 Way Programmable Sounder) (K4006)

This module has 8 programmable sounder outputs. Each output is rated at 1A and fused by a 500mA semiconductor fuse.

Each output has a yellow led to indicate when the sounder output is in a fault condition. The fault inputs are automatically assigned to loop zero address (21-29) or (29-38) depending on which bank the card is set to using J(1-8) or J(9-16).

Each output is voltage reversing in alarm and all outputs are fully monitored for open & short circuits. The monitoring uses up 8 inputs, one for each sounder circuit.

The module has a 4 way DIL switch (SW1) which is used to select the output address bank. (See PIO bank selection table figure (1)).

SIGNIFIRE NETWORK INSTALLATION

K2957

PART NO: S350

COMPATABILITY

The network installation kit is compatible with Signifire control panels containing the AN101 display. PCB (issue 03 or higher) and the operating software EEPROM (mounted on the piggy back card attached to the AN101 PCB) version 2-1-1-031 or higher.

If either the display PCB or EEPROM version are lower than this, the Technical Department should be contacted for advice on upgrading.

All control panels supplied after August 1996 will be compatible with the networking kit.

KIT CONTENTS

The installation kit comprises:

1 x 128k battery backed RAM chip

1 x networking card

1 x terminating resistor

1 x fitting instruction leaflet (K2957)

INSTALLATION

The kit contains static sensitive devices and should be handled only after touching an earthed metal surface or preferably wearing a suitable earthing wrist strap.

Before installation is started, the control panel must have it's mains and battery power removed (observe safety precautions when removing mains power)

The network card should be aligned with the two connectors above the keyswitch aperture on the AN101 PCB with the two mounting pillars to the left.

The pins on the network card should fit into the sockets C02 (right) and C03 (left) (note two spare holes on socket C03 nearest keyswitch).

When aligned, the card should be pressed firmly into place.

The battery backed RAM must be replaced with the larger capacity device supplied.

Before removing the existing RAM device (located below the labelled EEPROM on the piggy back board on the AN101 display PCB) the existing configuration data should be saved onto a disc via the Prime Contractor configuration software. FAILURE TO DO

THIS, IF A BACK-UP COPY IS NOT ALREADY AVAILABLE, WILL REQUIRE A COMPLETE RE—PROGRAMME OF THE SYSTEM CONFIGURATION.

The existing RAM device orientation (notch in right hand end) and location in it's socket (4 spare connections on right hand side) should be noted before removal.

To remove the device, gently lever each end with a small screwdriver until the device is loose enough to be pulled out by hand. This device is of no further use and can be discarded if desired.

Observing static precautions and device orientation, fit the new RAM device ensuring that all pins are located in the socket and that the device is in the correct position before pushing firmly into place.

CHECKING THE HARDWARE

Double check the fitting on the network card and RAM device before applying power. Apply mains and battery power and allow 2 minutes for system instillation.

Turn the enable key and press the right arrow on the menu select keypad. Scroll to "Current Access Level" then enter the 5910 password to access level 3. Scrolling through the menus should now reveal the additional heading "Network Settings".

The network kit installation is now complete and the panel is ready to be programmed for the required functions.

See "Signifire Network Manual" for full network programming details.

CABLE CONNECTIONS

A two core cable is required to link all panels on the network A to B to C etc. It is not necessary to return the cable in a loop to the first panel.

The cable should be connection to the RX+ and RX- comms terminals on the AN2 terminal PCB mounted in the back of the control panel.

The first and last panels i.e. the ones with only one pair of cables connected, should have a terminating resistor (1050HMS 1%) fitted across the comms terminals.