OPERATION

In its normal state (with no alarm conditions anywhere in the building), power is applied to the Hush Button's detector circuit, its detector and sounder circuits are continually monitored for faults, and its Supply Present LED is lit. In the event of a local alarm condition (when a fire detector within the flat or apartment has triggered), the Hush Button's local sounder circuit will activate and any output devices connected to it will sound.

If there is no one in the apartment to intervene during a local alarm condition (i.e. if the 'Hush' button is NOT pressed): The local alarm sounders will sound for a period of two minutes. If the local alarm clears within these two minutes, the Hush Button will return to its normal state. If the local alarm is still present after two minutes, the alarm will be signalled to the host analogue fire panel and a general alarm condition will be annunciated around the building as programmed.

If the 'Hush' button is pressed DURING a local alarm condition: A hushed period of two minutes will commence starting from when the Hush button is pressed. If the local alarm is cleared within these two minutes, the Hush Button will return to its normal state. If the alarm doesn't clear, 15 seconds before the hushed period is about to expire, a beeper will sound to inform the occupant that the alarm is about to be signalled to the host fire panel. If the 'Hush' button is pressed again during this 15 second period, another two minute hushed period will commence.

If the 'Hush' button is pressed when there are no alarms present: A hushed period of fifteen minutes will commence. During this period, power is cut to the local zone so no alarm signals from detectors will be detected (however a manual call point with a suitable resistor, less than 400 ohms, will trigger a full alarm if activated). If the 'Hush' button is pressed again during this 15 minute period, power is re-applied to the local zone allowing normal signal processing to resume. 15 seconds before the 15 minute hushed period is about to expire, a beeper will sound to inform the occupant that the local zone is about to be re-powered. If the 'Hush' button is pressed again during this 15 second period, another 15 minute hushed period will commence.

Manual call points
If a manual call point is connected to the Hush Button's detector circuit, provided its resistance when operated is less than 400 ohms, its operation will immediately trigger the Hush Button's sounder circuit and signal a general alarm condition to the host fire panel.

General fire conditions
If, at any time, the host analogue panel enters a general fire condition, it overrides any hushed state at the Hush Button and turns on its local sounders. Pressing the 'Hush' button in a general fire alarm condition WILL NOT silence the local alarm sounders and the dwelling should be evacuated as per the designated fire management plan.

XFP508X TECHNICAL SPECIFICATION

Compatible protocols:	Apollo XP95/Discovery/Xplorer
Max. no of hush buttons per analogue loop:	20 (dependent on output current of host panel and hush button)
Onboard loop isolator:	Yes
Max. conventional detectors per hush button:	10
Max. manual call points per hush button:	10 (must be fitted with a resistor of less than 400 Ohms)
Max. sounder circuit load per hush button:	30mA
Operating voltage:	22-40Vdc
Quiescent current:	5mA
Max. length of detector and sounder circuits:	100m
User indicators:	Green 'Supply present' LED: Lit steady when the unit is powered up
	Red 'Local alarm' LED: Lit steady when a detector is in alarm
	Yellow 'Hushed' LED: Lit steady when the unit is in the Hushed state. Flashes during the last 15 seconds of any Hushed period.
	Beeper: Gives audible feedback when the Hush button is pressed and also sounds during the last 15 seconds of any Hushed period.
Engineer Indicators:	Fault LED (yellow): Lit steady when there is an open or short on the detector or sounder circuit.
User controls:	1 x Hush button - see 'Operation' section for details
Engineer controls:	PLK2: Output current selector, 12.5mA; 20mA or 30mA (link adjustable)
Dimensions:	144mm x 84mm x 37mm. Mounts on a 25mm UK double gang back box

XFP508X BS5839-6 HUSH BUTTON
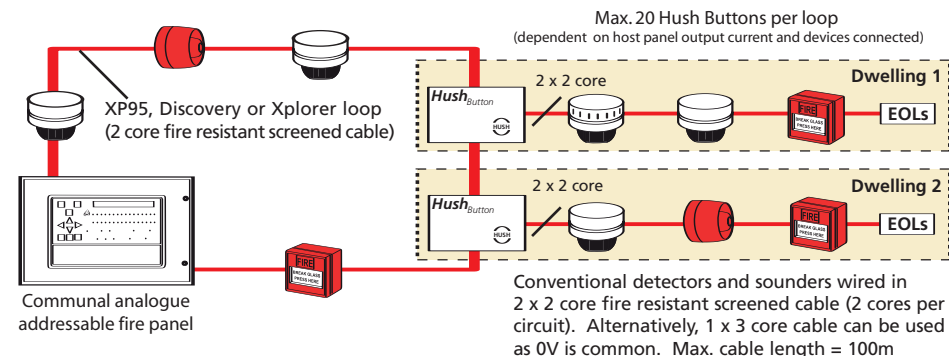# Installation Guide

$C \epsilon$

WARNING: To work correctly this device requires <u>TWO</u> addresses - please refer to the section 'SETTING THE HUSH BUTTONS ADDRESSES' on page 3.

The XFP508X Hush Button has been specifically designed to reduce the incidence of false alarms in houses of multiple occupation by providing reliable, fully monitored fire detection, alarm and silencing facilities INSIDE each individual flat or apartment.

It can be looked upon as a miniature loop-powered single zone fire alarm controller that sits and is addressed on an XP95, Discovery or Xplorer analogue loop (see schematic below) with the ability to communicate its status back to the host panel.

Typically one Hush Button is fitted in each dwelling complete with conventional detectors and conventional sounders to provide occupants with a simple means of invoking two types of 'hushed' period - as described on page 4.

By providing occupants with this level of control over their fire alarm systems, it helps reduce false alarms and prevent unnecessary building evacuations, system vandalism and the likelihood of a true alarm signal being ignored.

Max. 20 Hush Buttons per loop
(dependent on host panel output current and devices connected)

XP95, Discovery or Xplorer loop (2 core fire resistant screened cable)

Communal analogue addressable fire panel

Conventional detectors and sounders wired in 2 x 2 core fire resistant screened cable (2 cores per circuit). Alternatively, 1 x 3 core cable can be used as 0V is common. Max. cable length = 100m

KEY FEATURES

- Upgrades the level of protection offered in a flat or apartment from the Grade D minimum (mains/battery smoke alarms) to Grade A or B

- Provides each individual dwelling with a 2 minute silence facility and 15 minute isolate facility to BS 5839 pt 6 clause 12.2

- Can be operated by building occupants whilst standing at floor level

- Includes a built-in loop isolator, conventional sounder circuit, conventional detector circuit and three status LEDs

- Fully monitored for open and short circuit faults (logging facilities at the host panel give full traceability of any problems)

- Failsafe operation - a general fire condition at the host panel will override any silenced/isolated state at the hush button and immediately turn on its local sounders

- Operation of a manual call point fitted with a resistor of less than 400 ohm will immediately trigger the host panel (a 330 Ohm resistor is supplied - see inside for wiring details)

- Common OV line allows sounders and detectors to be wired in three core cable

SYSTEM DESIGN

Fire alarm system design is beyond the scope of this document. We recommend you read BS 5839 pt 6: 2004 (fire detection and fire alarm systems in dwellings), copies of which are available at your local reference library or from the BSI (www.bsi-global.com)
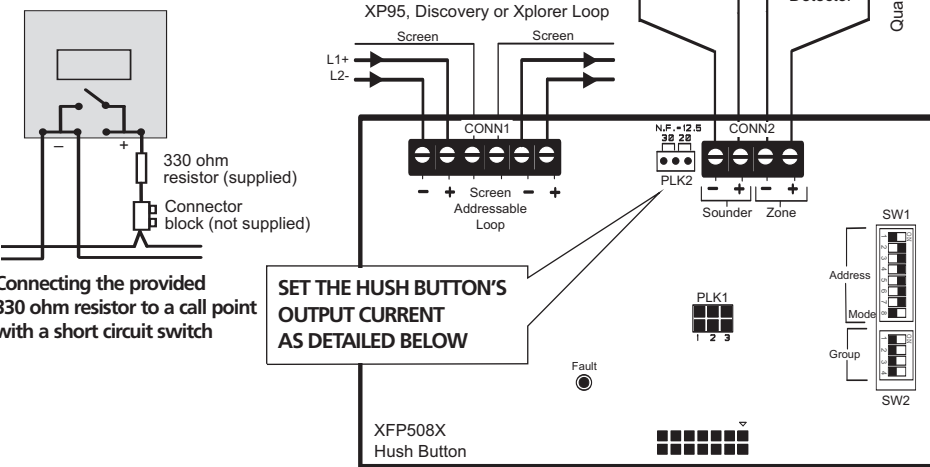
HUSH BUTTON WIRING

All wiring should be installed to meet the relevant requirements of BS 5839: Pt1: 2002, BS 5839: Pt6: 2004 and BS 7671 (Wiring Regulations).

For the Hush Button's conventional sounder and detector (zone) circuits, we recommend the use of 2 x two core fire resistant screened cable as shown, right. Alternatively, as 0V is common, three core fire resistant screened cable can be used.

It is possible that a risk assessment and/or consultation with the relevant authorities may conclude that PVC cable is adequate for the detector and sounder circuits within the flat or apartment.

The host panel's analogue loop should always be wired in fire resistant screened cable.

All wiring terminals will accept cables up to 1.5mm^2

Connecting the provided 330 ohm resistor to a call point with a short circuit switch

6K8 resistor (supplied)

Capacitor (supplied)

Detector

+ Polarised Sounder

Optional Manual Call Point fitted with 330 ohm resistor

+ Polarised Sounder

Detector

Quantity and type of devices used will depend on the application

XP95, Discovery or Xplorer Loop
Screen   Screen
L1+
L2-

CONN1   PLK2   CONN2

– +   Screen   – +   – +
Addressable Loop   Sounder   Zone

330 ohm resistor (supplied)
Connector block (not supplied)

SET THE HUSH BUTTON'S OUTPUT CURRENT AS DETAILED BELOW

SW1
Address
Mode
SW2
Group

PLK1
1 2 3

Fault

XFP508X
Hush Button

SETTING THE HUSH BUTTON'S OUTPUT CURRENT

The Hush Button's output current should be set to 12.5mA, 20mA or 30mA to accommodate the total alarm current of all devices connected to its conventional sounder circuit. This is done by putting the PLK2 link in the appropriate position (see right). Always round the current up - for example, if two 7mA sounders are used, set the current to 20mA instead of 12.5mA.

PLK2 link position	Output current
●●●	= 12.5mA (no link fitted)
● ■■	= 20mA
■■ ●	= 30mA

PLK2
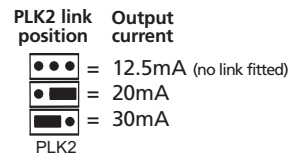
SETTING THE HUSH BUTTON'S ADDRESSES

To communicate with the host fire panel, the Hush Button requires 2 addresses. The first allows it to be recognised as a Zone Monitor, the second as a Sounder Control Unit.

Its 'Zone Monitor' address is set using the first seven segments of the 8-way DIL switch (SW1). A full list of addresses is shown below - set the switch to '0' or '1' as appropriate using a small screwdriver.
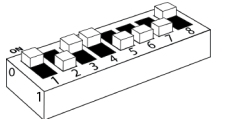
When segment 8 is in the default '0' position, the next sequential address to that selected via the first seven segments will be used for the 'Sounder Control Unit' address. For example, if address 83 is selected for the 'Zone Monitor' address, then address 84 will be selected for the 'Sounder Control Unit' address and cannot be used for any other device on that loop.

If the host fire alarm system is heavily populated, it is possible to allocate the Hush Button just one primary address (for its zone monitor function) by setting segment 8 of the DIL switch to the '1' position. In such circumstances, Apollo's Group addressing function MUST be used for triggering the Hush Button's sounder circuit. However, in this mode of operation, the fault monitoring of the Hush Button's sounders will be inhibited and their operation will not be confirmed. As such, this method should only be used with the approval of the relevant authority.

addr	DIL position 1234567	addr	DIL position 1234567	addr	DIL position 1234567	addr	DIL position 1234567
1	1000000	32	0000010	63	1111110	94	0111101
2	0100000	33	1000010	64	0000001	95	1111101
3	1100000	34	0100010	65	1000001	96	0000011
4	0010000	35	1100010	66	0100001	97	1000011
5	1010000	36	0010010	67	1100001	98	0100011
6	0110000	37	1010010	68	0010001	99	1100011
7	1110000	38	0110010	69	1010001	100	0010011
8	0001000	39	1110010	70	0110001	101	1010011
9	1001000	40	0001010	71	1110001	102	0110011
10	0101000	41	1001010	72	0001001	103	1110011
11	1101000	42	0101010	73	1001001	104	0001011
12	0011000	43	1101010	74	0101001	105	1001011
13	1011000	44	0011010	75	1101001	106	0101011
14	0111000	45	1011010	76	0011001	107	1101011
15	1111000	46	0111010	77	1011001	108	0011011
16	0000100	47	1111010	78	0111001	109	1011011
17	1000100	48	0000110	79	1111001	110	0111011
18	0100100	49	1000110	80	0000101	111	1111011
19	1100100	50	0100110	81	1000101	112	0000111
20	0010100	51	1100110	82	0100101	113	1000111
21	1010100	52	0010110	83	1100101	114	0100111
22	0110100	53	1010110	84	0010101	115	1100111
23	1110100	54	0110110	85	1010101	116	0010111
24	0001100	55	1110110	86	0110101	117	1010111
25	1001100	56	0001110	87	1110101	118	0110111
26	0101100	57	1001110	88	0001101	119	1110111
27	1101100	58	0101110	89	1001101	120	0001111
28	0011100	59	1101110	90	0101101	121	1001111
29	1011100	60	0011110	91	1101101	122	0101111
30	0111100	61	1011110	92	0011101	123	1101111
31	1111100	62	0111110	93	1011101	124	0011111
						125	1011111
						126	0111111

Optional group addressing

The Hush Button can be allocated an optional group address using the four-way DIL switch (SW2). The Apollo protocol's 'Group Mode' function is used to activate groups of sounders or sounder control units, simultaneously. The Hush Button will continue to respond to its two 'master' addresses and report back its status as appropriate. A group address can be any spare address between 112-126 inclusive, as detailed (right).

addr	DIL position 1234	addr	DIL position 1234
112	1111	120	1110
113	0111	121	0110
114	1011	122	1010
115	0011	123	0010
116	1101	124	1100
117	0101	125	0100
118	1001	126	1000
119	0001	OFF	0000