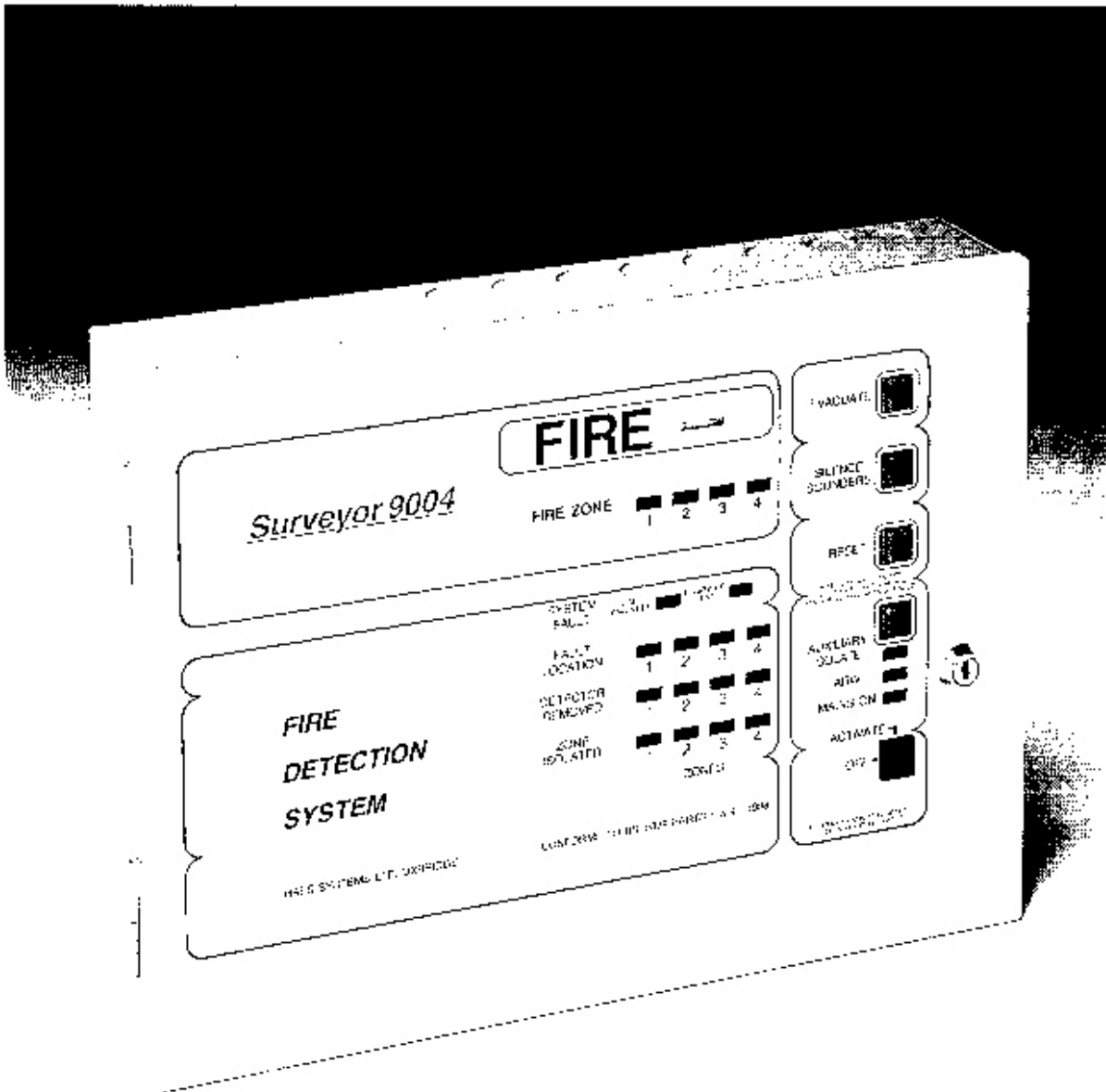


# SURVEYOR 9004

4 ZONE FIRE ALARM CONTROL PANEL

**HAES**  
systems



- MICRO-PROCESSOR CONTROLLED
- INDIVIDUAL ZONE ISOLATE
- EXCEEDS B.S. 5839 1988 PT 4
- ZONAL BELL OPTION
- ENGINEERS WALK TEST
- AUXILIARY RELAY OUTPUT
- HEAD REMOVAL WITH LINE CONTINUITY

# SYSTEM SPECIFICATION

# SURVEYOR 9004

## INDICATIONS

Call Engineer  
Common Fire  
Zonal Fire  
Zonal Fault  
Zonal Detector Removed  
Zonal Isolate  
Auxiliary Isolated  
Engineers Test  
Automatic Reset Warning  
Mains On

## CONTROLS

Activate Keyswitch  
Evacuate  
Silence Sounders  
Reset  
Auxiliary Isolate

## ENGINEERS INDICATIONS & CONTROLS

Battery Fault, Power Supply Fault, Fuse Failure, Sounder Circuit Faults (open and short cct), Earth Fault.

Independent Zone Isolate

Latching or Non Latching Fire Signals

Latching or Non Latching Fault Signals

Zone of Origin Bell Circuit Control

Zone Walk Test Facility (brief bell pulse on alarm and auto reset)

Select Short as Fire (for pre 1988 B.S. installations).

Bell Walk Test (pulses bells at preset intervals)

## STANDARD OUTPUT/INPUT FACILITIES

Repeater outputs (fire and fault)

Remote stop alarms

Remote reset

Precinct facility

24 volt supply (rated 800 mA 24V DC) for powering relays etc.

Clean change over outputs (fused 1.25 Amps)

4 monitored bell outputs 24V D.C. Max 1.5 amp load between ccts.

4 monitored detector circuits (short & open circuit monitored)

Up to 30 smoke detectors recommended per zone. Line continuity function.

Detectors may be removed with the rest of circuit remaining active.

Communications port (for interface with other systems)

## TECHNICAL SPECIFICATION

POWER SUPPLY 240 volts 50 Hz input (27.5 volts 1.5 amps)

STAND-BY CURRENT 160 mA quiescent

BATTERIES Sealed lead acid, space for up to 6 a/h

CONSTRUCTION Two tone, platinum grey back box with papyrus grey lockable door. 18 swg mild steel.

CABINET SIZE 300 mm high, 400 mm wide, 85 mm deep. Removable hinged lid. Flush mounting kit available. Knockouts and cable entry provided.

DETECTORS Current 'Nittan' range as standard for other types please contact our technical dept.

SOUNDERS Polarised and suppressed 24 volt D.C.

END OF LINE UNITS Detector zone: 15k $\Omega$  + diode, Bell zone: 15k $\Omega$ .

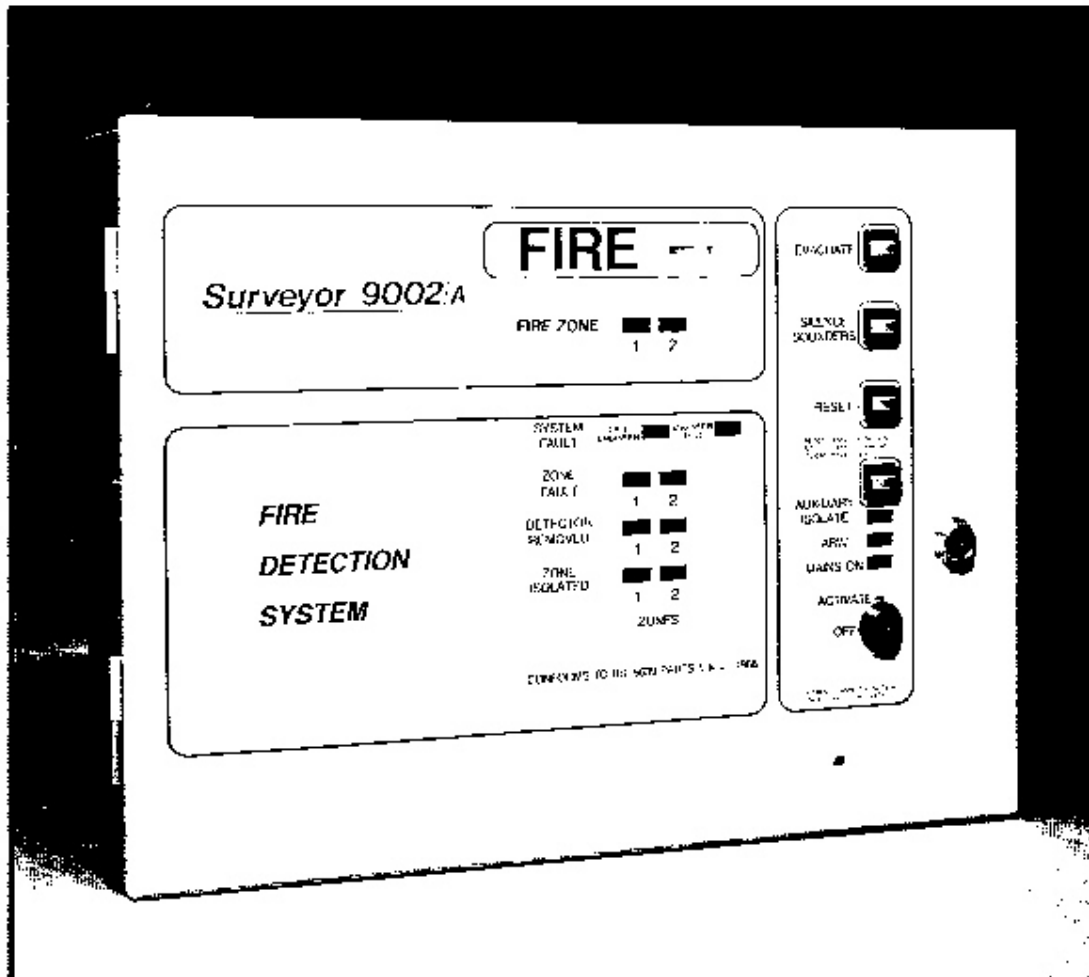
For further information and assistance please contact our sales team:-

**HAES**  
systems

COLUMBIA HOUSE, PACKET BOAT LANE, COWLEY  
PEACHEY, UXBRIDGE, MIDDLESEX UB8 2JP.  
TEL: 0895 422066 FAX: (0895) 420603

# SURVEYOR 9002/A

## FIRE ALARM CONTROL PANEL



- MICRO-PROCESSOR CONTROLLED
- EXCEEDS B.S. 5839 1988 PT 4
- ENGINEERS WALK TEST
- HEAD REMOVAL WITH LINE CONTINUITY
- NO ADDITIONAL END OF LINE MONITORING UNITS TO PURCHASE
- INDIVIDUAL ZONE ISOLATE
- ZONAL BELL OPTION
- AUXILIARY RELAY OUTPUT

# SYSTEM SPECIFICATION SURVEYOR 9002/A

## INDICATIONS & CONTROLS

Common Fire	Zone 1 Fire	Zone 2 Fire
Call Engineer	Zone 1 Fault	Zone 2 Fault
Engineer Test	Auxiliary Isolated	Mains On
Automatic Reset Warning		
Detector Removed Fault (Zone 1 and Zone 2)		
Master Control Keyswitch		
Evacuate, Silence Alarms, Reset, Auxiliary Isolate. Zone 1 + Zone 2 Isolated		

## ENGINEERS INDICATIONS & CONTROLS

Battery Fault, Power Supply Fault, Fuse Failure, Sounder Circuit Faults (open and short cct), Earth Fault.  
Independent Zone Isolate  
Latching or Non Latching Fire Signals  
Latching or Non Latching Fault Signals  
Zone of Origin Bell Circuit Control  
Zone Walk Test Facility (brief bell pulse on alarm and auto reset)  
Automatic Battery Test  
Select Short as Fire (for pre 1988 B.S. installations).  
Bell Walk Test (pulses bells at preset intervals)

## STANDARD OUTPUT/INPUT FACILITIES

Repeater outputs (fire and fault)  
Remote stop alarms  
Remote reset  
Precinct facility  
24 volt supply (rated 800 mA 24V DC) for powering relays etc.  
Clean change over outputs (fused 1.25 Amps)  
2 monitored bell outputs 24V D.C. Max 1.5 amp load between ccts.  
2 monitored detector circuits (short & open circuit monitored)  
Up to 30 smoke detectors recommended per zone. Line continuity function.  
Detectors may be removed with the rest of circuit remaining active.  
Communications port (for interface with other systems)

## TECHNICAL SPECIFICATION

POWER SUPPLY	240 volts 50 Hz input (27.5 volts 1.5 amps)
STAND-BY CURRENT	150 mA quiescent
BATTERIES	Sealed lead acid, space for up to 6 a/h
CONSTRUCTION	Two tone, platinum grey back box with papyrus grey lockable door. 18 swg mild steel.
CABINET SIZE	300 mm high, 400 mm wide, 85 mm deep. Removable hinged lid. Flush mounting kit available. Knockouts and cable entry provided.
DETECTORS	Current 'Nittan' Hakuto & Apollo range as standard for other makes please contact our technical dept.
SOUNDERS	Polarised and suppressed 24 volt D.C.
END OF LINE UNITS	Detector zone: 15K $\Omega$ + diode, Bell zone: 15k $\Omega$ .

For further information and assistance please contact our sales team:-

# FCP9002/A - 2 ZONE

AND

# FCP9004 - 4 ZONE

## FIRE ALARM CONTROL PANEL

## INSTALLATION / DATA MANUAL

### 2 and 4 Zone Fire Alarm Control Panels

To meet the requirements of B.S.5839 Pt.4  
B.S.5839 Pt.1 Installations

The Surveyor 9000 range of control panels are all micro-processor based, thus giving many more features that advanced electronics can offer.

They have facilities to meet the exacting standards of B.S.5839 Part 4. such as Detector Head Removal, short circuit indicates a fault not fire etc. Additional facilities include features such as Latching Fault, Bell Walk Test and Engineer's Walk Test. Precinct point, remote Fire and Fault outputs, auxiliary relay with isolate, etc.

The purchase of additional end of line monitoring units are not required.

**N.B:** All panels in the 9000 Series can be supplied, upon request, suitable for "3 wire" working for retro-fit systems. When modified, detector removal monitoring, short circuit to fault and sounder cct monitoring, will all be inoperative as would possibly have been the case with the original system.

FCP9002/A - FCP9004  
Ref: 248 June 1994

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6.	4.0	Faults
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7.	5.0	Installation
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8.	5.5	Additional Output Terminals
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	6.1	Engineering Indications
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	7.1	B.S.5839 Part 1 1988 Systems
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	8.0	Detector Head Removal
10.	9.0	Testing
	9.1	General
	9.2	Detector Zone Testing
	9.3	Sounders Test
	9.4	Full Alarm Test
	9.5	Ancillary Functions
	9.6	Battery Charging Voltage
11.	10.0	Specification

FCP9002/A - FCP9004  
Ref 248 June 1994

## 1.0 Equipment Suitability

**PANEL:** Surveyor FCP9002/A - 2 Zone and FCP9004 - 4 Zone.

**BATTERIES:** Normally 2 off 7Ah sealed lead acid, mounted internally. Heavy loads or extended standby may require an external high current charger with larger batteries.

**MANUAL CALL POINTS:** KR70 or any call point with 470Ω resistor fitted in series with the alarm contacts.

**SOUNDERS:** Bells or electronic sounders. 24 Volt DC must be polarised and suppressed. (Special attention to be taken here when existing bells are used).  
Recommended type: Synchrobell T6D24, Banshee, Bedlam, Fulleon etc.

**AUXILIARY OUTPUTS:** Ensure no voltage in excess of 50V is applied to the change-over relay contacts.

**REPEATER PANELS:** FCRP 10-2.

### IMPORTANT

#### Detector Suitability

Most modern smoke and heat detectors are suitable for use on the FCP9012, but if the detector head removal indication is required, only the following smoke detectors have been tested and approved for use.

Detector	Max. combined Qty. per zone	Dioding	Connection Drawing No.
Nittan 2KH, 2KC, NID58, 2IC, NHD	40	Schottky	9012/D01 Issue 2
Apollo Series 30	30 )	Schottky plus	20991/1
Apollo Series 20	20 )	polarising diode	20991/1
Apollo Series 60 (Ion.)	30 )	Schottky, no	HSS92/019
Apollo Series 60 (Opt.)	20 )	polarising diode	HSS92/019
Hakuto SIH-E	18 )	Schottky plus	10991/1
Hakuto SLK-E	18 )	polarising	10991/1
Hakuto SIF-E	40 )	diode	10991/1
Hakuto SIG-E	25 )		10991/1

We strongly recommend that we are consulted for the suitability of any detector not listed above.

It is recommended when designing a system that a maximum limit of 20 detectors per zone is observed, rather than the greater quantities where shown above.

FCP9002/A - FCP9004  
Ref: 248 June 1994

## 2.0 Front Panel Indications and Controls

### 2.1 Indications

Front panel LED indicators as follows:

Common Fire  
Zonal Fire

Call Engineer  
Engineer Test

Zonal Fault

Zonal Detector Removed

Zonal Isolate

Auxiliary Isolated

Automatic Reset Warning (ARW)

Mains On

### 2.2 Control Switches

The four switches on the control panel front are as follows and are only functional when the 'Activate' keyswitch has been operated:

- a) Evacuate: All the fire alarm sounders will operate irrespective of a fire condition.
- b) Silence Sounders: Will silence sounders when Evacuate has been operated or the Fire Zone activated. Depressing the switch will also silence the fault tone.
- c) Reset: The fire zone can be reset by the switch but only after operating the 'Silence Sounders' control. Operation of this switch, when in standby, will perform an LED indicator test.
- d) Keyswitch: The keyswitch on the front panel is used to restrict access to the controls listed above by de-activating the switches when in the 'OFF' position.



### 3.0 Operation (User's Instructions)

#### 3.1 Standby State

In standby state, the only indication visible is the 'Mains On' LED.

#### 3.2 Fire Detected

Should a smoke, heat or break glass call point be operated on one of the zones (say zone 1) then the following will occur:

Common Fire - LED on  
Zone 1 Fire - LED pulsing  
Internal Sounder - Dual Tone Operates (unmuteable)  
Sounder Circuits - Sounder Operate (depending on options selected)

Turning the 'Activate' keyswitch allows the panel controls to be operated only in the following sequence:

Silence Sounders - Cancels all sounders but does not mute the internal sounder. Zone 1 Fire LED will cease to pulse and become steady.  
Reset - Cancels internal sounder.  
- Performs Lamp Test.  
- Restores panel to standby state.

Should a fire signal be detected on a 2nd zone after the "Silence Sounder" switch has been operated and before the "Reset" has been depressed, then the sounders will reactivate. Zone 1 fire LED will remain steady whilst the 2nd zone will pulse.

#### 3.3 Evacuate Control

The Evacuate button will initiate operation of all sounders on the system, overriding any zonal bells already sounding. The sounders can only be silenced as described in 2.2. Evacuate does not produce any visual LED indications.

#### 3.4 Fault Detected

Should a fault be detected on the system the "Call Engineer" LED will illuminate and the internal fault sounder will sound. Although the LED states "Call Engineer" some faults can be investigated by the user as follows:

"Call Engineer" LED illuminates and

- a) "Mains On" extinguished - check supply to the control panel has not been switched off due to other work in the premises or a supply fuse blown.
- b) Detector removed or fault location LEDs can indicate the removal of an alarm device e.g. smoke detectors, heat detector or break glass call point. A visual check of the premises should reveal this.

#### 4.0 Fault Indications

##### 4.1 Zone Fault

Should a fault develop on a detection zone, the relevant LED will light.

Short circuit fault - LEDs flash  
Open circuit fault - LEDs steady

The internal fault tone will also sound.

If the Engineering Option (paragraph 5) is chosen which allows a short circuit to initialise a fire condition, the alarms will sound throughout the building.

In addition to the relevant Zone Fault LED, the "CALL ENGINEER" LED will also illuminate.

##### 4.2 Bell Fault

A bell fault occurring will cause the "Call Engineer" LEDs and Fault Tone to operate. Individual sounder fault LEDs will be found internally on the lid mounted circuit board.

Short circuit fault - LEDs flash  
Open circuit fault - LEDs steady

##### 4.3 Power Supply Faults

Under the above heading are a group of four indications, all associated with the power supply. These are as follows:

a) Battery fault - LED steady  
b) Regulator fault - LED steady  
c) Voltage fault - LED steady  
d) Earth fault - LED steady

The above fault indications are located on the PCB mounted on the inside of the panel lid. These faults are accompanied by the "System Fault" LED and Fault Tone warnings.

"Mains Failure" is indicated on the front of the control panel by the absence of the "Mains On" LED.

##### 4.4 ARW (Automatic Reset Warning)

The ARW LED is mounted on the front panel and will illuminate when the internal micro-processor has been automatically reset. This indicates that the WATCHDOG circuit has restarted the micro-processor as a result of a failure, which may have been caused by an external induced voltage spike etc. In such cases the operation of the panel is not affected and the ARW LEDs can be extinguished by depressing the "Reset" button. Should the fault reoccur on a regular basis then the problem should be investigated further.

## 5.0 Installation

This should comply with the requirements of B.S.5839 Pt.1 1988 or any local requirements applicable.

### 5.1 Cabling

It is recommended that 1.5mm MICC, Pirelli FP200 or similar cable be used on all circuits. Where heavy sounder loads and/or exceptionally long sounder circuits are incorporated, then suitably sized cables should be chosen to avoid excessive volt drop.

N.B. Meggers or similar instruments must not be used while the control panel or any device containing electronic components is connected.

### 5.2 Mounting of the Control Panel

The front panel can be removed by lifting off the hinges after first disconnecting the ribbon cable connector from the front panel. Ensure that the components remaining in the back box are suitably protected from brick dust or swarf. Securely mount the back box to the wall by means of the four fixing holes provided.

### 5.3 Zone Wiring

Up to 30 detection devices may be connected to any zone, but to reduce search time we recommend that no more than 20 devices are fitted.

The panel can indicate removal of a maximum 30 smoke or heat detectors whilst maintaining the supply to any remaining devices.

For this function a diode must be fitted to each smoke or heat detector as shown on drawing 9004/D02A.

These devices must be compatible with the system and approved by the panel manufacturers. See Para. 1.0.

All detection devices are to be connected in parallel across the zone which constitutes a continuous pair of wires, with no branches or spurs. The end of line monitoring resistor should be placed at the end of the zone in the last detector, as shown on Drawing No. 9004/D01A.

Zones can be set to comply with the current B.S.5839 1988 requirements for open or closed circuit fault indication as well as smoke/heat detector head removal. Existing fire systems may not be adaptable to this B.S., in which case subject to the relevant authority's approval, the control panel may be set to the earlier B.S.3116 standards.

For further details see paragraph 6.0 Engineering Indications and Options.

### 5.4 Sounder Circuits

Two sounder circuits are provided with the 2 zone and four with the 4 zone. Sounder circuits can be either common or zonally operated see 6.2 (5). Each is monitored for open and closed circuit faults. The circuit must be wired in parallel without spurs. A 4K7 End of Line Resistor must be fitted across the last sounder. All sounders should be polarized, with the total load not to exceed 1.5 Amps shared between circuits.

## 5.5 Additional Output Terminals

Output terminals are provided for the following with connection details shown on drawing nos. 9004/D01A and 9004/D02A.

- a) Fire
- b) Common Fault
- c) Remote Reset
- d) Remote Silence Alarm
- e) Precinct Facility (Activate sounders or class change)
- f) Remote Fault Sounder
- g) Zonal Auxiliary Output
- h) Common Voltage Free, Changeover Relay Fused @ 1.25A
- i) 24 Volt Output, Fused 800mA.

## 5.6 Mains Supply

The supply voltage should be 240 Volt 50Hz AC fed via an unswitched fused spur.

## 6.0 Engineering Indication and Options

### 6.1 Engineering Indications

The main micro-processor display board is mounted on the inside of the cabinet door. At the top left corner are eight (6 with the FCP9002/A) LEDs which give the following indications:

- a) BATT - Battery fault or fuse failure
- b) VOLTS - Over or under voltage fault
- c) REG - Regulator fault or fuse failure
- d) - Earth Fault
- e) SDR1/4 - Sounder circuit 1 fault. Open circuit - LED steady. Short circuit - LED flashing. (SDR 1 & 2 with the FCP9002A)

### 6.2 Engineering Options

#### DIL Switches

The control panel has several engineering functions that allow great flexibility in system design.

They are accessed through a 12 way DIL switch located on the lid-mounted micro-processor PCB.

With the DIL switch up:

- Position: 1) Fire Latch
- 2) Fault Latch
- 3) Detect short circuit zone as a Fire Condition (i.e. pre B.S. 5839 1988 systems) see 6-1
- 4) Zone 1 Latching
- 5) Zone 2 Latching
- 6) Zone 3 Latching
- 7) Zone 4 Latching
- 8) Zone 1 Isolated
- 9) Zone 2 Isolated
- 10) Zone 3 Isolated
- 11) Zone 4 Isolated
- 12) Spare

N.B. As supplied from the manufacturer switches 4-7 are in the "on" position. In this mode the panel will operate in accordance with B.S. 5839 1988. The FCP9002/A has switch functions 6,7,10 and 11 omitted.  
FCP9002/A & FCP9004  
Ref: 248 June 1994

### 6.3 Additional Test Switches

For full explanation of these functions see under paragraph 8.0. The following switches are found on the door mounted micro-processor PCB and are all push buttons.  
(Functional only with "Activate" switch on).

- a) Sounder Test will cause intermittent activation of all bell circuits (walk test).
- b) Zone Test. Each zone can be independently walk tested and reset automatically.
- c) Panel buzzer volume can be adjusted with the potentiometer.
- d) START switch which is found on the bottom left hand side of the cabinet mounted PCB. Used on initial test to start up the control panel on its batteries when mains supply is not available.

### 7.0 Short Circuit Zone Fault

#### 7.1 B.S.5839 Pt 1 1988 Systems

For systems to conform to this British Standard, a short circuit across the detection zone will cause a fault to be indicated and not an alarm condition as allowed previously. All detection devices on the fire detection zone should be compatible with the zone parameters and approved by the Company. The Nittan 2IC/2KH range of detectors are recommended but other manufacturers detectors may be suitable, providing that in alarm they present a resistance greater than 150Ω and less than 500Ω.

#### 7.2 Pre B.S.5839 Pt 1 1988 Systems

Prior to introduction of the latest British Standard it was acceptable for a short circuit across the zone to initiate an alarm condition. It may not be possible to upgrade existing systems without costly replacement of detection devices. The panel can be set to operate existing equipment by sliding DIL switch 3 into the uppermost position. Any short circuit across the zone will activate the sounders.

### 8.0 Detection Head Removal

To identify the removal of a detector head and maintain integrity of the remaining fire zone requires the use of detection devices recommended by the Company and the fitting of diodes as shown in diagram 9904/D02A. With the MID 2IC/2KH range it is possible to remove up to 30 detector heads and still maintain integrity.

It is advisable when using alternative manufacturers equipment that empirical tests are carried out to confirm compliance with B.S.5839 1988.

Each detection point in alarm should have a value of between 150 and 500Ω.

## 9.0 Testing

### 9.1 General

If unfamiliar with the equipment it is advisable to commence testing with all external wiring omitted.

The panel is supplied with all end of line devices fitted. By switching on the mains supply and fitting a 24 volt pack of Sealed Lead Acid Batteries the panel will be in its standby state.

N.B. When first powered up the ARW LED will be lit. With keyswitch activated pressing "Reset" will extinguish ARW.

### 9.2 Detector Zone Testing

Fit end of line monitoring resistors into the last device on each zone and connect cables into zone terminals.

Each zone can be tested independently without affecting the operation of any previously commissioned zone.

Depress zone 1 test button.

Engineers test LED will illuminate.

Internal Sounder operates with pulsed, low pitch.

Engineer is now free to walk test the system.

Activation of any alarm device on the chosen zone will cause a short activation of the alarm sounders. A further sounding will be heard, indicating that the device has reset.

To cancel Engineer Test press panel reset button.

### 9.3 Sounder Test

Depressing the sounder test button will cause only a short activation of the sounders, which can alleviate undue annoyance when carrying out a walk test. The sounders will continue until Reset is pressed.

For a full sounder test, alarm one of the detection zones, which will cause all sounders to operate.

Should the Engineering Option DIL switch be set to zonal sounders (position 2 up) then the zone of origin will sound constantly and all other zones will pulse.

### 9.4 Full Alarm Test

A full test should be made to ensure that, all detectors and sounders operate as selected by the Engineers Option switches.

Cancellation of a fire test can only be done by first turning the keyswitch to Activate, depressing the Silence Sounders and then the Reset switch.

### 9.5 Ancillary Functions (if required)

Whilst in full alarm it should be checked that 24 volt +ve appears at appropriate repeater outputs.

Check aux. relay changes when fire condition occurs and that it can be isolated by use of Activate and Auxiliary Isolate switch.

### 9.6 Battery Charging Voltage

After commissioning or any routine test the battery charging voltage should be checked at the battery leads (batteries disconnected) and if necessary adjusted to 27.4 - 27.8 Volt DC. A voltage adjusting pot will be found on the bottom right side of the box mounted PCB and is marked P.S.V.

# SPECIFICATION - SURVEYOR FCP9002/A AND FCP9004

## INDICATIONS

Call Engineer  
Common Fire  
Zonal Fire  
Zonal Fault  
Zonal "Detector Removed"  
Zonal Isolate  
Auxiliary Isolated  
Engineers Test  
Automatic Reset Warning  
Mains On

## CONTROLS

Activate Keyswitch  
Evacuate  
Silence Sounders  
Reset  
Auxiliary Isolate

## ENGINEERS INDICATIONS & CONTROLS

Battery Fault, Power Supply Fault, Fuse Failure, Sounder Circuit Faults (open and short cct), Earth Fault.  
Independent Zone Isolate  
Latching or Non Latching Fire Signals  
Latching or Non Latching Fault Signals  
Zone of Origin Bell Circuit Control  
Zone Walk Test Facility (brief bell pulse on alarm and auto reset)  
Select Short as Fire (for pre 1988 B.S. installations).  
Bell Walk Test (pulses bells at preset intervals)

## STANDARD OUTPUT/INPUT FACILITIES

4 Monitored detector circuits (2 with FCP9002/A), short and open circuit monitored.  
Up to 30 smoke or heat detectors per zone. See para 1.0.  
Detector removal monitoring by integral electronics (i.e. no active end of line units).  
4 Monitored bell outputs (2 with FCP9002/A) 24V DC Max 1.5 amp load between ccts.  
Repeater outputs (fire and fault)  
Remote stop alarms  
Remote reset  
Precinct facility  
24 volt supply (rated 800 mA 24V DC) for powering relays etc.  
Clean change over outputs (fused 1.25 Amps)

## TECHNICAL SPECIFICATION

POWER SUPPLY	240 volts 50 Hz input.
STAND-BY CURRENT	160 mA quiescent.
BATTERIES	Sealed lead acid, space for up to 7a/h
CONSTRUCTION	Two tone, platinum grey back box with papyrus grey lockable door. 18 swg mild steel.
CABINET SIZE	300 mm high, 400 mm wide, 85 mm deep. Removable hinged lid. Flush mounting kit available. Knockouts and cable entry provided.
DETECTORS	Current Nittan range as standard for other types please contact our technical dept.
SOUNDERS	Polarised and suppressed 24 volt DC.
END OF LINE RESISTORS	Supplied in panel. 4K7Ω.

# FCP 9002/A & FCP 9004

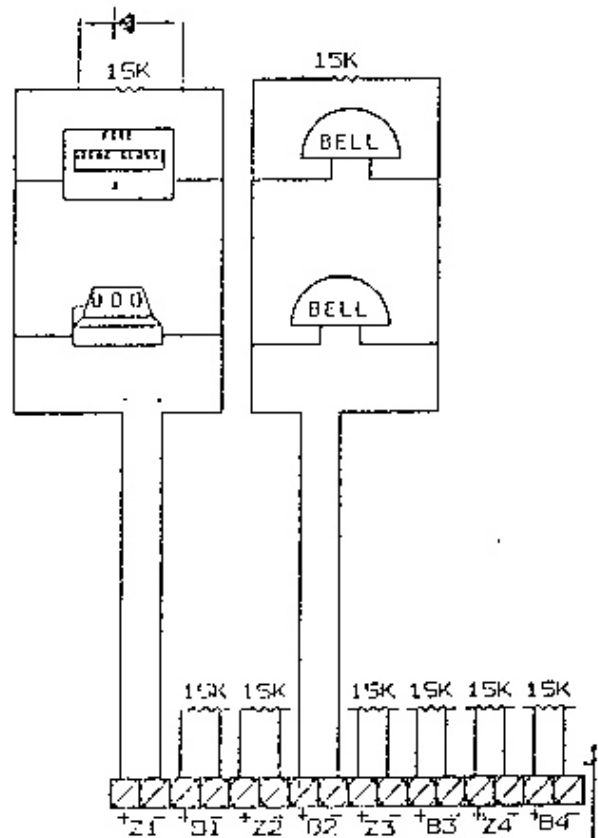
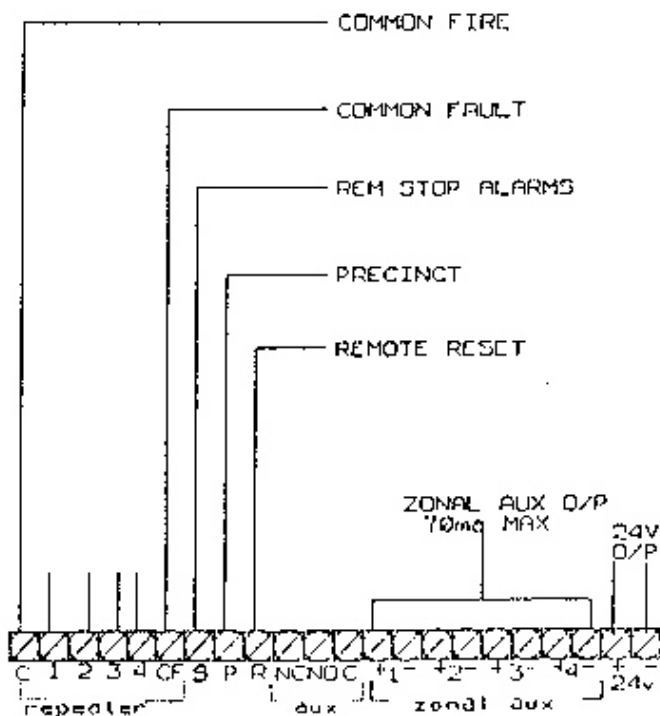
SW	POS	FUNCTION
1	UP	FAULT LATCH
1	DOWN	NO FAULT LATCH
2	UP	ZONAL BELLS
2	DOWN	COMMON BELLS
3	UP	SHORT CCT. AS FIRE (S.S. 9027 214 1980)
3	DOWN	NORMAL OPERATION (S.S. 9027 214 1980)
4	UP	ZONE 1 FIRE LATCH
4	DOWN	ZONE 1 NON LATCHING
5	UP	ZONE 2 FIRE LATCH
5	DOWN	ZONE 2 NON LATCHING
6	UP	ZONE 3 FIRE LATCH
6	DOWN	ZONE 3 NON LATCHING
7	UP	ZONE 4 FIRE LATCH
7	DOWN	ZONE 4 NON LATCHING
8	UP	ZONE 1 ISOLATED
9	UP	ZONE 2 ISOLATED
10	UP	ZONE 3 ISOLATED
11	UP	ZONE 4 ISOLATED
12		NOT USED

OIL SWITCH DETAILS  
SELECT FOR FUNCTION

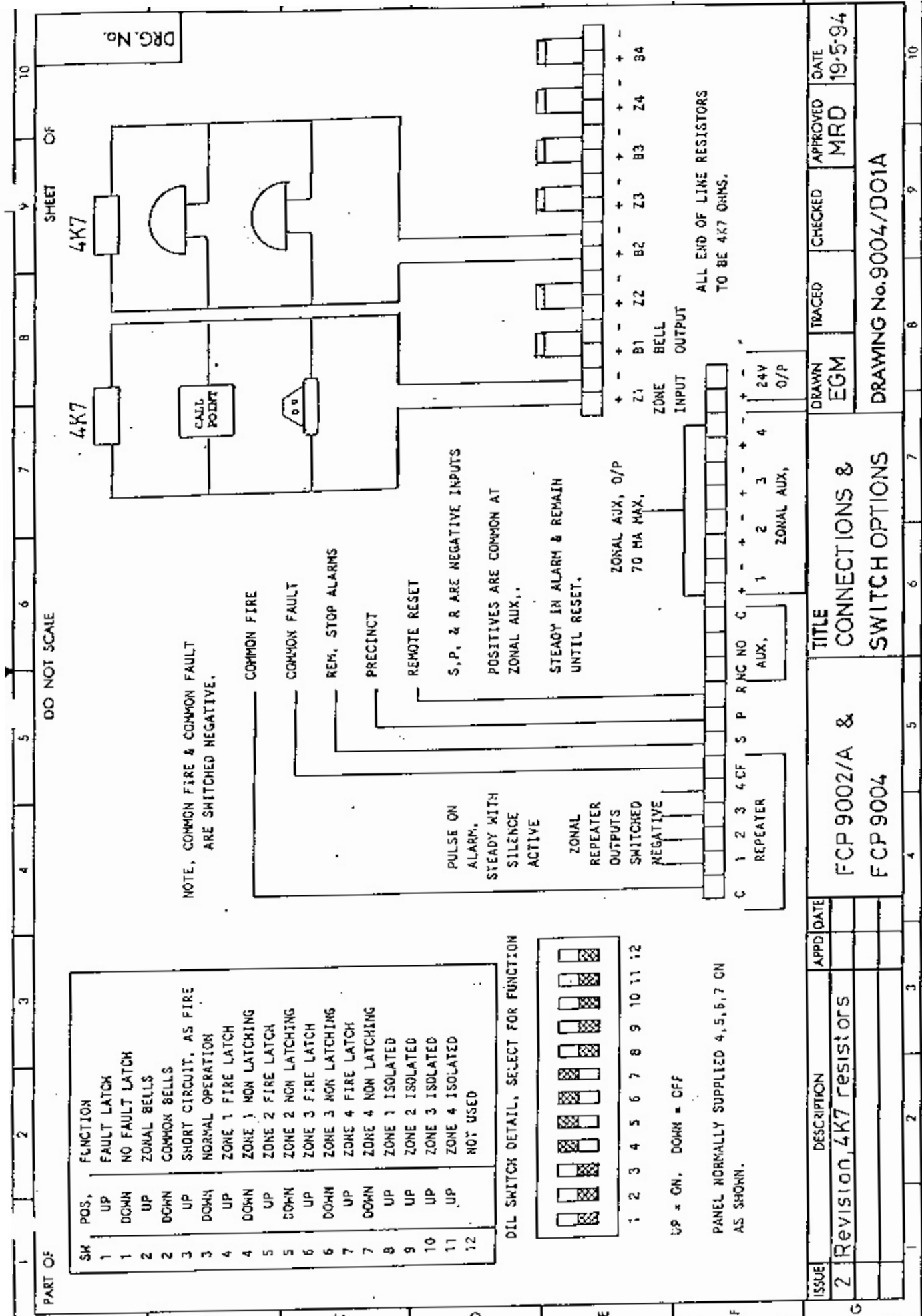


UP = ON  
DOWN = OFF

NOTE :-  
PANEL NORMALLY SUPPLIED  
WITH SWITCHES 4,5,6,7 ON







SR	POS.	FUNCTION
1	UP	FAULT LATCH
1	DOWN	NO FAULT LATCH
2	UP	ZONAL BELLS
2	DOWN	COMMON BELLS
3	UP	SHORT CIRCUIT, AS FIRE
3	DOWN	NORMAL OPERATION
4	UP	ZONE 1 FIRE LATCH
4	DOWN	ZONE 1 NON LATCHING
5	UP	ZONE 2 FIRE LATCH
5	DOWN	ZONE 2 NON LATCHING
6	UP	ZONE 3 FIRE LATCH
6	DOWN	ZONE 3 NON LATCHING
7	UP	ZONE 4 FIRE LATCH
7	DOWN	ZONE 4 NON LATCHING
8	UP	ZONE 1 ISOLATED
9	UP	ZONE 2 ISOLATED
10	UP	ZONE 3 ISOLATED
11	UP	ZONE 4 ISOLATED
12		NOT USED

DIP SWITCH DETAIL, SELECT FOR FUNCTION

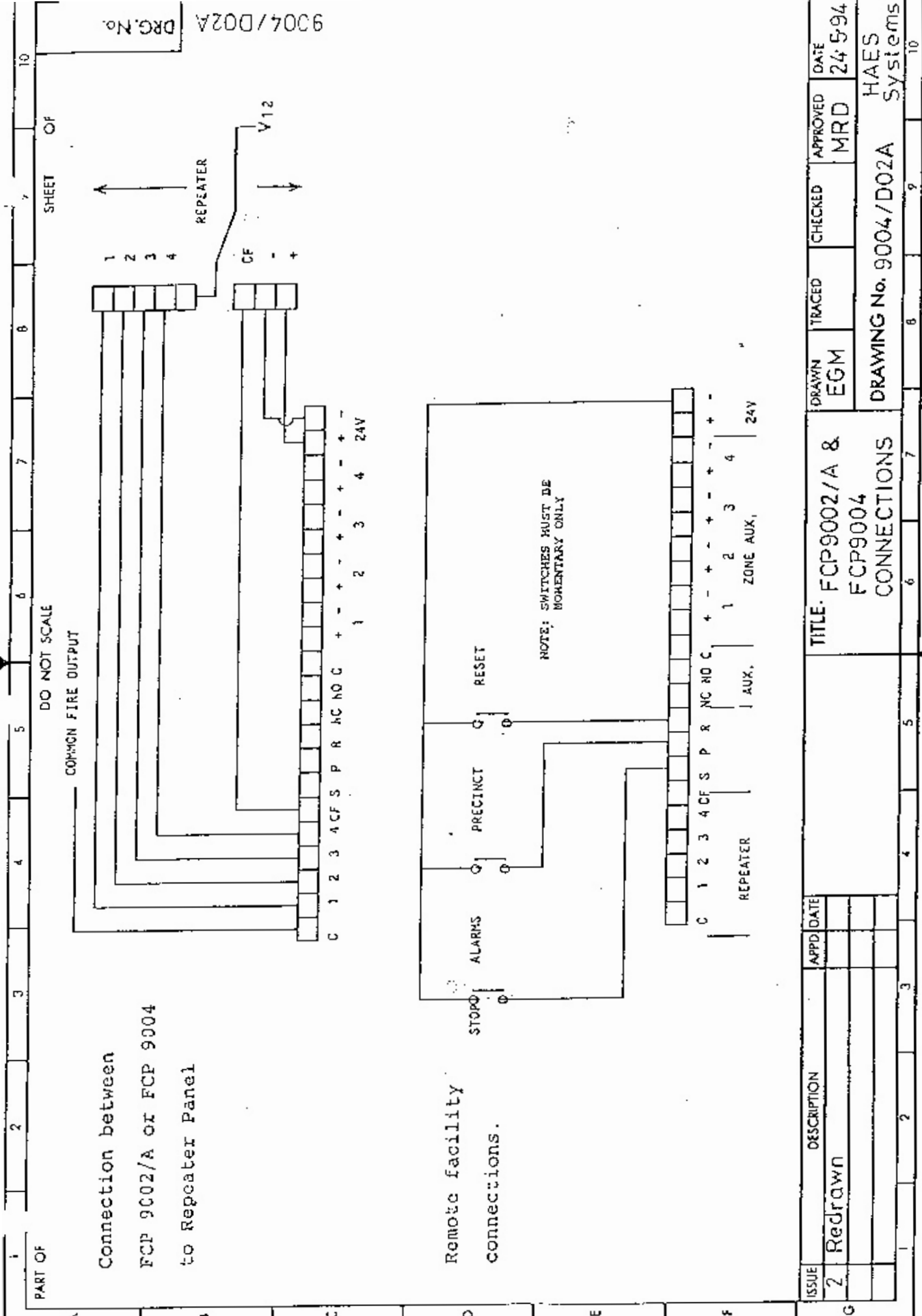


1 2 3 4 5 6 7 8 9 10 11 12

UP = ON, DOWN = OFF

PANEL NORMALLY SUPPLIED 4, 5, 6, 7 GN AS SHOWN.

ISSUE	DESCRIPTION	APPD	DATE	TITLE	DRAWN	TRACED	CHECKED	APPROVED	DATE
2	Revision, 4K7 resistors			FCP 9002/A & CONNECTIONS & SWITCH OPTIONS	EGM			MRD	19-5-94
				FCP 9004					
					DRAWING No. 9004/DO1A				



9304/DO2A DRG.No.

PART OF SHEET OF 10

Connection between  
FCP 9002/A or FCP 9004  
to Repeater Panel

1  
2  
3  
4

CF  
-  
+

1 2 3 4 24V

C 1 2 3 4 CF S P R AC NO C + - + - + - + - + -

STOP ALARMS PRECINCT RESET

REPEATER

1 2 3 4

AUX. 24V

REPEATER

C 1 2 3 4 CF S P R NC NO C + - + - + - + - + -

1 2 3 4

AUX. 24V

REPEATER

1 2 3 4

AUX. 24V

ISSUE	DESCRIPTION	APPD	DATE	DRAWN	TRACED	CHECKED	APPROVED	DATE
2	Redrawn			EGM			MRD	24/5/94
DRAWING No. 9004/DO2A HAES Systems								

1 2 3 4 5 6 7 8 9 10

