



# **VEGA**

## **REPEATER**

### **USER GUIDE**

**TM0024**

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# TABLE OF CONTENTS

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Chapter	Page
1. INTRODUCTION .....	3
1.1 DISPLAY AND INDICATIONS .....	3
1.2 SOUNDER CIRCUIT .....	4
1.3 RELAY OUTPUTS .....	4
1.4 INTERNAL POWER SUPPLY UNIT .....	5
1.5 SWITCH CONFIGURATION INFORMATION .....	6
2. DESCRIPTION .....	7
2.1 CONTROLS .....	7
3. DESCRIPTION .....	8
3.1 CONTROLS .....	8
3.2 ACCESS .....	9
4. ISOLATE MENU .....	15
4.1 ZONES .....	15
4.2 LOOP DEVICES .....	17
4.3 OUTPUT GROUP .....	20
4.4 PANEL FUNCTIONS .....	20
4.5 PLANT .....	21
5. LIST .....	22
5.1 ZONE .....	23
5.2 LOOP DEVICES .....	24
5.3 OUTPUT GROUPS .....	26
5.4 PANEL FUNCTIONS .....	27
5.5 PLANT .....	27
5.6 ISOLATIONS .....	27
6. SET MENU .....	28
6.1 TIME AND DATE .....	28
6.2 PRINTER STATUS .....	29
6.3 ACTIVATE DAY MODE .....	30
7. ENGINEERS SPECIFICATION .....	31

# CHAPTER 1

## INTRODUCTION

### 1. INTRODUCTION

The Vega repeater panels are used at remote locations where a repeat of the main control panel information or control functions are required. The repeater panels have been designed to be modular in configuration and are capable of meeting the requirements of most major systems. The repeater control panel has been designed to meet the requirements of the EN54 standard parts 2 and 4.

The repeater control panel is available in various formats, which will define the style of the repeater panel.

- (Type 1) Repeater panel with no user controls
- (Type 2) Repeater panel with user controls

It is possible to connect to the main Vega control panel a maximum of 64 repeater panels, however a restriction of 15 repeaters (maximum) with controls is only permissible. The type of the unit is achieved by use of an addressing switch located within each repeater panel upon the main display card (44782-K077). The 15 repeater panels with controls have the capability of having 24 characters of text assigned to them for site location purposes. The 24 characters of text are programmable via the VIPER programming software or via the main control panel's membrane. It is also possible to program the internal sounder circuit and VFCO within the repeater panel in the same manner.

For repeaters with controls the membrane fascia of the repeater panels are identical to those used upon the main control panels, with the LCD receive only repeater having reduced operation. The status and zone indications and the user keys are identical to those of the main control panel and have the same operational functions.

### 1.1 DISPLAY AND INDICATIONS

The liquid crystal display (LCD) provides an 8-line text graphical display which is used for the showing of activations which may occur upon the system. Each line displays the relevant information for the activation, which has occurred on the system and when multiple activations occur these will be displayed upon different lines. The display informs the user when different priority alarms are active and these can be viewed by the operation of the membrane control keys. User information appears along the bottom line of the display, which gives on screen prompts for the user when operating the control panel.

The repeater panel maybe supplied with a 24 zonal Fire and Fault LED membrane, which is capable of being expanded in increments of 32 indications to a maximum of 120. Each indication is capable of having text printed on to its associated slider insert, which can match the programmed zone text. Each zone slider is capable of being removed and inserted from the top edge of each membrane, this is to cater for site specific information.

When an activation of either fire or fault occurs the relevant zonal led will illuminate. When a zonal fire condition occurs the zonal, red, fire LED will pulse until it is silenced upon which it will become constant and will clear upon reset. Operation of a zonal fault will cause the yellow fault LED to operate in a pulsed mode until the fault condition automatically clears or the control panel has been Reset.

The Status LED indications provide visual indication of the condition of the control panel and are designed in accordance with the requirements of EN54-2, refer to TM0001 figure 1.0 for further information. The status indicators have slider inserts are capable of being removed and altered to cater for different languages.

## **1.2 SOUNDER CIRCUIT**

The Repeater panels are supplied as standard with a single monitored sounder circuit positioned on the main repeater terminal PCB (44782-K078), which is rated at 1 amp at 24 volts DC. The sounder circuit is capable of being programmed with specific site configuration information to operate as required. If the sounder circuit has not been programmed then it will operate in a default operation for any Fire or Evacuate conditions and will remain active until silence alarms. The operation is also controlled by the set up switches located on the Main Processor card part number 44782-K077, refer to section 1.5.1 for further information.

## **1.3 RELAY OUTPUTS**

The Control panel is supplied as standard with a single VFCO relay which is rated at 1 amp at 30 volts dc, which is positioned on the main repeater terminal PCB (44782-K078). The relay is capable of being programmed with specific site configuration information to operate as required. If the relay is not programmed then they will operate for any Fire or Evacuate condition and will remain active until panel reset.

A Fault Relay rated at 1 amp 30 v dc is also supplied which is normally energised during status normal and when any fault condition is detected the relay will de-energise. Note that this relay will automatically re-energise when non latching fault conditions automatically clear.

## 1.4 INTERNAL POWER SUPPLY UNIT

The repeater panels are supplied complete with an internal power supply unit, which is designed to meet the requirements of EN54-4. The Power supply provides a 2.5 amp at 24v dc supply output to both the repeater panel and the battery output.

This unit includes a variable mains input which is capable sensing the incoming AC mains voltage, for range between 110v and 270v. The AC mains input is protected by a ceramic mains input fuse rated at 3.5 amps, which is easily accessible.

The unit is supplied complete with a battery temperature lead which requires attaching to the internal batteries of the control panel. This connection compensates the charging of the batteries with respect to the ambient temperature of the enclosure.

The power supply incorporates a set of status LED indications, which are positioned upon the power supply unit. These indications operate when a fault condition is detected upon either the power supply unit or the internal batteries, these indications are as follows:

1. Loss of mains power.
2. Loss of standby power.
3. Reduction of battery voltage.
4. Loss of battery charger.

## 1.5 SWITCH CONFIGURATION INFORMATION

The repeater control panels have various sets of internal switches, which will allow for different operational configurations of the repeaters.

The configuration switches are located on the Repeater Processor card, part number 44782-K077 and is a 4-way switch. Table 1.0 details the information for these switches.

Ref.	Switch Description	Position
1	Enable Local Printer	ON
2	Deactivation of System Buzzers (Global)	OFF
	Deactivation of Local Buzzer	ON
3	Repeater Backlight Permanently OFF	OFF
	Repeater Backlight Permanently ON	ON
4	Deactivation of Local Sounder by use of the "Silence Buzzer" key.	ON

Table 1.

The configuration switches are located on the Repeater terminal card, part number 44782-K078 and is a 2 way switch which operate in conjunction with one another. These switches, when placed in the 'On' position, will install the communications termination resistor. The termination resistor is only used when the repeater panel is the very last on the system. These switches will work in conjunction with the switches located within the main control panel on the Repeater Interface Card, part number 44782-K076.

# CHAPTER 2

## RECEIVE ONLY REPEATERS

### 2. DESCRIPTION

Receive only repeaters which have no controls are determined by the selection of the address "0" via the address switch, which is located on the main processor card (44782-K077), refer to section 1.0 for further switch information. A maximum of 49 repeaters without controls are permitted to be connected to the main control panel.

Receive only repeaters have the facility for an internal monitored sounder circuit and a VFCO relay, these will operate in a common operation for any priority "0" or "1" activation. The monitored circuit will remain activated until the main panels "Silence Alarm" key is operated at which point the sounder circuit will de-energise. The VFCO relay will de-energise upon the operation of the "Panel Reset". Fault conditions detected by the repeater panel will not be transmitted back to the main control panel and will be displayed on a local basis only.

The repeater panels maybe configured with or without status and zonal indications, Input/ Output extension cards and internal panel printer. The inclusion of these options will determine the enclosure dimensions.

### 2.1 CONTROLS

A receive only repeater is not capable of having any effect over the operations of the main control panel. The user keys are accessible at all times and are classed as access level 1 operation.

#### Silence Buzzer

The operation of this key is switch selectable refer to section 1.5.1 for further information. Operation of the switch will allow the deactivation of the internal buzzer and dependant upon the switch selection may deactivate the local sounder circuit.

#### Test

The Test key is used to test the LCD, LEDs, internal buzzer and the control keys of the repeater. This key maybe operated at any time and will initiate the test condition.

# CHAPTER 3

## REPEATERS WITH CONTROLS

### 3. DESCRIPTION

Repeaters with controls are allocated by the selection of an address "1 to 15" via the address switch. Located on the main processor card (44782-K077), refer to section 1.5.1 for further switch information. A maximum of 15 repeaters with controls can be connected to the main control panel. Each repeater panel is capable of having a location name assigned against the repeater address via the main control panel programming.

The repeaters with user controls have the facility for a monitored sounder circuit and a VFCO relay, these circuits are fully programmable via the main control. If the circuits have not been programmed they will have a default operation by activating for any priority "0" or "1" activation from the main control panel. The monitored circuit will remain activated until the main panels "Silence Alarm" key is operated at which point the sounder circuit will de-energise. The VFCO relay will de-energise upon the operation of the "Panel Reset". Once the outputs have been programmed they will operate as per the program. Fault conditions detected by the repeater panel will be transmitted back to the main control panel.

The repeater panels maybe configured with or without status and zonal indications, Input/ Output extension cards and internal panel printer. The inclusion of these options will determine the enclosure dimensions.

### 3.1 CONTROLS

The operation of the control keys are detailed within the Access section, refer to section 3.2 for control key operation. The control section has a removable slider insert which allows the user to carry out language translations.



### 3.2 ACCESS

The Repeater panel with controls has 2 separate access levels with access level 1 being available to the user without entry of any special password. Each access level has its own operating criteria as shown in Table 2.0, which restricts operation of the panel by the user. The level 2 password is identical to that set within the main control panel and is accessed in the same manner and only access level 2 maybe entered from a type 2 repeater panel.

When the main control panel is in access level 2 or 3 all of the repeaters connected onto the system are given a lock out message. While the repeater panels are locked out the LCD displays a message indicating the lockout, as shown in figure 2.0. Once the main panel takes control of the system it is not possible to access the system from any of the repeater panels.

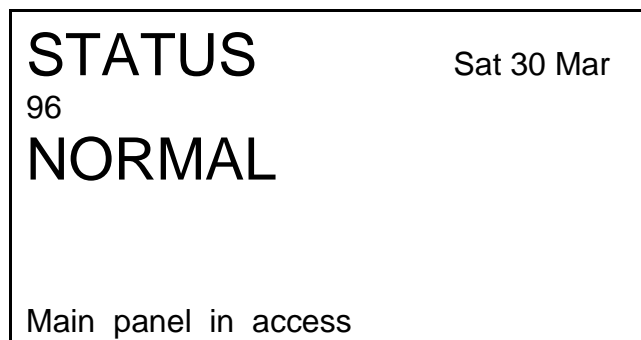


Figure 2.0

When a repeater panel takes control of the system the LCD on all panels attached to the systems will display a lock out message as shown in figure 2.1. The information shows the address number of the repeater and the 24 characters of user text (which is used to determine the location) for the repeater, which has taken control of the system.

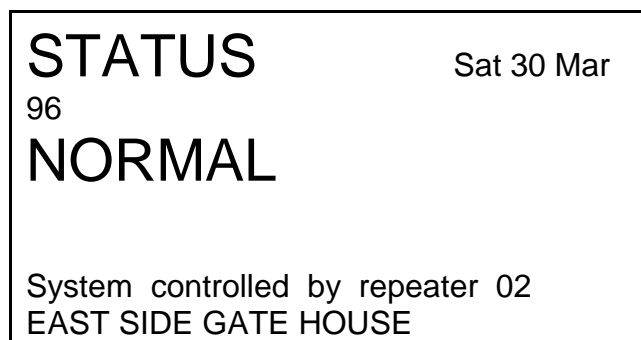


Figure 2.1

Feature	Selection Option	Access Level 1	Access Level 2
Panel Controls	Silence Buzzer	✓	✓
	Scroll	✓	✓
	Silence Alarms	–	✓
	Reset	–	✓
	Delay Override	✓	✓
	Evacuate	–	✓
	Enter Key ( )	✓	✓
	Cancel Key ( )	✓	✓
	Numeric Keys (0 to 9)	✓	✓
	Arrow Keys	✓	✓
Isolate Menu	Zones	–	✓
	Loop Devices	–	✓
	Output Group	–	✓
	Panel Functions	–	✓
	Plant	–	✓
List Menu	Zones	–	✓
	Loop Devices	–	✓
	Output Groups	–	✓
	Panel Functions	–	✓
	Plant	–	✓
	Isolations	–	✓
Set Menu	Time and Date	–	✓
	Printer Status	–	✓
	Activate Day Mode	–	✓

Table 2.0

When the control panel is operating correctly the LCD will display a Status Normal message, as shown in figure 2.2, and the “Power On” green status led will be illuminated.



Figure 2.2

To gain entry from any type 2 repeater into access level 2, operate any numeric key once and the password prompt will appear on the display as shown in figure 2.3. Enter the required access level 2 4-digit password number and then operate the Enter key. Once selected the panel will then verify the entry, which will either be accepted or rejected. Each operation of a membrane key will have audible and visual confirmation by a short operation of the internal panel buzzer and entry of the number will be shown on the display as a "#", for security reasons.

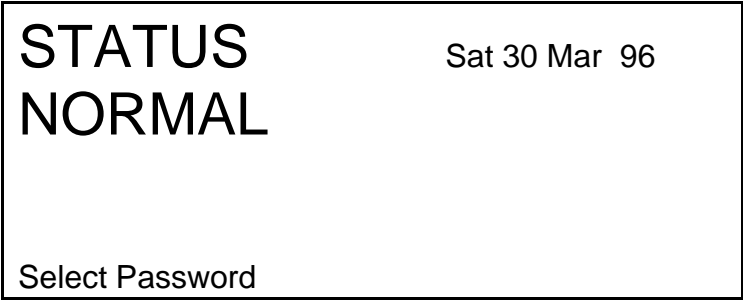


Figure 2.3

Upon acceptance of the entered password the control panel will request an entry of a numeric key, upon which the options which are capable of being selected at access level 2 will be displayed as per table 2.0. Figure 2.4 shows the top-level menu features, which are capable of being selected when the access level 2 password is selected.

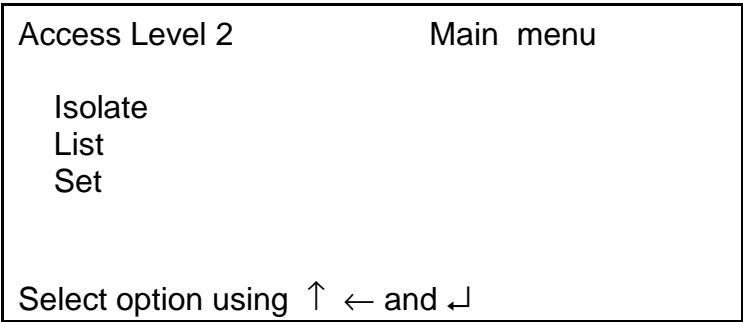


figure 2.4

### Silence Buzzer

The operation of this key is switch selectable, dependant upon the selection, operation of the key will either allow local or a global silence of the internal buzzer, refer to section 1.5.1 for further information. When set to the global selection, operation of the key is used to Silence all of the internal panel buzzers which are connected to the main control panel. Selection to the local position will only allow silencing of the local internal buzzer only.

Upon activation of the internal panel buzzer, operation of the Silence Buzzer membrane key will deactivate the buzzer. When the key is operated a text message will be displayed for a short time period confirming the operation as shown in figure 2.5.

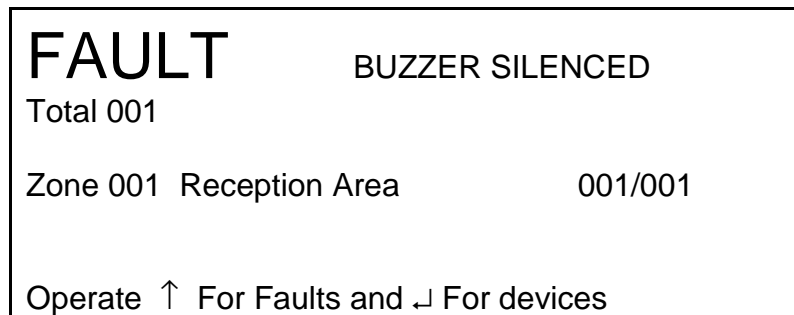


Figure 2.5

When an alarm activation occurs on the control panel and the activation has timers T1 and T2 programmed, operation of the Silence Buzzer key will effect the output configuration of the panel. Operation of this key while timer T1 is counting down will cause the timer to be accepted which will then initiate timer T2. While timer T2 is counting down each operation of the Silence Buzzer will extend the countdown of the timer in 10-second increments to a maximum of 600 seconds. Extending T2 will cause the display to prompt a message “Timers Extended”

### Scroll

When multiple activations (alarm or fault) are indicated on the control panel operation of the Scroll membrane key will allow the activation's to be displayed for the highlighted, selection position. Each operation of the Scroll key will step through to the next activation in sequence of operation, this will be for the selected area only. Once the last activation has been displayed operation of Scroll key will continue to display from the first activation.

### Silence Alarms

The functionality of this key is switch selectable and the operation of the key is only permissible at access level 2. Dependant upon the internal switch position, refer to section 1.5.1, operation will cause the local sounder circuit of the repeater panel to de-energise, where as the global setting will cause all of the outputs across the system to de-energise.

In global selection operation of Silence Alarms operation will cause the deactivation of outputs which may have been programmed to deactivate and cancel the operation of timers T1 and T2. It will not be possible to operate repeater panel Reset membrane key until this key has been operated. It is possible to assign a time delay to this key, which will not allow operation until expiry of a timer, this feature is selectable within the Set menu option of the main panel.

Operation will also cause a confirmation message to be shown on the LCD local and/or global. During an alarm condition operation of this key will cause the pulsing Alarm LED and the first zone in alarms' Zonal LED to operate in a constant mode. The Panel Reset membrane key will not be capable of being operated until the Silence Alarm key has been operated.

## Reset

Operation of the Reset membrane key is only permissible at access levels 2. When operated any activation, which is existing, on the control panel will be cleared and Status Normal will be reinstated.

## Delay Override

The operation of the Delay Override is permissible at access levels 1 and 2 and will, when operated override the operation of any time delays which have been programmed to the panel (timers 1, 2 and 3). When operated a confirmation message will be displayed and the relevant countdown timer will then be cancelled.

## Evacuate

Operation of the Evacuate membrane key is only accessible at access levels 2. When the evacuate membrane key is operated the sounder circuits and other outputs which are programmed to operate will activate. The display will have a confirmation message of the operation as shown in figure 2.6.

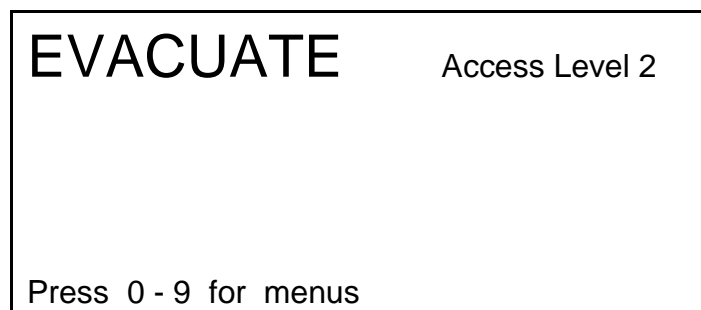
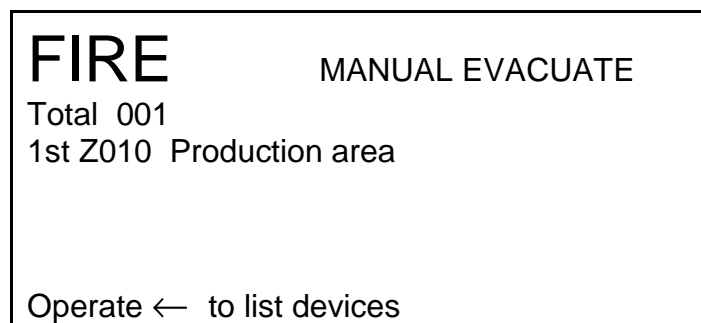


figure 2.6

When in the Evacuate mode the output operation will remain until the Silence Alarms membrane key has been operated. Operation of the Evacuate membrane key while a priority alarm has been activated, will cause the display to confirm the operation as shown in figure 2.7, which will remain until the silence alarm key has been operated.



## Enter Key (↵)

In Status Normal mode operation the Enter membrane Key will be used for the acceptance of numeric data, confirmation of menu selections and accepting the selections of system information. During priority alarm activations the Enter membrane key will be used for viewing the individual device data as shown in figure 2.8. This key works in conjunction with the Scroll key as described in section 3.2.2.

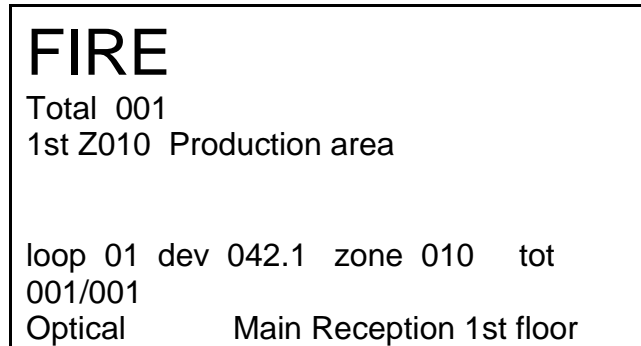


figure 2.8

## Cancel Key (→)

Operation of the Cancel membrane key has two functions, which are determined, by access levels

- a). Will cancel/deselect the present access menu selection and continued operation will eventually return the display to access level 1.
- b). While the internal repeater printer is printing operation of the Cancel key will cause a prompt message to be displayed, this can only be operated while in access levels 2.

The message will request "Cancel Print ?" operation of Enter will cause the printer to stop where as Cancel will continue the operation of the printer.

## Numeric keys (0 to 9)

The numeric keys are mainly used to select the access level password number as described in section 1.0 Access. The numeric keys can be used to select menu level options and the inputting of system data. To select the required menu option press the number required and the highlight will move to the corresponding option i.e. LIST = 1 and SET = 3, operation of the Enter Key will access the menu.

## Arrow Keys

The arrow keys UP, DOWN, LEFT and RIGHT is used for the selection of the access level menus, viewing activation's and pending priority activation's. The repeater panels LCD will give an on screen prompt for operating instructions on how the arrow keys can be used.

# CHAPTER 4

## ISOLATE MENU OPTIONS

### 4. ISOLATE MENU

The entry into access level 2 is explained in section 3.2, upon the selection of the ISOLATE menu feature it will be possible to select from the sub menu features as shown in figure 3.0. These sub menus can be selected by operation of either the arrow keys or by operation of the corresponding numeric key and confirming the selection by operation of the Enter key (↵).

Access Level 2	Isolate
<b>Zones</b>	Plant
Loop devices	
Output group	
Panel functions	
Select option using ↑ ← and ↵	

Figure 3.0

### 4.1 ZONES

To isolate a specific zone, a zone number is required to be entered at the prompt, once selected the display will list the zones starting from the requested zone number as shown in figure 3.1.

Access level 2	Isolate
<b>Zone 011</b>	<b>Store Room Area Bld. 6 Norm</b>
Zone 012	Goods Receive Area Bld 6 Norm
Zone 013	General Despatch Area Norm
Zone 014	Product Inspection Area Norm
Zone 015	General Administration Norm
Zone 016	Main Reception Area Norm
Select option using ↑ & ↵	

Figure 3.1

While the zone is in the normal status, operation of the Enter key will alter the “Norm” status of the selected zone to “ISOLATED”, this will be displayed for a short time period. Upon the selection of isolation the common isolate and the relevant zonal led will illuminate. After the short time period for the display of the “ISOLATED” text the display will revert to “Isol” which will pulse until the zone is returned to its “Norm” status as shown in figure 3.2.

Access level 2		Isolate
Zone 011	Store Room Area Bld.6	Norm
Zone 012	Goods Receive Area Bld 6	Isol
Zone 013	<b>ISOLATED</b>	
Zone 014	Product Inspection Area	Norm
Zone 015	General Administration	Norm
Zone 016	Main Reception Area	Norm
Select option using ↑ & ↵		

Figure 3.2

To return the isolated zone to its normal operating status, “Norm”, operate the Enter key on the required zone which is Isolated and a confirmation message of “DE-ISOLATED” will appear. Repeated operation of the Cancel key will return the display through the menu selections and continued operation will return the repeater to access level 1 where the display will show a devices isolated message as shown in figure 3.3 if any zones are isolated.



Figure 3.3





## Single Device

To isolate a single device the display will request an entry of a loop number which will be via the appropriate numeric key(s) and accepted by operation of the Enter key. Operation of the Enter key will then request selection of the Device number which will also be entered by use of the appropriate numeric key as shown in figure 3.5.

Access level 2	Isolate
Loop _1 address _ _ _	
Select loop and address & ↵	

Figure 3.5

When the device has been selected operation of the Enter key will cause a list of device information to appear starting with the selected device number. By use of the arrow keys the required device maybe highlighted as shown in figure 3.6.

Access level 2	Isolate
<b>Dev 021.1 Loop 01</b>	<b>Norm</b>
I/O Unit Emergency Door Closer	
Dev 022.1 Loop 01	Norm
I/O Unit Emergency Door Closer	
Dev 023.1 Loop 01	Norm
I/O Unit Emergency Door Closer	
↑ to select, ↵ to (De-) isolate	

Figure 3.6

Operation of Enter key will cause the highlighted device to be "ISOLATED" which will be displayed for a short time period as confirmation, after which the display will allow the next device to be selected. Operation of the Cancel key will cause this selection to be cancelled and another operation of the cancel key will revert to the menu selection.

Upon Isolation of the device the common Isolate and device isolate LEDs will be illuminated. To reinstate a device from isolation the procedure has to be repeated. The on screen message will show "De-Isolate?" when the Enter key is operated upon an existing isolated device.

## Device Range

When Selected the display will request for a loop, start device and end device number to be selected as shown in figure 3.7.

Access level 2	Isolate
Device range information	
Loop _1 Start __1 End _ 10	
Isolate	De-isolate
Enter information then operate ↵	

Figure 3.7

Once entered a choice of “ISOLATE” or “DE-ISOLATE” is requested, by operation of the arrow keys the required option can be selected. The selection of either option will not depend upon the current status of the device i.e. if devices are already isolated and the “isolate” option is made the devices will remain isolated. Isolation of a device(s) will illuminate both the Device Isolated and the Common Isolate LED.

If the isolation of a range of devices covers a full zone then the relevant zonal led will be illuminated, if however the selection does not cover a full zone then the device isolate led will be illuminated. Operation of the isolate procedure will cause the common isolate led to illuminate. Operation of the Cancel key will return the display through the menu selections and continued operation will return the panel to access level 1, where the display will show a devices isolated message as shown in figure 3.3.

**4.3 OUTPUT GROUP**

Isolation and De-isolation of Output Groups is similar in format to that of Zones as per section 4.1, the significant difference is that the “Zone” reference is replaced with “Group” and that the output group isolation will inhibit the operation of all associated outputs. When an Output is isolated the “Common” and “Output Isolate” LEDS will be illuminated. Repeated operation of the Cancel key will return the display through the menu selections and continued operation will return the panel to access level 1 where the display will show a devices isolated message as shown in figure 3.3.

**4.4 PANEL FUNCTIONS**

Upon selection of this menu option the display will automatically list the sounder and relay circuits which are positioned within the main panel located upon the master and slave basic loop controllers, this quantity is dependent by the panel setup. The listing will start from the first sounder on the master basic loop controller and by operation of the arrow keys the individual outputs can be selected as per figure 3.8. The operation is similar to the selection of the zone as described in section 4.1.

Access Level 2	Isolate		
Mblc	Scct2	Production area sounder	Norm
Mblc	Scct3	Reception area sounder	Norm
Mblc	Scct4	Gate House Signal	Isol
Mblc	vfco1	ISOLATED	
Mblc	vfco2	Reception Indicator	Norm
Mblc	vfco3	Production HVAC relay	Norm
Select option using ↑ & ↵			

figure 3.8

When a VFCO output is isolated the “Common” and “Output Isolate” LEDS will illuminate and when the display reverts to access level 1 the display will be as per figure 3.3. When ever a sounder circuit is isolated the “Sounder Fault” LED and “Common Isolate” LEDS will illuminate constantly signifying a sounder circuit is isolated.

Operation of the Cancel key will return the display through the menu selections and continued operation will return the panel to access level 1 where the display will show a devices isolated message as shown in figure 3.3.

## 4.5 PLANT

Upon the selection of this menu option and if the plant indications have not been setup within the "Panel Setup" menu selection a message will appear stating "Plants are not enabled". When the plants have been setup the isolate and de-isolate procedure for the plant indications is similar in format to that of Zones as section 4.1, however the only difference is that the zone reference is replaced with "Plant". When a Plant area has been isolated the "Common" and "Device Isolate" LEDs will be lit and when the display reverts to access level 1 the display will be as per figure 3.3. Operation of the Cancel key will return the display through the menu selections and continued operation will return the panel to access level 1 where the display will show a devices isolated message as shown in figure 3.3.

# CHAPTER 5

## LIST MENU OPTIONS

### 5. LIST

The entry into access level 2 is detailed in section 3.2, upon the selection of the List menu feature it will be possible to select any of the sub menu features as shown in figure 4.0. The sub menus can be selected by operation of either the arrow keys or by operation of the corresponding numeric key and confirming selection by operation of the Enter key.

Access Level 2	List
<b>Zones</b>	Plant
Loop Devices	Isolations
Output Group	
Panel Function	
Select option using ↑ ← & ↵	

Figure 4.0

The format of listing will be dependent upon whether the internal panel printer has been selected within the panel setup menu selection. When a sub menu is selected it will be possible to make a selection as shown in figure 4.1. If the panel printer is not setup then the selection shown in figure 4.1 will not be displayed and the information will only be available on the display.

Access Level 2	List zones
<b>Display only</b>	Print only
Select option using ← and ↵	

Figure 4.1

The print only selection will automatically print the selected information, where as the display only option will show the information on the panel display. With the display only option the arrow keys will enable the scrolling of the information by highlighting each information line.



## Zone Information

Upon selection a request for the zone number will be made, once selected the zone information, zone number, zone text and the device information will be displayed as shown by figure 4.4. The displayed device information is for the devices, which have been assigned to the selected zone.

```
Access level 2                List zones
Zone 011 Store Room Area Bld 6
T1 00s T2 000s override: BGU YES DK NO
D008.1 Loop 01 Zone 011 Status I
I/O Unit Emergency Door Closer
D011.1 Loop 01 Zone 011
Optical Stores Office Area
↑ to scroll and → to quit
```

Figure 4.4

The Zone information will include the timer settings for T1 and T2, operation of the arrow keys will scroll the device information only. The device information includes the current status of the devices listed. Operation of the arrow keys will scroll the device information and operation of the Cancel key will return the display through the menu selections and continued operation will return the panel to access level 1.

## 5.2 LOOP DEVICES

Upon selection of this menu option a list of two sub menu options will appear which are capable of being selected as shown in figure 4.5.

```
Access level 2                List loop devices

Single loop
Device range

Select option using ↑ ← & ↓
```

Figure 4.5

These sub menus feature can be selected by operation of either the arrow keys or by operation of the corresponding numeric key and confirming the selection by operation of the ENTER key.



## Single Loop

Selection requests a loop number to be entered and once entered the display will show the total of devices attached to the selected loop. Upon the operation of any key the display will show the information on the devices attached to the selected loop as shown in figure 4.6.

```
Access level 2          List loop devices
D008.1 Loop 01 Zone 011 Status ISOL
I/O Unit      Emer. Door Closer
D010.1 Loop 01 Zone 011
Ionisation    UNASSIGNED
D011.1 Loop 01 Zone 011
Optical       Stores Office Area
↑ to scroll, → to quit
```

Figure 4.6

Operation of the arrow keys will scroll the devices on the display. When viewing is complete operation of the Cancel key will quit the display to the menu and continued operation will return the panel to access level 1.

## Device Range

Selection requests a loop number to be entered and once entered the display will show the total of devices attached to the selected loop as shown in figure 4.7.

```
Access level 2          List loop devices

Loop 01    107 Devices

Start 1__ End ___

Enter required start/end address & ↵
```

figure 4.7

Upon the operation of any key the display will then request a Start and End device number. When entered the display will show the information for the selected device range as shown in figure 4.7.

Operation of the arrow keys will scroll the devices on the display. When viewing is complete operation of the Cancel key will quit the display to the menu and continued operation will return the panel to access level 1.

### 5.3 OUTPUT GROUPS

Selection of this option a list of two menu options will appear, as shown in figure 4.8. The required option can be highlighted by operation of the arrow keys and when correct the Enter key will enter the selected option menu.

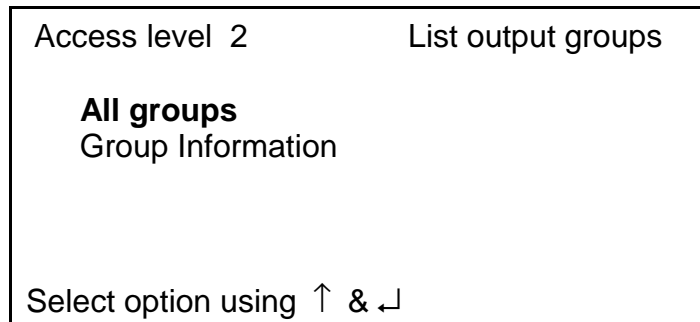


figure 4.8

#### All Groups

When selected the display will request for a start and end group number to be selected by use of either the arrow or numeric keys and operating Enter when the selection is complete. Once selected the display will list the group information which has been programmed into the control panel. Operation and display is similar in format to the List All Zones option as in section 5.1.1. The main difference is that the zone text is replaced with "Group" text.

Operation of the arrow keys will scroll the information on the display. When viewing is complete operation of the Cancel key will quit the display to the menu and continued operation will return the panel to access level 1.

#### Group Information

When selected this will list the group information which has been programmed in the control panel as shown in figure 4.9. Operation and display is similar in format to the List Zones Information option as in section 5.1.2. The main difference is that the zone text is replaced with "Group" and all the output devices assigned to the selected output group will be listed.

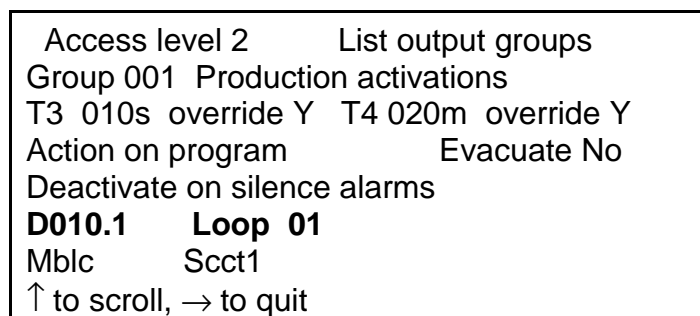


Figure 4.9

Operation of the arrow keys will scroll the information on the display. When viewing is complete operation of the Cancel key will quit the display to the menu and continued operation will return the panel to access level 1.

**5.4 PANEL FUNCTIONS**

Selection of this option will list the information which has been programmed to the sounder circuits and relay outputs of the master and slave basic loop controllers as shown in figure 4.10.

Access Level 2	List
Mblc Scct-2	Production area sounder
Mblc Scct-3	Reception area sounder
Mblc Scct-4	Gate House Signal
Mblc vfco-1	Unassigned
Mblc vfco-2	Reception Indicator
<b>Mblc vfco-3</b>	<b>Production HVAC relay</b>
↑ to scroll, → to quit	

Figure 4.10

Operation of the arrow keys will scroll the information on the display. When viewing is complete operation of the Cancel key will quit the display to the menu and continued operation will return the panel to access level 1.

**5.5 PLANT**

Operation of this option is similar to that of the List Zone menu selection as explained in section 5.1, the only difference is the Zone text will be replaced with “Plant”.

**5.6 ISOLATIONS**

Upon selection the display will show another set of sub menu options as shown in figure 4.11. The required option can be highlighted by operation of the either the relevant numeric key or by operation of the arrow keys. When the selection is correct operation of the Enter key will then enter the highlighted selected option.

Access Level 2	List isolations
<b>Zones</b>	Plant
Loop Devices	
Output Groups	
Panel Functions	
Select option using ↑ ← & ↵	

Figure 4.11

Selection will list all of the current isolations on the control panel for that particular option position. By operation of the arrow keys the information will be scrolled on the display. When viewing is completed operation of the Cancel key will quit the display to the menu and continued operation will return the panel to access level 1.

# CHAPTER 6

## SET MENU

### 6.SET MENU

Selection of the Set menu feature will allow the selection of the sub menu features as shown in figure 5.0. The sub menus can be selected by operation of either the arrow keys or by operation of the corresponding numeric key and confirming selection by operation of the Enter key.

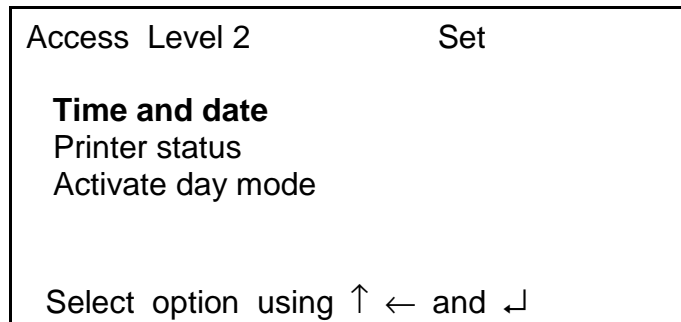


Figure 5.0

### 6.1 TIME AND DATE

This selection allows the time and date to be entered into the control panel. The time and date can be selected by operation of the arrow keys and/or the numeric keys and confirming the selection by operation of the Enter key. As the information is entered into the last position of the line operation of the Enter key will cause the next entry line to appear.

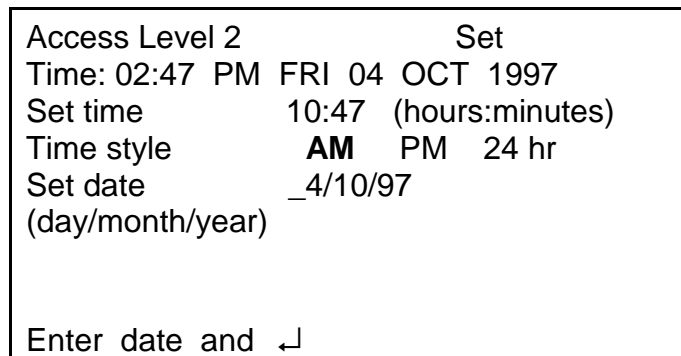


figure 5.1

When entering information into the time and date lines entry of a two figured number via the numeric keys will move directly to the next entry position. If a single number is entered operation of the Enter key will then move to the next position.

The existing time and date information will be displayed at the top of the display and each line will appear with the existing time setting. On either of the time and date lines if an incorrect numeric selection has been made then operation of the left arrow key will allow the user to return to the incorrect number and modify it as required.

The time may also be entered via operation of the arrow keys, operation of the up and down arrow keys will increment or decrement the setting and operation of the Enter key will accept the hour setting and move to the minutes.

Operation of the Left or Right arrow keys will select the "Time style" format by highlighting the position and operating the Enter key upon the required format. When the last entry of selection of the year has been completed operation of the Enter key will accept the new information and return the display to the menu selection. Operation of the Cancel key at any point will cancel this menu option and return to the menu selection.

**6.2 PRINTER STATUS**

This selection will depend upon whether the panel printer has been selected within the Panel Set-up. If it has not been set-up then when selected a warning message stating that the panel printer has not been installed will be displayed. When the printer has been set-up upon selection the panel will display the current status of the printer and the enable/disable options as shown in figure 5.2.



figure 5.2

The display will show the current status of the printer and also the opposite selection status position will be highlighted. Operation of the Enter key will accept the highlighted option. The printer will give a confirmation signal when the selection has been made. Operation of the Left and Right arrow keys will allow the highlight position to be moved between the disable/enable options. When disabled all printers will not operate unless a fire condition is activated.

### 6.3 ACTIVATE DAY MODE

Upon selection the current status of this option will be displayed and it will be possible to select the required status by highlighting the required option as shown in figure 5.3. Operation of the arrow keys will select the required position and operation of the Enter key will cause a confirmation signal to be displayed.

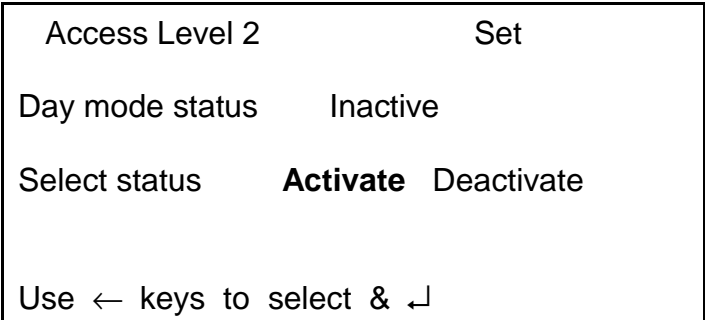


Figure 5.3

For this operation to operate correctly the “Day mode stop” time requires setting as explained in the Engineers manual. Once the day mode has been activated all of the inputs which have been programmed to operate in day mode will operate until the “Day mode stop” has expired. A confirmation will be shown on the panel display until the time out has occurred as shown in figure 5.4.



figure 5.4

It is also possible to manually cancel the operation of the “Day mode” by selecting this option and selecting the required status option. Selection of “Deactivate” will cause a message to be displayed confirming the day mode has been deactivated.

# CHAPTER 7

## ENGINEERS SPECIFICATION

### 7. ENGINEERS SPECIFICATION

DESCRIPTION	
REPEATER Type 1	A maximum of 63 repeaters per main control panel. Repeater panel without controls over the main panel. Maximum of 49 allowed each having a common address of "0".
Type 2	Repeater panel with controls over the main panel. Maximum of Total of 15 allowed. Each with its own unique address (1-15).
DISPLAY	8 line by 40 character Liquid Crystal Display – Backlit. Viewing adjustable via "R4" on PCB 44782-K077.
INDICATIONS	14 status indications defined by EN54 part 2 (optional).
	24 Fire and Fault zone indications. Expandable in blocks of 32 indications to give the options of 56, 88 and 120 (optional).
	64 plant indication (optional).
PRINTER	24 volt dot matrix Fast Action printer (optional).
CURRENT VALUES LCD only Repeater LCD c/w 24 zones	Quiescent = 90 mA : Alarm = 120 mA Quiescent = 120 mA : Alarm = 170 mA
POWER SUPPLY UNIT 2.5 amp PSU Battery Charging  Fuse	110 - 270 Volt AC mains input voltage sensing. Flat - 27.7v @ 2.5 amps ± 0.4 volts DC. Load shed - 20.4 to 21.4 volts DC. ± 0.4 volts DC. 3.5 amp 20mm ceramic fuse.
DIMENSIONS Enclosure Finish  Cable Entry Weight  IP Rating Battery Capacity	Based upon an LCD Repeater Only (No space for printer). 250mm High by 500mm wide by 125mm deep. Semi Gloss Ash Grey - BS4800 00A01 (other colours optional). 20mm Pre formed knockouts top & bottom. 7.6 Kg - Unpacked (standard enclosure 250x500x125). 10 Kg - Packaged (standard enclosure 250x500x125). IP31 Space for 2 x 12 volt 3.2 amp per hour SLA batteries.

DESCRIPTION	
<p><b>INPUTS</b></p> <p>Repeater Input</p> <p>Power Supply</p> <p>Additional Input</p>	<p>Refer to External Wiring Diagram (53836-K046wd). 4 way terminal - Input “+/-” and Output “+/-”. RS485 signal.</p> <p>Live , Neutral and Earth. 110v - 220v a.c mains input. Software defined input requiring a switched 0 volt input. For internal use only.</p> <p>Input 1 - Access Level 2 override.</p>
<p><b>OUTPUTS</b></p> <p>Monitored Output</p> <p>Relay Output</p> <p>Internal Buzzer</p>	<p>Refer to External Wiring Diagram (53836-K046wd).</p> <p>1 off programmable monitored reverse polarity sounder circuit rated at 1 amp @ 17 to 28.5 volts DC.</p> <p>1 off programmable volt free change over relay contacts rated at 1 amp (resistive) @ 30 volts DC maximum.</p> <p>1 off Fault volt free change over relay contact rated at 1 amp (resistive) @ 30 volts DC maximum. Energised upon power up and de-energises for any fault condition.</p> <p>80 dB output.</p>
<p><b>SWITCH INFORMATION</b></p> <p>Display PCB - 44782-K077</p> <p>Terminal PCB - 44782-K078</p>	<p>SW 1 - System Fault Reset</p> <p>SW 2 - Repeater address switch 0 to 15.</p> <p>SW 3 - Position 1: Isolate Local Printer. Position 2: Silence Buzzer operation Position 3: LCD Backlight ON or OFF. Position 4: Deactivation of local Sounder.</p> <p>SW 4 - Processor Restart.</p> <p>SW 1 - Installation of repeater EOL. Used when repeater is the very last on system.</p>
<p><b>APPROVED CABLES</b></p> <p>Repeater Panel</p> <p>Sounder Circuits</p>	<p>Belden 9729 or Equivalent (2 core). 1 Km maximum (to be confirmed).</p> <p>Any screened cable which is approved by the current British Standard for “Prolonged Operation in a fire condition”.</p> <p>MICC or equivalent (2 core). 1 Km maximum for 1.5mm Cross Sectional Area. 2 Km maximum for 2.5mm Cross Sectional Area.</p>



DESCRIPTION	
<p><b>ENVIRONMENTAL</b>  Temperature    Operating    Storage  Relative Humidity  Shock &amp; Vibration    Operational    Endurance  Electrostatic Discharge  Electromagnetic Interference  Electrical Fast Transients</p>	<p>+40 / 0 degrees C.  +40 / 0 degrees C.  93 %.</p> <p>10 Hz to 150 Hz sinusoidal, 0.1g in all 3 planes.  10 Hz to 150 Hz sinusoidal, 0.5g in all 3 planes.  8 kV.  10 v/m, 27 MHZ sinusoidal.  1 - 2 kV on power input cables.</p>
<p><b>DESIGN STANDARDS</b>  Vega Design Standard</p>	<p>Designed under the Quality standard of ISO 9001.  To meet the requirements of EN54 parts 2 and 4.  European Directive on Electromagnetic Compatibility (89/336/EEC).</p>
<p><b>DOCUMENTATION</b>  Manuals</p>	<p>TM0024 - Vega Repeater Manual.</p>
<p>Drawings</p>	<p>Internal Wiring Diagram - 53836-K081.  External Wiring Diagram - 53836-K081wd.</p>
<p><b>HARDWARE INFORMATION</b>  Repeater Display Board  Repeater Terminal Board  Status &amp; Zonal Card  Liquid Crystal Display  24 volt Printer Interface Card  Panel Printer  Power Supply (2.5 amp)</p>	<p>Part Number : 44782-K077  Part Number : 44782-K078  Part Number : 44782-K072  Part Number : 43782-K035  Part Number : 44782-K050  Part Number : 43782-K036  Part Number : 28730-K002  Part Number : 28730-K002</p>