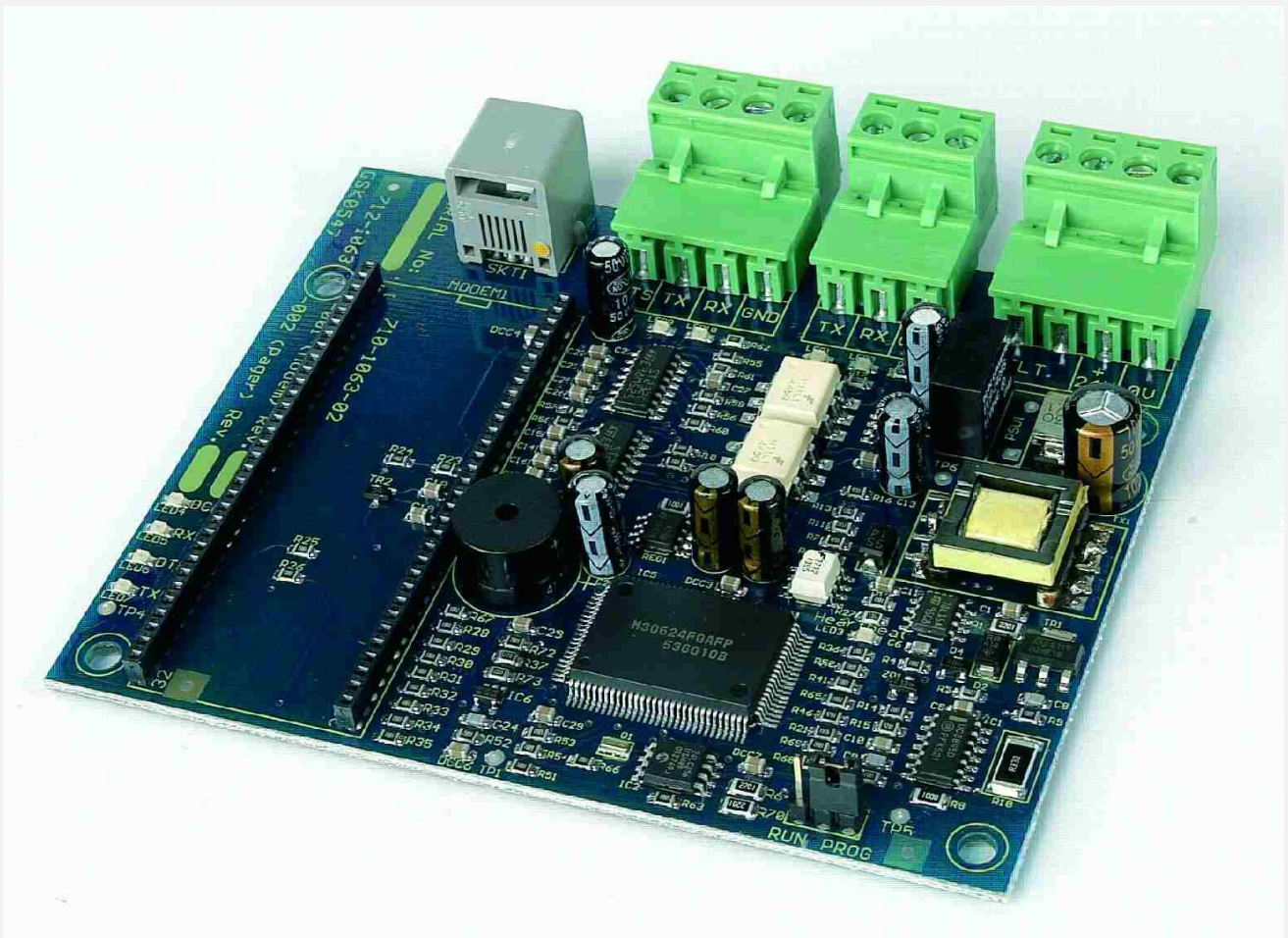**Manual**

Pager Interface

MxPro⁵

The operation and functions described in this manual are available from Software Version Mx5000-050-04 onwards.

Specifications:

Models, Sales Order Parts:
Mxp-547   Pager Interface Card **Mxp-547-BX**   Pager Interface (Boxed)

Applications / Limitations:
For use with Pager Systems compliant to ESPA 4.4.4 protocol If a printer is also required, fit an internal Mxp-512 printer assembly.

Compatibility:
A new PC configuration program (MxPager) is provided for configuring the pager interface. The interface has been compatibility tested with Multitone pager systems. The Mxp-547 can be installed on the chassis plate in the medium, large and deep panels. The Mxp-547-BX can be used with all Mx-5000 Series panels.

Item	Specification Details
Power supply	15-30V DC (e.g. Wired from panel 24V auxiliary supply)
Supply current	50mA (typical at 24V DC).
Temperature	-5°C to 50°C
Humidity	95% Humidity (non condensing)
Dimensions	PCB: 85mm H x 105mm W x 15mm D Enclosure: 218mm H x 300mm W x 45mm D
Panel Interface	RS232 Galvanically (Opto) isolated
Pager Interface	RS232 Galvanically (Opto) isolated
Fault Input	Non-monitored / Monitored (10K EOL, 470R active)
Maximum № of Pagers	250
Maximum № of Groups	50
Maximum № of Pagers per Group	8
Event Types Supported	Fire Alarm, Test Alarm, Plant Alarm, Pre-Alarm, Fault, and Disablement
As our policy is one of constant product improvement the right is therefore reserved to modify product specifications without prior notice	

## Table of Contents   Page

1   Installation

1.1   Fitting the Card in a Panel

Mount the card to the pillars on the chassis plate using the four M3 screws supplied.

Connect 24V DC supply from the AUX output to the connections on the Pager Interface.

OBSERVE POLARITY!

Connect the RS232 serial connection between the base card and the Pager Interface.

Connect:

> TX – RX,
>
> RX – TX
>
> GND – GND

DC PWR Wiring

Pager Interface   RS232 Wiring   Base Card
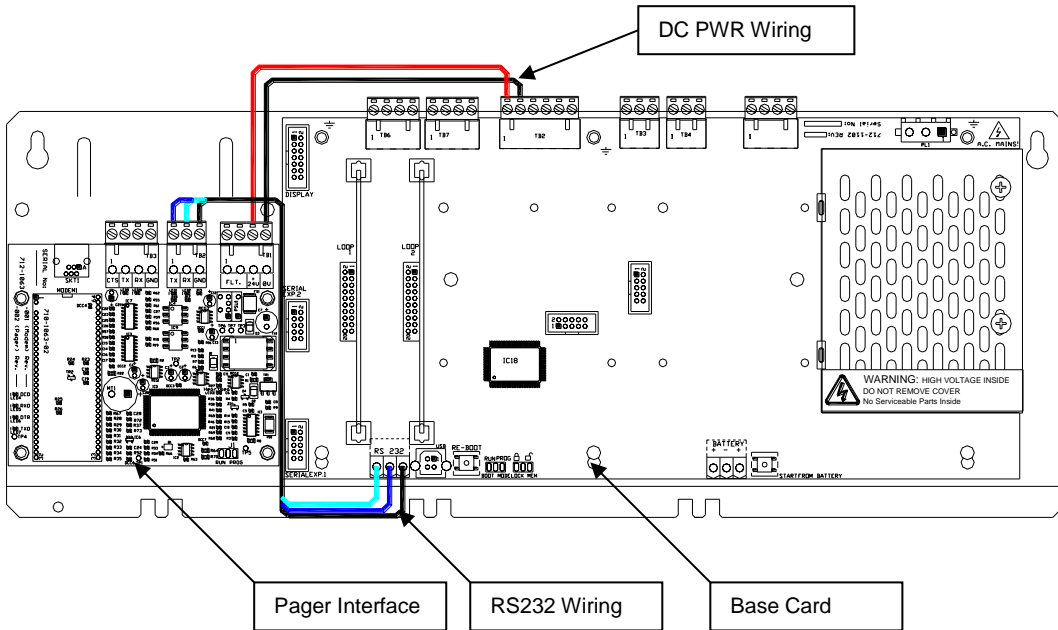
1.2   Mounting the Boxed Version

The enclosure dimensions and fixing points are shown in the diagram opposite.

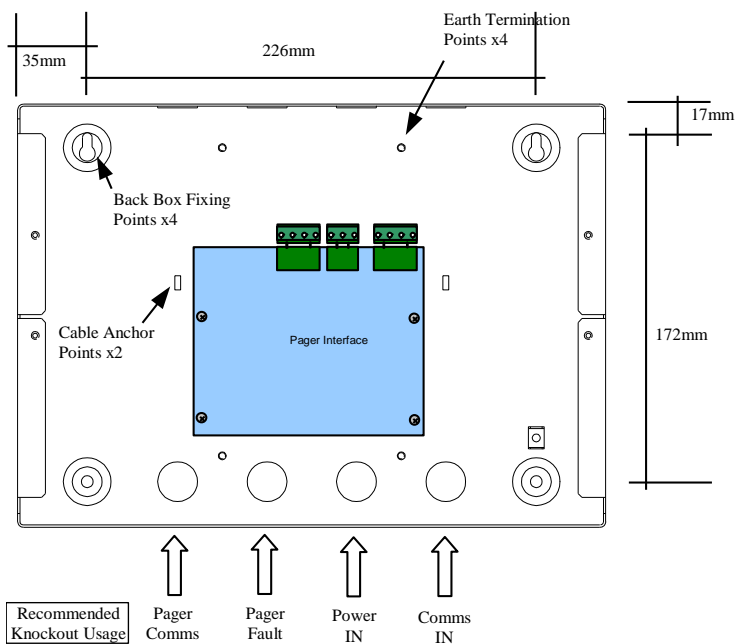Connect 24V DC supply from the AUX output to the connections on the Pager Interface.

OBSERVE POLARITY!

Connect the RS232 serial connection between the base card and the Pager Interface.

Connect:

> TX – RX,
>
> RX – TX
>
> GND – GND

Run the cabling in rigid conduit or use fire rated cable. Note: Maximum distance of 3m (10ft) between the FACP and the interface.

Earth Termination Points x4

35mm   226mm

17mm

Back Box Fixing Points x4

Cable Anchor Points x2

Pager Interface

172mm

Recommended Knockout Usage | Pager Comms | Pager Fault | Power IN | Comms IN

1.1 Status Indications

Status indications are provided on the card to show operation of the interface.

1.1.1 Heartbeat LED Indicator

The Heartbeat LED will normally flash at a rate of 1Hz (once per second) to indicate that the card is operating.
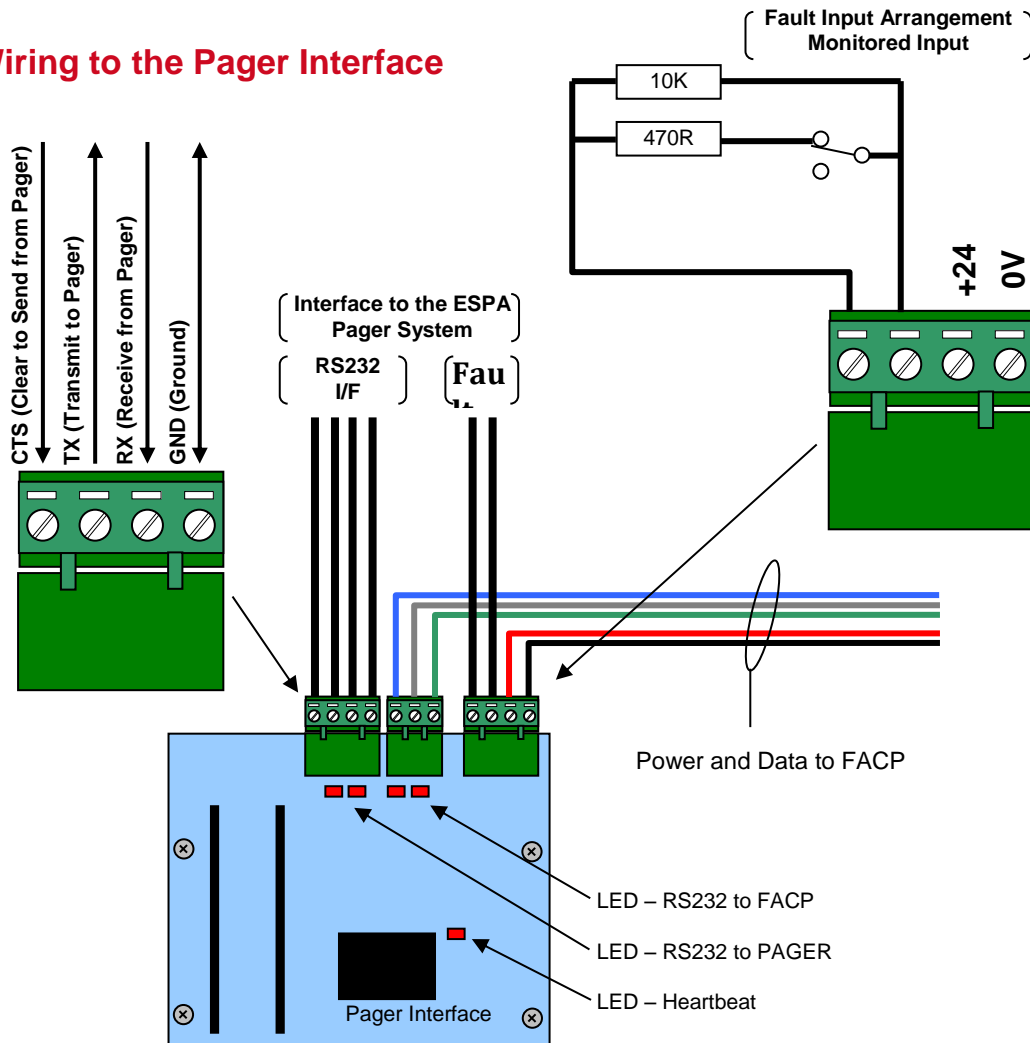
1.1.2 RS232 Activity LEDS

LED2: RS232 RX – Lit when data is received from the fire panel.

LED1: RS232 TX – Lit when data is transmitted to the fire panel.

LED10: RS232 RX – Lit when data is received from the pager.

LED9: RS232 TX – Lit when data is transmitted to the pager.

1.2 Wiring to the Pager Interface

The Serial Interface follows the standard RS232 interface connections. Run the cabling in rigid conduit or use fire rated cable. Note: Maximum distance of 3m (10ft) between the Interface and the Pager.

Connect the TX terminal of the interface to the RX (RXD-Receive) input of the pager.

Connect the RX terminal of the interface to the TX (TXD-Transmit) output of the pager.

Connect the GND terminal of the interface to the 0V or GND terminal of the pager.

If required, the CTS terminal of the interface can be connected to the DTR output of the pager if this is provided.

Using the MxPager program, the fault input can be configured as monitored (used) / non-monitored (unused) and can be inverted to provide compatibility with Normally Open (Inverted) or Normally Closed fault relay output contacts.

The diagram above shows the EOL arrangement for the monitoring of the relay output contacts. The diagram shows the normally closed condition.

2   Configuration

The MxPager software is used to configure the operation of the unit.

The program uses the standard RS232 upload / download lead supplied with the PC-NET-003 PC CONFIG software for connecting the PC to the Pager Interface.

The software is supplied on a CD. To install the software onto the PC, insert the CD and the program should auto-run. Follow the on-screen prompts to install the software.

If the auto-run feature is disabled or does not run, select START, RUN and enter D:\setup.exe where D: is the drive letter of your CD drive.

To run the program, select Start, All Programs, Advanced Electronics, MxPager.

The program will open up with a new (blank) configuration file. The screen is as follows:
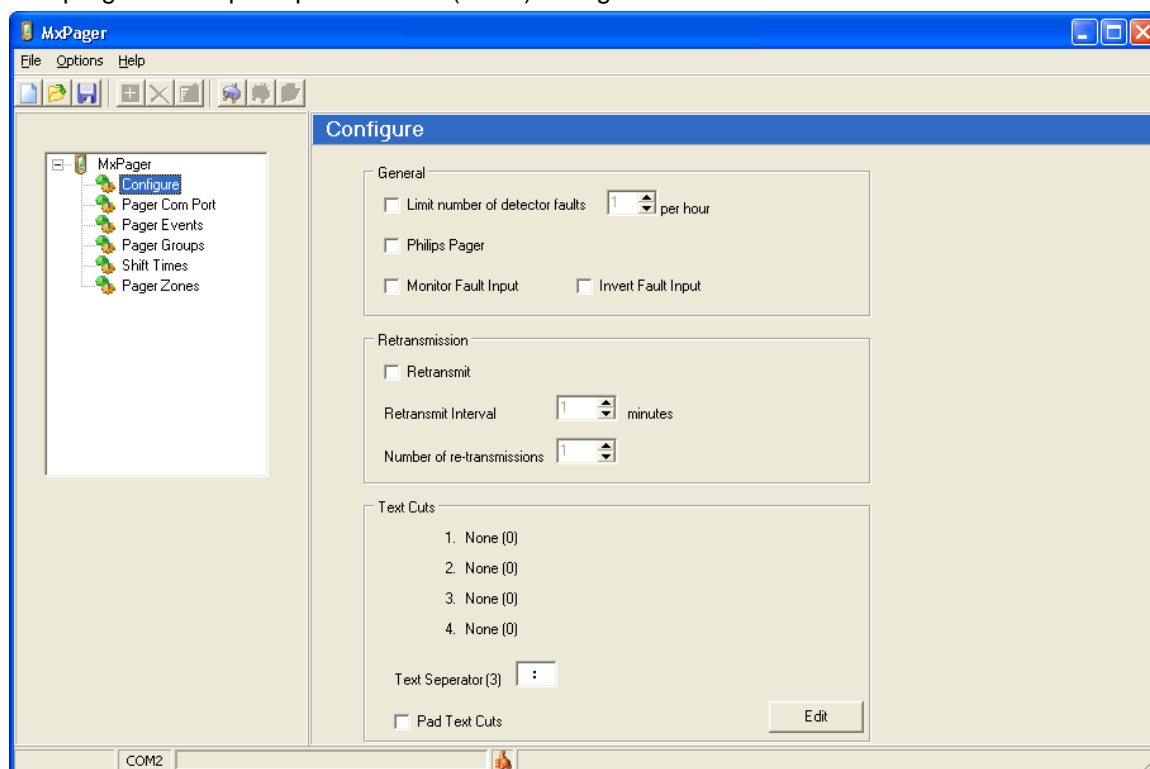
Use the normal windows "New, Open and Save" functions to create / open a   file via either the "File" menu or the buttons.
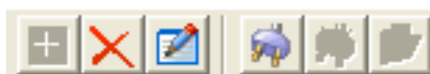
The tree view on the left shows the list of configurable options.

The active view on the right shows the parameters and functions that can be changed for the option selected.

Additional buttons are available and are context sensitive   and are grouped into common functions as follows.
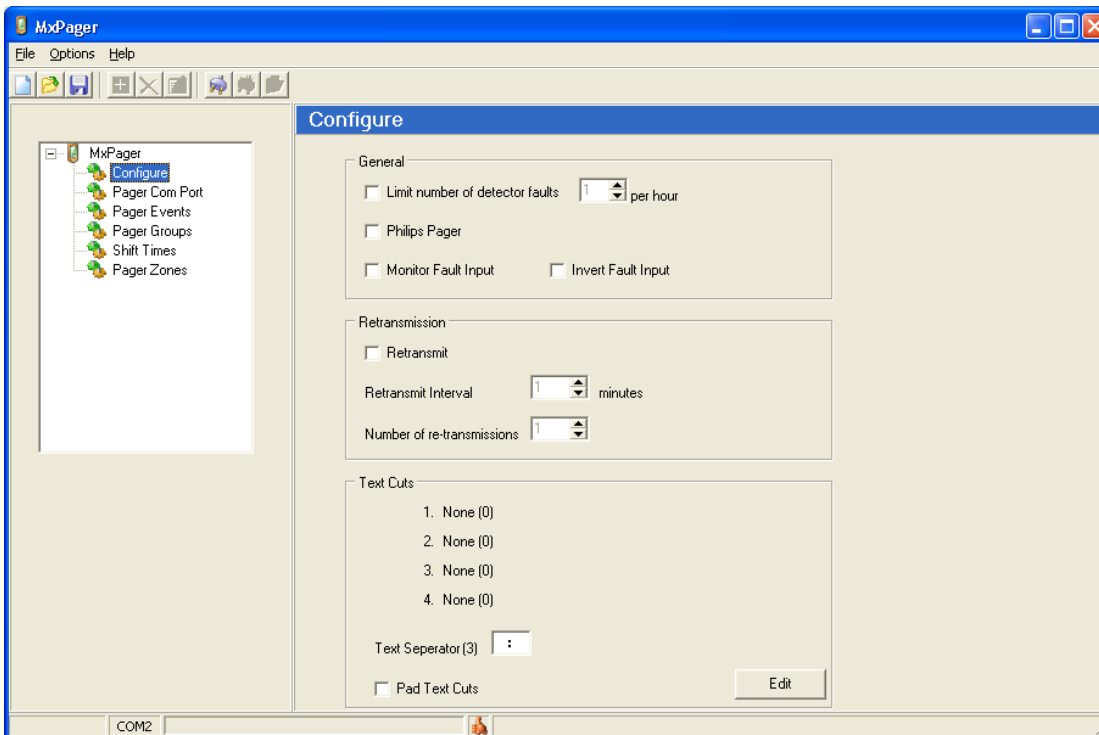
a) Add / Delete / Edit pager addresses

b) Connect to / Disconnect from / Upload to target pager interface.

2.1 General Configuration Options

The general configuration options provide a set of specific settings to configure the interface to the type of pager in use and how the pagers are to be notified with information. The default (new) screen is shown below:

2.1.1 General Options

Item	Description
Limit number of detector faults	This can be used to prevent a large number of faults, say due to a loop failure, swamping the pager system. Unticked, the interface will report all faults as they occur. To restrict the number of possible fault messages, tick the box and then set the number of fault per hour in the range 1 – 250.
Philips pager	Tick this box if the pager is specifically a Philips pager system. Leave unticked for all other pager systems.
Monitor Fault Input	Tick this box to utilise the fault input circuit. Leave unticked to ignore the fault input circuit.
Invert Fault Input	Tick this box to Invert the signal and monitor NO relay contacts.

2.1.2 Retransmission

Item	Description
Retransmit	Unticked, the interface will report all events only once as they occur. Tick the box to retransmit the events more than once. Set the retransmit interval in the range 1 – 30 minutes. Set the number of retransmissions in the range 1 – 255. NOTE: If the condition persists and if a pager address has been assigned to the ALL CALL Group, then the interface will send a message to the ALL CALL pager address after all normal retransmissions have occurred. This will be sent after the programmed retransmit interval.

2.1.3 Text Cuts

The information to be sent to the pager can be configured to specific system information and / or user text.

Some pagers have limited display capability.

To accommodate this restriction, the text can be further cut to send only part of the available message so that a composite message can be built up from various sources.

Up to four text cuts can be defined.

Note: Text cuts are from the beginning of the available string. For example, the zone text can be up to 32 characters in length. Applying a text cut of 6 will mean that the first six characters of the string are sent to the pager. (i.e. "Ground Floor West" would be sent as "Ground").

Press the EDIT button and a pop-up screen will be shown as opposite:

Click on one of the available text types and using the mouse pointer, drag this down to one of the text cut fields.

Build up the message order and then determine the length (cut) of each string to be built in to the full message.

User text can be entered / typed into the boxes to the right of the item.

For example:

The pager is to be sent a message in the format:

FIRE/FAULT/ALARM – ZONE0001 – ZONE TEXT (16 characters)

The example screen image opposite shows the settings required.

The maximum length of each item is detailed in the table below.

Item	Maximum Length
Device Text	26
Zone Text	32
Event Text	16
Point Address	12
Event Time	8
Zone Number	4
User Text	16

NOTE: The Pager interface automatically strips off any "spaces" after the text characters and only sends the actual text characters.

`For example: The text <LIBRARY ROOM        > is sent as <LIBRARY ROOM>`

If The PAD TEXT CUTS option is ticked then these trailing "space" characters are included in the message.
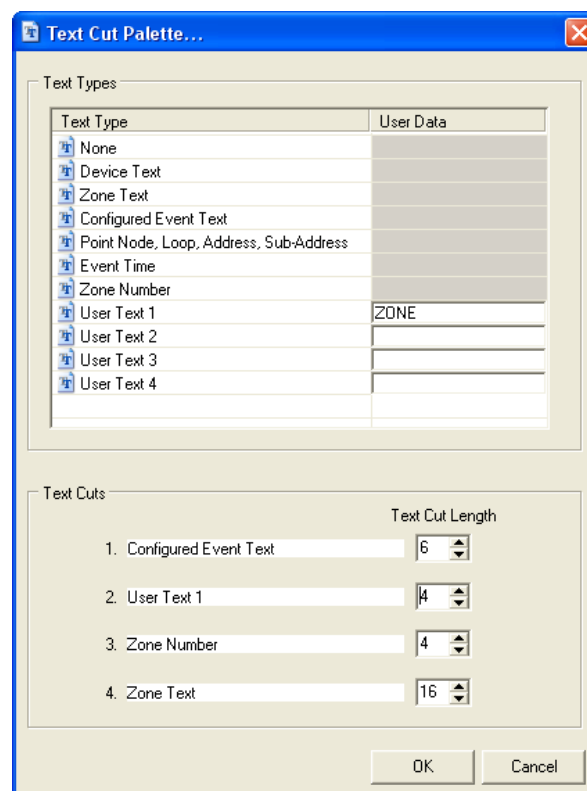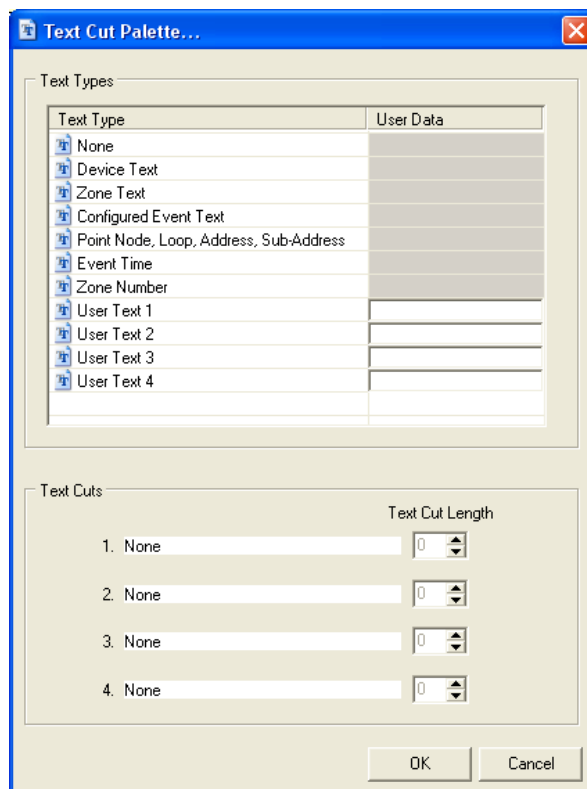
2.2   Pager Interface Communications Settings

The serial interface can be configured to the settings of the pager system. Refer to the pager system documentation for further details on the settings required.

The table below shows the options available.

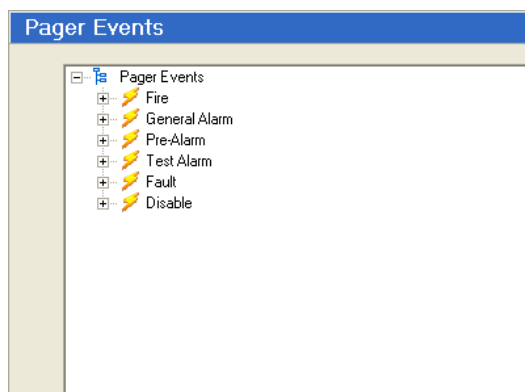| Item	Default	Options
Baud Rate	4800	600, 1200, 2400, 4800, 9600, 19200, 38400 and 57600
Data Bits	8	7, 8
Stop Bits	1	1, 2
Parity	None	None, Odd, Even
CTS	Disabled	Disabled, Enabled, Switched
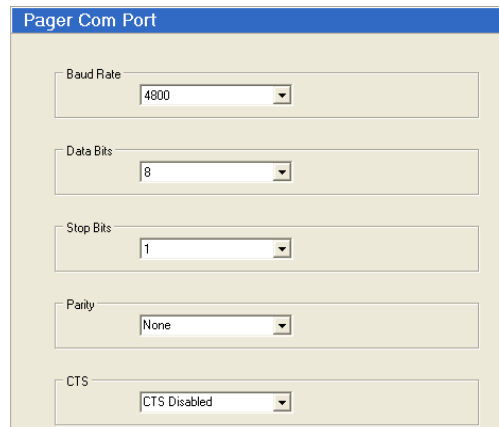
2.3   Pager Events

In the pager events option, it is possible to determine to which pagers each type of event should be sent and to configure some basic event parameters.

The active window shows and event tree with all of the possible event types.

To configure an event type, click on the + symbol to expand the tree.

The Basic options are described in the table below. Right click on the item to edit its setting.

Item	Default	Options
Flag	Fire = Alarm Alarm, Plant Alarm, Pre-Alarm and Fault = High Disable and Enable = Normal	Alarm High Normal
Beep Code	1	0 – 9 Refer to the pager documentation to see if it supports this option.
Text	Fire Alarm Plant Alarm Pre-Alarm Fault Disable Enable	Up to 16 characters – this text is used in the "Event Text" string – see the section on Text Cuts.
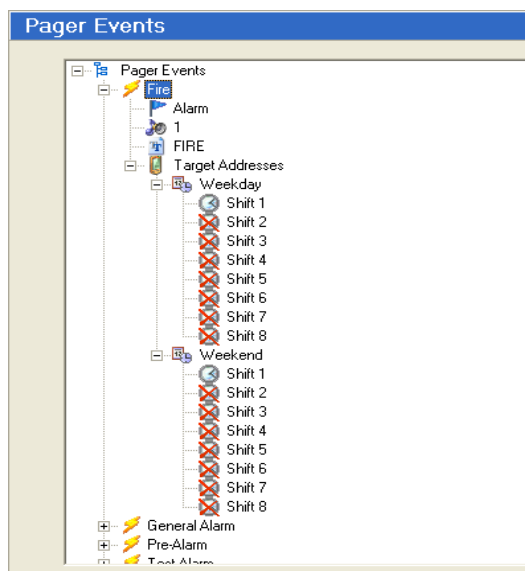
There can be up to 8 shifts per day for both weekdays and for weekend days. Shifts that are not configured are crossed out.

Right Click on a shift to add a pager – a text entry box is displayed. Enter the address of the pager to which these messages should be sent either directly in the box or select drop down list by clicking the down arrow button.
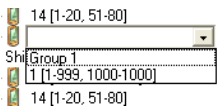
The list presented includes all defined pagers and pager groups currently in this shift.

For confirmation, the zone ranges assigned to the pager (if are shown alongside the pager number. For example, Pager opposite is assigned to Zones 1-25 and 110-233.

Pager Addresses can be up to four (4) digits in length and can of the numbers 0-9, the characters A-F or a wild card (*) character. For example, these could be – 1, 09, A1, B1F, 9010 (i.e. A10D to A1FD).

NOTE: Addresses "1", "01", "001" and "0001" are not the same pager.

A combination of up to three (3) individual addresses or groups can be assigned to a shift.
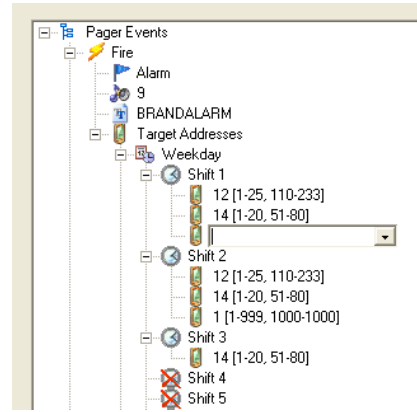
2.4   Pager Groups

To simplify event programming, pagers can be assigned to pager groups. A group can consist of up to eight (8) individual pager addresses.

Select the group required and Right Click to "Add" a pager address. A text entry box is displayed. Either enter the number of the pager to which these messages should be sent directly in the box or select from a drop down list by clicking the down arrow button.
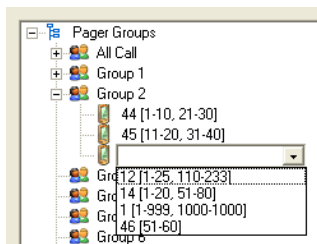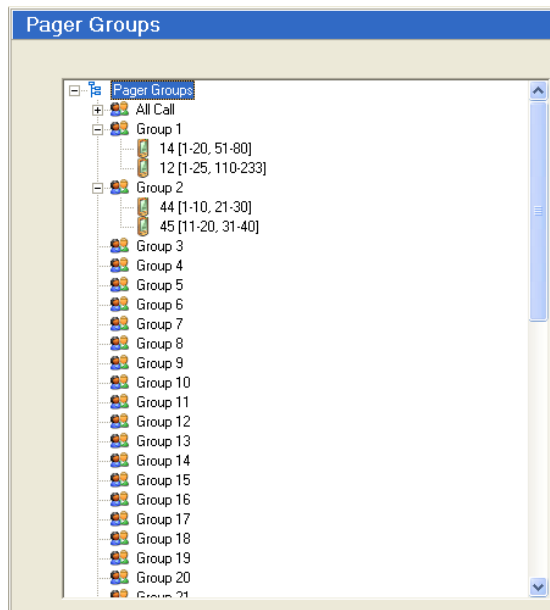
The list presented includes all defined individual pagers currently unused in this group.

2.5   Shift Times
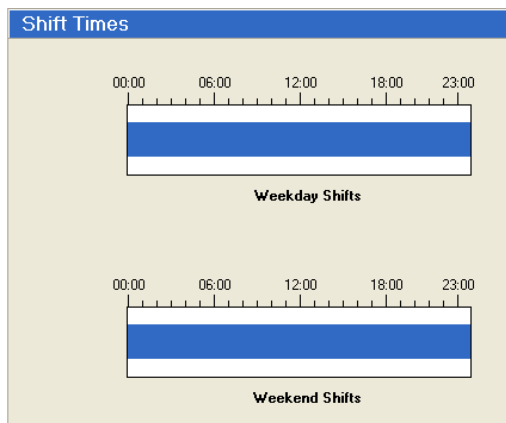
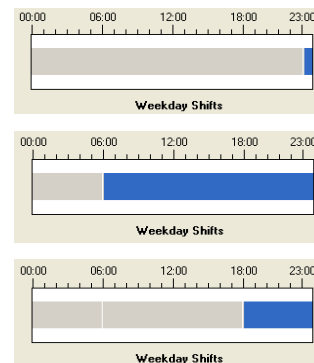Up to eight shifts can be defined for weekdays and for weekend days. As default, day is defined as one shift.

Right Click on the blue bar and "Add" to add a shift.

Click on the boundary between two shifts and drag the boundary to the required time.

Shifts can be defined in five-minute intervals.

Repeat the process to define the number of shifts and the shift times required for both weekdays and weekend days.

2.6 Pager Zones

Each Pager Address must be configured to define from which zones the events will be sent to the pager.

This can be used to prevent unnecessary or unwanted events being sent to all pagers or it can be used to define only those zones that are relevant to a specific person.

For example, a nurse pager can be configured to cover only those zones concerned with the hospital wards covered by the nurse.

Up to two ranges can be defined.

Right Click in the table or on a specific address to Add / Delete / Edit and entry.

A new pop-up dialogue box is shown.

Define the new pager number and address ranges as required. See example below.

Address	Range 1 From	Range 1 To	Range 2 From	Range 2 To
12	1	25	110	233
14	1	20	51	80
1	1	999	1000	1000
44	1	10	21	30
45	11	20	31	40
46	51	60		

If only one address range is required, then use "Zonal Range 1" only.

The maximum zone range is 1 – 2000.

2.7 Upload Communications

To upload the configuration data to the pager interface, first unplug the cable from the base card and plug in the upload / download lead as shown opposite.

Click on the "Connect to Target" button and when communications is established, click on the "Upload" button to transfer the data.

On completion, remove the upload / download lead and re-fit the lead from the base card.

Pager Interface
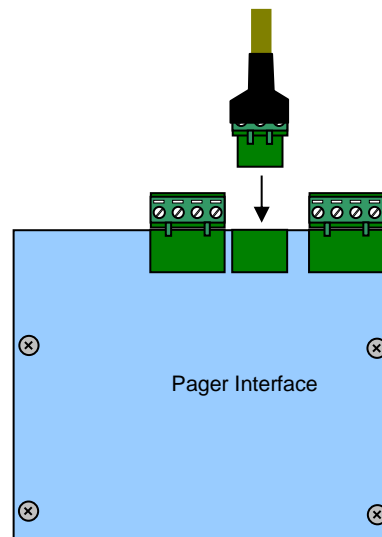
3   Fault Codes

The following table lists the possible fault conditions reported on the Panel LCD and their meaning. The list is in descending order of priority.

Item	Description
DEVICE MISSING	The pager interface is not responding to the panel communications. *Check power and serial communications connections to the interface. Check that the Heartbeat LED on the interface is flashing.*
CORRUPT DATA	The communications between the panel and the pager is being affected. *Check the serial communications connections to the interface.*
PROGRAM FAIL	The pager interface has detected a checksum error in its operating program. *Re-flash the operating program into the interface using the MxFlasher Tool.*
CONFIG. FAIL	The pager interface has detected a checksum error in its configuration data. *Power down the interface then reapply power. Re-configure the interface using the MxPager Tool with the configuration settings.*
NOT READY	The pager interface has either never been configured or is not fully configured. This could occur if the RS-232 lead is disconnected during a configuration upload. *Re-configure the interface using the MxPager Tool with the configuration settings.*
CPU RESET	The pager interface has just powered up or has been reset due to a watchdog timer. This will not normally appear on the display but may appear in the log.
DEVICE FAULT	The pager interface cannot establish communications with the ESPA Paging system. *Check the serial communications connections between the interface and the ESPA Pager system.*
OPEN CIRCUIT	There is an open circuit condition on the Fault Input wiring. *Check the connections between the interface and the ESPA Pager system including the EOL resistor.*
SHORT CIRCUIT	There is a short circuit condition on the Fault Input wiring. *Check the connections between the interface and the ESPA Pager system including the EOL resistor.*
INPUT FAULT	The Fault Input is in its active condition indicating a fault condition from the ESPA Pager system. *Check the ESPA Pager system.* *NOTE: The input can be configured with an "Invert" property. Check that the correct configuration has been used for this input's required operating properties.*
Normal	The interface and the Fault Input are in their normal operating condition.

NOTE: Transmission to the Pager Interface is prevented whilst the panel is in COMMISSION mode. This is to prevent the paging of unwanted / spurious messages whilst commissioning / testing the panel.

USER NOTES

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