



THE HFW-W2W-01 WIRELESS INTELLIGENT TRANSLATOR MODULE SYSTEM CONFIGURATION MANUAL

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INTRODUCTION

The ***WIRE TO WIRELESS INTELLIGENT TRANSLATOR MODULE (HFW-W2W-01)*** allows for the extension of an existing, or newly installed, fire detection system with minimum interruption to the end user. All field devices and the radio programming can be completed prior to interrupting the existing system wiring minimising system down time.

The system coverage can be increased by the use of additional ***WIRELESS EXPANDER MODULES (HFW-EM-01)***. These Modules are powered from a locally installed Power Supply Unit. Additional field devices can be directly associated with these Modules. However, the maximum number of devices in a cluster cannot exceed 32 devices (see ***page 45/46*** for a graphic example of a microcell/cluster).

Power is applied to the Translator Module when the Translator Module is wired directly to an existing fire detection loop with associated wireless field devices connected on a secure wireless network.

This guide details how to program a Translator Module with/without extension Expander Modules and the associated field (child) devices prior to integrating them into the hard wired fire detection system.

The guide also details the auxiliary processes available to assist the engineer in diagnosis of a problem attributed to the wireless equipment.

PURPOSE



The purpose of this manual is to provide the user with all recommended procedure descriptions and full technical details for the successful installation and commissioning of *HYFIRE*'s **HFW-W2W-01** Intelligent Wireless Translator Module on to a compatible Fire Control Panel. Procedures described in this manual include appropriate warnings and cautions to guide the user towards adopting safe and methodical work practices during the installation and commissioning phases.

CE MARKING



This equipment is CE Marked to show that it conforms to the requirements of the following European Community Directives:

- Electromagnetic Compatibility Directive 89/336/EEC (and the amending Directives 92/31/EEC, 93/68/EEC)
- Low Voltage Directive 73/23/EEC (and the amending Directive 93/68/EEC)

SYSTEM DESIGN AND PLANNING

It is assumed that the system, of which the **HFW-W2W-01** is a part, has been designed by a competent fire alarm system designer in accordance with the requirements of EN54 Part 14 and any other local codes of practice that are applicable.

PERSONNEL

Installation and commissioning of this product must be carried out only by suitably qualified electrical engineers. Engineers must have attended a *HYFIRE* training course for the Hybrid Wireless Translator Module and associated devices.

GENERAL

The **HFW-W2W-01** Translator Module is designed to be used with a Fire Control Panel employing "**VEGA PROTOCOL**" and with the *HYFIRE* range of wireless Detectors, Manual Call Points, Input Modules, Output Modules, Audio and Audio-Visual devices.

FIELD DEVICE SUPPLY AND SUPPORT

The **HFW-W2W-01** Translator Module supports the full range of *HYFIRE* field devices and accessories. For details on supply and support of these products contact:

Sterling Safety Systems

Tel: 01926 485 282
Fax: 01926 485 550
Email: info@sterlingsafety.co.uk
Web: www.sterlingsafety.co.uk

INSTALLATION GUIDE

HOW TO USE THIS GUIDE

This Installation Guide is intended to provide an installation engineer with simple guidelines on how to install a **HFV-W2W-01** Translator Module, quickly and safely. For each stage in the installation and commissioning procedures a brief description is given of its purpose, complete with drawings, flow diagrams and/or other graphics to make the instructions easy to follow.

RELATED DOCUMENTS

The guide does not describe any of the Fire Control Panel installation, operating or configuration stages. For more information refer to the Fire Control Panel series of manuals.

WARNINGS AND CAUTIONS

Where appropriate, this guide and the remainder of the manual includes advisory warnings and cautions to remind you to consider safety at all times, especially when following the procedures described in this manual.



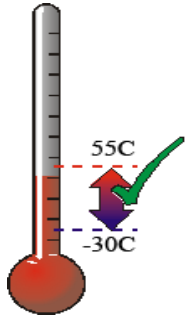
You are alerted to any areas where a risk of damage to static-sensitive devices if the recommended procedures described in this manual are not followed. An example of anti-static caution is provided to the left of this paragraph.

PRE-INSTALLATION CHECK LIST

Before installing the Translator Module, you must first ensure that the following criteria have been met. Failure to do this may not only result in damage to the equipment, but may also cause problems when commissioning the equipment or adversely affect its performance. For information on pre-installation requirements for wireless field devices please refer to specific equipment installation instructions.

SOME DO'S AND DON'T'S

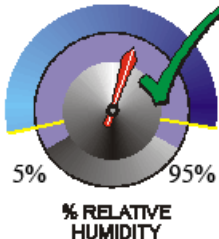
Before selecting a location for the Translator Module and wireless devices, **DO** make sure that:



- a. The operating ambient temperature is in the recommended range:

-30°C to 55°C

and



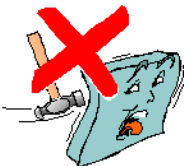
- b. The relative humidity is between:

5% and 95% (@40°C)

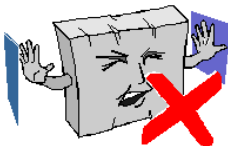


- c. The Translator Module has been manufactured with an ingress protection of IP65. This allows for the unit to be mounted externally should the application require it.

Note: Glands used to terminate cables, when the Translator Module is used in an external environment, need to have the appropriate levels of ingress protection for the application.



- d. DO NOT locate the Translator Module where there are high levels of vibration or shock.



- e. DO NOT site the Translator Module where there would be restricted access to the internal equipment and cabling/wiring connections.

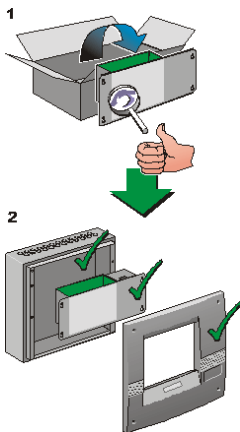
INSTALLATION

The **HFW-W2W-01** Translator Module is relatively simple to install providing the recommended procedures described in this Installation Guide are followed.

Follow all installation instructions described in this manual. These instructions must be understood and the manufacturer's recommendations followed to avoid damage to the Fire Control Panel and associated equipment.

CHECK THE TRANSLATOR MODULE / FIELD DEVICE FOR DAMAGE

Before attempting to install the Translator Module and field devices, you should do the following:



After removing the Translator Module/field device from its packaging, and before you proceed with installing it in its chosen location, check for any damage that may have occurred whilst in transit.

Note: In the unlikely event that the Translator Module/field device has been damaged, then you **MUST NOT** fit it but return it to Sterling Safety Systems. The procedure for returning faulty items is detailed in the paragraph:

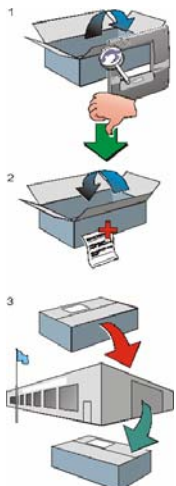
WHAT TO DO IF YOUR TRANSLATOR MODULE/FIELD DEVICE IS DAMAGED OR SUSPECT

If you are satisfied that none of the supplied items have been damaged you can now proceed with the installation procedure. This manual addresses the recommended installation methods of the Translator Module.

To prevent unnecessary damage to the electronic components, it is recommended that the electronics are removed from the housing prior to fixing of the back-box. Refer to page 12 (**BACK BOX FIXING**) for details.

WHAT TO DO IF THE TRANSLATOR MODULE/FIELD DEVICE IS DAMAGED OR SUSPECT

If you have problems regarding the quality of the Translator Module/field devices, follow the procedure below:



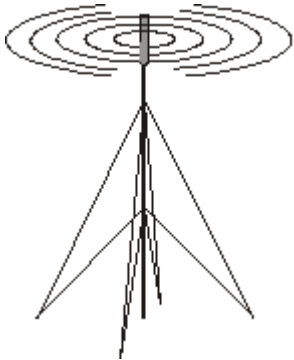
- DO NOT continue with the installation but contact Sterling Safety Systems for advice on what to do next.
- Similarly, if the product is found to be faulty during installation contact Sterling Safety Systems immediately.

To aid us, you are requested to:

- a. Quote the unique batch reference number which can be found on packaging, main chassis or inside the back box.
 - b. With reference to PCBs, quote the part number and revision level which can be found along one edge of the PCB.
 - c. Note all the details relevant to your complaint, date of receipt, packaging condition, etc. and forward this to Notifier.
- Where the product needs to be returned to Sterling Safety Systems, you are requested to use the original packaging, or **suitable anti-static** equivalent, wherever possible.

RADIO SIGNAL PERFORMANCE AND STABILITY

To achieve acceptable and reliable radio communication with the field radio devices, positioning of the Translator Module is important. Please observe the following procedure:



Using the Radio Survey and Test Kit (HFW-STK-01) (available from Sterling Safety Systems) undertake a comprehensive radio survey to establish the location that provides the best coverage of the devices to be installed.

NOTE: Please see literature supplied with test equipment for the operation of test equipment.

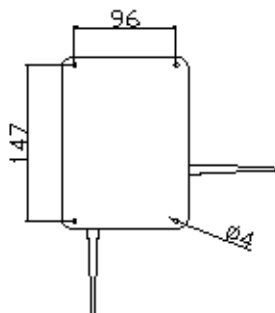
To comply with the requirements of EN54-25 “....the results of any surveys should be recorded and kept with the commissioning documentation.”

If possible avoid fixing or mounting the unit close to the following:

- Equipment that utilises large electrical currents
- Large metal objects or structures
- Fluorescent lighting fittings
- Metal ceiling structures
- IT Cabling

NOTE: If installing multiple Translator Modules on to a system, there should be a separation of **at least 2 metres** between Modules.

BACK BOX FIXING



WALL ALIGNMENT

To prevent distortion, the Translator Module back box **MUST** be installed on the wall as flat as possible.

Failure to comply with this requirement will result in the misalignment of the internal and external screw fixings. This will affect the IP rating of the module allowing the ingress of contamination and/or moisture.

MOUNTING PROCEDURE

When a suitable location has been found for installing the Translator Module, proceed as follows:

Remove the 2 electronic PCB assemblies from the enclosure. The outermost card is held by two spring fasteners and the rear card by three small Phillips screws.

Using a suitable-sized drill bit (4mm) drill the required number of holes.

Prepare apertures (20mm knockouts) required for cable access.

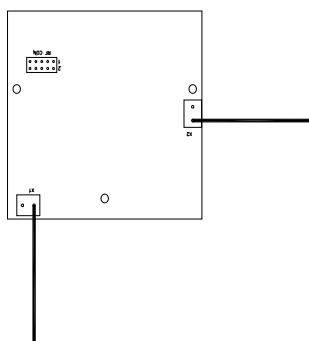
Screw the back box to the wall using all fixing holes and appropriate-sized roundhead screws. (DO NOT use countersunk screws).

Replace the rear card, fixing with the three screws. **Note: the two wire aerials must be fitted at this point prior to fitting the front card assembly**

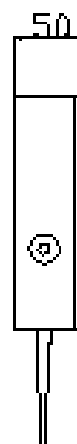
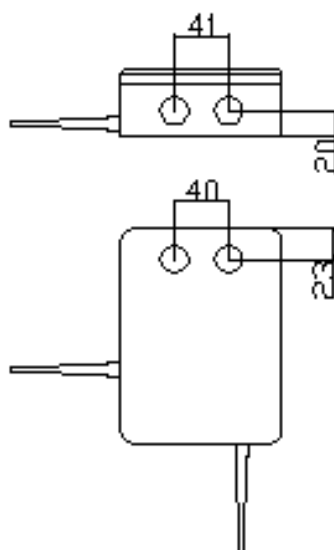
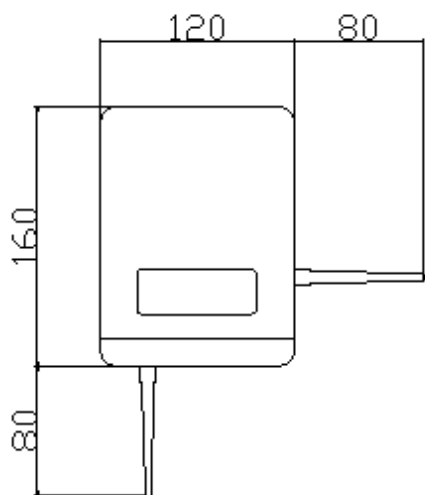
Ensure the ribbon cable, between the front and rear PCBs, is securely attached. Remount the front PCB on completion

Notes:

All dimensions are in millimetres.
Fixing hole diameters are 4mm.



TRANSLATOR/EXPANDER DIMENSIONS



(All dimensions are in millimetres)

CABLE INSTRUCTIONS

All wiring should comply with current IEE wiring regulations (BS7671) or the applicable local wiring regulations. Note also the requirements of EN54-14 for cabling and interconnection of a fire detection and alarm system.

Use the following rules when installing cables:

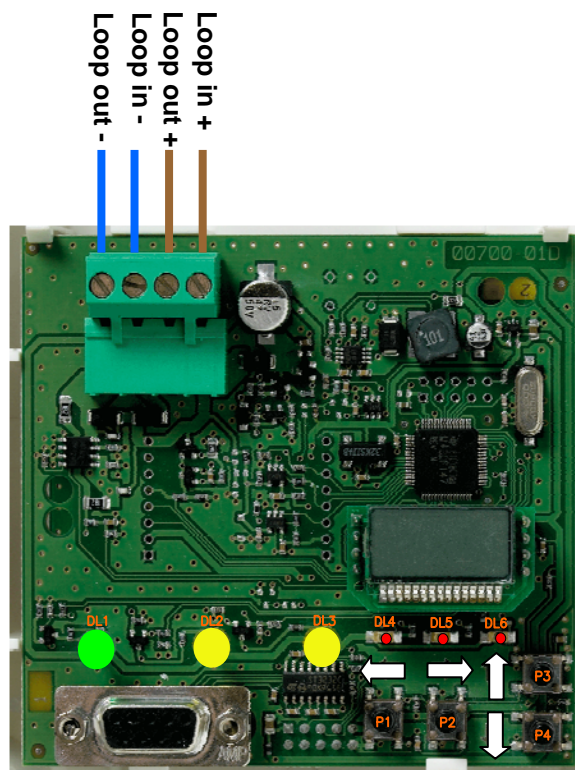
- Cables should be brought into the enclosure through the 20mm knockouts provided on the top or top/back face of the back box.
- Ensure that all openings in the back box are closed before connecting power to the panel.

(NOTE: If more knockouts than required have been removed, the holes should be blocked with blanking glands (ensuring the blanking covers maintain the Ingress Protection rating). This is to prevent access to hazardous voltages.

- Tails should be of sufficient length to connect to the appropriate termination points at the commissioning stage.
- Cables should be screened and terminated in appropriate glands to meet local wiring codes and to preserve the integrity of the screen connection. The cable screen is to be clamped inside the cable gland, which must be fitted with a continuity link between the incoming and outgoing cables.

DETECTION LOOP CABLING TERMINATIONS

The diagram below indicates the loop cable connections for the Translator Module.



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INTRODUCTION





The **HFW-W2W-01** Translator Module supports a full range of wireless devices – Detectors, Manual Call Points, Audio and Audio-Visual devices, Input Modules and Output Modules. The table below provides detail for all the supported devices that includes:



- Part Number used when placing an order for wireless devices
- Device image
- Basic Description of each device including any additional equipment required to ensure the device operates correctly

Field devices, or child devices, associated with the **HFW-W2W-01** Translator Module and **HFW-EM-01** Expander Module, are programmed on to the system with default parameters. In most installations, these parameters will not need to be altered. However, an engineer will need to alter these parameters for some installations. This section indicates the parameters that will be seen for each field device when using the Wirelex software to program the devices – an engineer can then determine if this parameter needs to be amended.

WIRELESS DEVICE TABLE

PART NUMBER	GRAPHIC	BASIC DESCRIPTION
HFW-W2W-01		Intelligent hybrid wire to wireless Translator Module – complete with 2 1/4Wave 868MHz Aerials. IP65 with appropriate glands.
HFW-EM-01		Intelligent hybrid wireless Expander Module. Complete with 2 x 1/4Wave 868MHz Aerials. IP65 with appropriate glands (Requires 24Vdc PSU)
HFW-PA-01		Intelligent hybrid wireless optical Smoke Detector c/w mounting base and batteries. For use with the hybrid wire to wireless Translator and Expander Modules (White)
HFW-TA-01		Intelligent hybrid wireless Heat Detector c/w mounting base and batteries. For use with the hybrid wire to wireless Translator and Expander Modules (White)
HFW-MA-01		Intelligent hybrid wireless Multi-criteria Detector c/w mounting base and batteries. For use with the hybrid wire to wireless Translator and Expander Modules (White)
HFW-CP-01		Intelligent hybrid wireless Manual Call Point c/w surface mounting box and batteries. For use with the hybrid wire to wireless Translator and Expander Modules (Red)
HFW-CP-IP-01		Intelligent hybrid wireless IP65 Manual Call Point c/w surface mounting box and batteries. For use with the hybrid wire to wireless Translator and Expander Modules (Red)
HFW-IM-01		Intelligent hybrid wireless single channel input module c/w batteries. For use with the Hybrid wire to wireless Translator and Expander Modules. Requires separate M200E-SMB Mounting Enclosure.
HFW-OM-01		Intelligent hybrid wireless single channel Output Module. For use with the hybrid wire to wireless Translator and Expander Modules. Requires separate M200E-SMB Mounting Enclosure. Requires 24Vdc PSU

PART NUMBER	GRAPHIC	BASIC DESCRIPTION
HFW-WSR-01		Intelligent hybrid wireless wall mounted Sounder (Red) 100dB(A) complete with batteries. For use with the hybrid wire to wireless Translator and Expander Modules.
HFW-WSW-01		Intelligent hybrid wireless wall mounted Sounder (White) complete with batteries. For use with the hybrid wire to wireless Translator and Expander Modules.
HFW-WSR-IP-01		Intelligent hybrid wireless IP65 wall mounted Sounder (Red) complete with batteries. For use with hybrid wire to wireless Translator and Expander Modules.
HFW-WSW-IP-01		Intelligent hybrid wireless IP65 wall mounted Sounder (white) complete with batteries. For use with hybrid wire to wireless Translator and Expander Modules.
HFW-SBR-01		Intelligent hybrid wireless wall mounted Sounder Beacon (red) complete with batteries. For use with hybrid wire to wireless Translator and Expander Modules.
HFW-SBW-01		Intelligent hybrid wireless wall mounted Sounder Beacon (white) complete with batteries. For use with hybrid wire to wireless Translator and Expander Modules.
HFW-SBR-IP-01		Intelligent hybrid wireless IP65 wall mounted Sounder Beacon (red) complete with batteries. For use with hybrid wire to wireless Translator and Expander Modules.
HFW-SBW-IP-01		Intelligent hybrid wireless IP65 wall mounted Sounder Beacon (white) complete with batteries. For use with hybrid wire to wireless Translator and Expander Modules.
HFW-BR-01		Intelligent hybrid wireless wall mounted Beacon (red) complete with batteries. For use with hybrid wire to wireless Translator and Expander Modules.

PART NUMBER	GRAPHIC	BASIC DESCRIPTION
HFW-BR-IP-01		Intelligent hybrid wireless (IP65) wall mounted Beacon (red) complete with batteries. For use with hybrid wire to wireless Translator and Expander Modules.
HFW-PB-01		Spare primary battery compatible with all hybrid wireless devices. (sold in packs of 10)
HFW-SB-01		Spare secondary battery compatible with all hybrid wireless devices. (sold in packs of 10) (except audio-visual devices)
HFW-STK-01		Hybrid wireless Survey and Test Kit
HF-SKEY-01		Intelligent hybrid wire to wireless replacement Wall Sounder key - used to open the housing (available in packs of 10)
HF-CKEY-01		Intelligent Hybrid wire to wireless replacement Manual Call Point test key (available in packs of 10)
HFW-BOM-01		Battery powered Output Module that provides a set of clean contacts and also a switchable 24V.
HFW-VS-01		A wireless Voice Sounder/Annunciator that provides synchronous voice with a selection of up to three messages (maximum duration 32 seconds). The messages can be bespoke for the site. Voice file format is *.wav and must have a sample rate of 16KHz and have an 8 bit length.

PART NUMBER	GRAPHIC	BASIC DESCRIPTION
HFW-CEM-01		<p>Intelligent wireless Conventional Interface Expander Module. Allows an existing conventional system to be upgraded with a wireless zone of up to 32 input devices,</p> <p>Requires stand-alone 24V PSU and compatible software.</p>

BATTERIES

The majority of wireless devices are powered from onboard power cells – the primary cell (CR123) is a 1.2Ah cell and the secondary cell (CR2032) is a 240mAh cell.

(Note: The secondary cell in HFW-WS*-01, HFW-SB*-01, HFW-VS-01 and HFW-B*-01 devices, is a CR123 and not a CR2032)

The field device can be transported with the secondary cell fitted – this will not drain the cell as the device only becomes active when the primary cell is fitted. If power is removed from a Translator Module for a significant period of time, the primary cell should be removed from any associated field device. With no return handshake from the Translator Module, the field device will suspect a problem and will instigate a higher rate of handshakes until communication is restored. If this does not happen, it will increase its power in an attempt to re-establish a link with the Translator Module. This will reduce the life expectancy of the power cell resulting in earlier replacement.

DEVICE DIL SWITCH

Each wireless device is fitted with a two position DIL switch. The normal operating position is for the switch to be in the **1** position. The **ON** position is used when programming the device. The DIL switch **ON** position can also be used by an Installation/Commissioning engineer when installing a device to check its radio integrity – this is only possible after the device has been programmed on to the Translator/Expander Module. Leaving the switch in the **ON** position will cause the Fire Control Panel to generate a fault suggesting the device cannot be communicated with. Returning the switch to the **1** position will clear this fault.

GENERIC DEVICE INDICATION AND SETTINGS

The following parameters can only be changed using the Wirelex software. If the devices are programmed on to the Translator Module using the Translator Module local buttons, the devices will be programmed on with default parameters.

Detector Address: This indicates the digital address given to the device – NOT the loop address. This cannot be altered.

Supervisory Signal Period: The default time for all devices, except Audio-Visual devices, is 1 minute. The default time for Audio-Visual devices is 7 seconds. This can be changed to 7 seconds if required.

Supervision Period: This is a health check period between the Translator Module, associated field child devices and system Expander Modules.

INDIVIDUAL CHILD DEVICE GUIDANCE

SENSORS

Sensitivity (Optical and Multi-criteria Detectors): The default sensitivity for the smoke channel is “NORMAL”. This can be altered to “LOW” or “HIGH” depending on the installation. This equates to an obscuration value of 2% (Low); 3% (Normal); 4% (High).

Indications: The system allows the user to uncheck the indications for “FIRE”, “BATTERY DISCHARGE” and “ALARM”. If these boxes are unchecked no report will be indicated at the Translator Module and associated Fire Control Panel.

Send analogue values of smoke/temperature: If this box is unchecked, the analogue value for the device will not be seen at the Translator Module and associated Fire Control Panel.

Smoke Channel (Multi-criteria Detector): This process can be isolated in this device if the Detector is required to work with the Thermal Channel only

Thermo Channel (Thermal and Multi-criteria Detector): There are three modes of operation for this parameter:

- a. Fixed – A standard “Fixed Temperature” Detector operating in the 58°C - 64°C zone.
- b. Rate of Rise – A standard “Rate of Rise” Detector.
- c. Fixed Rate of Rise – this is the default mode of operation.
This mode of operation should be used if the expected Rate of Rise of the Detector will be too slow for the device to operate correctly. It is a combination of the first two modes of operation.
The Thermal Channel can be disabled in the Multi-Criteria detector, by unchecking the associated box, if the device is required to work with the Smoke Channel only.

MANUAL CALL POINT

NOTE: *The depth of the Manual Call Point back box and the current design of the radio PCB prohibits the use of the bottom right hand securing point of the Manual Call Point back-box (when looking at the back box on the wall). If the securing point is used, the primary power cell will be damaged and will cause the device to be potentially fatally damaged.*

INPUT/OUTPUT MODULE INDICATIONS

The Input & Output Modules have processes that can only be altered using the Wirelex software:

Supervisory circuits (Input Module):

- a. **Do not supervise tamper sensor:** If the front cover of the module is removed and the tamper switch is activated, this indication will not be passed to the Translator Module. This process is default unchecked.

LED Indication:

- a. **Fire:** If this indication is unchecked, the device LED will not indicate (glow **RED**) if there is a fire activation signal received at the Input Module.
- b. **Battery Discharge:** If this indication is unchecked, the device LED will not indicate (glow **RED**) if there is a battery discharge signal received at the Input Module.

Supervisory circuits (Mains Powered Output Module):

- a. **Do not use front tamper:** The Output Module has a front tamper spring fitted. If the front cover is removed, the Output Module will pass a tamper fault to the Translator Module and onward to the associated Fire Control Panel. This process is default checked.
- b. **Do not supervise supply voltage:** If there is a problem with the device power supply, the device will forward a signal to the Translator Module and on to the associated Fire Control Panel. The Output Module LED will flash **RED** with an interval of 0.1 seconds ON/2 seconds OFF. This process is default unchecked.

The LED will illuminate **ONLY** if the “*Low Power Supply*” box is checked. This indication is default checked.

The Output relay can be set at either “Normally closed” or “Normally Open” depending on the operation required.

Supervisory circuits (Battery Powered Output Module):

- a. **External fault input:** If there is a short or open circuit, the child device will indicate this to the Translator Module. This process is default checked.
- b. **LED Indication:** If either the primary or secondary battery reaches a discharge state, the device LED will illuminate either **GREEN (secondary cell)** or **RED (primary cell)**. The flash interval is 0.5 seconds ON / 0.5 seconds OFF. This process is default checked.
- c. **Voltage output 12/24V:** There is a selectable voltage output (12/24V) that is available to the installer to power a stand-alone ancillary device. If the “*To activate output*” box is unchecked, this option is not available. There is the option to have this as a constant output or switching output.




The Output relay can be selected as a “**Normally closed**” or “**Normally Open**” depending on the operation required.

NOTE: ALL THE ABOVE PARAMETERS CAN ONLY BE ALTERED USING THE WIRELEX CONFIGURATION TOOL

WALL SOUNDER

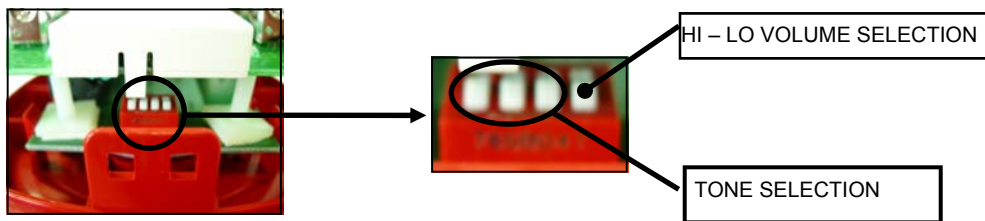
The Wireless Wall Sounder has an audio output of 100dBs \pm 6dBs. By removing the radio PCB protective cover, using a small bladed screwdriver (preferably insulated), the sound output potentiometer can be adjusted.

The Wall Sounder has three tone options:




Pattern	SND Switch Position		Frequency (Hertz)	Rate	Description	KAC Tone	Main Application
	1	2					
Alternating	ON	OFF	990 & 650	2Hz (250ms-250ms)		Tone 6	BS Fire tone
Continuous	OFF	ON	990	Steady		Tone 8	BS Fire tone
Intermittent	ON OFF	ON OFF	990	1Hz (500ms On/500ms Off)		Tone 18	General Purpose

WALL SOUNDER BEACON

The Wireless Wall Sounder Beacon has a selectable audio output of 90dB or 100 dB. This is selected via the 4 pole switch situated under the front PCB:



The Sounder Beacon has various tone options that can be set according to the Tone Selection switch positions: (see diagram above and table below)

Pattern	SND Switch Position			Frequency (Hertz)	Rate	Description	KAC Tone	Main Application
	1	2	3					
Alternating	ON	OFF	ON	990 & 650	2Hz (250ms-250ms)		Tone 6	BS Fire tone
Continuous	ON	ON	ON	990	Steady		Tone 8	BS Fire tone
Intermittent	OFF	OFF	ON	990	1Hz (500ms On/500ms Off)		Tone 18	General Purpose
Whoop	ON	ON	OFF	300 - 1200	Sweep, 0.5s silent, repeat		Tone 7	Dutch Fire Tone
Whoop	OFF	ON	ON	300 - 1200	Sweep, 0.5s silent, repeat		Tone 7	Dutch Fire Tone
Odd 2 Tone	ON	OFF	OFF	1200 - 500	Sweep (DIN)		Tone 8	DIN Tone
Odd 2 Tone	OFF	OFF	OFF	1200 - 500	Sweep (DIN)		Tone 8	DIN Tone
Odd 2 Tone	OFF	ON	OFF	1200 - 500	Sweep (DIN)		Tone 8	DIN Tone

SECTION 2 (CONT)

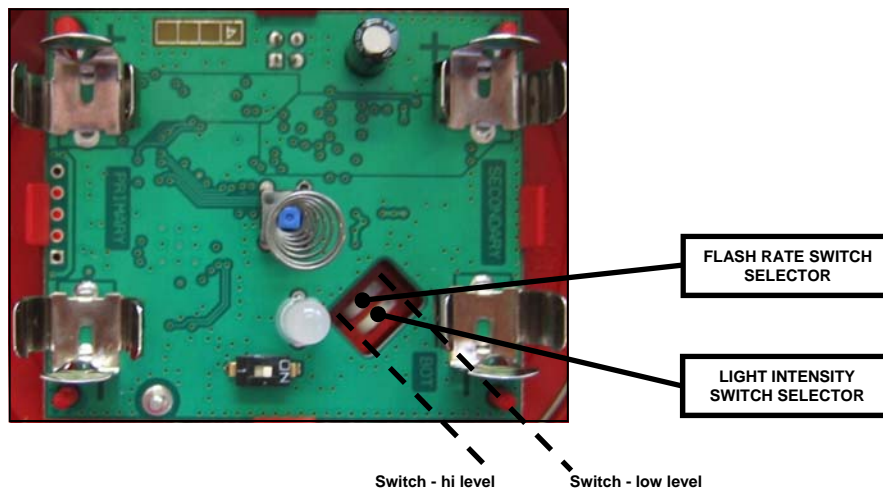
Tone selection switches are numbered 1-3 from the left. The 4th switch is the switch for setting the tone output level – switch in the OFF position gives 90dB output, switch in the ON position gives 100dB output.

(OFF position is when the high side of the switch is closest to the numbers).

The light output of the Beacon is >1Cd with a flash rate of 1Hz. The flash rate cannot be adjusted.

BEACON

The wireless Beacon field device provides the installer with the option of a shallow wireless Beacon with a selectable light output of >0.5Cd or >1Cd with a flash rate of 0.5Hz or 1Hz (user selectable).



Selected switch level	Flash rate switch indicator	Light intensity switch selector
Hi Level	0.5 Hz	>1Cd (6mA)
Lo Level	1 Hz	>0.5Cd (3mA)

When selecting the device flash rate and light intensity rate, projected battery life must be taken in to account – setting the flash rate to high and setting the device with a high intensity will change the battery lifetime.

Due to the inherent nature of the communication process between the Translator Module and the field devices, it is **NOT** possible to pulse Wireless Wall Sounders through the Control Matrix/Cause and Effects at the Fire Control Panel. (e.g. If an installation has been programmed at the Fire Control Panel such that Audio-Visual devices in the non-danger area are to be pulsed, wireless Audio-Visual devices **cannot** be used).

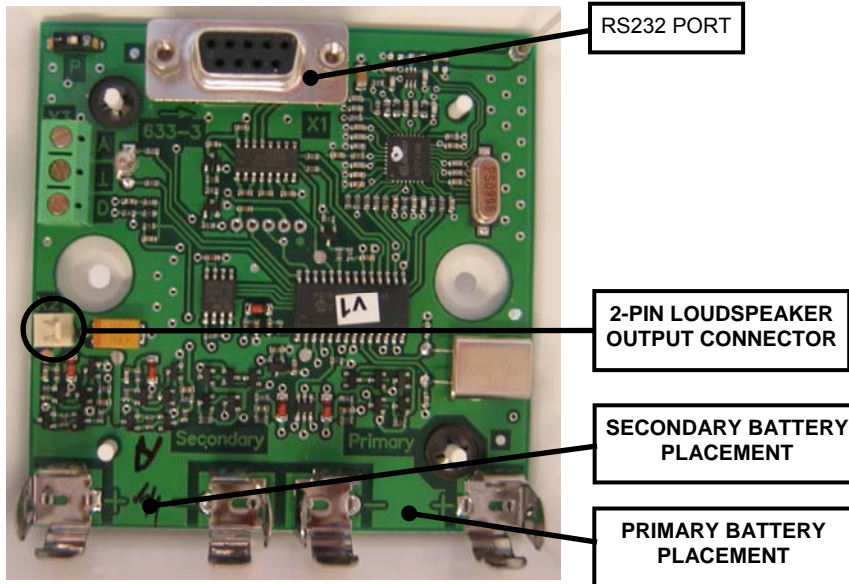
When installing Audio Visual devices, the installation engineer should note that the distance from its associated Translator/Expander Module is less than if the device is a Detector or Manual Call Point. The differential is not significant but care should be taken at the design/survey phase to ensure that this is taken in to account.

VOICE SOUNDER/ANNUNCIATOR

The Voice Sounder provides the installer with a device that can be programmed with 3 messages that total ≤ 96 seconds – no single voice message can exceed 32 seconds. The message output is programmed at the Fire Control Panel at the commissioning stage.

The voice message must be in *.wav format with a frequency of 16 KHz and a Pulse Code Modulation of 8 bits.

The power output of the device can be attenuated using the associated Wirelex Configuration Tool that. The output is attenuated by 9dBs in 3dB steps. It is also possible to disable the two-tone pre-amble using the same Configuration Tool.



Refer to Section 7 on the procedure to follow to load messages in to the Voice Annunciator.

It should be noted that the Translator Module can only support a maximum of 16 output devices (Audio devices, Audio-Visual devices, Voice Annunciators, Battery Powered Output Modules and Mains Powered Output Modules) within the 32 devices that can be programmed in the Translator Module microcell/cluster.



HFW-W2W-01 INTELLIGENT WIRELESS TRANSLATOR MODULE

INSTALLATION AND PROGRAMMING GUIDELINES

SECTION 3 – HFW-W2W-01 INTELLIGENT TRANSLATOR MODULE INSTALLATION AND PROGRAMMING GUIDELINES

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TRANSLATOR INSTRUCTION MENU BREAKDOWN.....	Page 33
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INTRODUCTION

The **HFW-W2W-01** Intelligent Wireless Translator Module is intended to be used with a Fire Control Panel employing “**Vega Protocol**”. This device provides a simple way of expanding a pre-existing, or new hard-wired system, using the Translator Module and its associated range of wireless devices.

Actions required are:

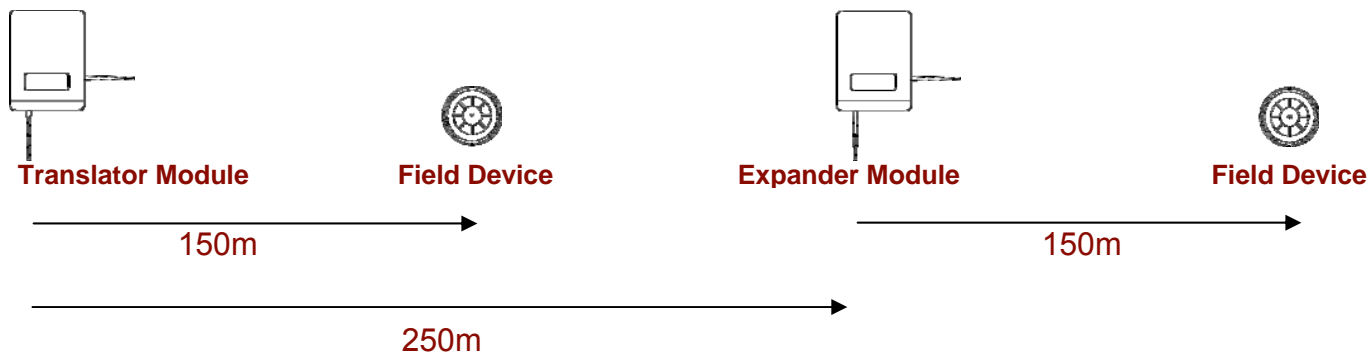
- To connect the Translator Module to the loop:
 - Set Detection Loop Start Address
 - Set System Code
 - Set Radio Channel
 - Initialise Translator Module
- Program the field devices on to the Translator Module
- Auto-learn the Fire Control Panel with the wireless field devices
- Program the Fire Control Panel Control Matrix/Cause and Effects with the wireless field devices
- Program the associated Graphics Interface (if fitted) with the new wireless field devices

Programming of the Translator Module is straightforward. It can be carried out using the Translator Module buttons or using the Wirelex Configuration Tool.

The Translator Module is loop-powered. The Translator Module loading capability is limited to 32 wireless devices – a mix of initiating and alarm devices.

RANGE

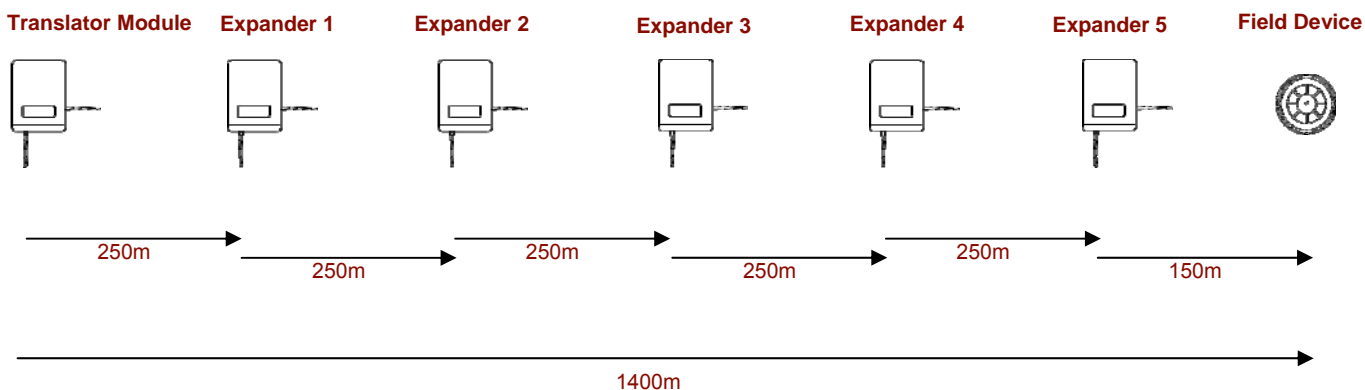
The maximum distance between the Translator Module, Expander Module and field devices is mainly affected by the fabric/structure of the building – a timber frame construction will give coverage over greater distances than if the Translator Module is used in a building constructed of a heavy ferrite core or one using reinforced concrete. The maximum distance in open air is:



MAXIMUM THEORETICAL RANGE

If a wireless system was configured with the maximum number of layers (6) of Translator Module and Expander Modules, the maximum distance that could be achieved between the Translator Module and the Expander Module is:

(this distance is in open air)



FEATURES

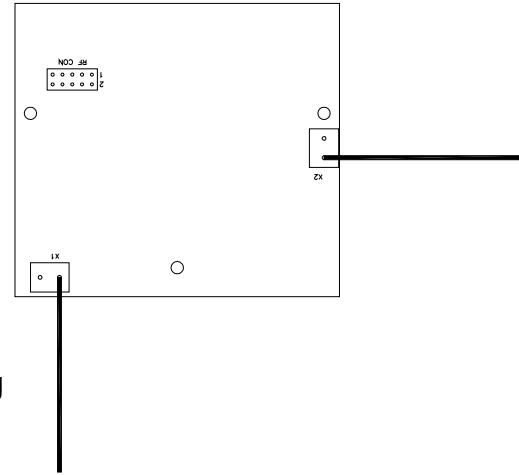
- Simple and full integration into hard-wired systems.
- The application of wired and wireless devices allows a fast adaptation to the changes on site.
- A Maximum of 6 Translator modules can be connected to the loop.
- For each Translator Module cluster up to 32 analogue addressable devices (initiating and alarm devices) can be connected. It should be noted that the Translator Module can only support a maximum of 16 output devices (Audio-Visual devices, Audio devices and Output Modules) within the 32 devices in the cluster.
- Multi-channel frequency operation.
- Main battery life - 3 to 5 years (field devices).
- Backup battery life ≥ 1 month (field devices).
- Low battery alarm (field devices).
- Immediate transmission signals from field devices: Alarm, Fault and Tamper.
- Transmission of status and analogue values.

SPECIFICATION

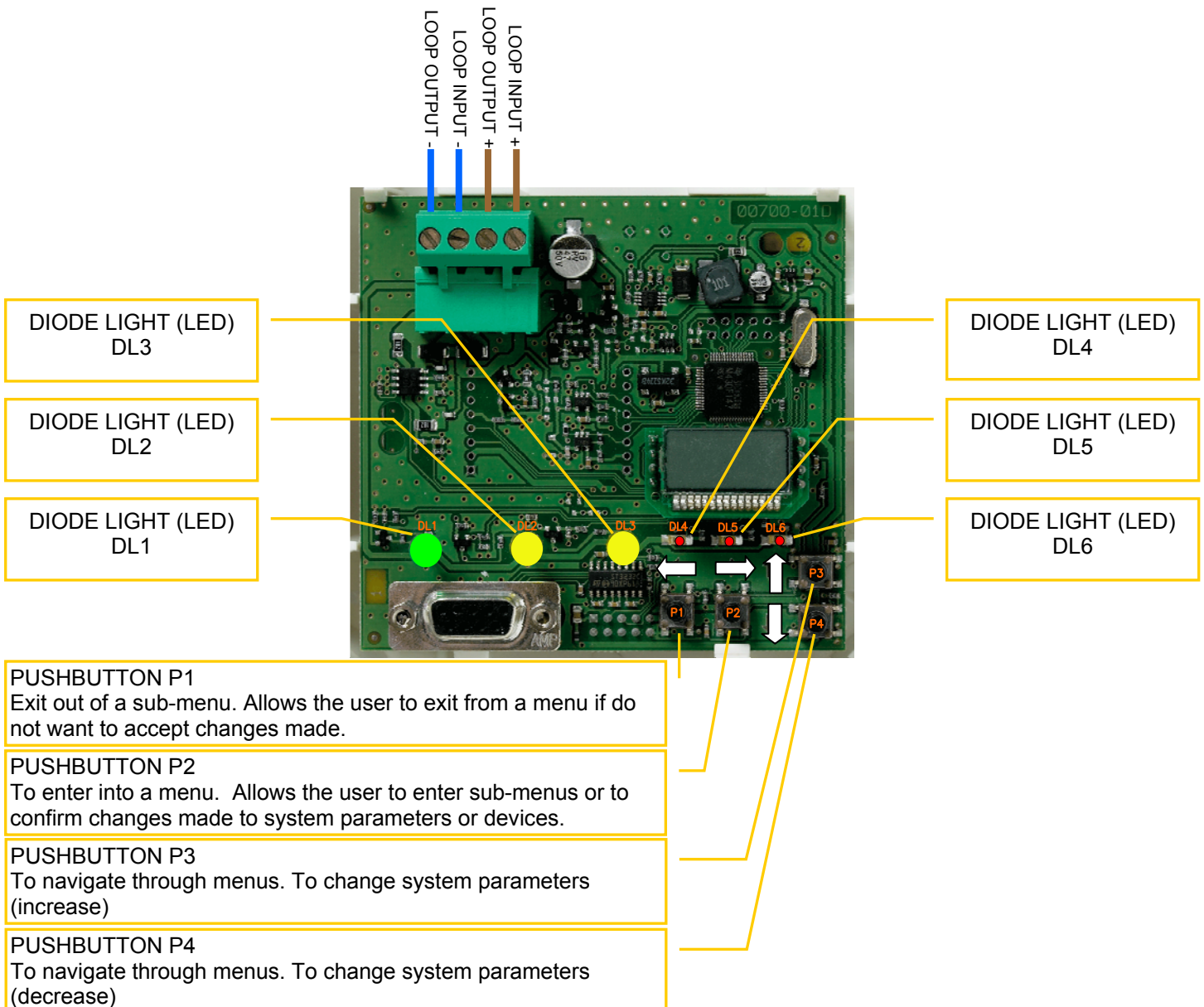
- | | |
|---------------------------------|-------------------------------------|
| • Colour: | White |
| • Dimensions: | 116 x 107 x 65 (without an antenna) |
| • Operating Frequency: | 868 - 870 MHz |
| • Radiation power: | 0.01 - 10mW |
| • Modulation Type: | Frequency Modulation (FM) |
| • Number of frequency channels: | 7 |
| • Power supply voltage: | 15 – 42 Vdc |
| • Current consumption | $\leq 20\text{mA}$ |
| • Operating temperature: | -30°C to +55°C |

WIRING CONNECTIVITY

Connect the two antennae on the RF PCB located under the main processor PCB. The RF PCB is reached by releasing the Translator Module Processor PCB. The antennae should be connected as shown and the grey protective antenna sheath should then be connected into the Translator Module moulding to ensure the IP rating of the module is not affected.



The figure below shows the location of the push-buttons used during the programming process. It also indicates the location of the Translator Module LEDs - the use of these LEDs is explained throughout this manual. Detection loop connectivity is also shown:




















MENU DESCRIPTION

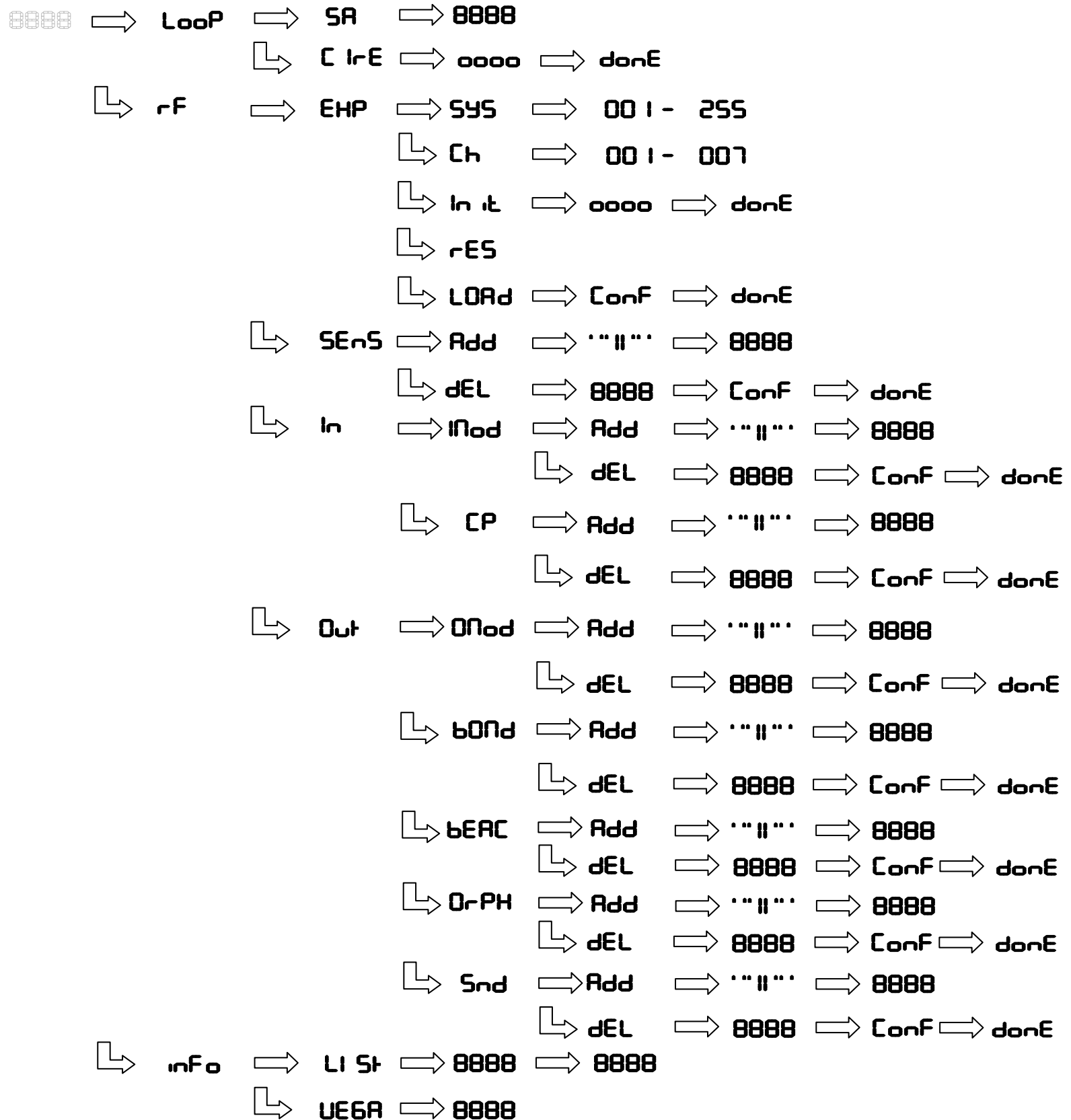
- **BLANK (8888):** This is the normal operating level. In this condition the Translator Module is connected to the loop and working. From any sub-menu, press P1 push-button until the LCD display goes blank. When configuring the Translator Module, the Fire Control Panel will go in to fault stating a loss of the whole or part of the detection loop that the Translator Module is connected to.
- **LOOP (Loop):** This menu contains all the parameters related to the loop interface.
- **LOOP START ADDRESS (SR):** Enter this sub-menu to change the starting Fire Control Panel address for the Translator Module and associated radio field devices.
- **CLEAR PROGRAMMING GAPS (CLE):** If devices have been deleted from the program and gaps have been created in the addressing sequence, this command removes those gaps. Care must be taken when using this command as Fire Control Panel detection loop addressing for some devices will change.
- **RF PROGRAMMING (RF):** This menu contains all the parameters related to the radio interface.
- **TRANSLATOR (EHP):** This sub-menu changes the RF parameters necessary for the correct functioning of the radio interface.
- **SYSTEM CODE (Sys):** The System Code is a number in the 0-255 range. Translator Modules with different system codes, but the same operating channel, will not interfere with each other. Change the System Code value using the P3/P4 pushbuttons and confirm by pressing the P2 pushbutton. To store the changes, it is necessary to initialise the Translator Module.
- **RF CHANNEL (CH):** The RF channel is a number in the 1-7 range. Translator Modules with different RF channels will not interfere with each other. Change the RF Channel value using the P3 / P4 pushbuttons and confirm the change by pressing the P2 pushbutton. To store the changes, it is necessary to initialise the Translator Module.
- **INITIALIZE (Init):** Use this sub-menu to store the updated System Code and/or RF channel into the Translator Module memory. After confirming with the P2 pushbutton the new values will be used.

NOTE 1: After the Initialise process, all RF devices previously linked to the W2W will need to be re-programmed back on to the Translator Module!!! (This process is only used during initial installation).

NOTE 2: The internal system encryption is set up during this process and is relayed to all associated devices. If an initialisation is carried out, this encryption will be changed and the Translator Module will not communicate with the associated devices.

- **RESET ()**: Use this sub-menu to perform a soft reset of the Translator Module. After confirming with the P2 pushbutton all the RF devices linked to the Translator Module will be reset from an existing fire and fault condition. This action is used to assist engineers on site with diagnosing soft faults or hard faults – soft faults will clear after a RESET command; hard faults will re-appear making the fault-finding process quicker.
- **LOAD CONFIGURATION ()**: Use this sub-menu to load the system configuration from the RF PCB in to the Translator Module front PCB. After confirming the request with the P2 pushbutton, the Translator loads the configuration and performs a reset procedure. This is used when programming a Translator Module using the Wirelex Software Configuration Tool.
- **DETECTOR ADDRESS ()**: Enter this sub-menu in order to add or delete a Radio Detector.
- **INPUT DEVICES ()**: Enter this menu to add or delete Input devices other than Detectors:
 - **INPUT MODULES ()**: Enter this sub-menu in order to add or delete a Radio Input Module.
 - **CALL POINTS ()**: Enter this sub-menu in order to add or delete a Radio Call Point.
- **OUTPUT DEVICES ()**: Enter this menu in order to add or delete output devices:
 - **MAINS POWERED OUTPUT MODULE ()**: Enter this sub-menu in order to add or delete a mains-powered wireless Output Module.
 - **SOUNDERS ()**: Enter this sub-menu in order to add or delete a wireless Sounder or Sounder Beacon.
 - **BATTERY POWERED OUTPUT MODULE ()**: Enter this menu in order to add or delete a battery powered wireless Output Module.
 - **BEACON ()**: Enter this menu in order to add or delete a wireless Beacon.
 - **VOICE SOUNDER ()**: Enter this menu to add or delete a wireless Voice Sounder.
- **INFO ()**: This is the sub-menu that contains the information about the RF devices.
- **ADD DEVICE ()**: Select one of these menus in order to add a new radio device to the Translator Module. After confirming with pushbutton P2, the LCD will display the “link” indication and LED DL4 will turn on. Follow the instructions as indicated in the “Device Programming” paragraph.
- **DEL DEVICE ()**: Select one of these menus in order to delete a radio device from the Translator. Press pushbutton P2 to enter the menu. Scroll through the devices listed using pushbuttons P3/p4 until the Fire control Panel loop address required is displayed. Press pushbutton P2 to delete the device. **CONF** Will be displayed. Press P2 to confirm deletion (the LCD will display **none** if no devices are available for deletion).
- **LIST ()**: Use this sub-menu in order to retrieve the information about devices linked to the Translator Module. The information available to the user is the Translator Module and wireless field device address along with the device type.
- **PROTOCOL ()**: This option indicates the protocol the Translator Module is configured with. Pressing P2 when this icon is visible in the LCD window will display three digits indicating the Translator Module firmware.

TRANSLATOR INSTRUCTION MENU BREAKDOWN



If the **FULL** indication appears when programming field devices, check the Start Address. This indicates that the “loop” is full. (Probable cause – setting the Start Address too high)

PUSH BUTTON OPERATION

Local programming of the Translator Module is carried out using the four pushbuttons (P1-P4) mounted on the main Translator Module PCB (the one with the LCD display). The selected/proposed action will be shown on the LCD display. The Translator menu flow chart is shown on page 33. The push button functions are detailed on page 30.


There are limitations to locally programming the Translator Module using the pushbuttons. The commissioning engineer is not able to change the operational parameters of the field devices and must use the default values.

SETUP PROCEDURE


Procedure for programming the associated wireless devices on to a hard wired loop is as follows:

- Connect the Translator to the Fire Control Panel via the detection loop cabling (see loop connectivity on page 13).
- Program the Translator Module RF parameters.
- Program the field devices on to the Translator Module.
- Program the Fire Control Panel.

HFW-W2W-01 TRANSLATOR PRELIMINARY PROGRAMMING

- Power on the Translator Module by connecting it to the loop (connections shown on page 13). The LCD display will illuminate initially then go blank. If there is a problem with the initialisation, a **FA IL** indication will be displayed. Should this happen, power down the Translator Module, wait 20 seconds and then re-apply power. If this does not clear the problem, the Translator Module should be exchanged.
- Using P3/P4 pushbuttons scroll to the **RF** menu, select by pressing P2. Select the Expander menu (**EXP**) by pressing P2. Scroll to the **SYS** option pressing P2 to enter. A three digit number will appear that can be altered by pressing the P3/P4 pushbuttons – this is a decimal representation of the system code – the system code can be a number between 0 - 255. When a code has been selected, press P2 to confirm. A small house symbol  will appear next to **SYS**. This indicates that the system will need to be initialised for the new system code to be stored in the Translator Module's non-volatile memory.

(**NOTE:** Translator Modules with different system codes operating on the same frequency as other Translator Modules will not interfere with each other. Translator Modules with different channels will not interfere with each other. Careful selection of system codes and initial operating channels should be taken when installing a multi Translator Module system. It is advisable to select a different initial radio channel for each Translator Module and at least a different system code for each Translator Module.

- Using P3/P4 pushbuttons scroll down until the Channel option (**Ch**) appears. Press P2 to enter this option. A number will appear in the range 1 - 7. Using the P3/P4 pushbuttons select the radio channel required for the Translator Module. Press P2 to confirm. A small house symbol  will appear next to **Ch**. This indicates that the system will need to be initialised for the new system radio channel to be stored in the Translator Module's non-volatile memory.

The system code should not be the same for all Translator Modules on a fire detection loop. In the majority of systems, the channel chosen will have little effect. However, in a small number of systems, during the commissioning procedure it may become evident that one of the channels has a large amount of interference, or traffic from another system or source, and this can then be avoided by the selection of a different channel. If the system is left operating on the noisy channel it will still operate but the battery life of the field devices may be reduced due to the system dealing with the excess noise.

NOTE: There is a utility available on the associated software that will assist the engineer with assessing the background RF environment. For more information on this utility please refer to Section 6 of this manual. Before using the Translator Module, the engineer will need to program the operational radio channel for the Translator Module and all devices associated within the Translator Module cluster.

- Save the changes made to the Translator Module selecting the Initialisation (**In It**) option. During the initialisation process, the following symbol **oooo** will be seen on the Translator Module LCD display. This indicates the Translator Module is processing and storing the System Code and Radio Channel selected. If the initialisation succeeds **done** will be displayed, else **FAIL** will be displayed.
- Program the Translator Module Start Address. The Start Address is the detection loop address assigned to the Translator Module in the Control Panel. All radio field devices will be contiguously addressed when programmed on to the Translator Module.
- Proceed with wireless field device programming (see **WIRELESS FIELD DEVICE PROGRAMMING** page 36)
- On completion of all device programming, press P3/P4 buttons and scroll to the **LI St** menu, press P2 and scroll through the listed devices using P3/P4 pushbuttons. This indicates that all devices have been learnt on to the Translator Module properly and are ready to be loaded in to the Fire Control Panel.
(Note: If using the Wirelex Configuration Tool to program the system, the **LI St** menu will only display the Translator Module address until the **LOAD** command is carried out).
- On completion, exit from all Translator Module menus pressing P1 push-button until the LCD display is blank.

RADIO DEVICE START ADDRESS

Using P3/P4 keys scroll up/down until **Loop** is displayed. Press P2 key to confirm. Use P3/P4 push-button and scroll to **SA** (Start Address). Press P2 to select this option. Using P3/P4 push-buttons set the start address for the Translator Module. Confirm the value pressing P2. On completion press P1 push-button to exit (The devices will be addressed contiguously from the address set in this action).

SECTION 3 (CONT)

The Start Address will be assigned to the Translator Module. All field devices will be assigned to contiguous addresses.

e.g. 1 Translator Module + 2 Manual Call Points on Fire Detection Loop 1 with Translator Module start address = 110.

	Translator Address	Address Seen at Control Panel
Translator Module address	110	110
Manual Call Point 1 address	111	111
Manual Call Point 2 address	112	112

WIRELESS FIELD DEVICE PROGRAMMING

(NOTE:- Prior to commencing any device programming, ensure the Primary (CR123A) and Secondary (CR2032) power cells are available. The secondary cell is fitted to the device with the positive (+) side upper most. This must be fitted prior to any programming, and must be fitted with the switch in the **1** position. The secondary cell in a wireless Wall Sounder is the same as the primary cell).

On the wireless device being programmed set the jumper into the **ON** position before proceeding any further.

To add a device, use the P3/P4 keys and scroll up/down until **RF** is displayed. Confirm using the P2 key. Use P3/P4 key to select the appropriate menu:

(**SEnS** for Detectors, **In** for input devices, **Out** for output devices)

Use P3/P4 key to select Add. Confirm using the P2 key.

The display will show the “link” (**••||••**) indication and LED DL4 will turn on. Insert Primary battery and wait until the RF device LED indicator has blinked **RED** 4 times (to indicate the device has entered programming mode).

Switch the RF device jumper from **ON** to the **1** position. The RF device LED will flash **GREEN** (showing that initial programming is completed), which is followed by the LED blinking **RED** for a short period of time. The device will then flash **GREEN** two more times before extinguishing. (Note: if the device is not put back in to its base/backbox, a fault indication will appear on the Translator Module LCD display).

The Translator Module LCD will display the address assigned to the device and DL4 LED will turn off. Programming for that device is now complete.

Press P1 push-button to return to the device menu.

On completion of programming all field devices on to the Translator Module, the Translator Module and field devices can now be added on to the associated Fire Control Panel as if they were normal hardwired devices. The devices can be learnt on to the Fire Control Panel using an “**Autolearn**” process.

TRANSLATOR MODULE INDICATIONS

The following table shows the control panel behaviour according to the events generated by the Translator:

DL1: blinks when the Translator Module is being polled by the Fire Control Panel.

DL2: indicates a system fault condition. This is to be investigated using the Wirelex software tool

DL3: illuminates constantly to indicate that an RF device has reached a low power level threshold, e.g. the primary power cell should be replaced - usually accompanied by images 1 or 2 below.

DL4: illuminates when the Translator Module is searching for a radio device.

DL5: illuminates and the device type is displayed on the LCD

DL6: not used

TRANSLATOR LCD DISPLAY INDICATIONS



(Image 1) Primary battery level for device with address 138 is low.



(Image 2) Secondary battery level for device with address 138 is low.



(Image 3) Wait indication. The Translator is performing a time consuming action.



(Image 4) Fatal error. The last action performed has generated an error.



(Image 5) The last action performed has been completed successfully.



(Image 6) An RF device has detected a fire or received a fire activation signal.



(Image 7) The Translator Module is radio linking to a field/child device.



(image 8) This indicates there are no more loop addresses available



(Image 9) When carrying out changes to the system, confirmation of change is requested.



(Image 10) Spanner icon indicates a fault with a device and is accompanied by the device number.

TRANSLATOR MODULE PROGRAMMING

PROGRAMMING PROCEDURE

The following step-by-step procedure should be used to program the Translator Module:

- Initial Translator Module configuration
- Translator Module Microcell configuration
- RF Device programming
- Translator Module configuration load
- Fire Control Panel configuration

PUSH BUTTON AND LED LOCATIONS

For the location and use of the Translator Module's indication LEDs and control push buttons refer to the illustration on page 30.

MENU STRUCTURE AND GUIDES

For a comprehensive overview of the system menus and structure refer to the descriptions and illustrations on pages 31 - 33.

INITIAL TRANSLATOR MODULE CONFIGURATION

This section covers the set up of the main Translator Module properties.

Note: When the buttons on the front of the Translator Module are being used to configure the system, communication with the Fire Control Panel will be lost and therefore a ***“LOOP DISCONNECTED FAULT”*** indication will be displayed on the Fire Control Panel. This fault will clear on completion of programming.

TRANSLATOR MODULE POWER UP

To configure the Translator Module it will need to be connected to a live fire detection loop. Connect the fire detection loop cabling as per page 30 and apply power to the loop. The Translator Module LCD display will illuminate initially then go blank.

If the Translator Module does not initialise correctly, a **FR IL** indication will be displayed. Should this happen, power down the Translator Module, wait 20 seconds and re-apply power. If this does not clear the problem, the Translator Module should be exchanged.

LOOP DEVICE CONFIGURATION

The RF devices on the system will each take a device detection loop address on the Fire Control Panel - one for each field device and one for each Translator Module. (Expander Modules do NOT take a loop address – they are transparent to the Fire Control Panel).

FIELD DEVICE BATTERIES

Prior to commencing any device programming, ensure the field device primary power cell (CR123A) and secondary power cell (CR2032) are available. The secondary cell is fitted to the device with the positive (+) side upper most. This must be fitted prior to any programming.

FIELD DEVICE CONFIGURATION

The Translator Module and RF devices can now be learnt onto the system in the same way as normal analogue wired devices from the front of the Fire Control Panel or configured using the Fire Control Panel configuration tool. Please refer to the Fire Control Panel manual for further details.

All RF field devices should be configured to a device type appropriate to their type, in the same way a hard-wired device is configured.



HFW-EM-01 RADIO EXPANDER MODULE INSTALLATION GUIDELINES

SECTION 4 – HFW-EM-01 RADIO EXPANDER MODULE INSTALLATION GUIDELINES

INTRODUCTION	Page 41
SPECIFICATION.....	Page 41
CABLING TERMINATION – MONITORED POWER SUPPLY UNIT (PSU).....	Page 42
CABLING TERMINATION – NON-MONITORED POWER SUPPLY UNIT (PSU).....	Page 43
EXPANDER MODULE PCB CONNECTIONS.....	Page 44
PROGRAMMING.....	Page 44
EXPANDER MODULE CONFIGURATION AND TOPOLOGY.....	Page 45

INTRODUCTION

The HFW-EM-01 Wireless Expander Module is used to extend the range/reach of a Translator Module in order to program wireless field devices that would otherwise have received too weak a radio signal to work efficiently.

A maximum of 7 Expander Modules can be connected to one Translator Module. It should be noted that only a maximum of 32 devices can still be programmed on to the Translator Module – adding Expander Modules does not increase the number of field devices that can be associated with a Translator Module.

Each Expander Module receives a digital address from the Translator Module in order to be identified. Examples of this addressing can be seen on pages 45/46.

An Expander Module requires an external power source (EN54 battery backed PSU) of 24Vdc. It should be noted that the Expander Module will function correctly with an input voltage of 10 – 27Vdc.

SPECIFICATION

- Multi-channel frequency operation.
- Immediate transmission signals from field devices: Alarm, Fault and Tamper.
- Transmission of status and analogue values.
- Colour: White
- Dimensions: 116 x 107 x 65 (without an antenna)
- Operating Frequency: 868 - 870 MHz
- Radiation power: 0.01 - 10mW
- Modulation Type: Frequency Modulation (FM)
- Number of frequency channels: 7
- Power supply voltage: 10 - 27 Vdc
- Current consumption $\leq 20\text{mA}$
- Operating temperature: -30°C to $+55^{\circ}\text{C}$

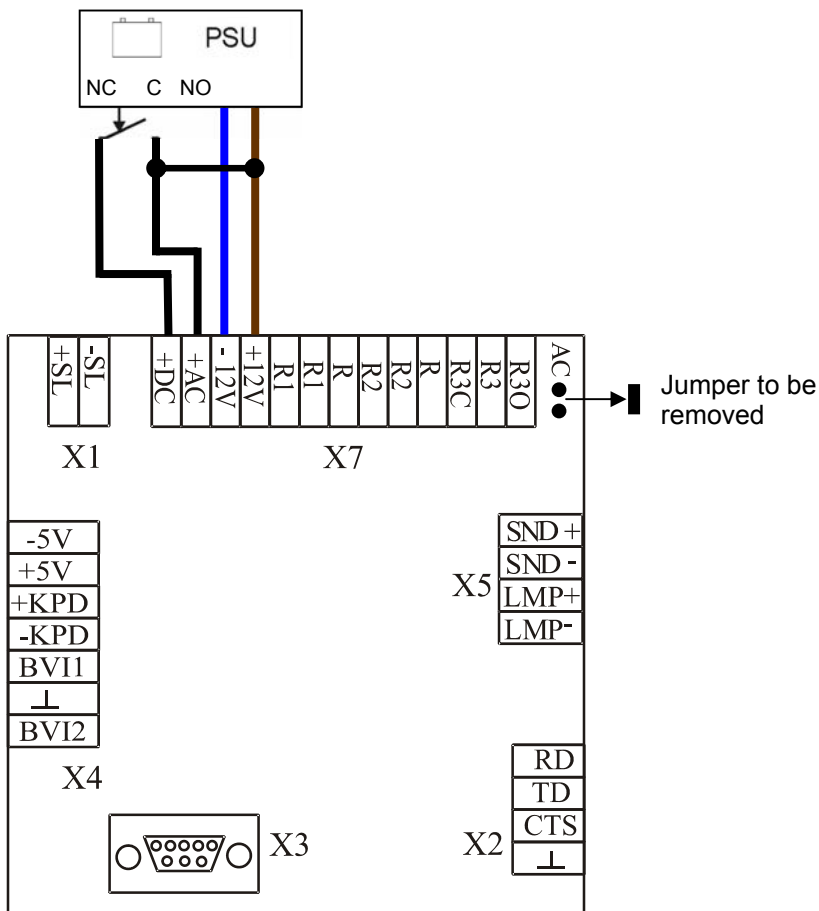
CABLING TERMINATION - MONITORED POWER SUPPLY UNIT (PSU)

The diagram indicates the connections required to connect a monitored PSU to an Expander Module (EM).

Note:- the Jumper connection should NOT be fitted.

Maximum current (I) consumption of the EM is $\leq 20\text{mA}$

(NOTE: A 24V PSU can be fitted to this unit)



For details of onboard PCB connections, see page 44 of this manual

To connect the EM to a monitored 24V D.C. PSU:

Ensure there is **NO** jumper fitted (see above)

Connect the +24V PSU output to the +12V and –12V connections of the EM

Connect the +DC and +AC connector of EM to the PSU controlled relay as indicated (assuming that the PSU relay opens when the primary voltage fails)

The “+AC” and “+DC” Expander inputs monitor the primary and the backup power supply voltage levels. These inputs are connected to an internal A/D converter.

NOTE: LEAVING THE JUMPER CONNECTED MAY CAUSE DAMAGE TO THE EXPANDER MODULE

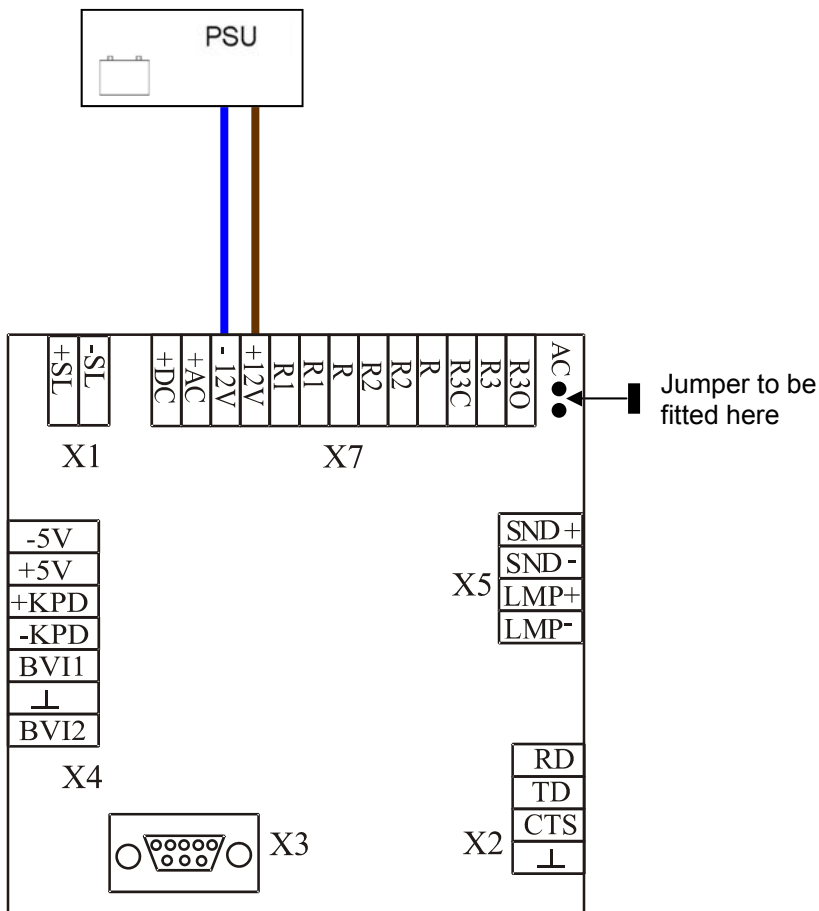
CABLING TERMINATION - NON-MONITORED POWER SUPPLY UNIT (PSU)

The diagram below indicates the connections required to connect a non-monitored PSU to an Expander Module.

NOTE:- the Jumper connection MUST be fitted.

Maximum current consumption (I) of the EM is $\leq 20\text{mA}$.

(NOTE: A 24V PSU can be fitted to this unit)



When connecting the Expander Module (EM) to a non-monitored 24V Power Supply Unit (PSU):

Ensure the jumper is connected to the AC pins (see above) - the AC jumper directly connects the +24V input to the +AC input through an internal A/D converter

Connect the +24V PSU output to the +12V and -12V connections on the EM

NOTE: If using a non-monitored PSU (as above), care must be taken that the system conforms to local standards and codes of practice.

EXPANDER MODULE PCB AND CONNECTIONS

- X1

Provides the following connections:

+SL

-SL

]

]

Linking to external devices

NOT USED IN THIS CONFIGURATION
- X2

Provides the following connections:

RD

TD

CTS

GND

]

]

]

]

Used when hard wiring a RS232 connection to the Expander Module

NOT USED IN THIS CONFIGURATION
- X3

RS232 Connector (F) - used when connecting a laptop computer to the Expander Module
- X4

Provides the following connections:

+5V

-5V

+KPD

-KPD

BVI1

GND

BVI2

]

]

]

]

]

]

For linking to external Auxiliary Devices e.g. Wireless Keypad, Control Equipment

NOT USED IN THIS CONFIGURATION
- X5

Two Open Collector contacts that provide a 200mA output for connecting to a Sounder (SND) or Beacon (LMP)

NOT USED IN THIS CONFIGURATION
- X7

Provides the following connections:

+DC

+AC

+12

-12

]

]

]

]

For monitoring the power supply

For monitoring the power supply

Power Supply Connection (+)

Power Supply Connection (-)

X7

R1/R1/R

R2/R2/R

R3C/R/R3O

]

]

]

Three Normally Open (NO)/ Normally Closed (NC) relays

NOT USED IN THIS CONFIGURATION
-
- PROGRAMMING
- The Expander Module can ONLY be programmed using the software supplied with the Translator Module (HFW-W2W-01).

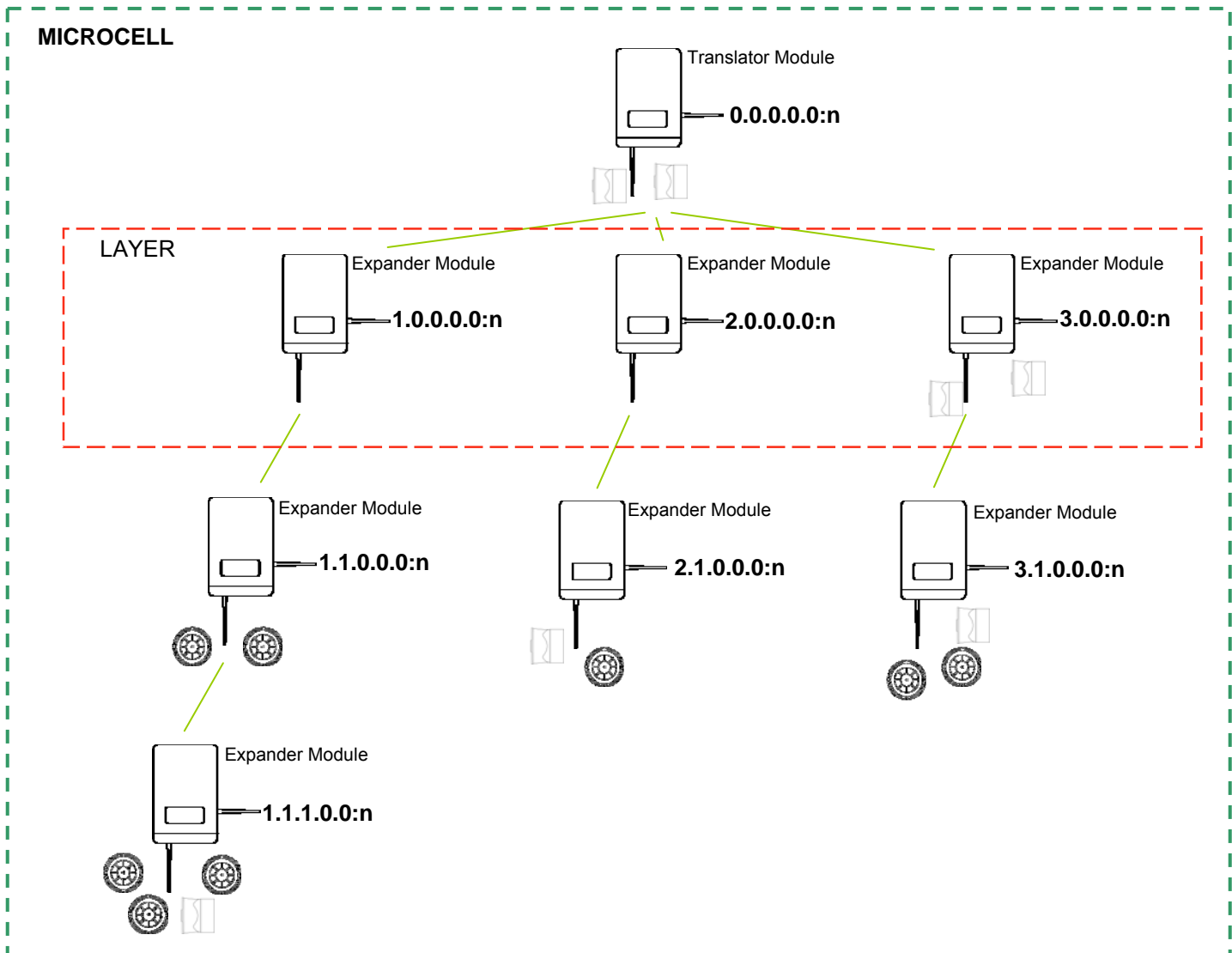
The Expander Module and associated devices should be programmed in accordance with Section 6.

To use the software tool, connect a laptop computer to the RS232 connector (X3) on the Expander Module front PCB - a standard RS232 cable is to be used.
- WCTM Issue 3

Page 44 of 155

EXPANDER MODULE CONFIGURATION AND TOPOLOGY

Expander Modules are used in association with a Translator Module (HFW-W2W-01):- one Translator Module can communicate to a maximum of seven Expander Modules:

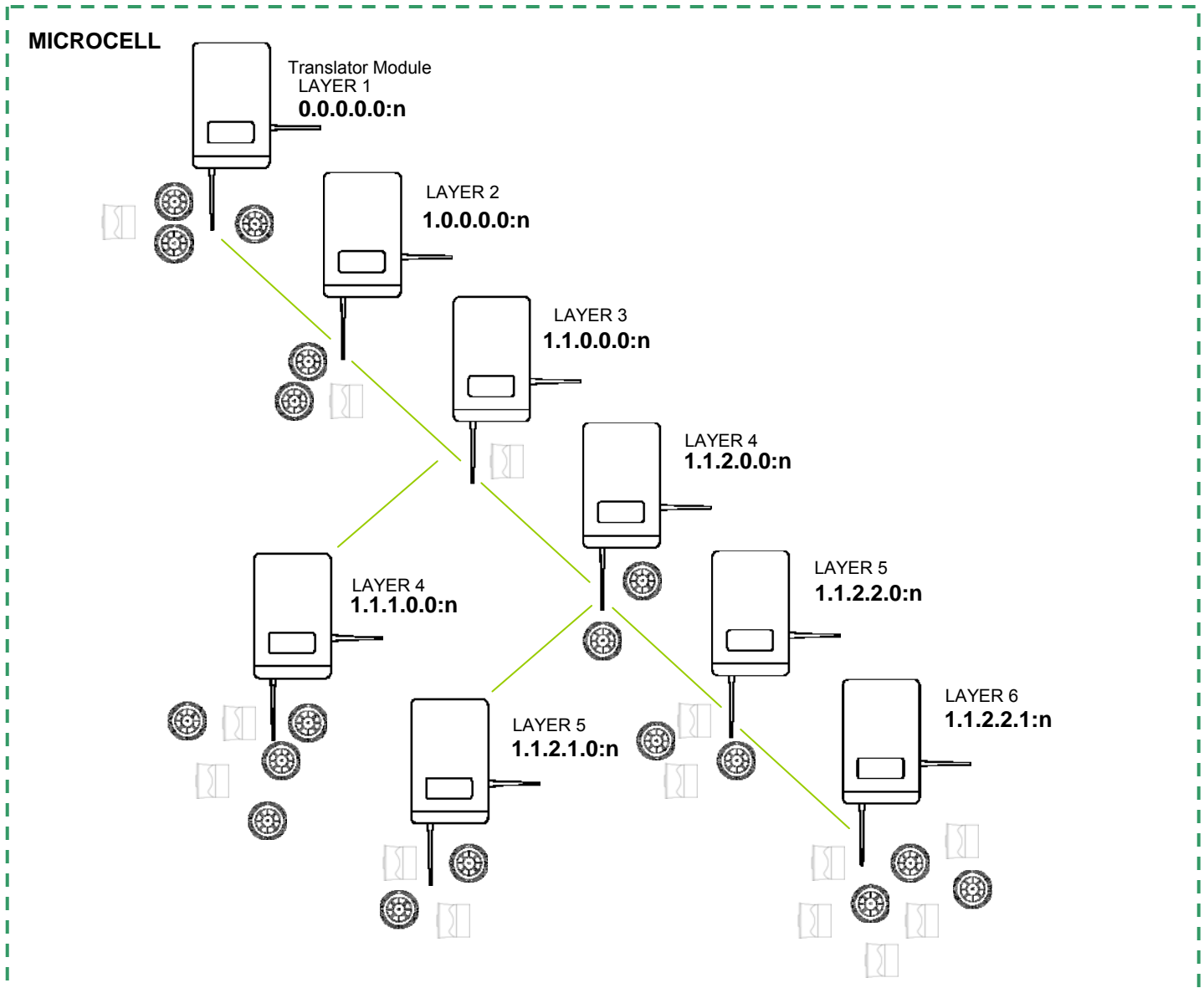


This configuration employs the maximum number of Expander Modules (7). Each Expander Module can have field devices associated with it.

There can be no more than 3 Expander Modules on one layer – the digital addressing employed by the Translator Module to recognise each Expander Module. The system uses a decimal representation of a binary address and consists of only two binary bits giving a maximum of 3_(decimal) (see above).

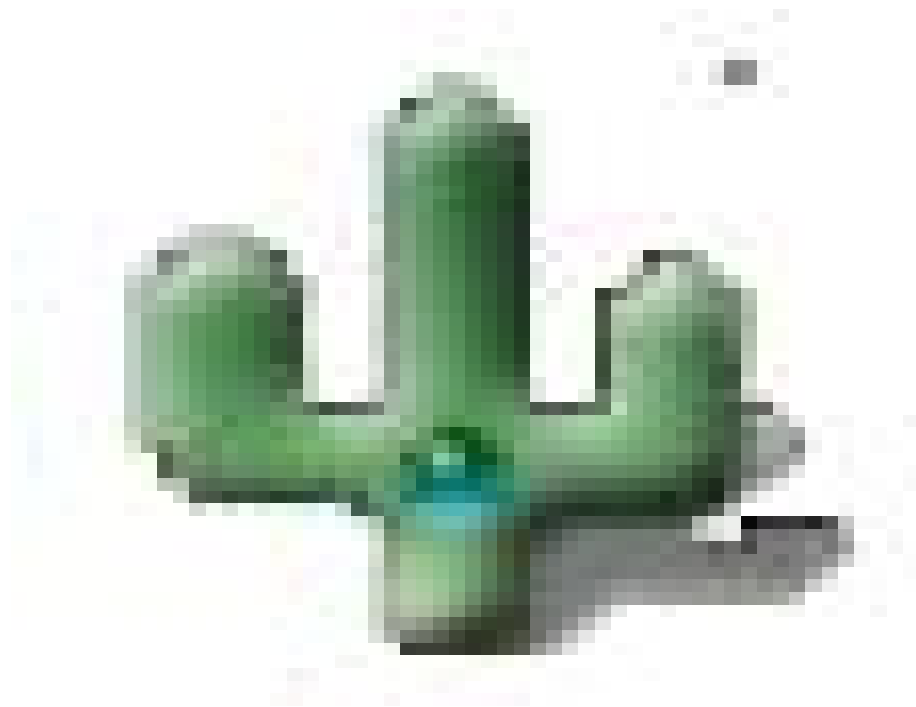
A Translator Module cluster (as shown above) can have a maximum of 32 field devices associated with it.

An alternative configuration is shown below:



This configuration employs a **MAXIMUM** of six layers of Expander Modules (the top layer in the diagram above is a Translator Module). This is due to the digital addressing employed between the Translator Module and the Expander Modules.

The "...n:" is the digital sub-address given to a wireless field device and is a unique identifier for that device.



THE WIRELEX CONFIGURATION TOOL - INSTALLATION AND PROGRAMMING GUIDELINES

SECTION 5 – WIRELEX CONFIGURATION TOOL INSTALL & PROGRAMMING GUIDELINES

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TO START SYSTEM CONFIGURATION.....	Page 54
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ADDING AN OPTICAL SMOKE DETECTOR.....	Page 62
ADDING A THERMAL DETECTOR.....	Page 64
ADDING A MANUAL CALL POINT.....	Page 66
ADDING AN INPUT MODULE.....	Page 68
ADDING A MAINS POWERED OUTPUT MODULE.....	Page 70
ADDING A SOUNDER/SOUNDER BEACON.....	Page 72
ADDING A VOICE SOUNDER/ANNUNCIATOR.....	Page 74
ADDING A BATTERY POWERED OUTPUT MODULE.....	Page 78
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RETURN TO NORMAL GRAPH VIEW.....	Page 107
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SECTION 5 (cont)

INTRODUCTION

This section explains the facilities available when using the Wirelex Configuration Tool:

- The Wirelex Configuration Tool has been designed to allow an Installation/Commissioning Engineer to program hybrid wire to wireless radio detection/initiation and alarm devices prior to programming a Fire Control Panel.
- If a wireless system has HFW-EM-01 Expander Modules associated with it, these can ONLY be programmed using the Wirelex Configuration Tool.
- If the parameters of field devices need to be amended away from the default settings, this can ONLY be carried out using the Wirelex Configuration Tool.
- There are additional applications built in to the Configuration Tool that allow the Engineer to:
 - Analyse the background RF environment
 - Change out faulty Translator/Expander Modules without having to reprogram the associated field devices – ***as long as the program contained within the modules can still be read.***
- The Configuration Tool allows a Fire Alarm Engineer to interrogate an existing system to diagnose reported faults.
- The Translator Module contains an “Events Log” that can be downloaded using the Wirelex Configuration Tool. This can then be forwarded to a Technical Assistance Centre (if requested) to further analyse the fault and provide the engineer with a corrective solution.
- The “RF History” of a device can be downloaded using the Wirelex Configuration Tool for off-site analysis (if required)

LOADING SOFTWARE

Computer requirements:

Compatible Operating Systems: Windows XP/2000/ME/98

Disk space: 50MB

Minimum Processor speed: Pentium 233MHz

Minimum RAM: 64MB

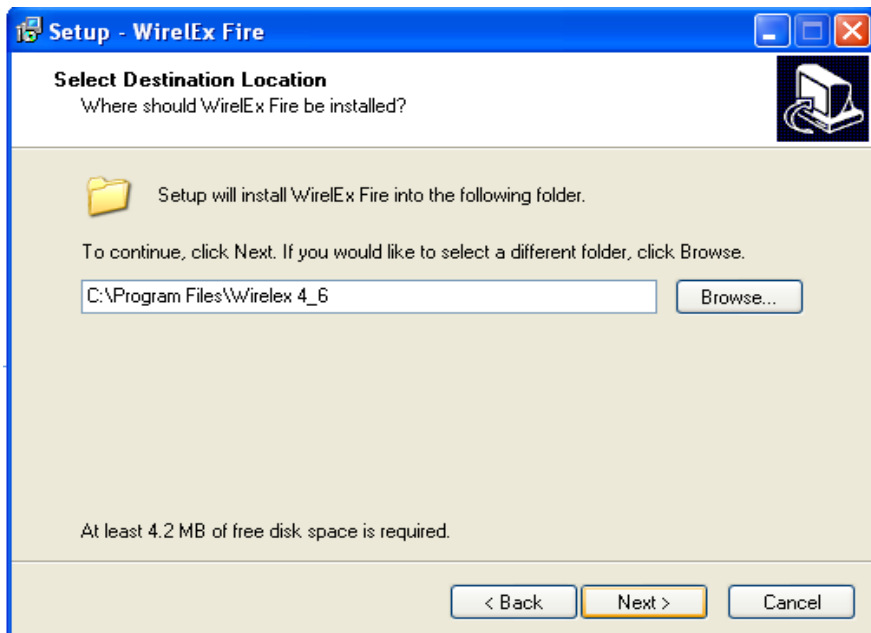
The Wirelex software is provided on a CD.

Insert the CD in to the laptop drive. The following window will appear:



Press 

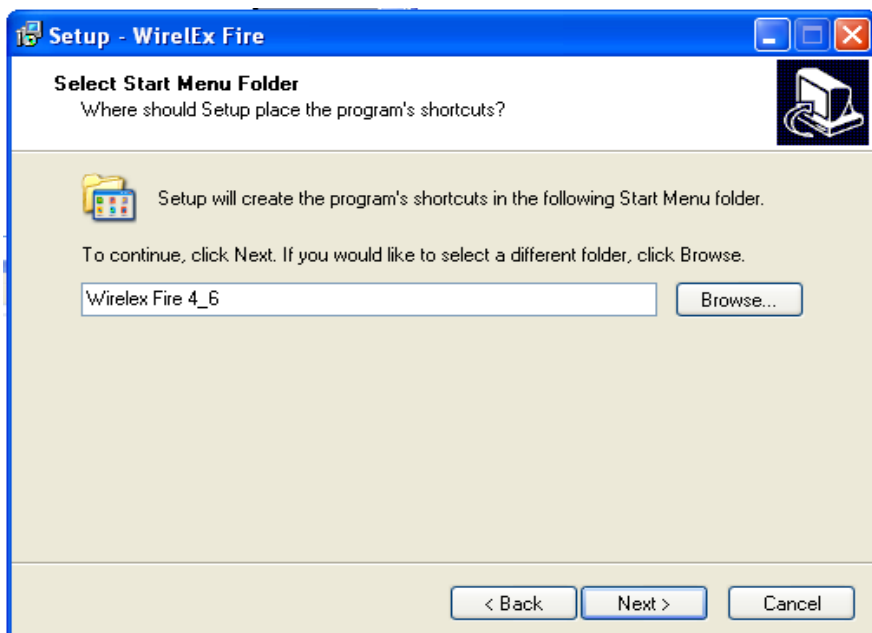
This will start the Installation Wizard for the Wirelex software. With the Wizard started the following window will appear:



SECTION 5 (CONT)

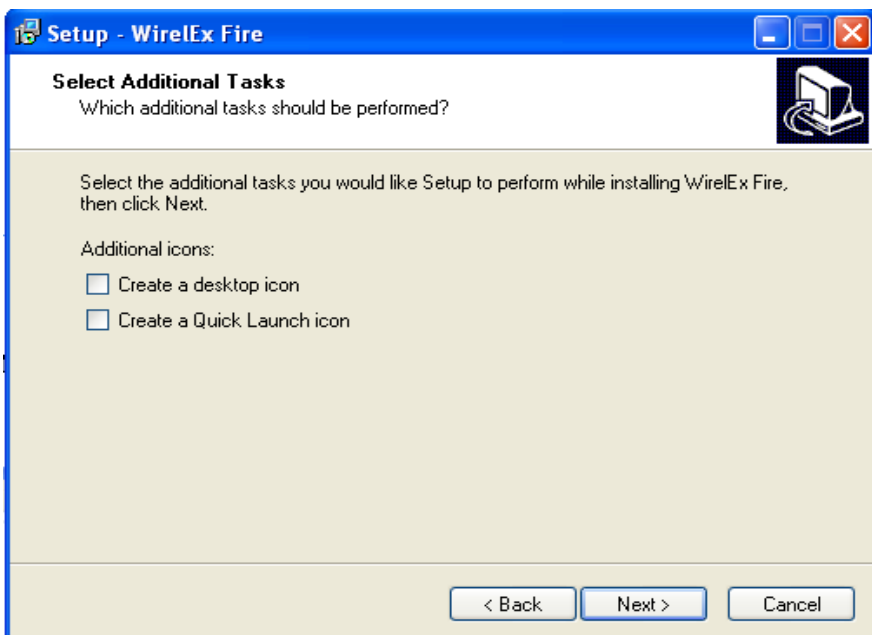
This will install the software in to a default folder on the computer. This can be modified if required by selecting **Browse...**. Once the destination folder is correct, press **Next >**

The following window will appear:



This will add a line to the Start-up Menu so that the application can be selected from the computer main menu. This can be altered if required. Once the folder name is correct, press **Next >**

The following Window will appear:




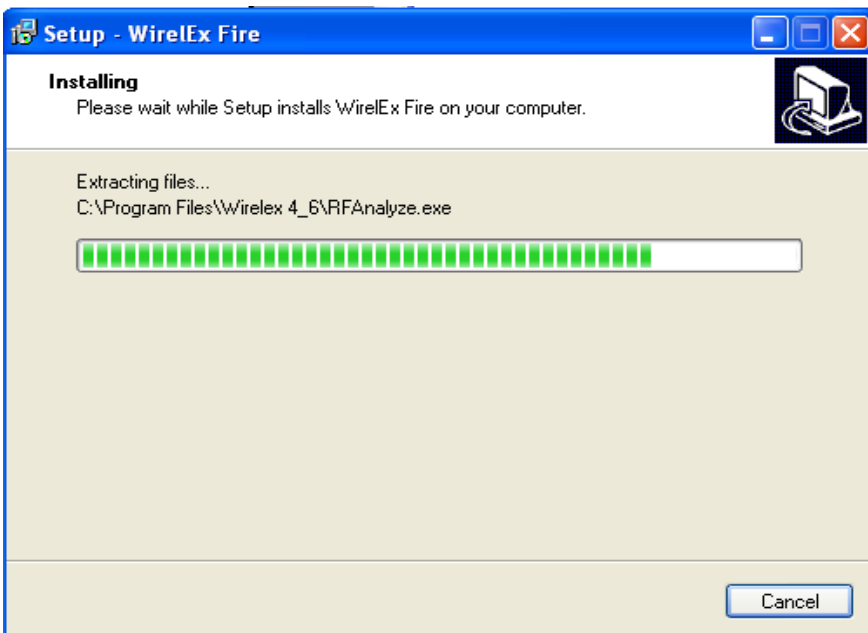
By checking the box for **“Create a desktop icon”**, a shortcut icon will appear on the Desktop window allowing the application to be accessed direct from the Desktop. Press **Next >**

SECTION 5 (CONT)

The following Window will appear:-



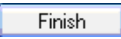
This window provides a précis of the information just entered by the user. Selecting  will start the installation process and display the following:-



SECTION 5 (cont)


When the software installation is complete, the following window will appear:-



Click the  box.

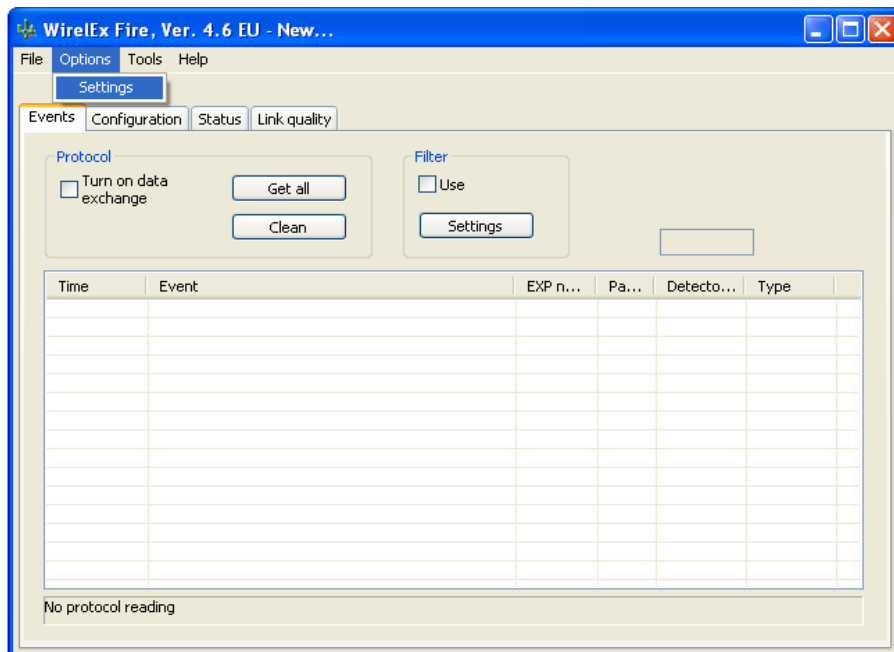
Remove the CD from the CD drive and store in a safe place. The CD is not required to run this application once installed on to a computer.

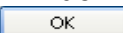
TO START SYSTEM CONFIGURATION

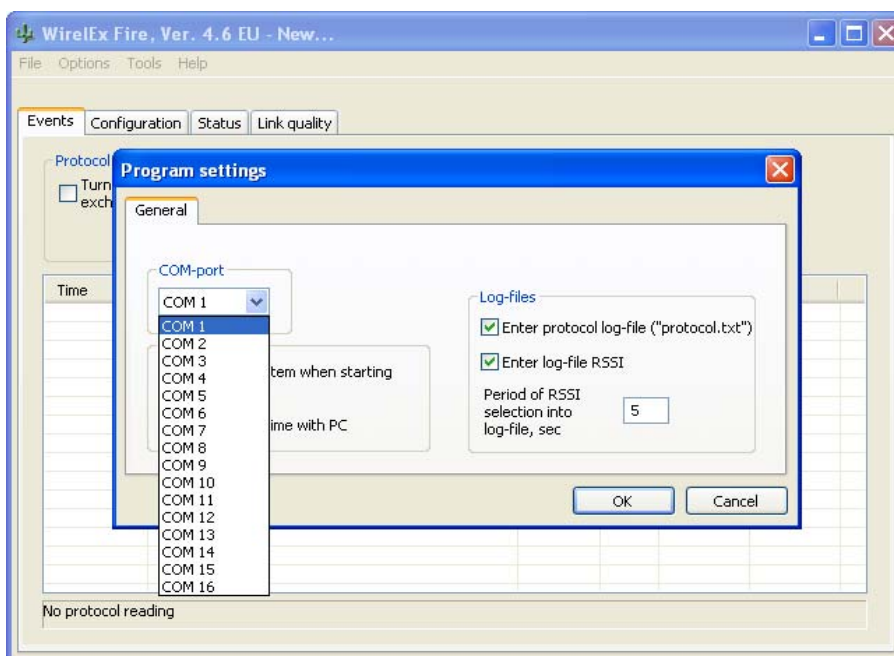
1. Connect the computer to the Translator Module via a standard 9 pin RS232 Serial Cable
2. Open the Wirelex software by double clicking the cursor over the Wirelex icon  located on the computer desktop.

The default connection within the software is to connect through COM Port 1. If this needs to be changed:

- a. From the tool bar at the top of the window, select **“Options”** then **“Settings”**

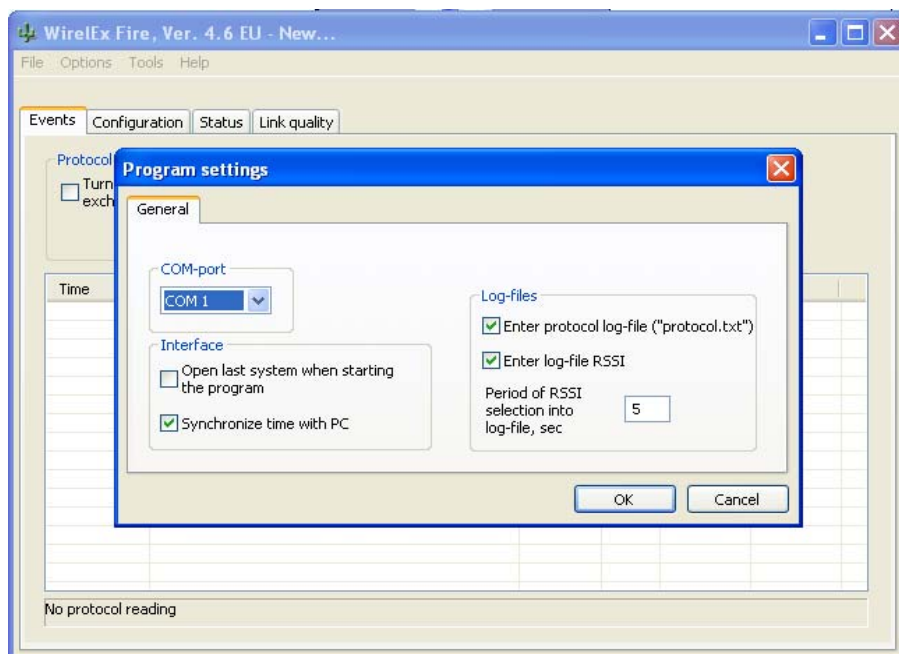


- b. The window below will appear. Select the correct COM port for the RS232 connection and press 

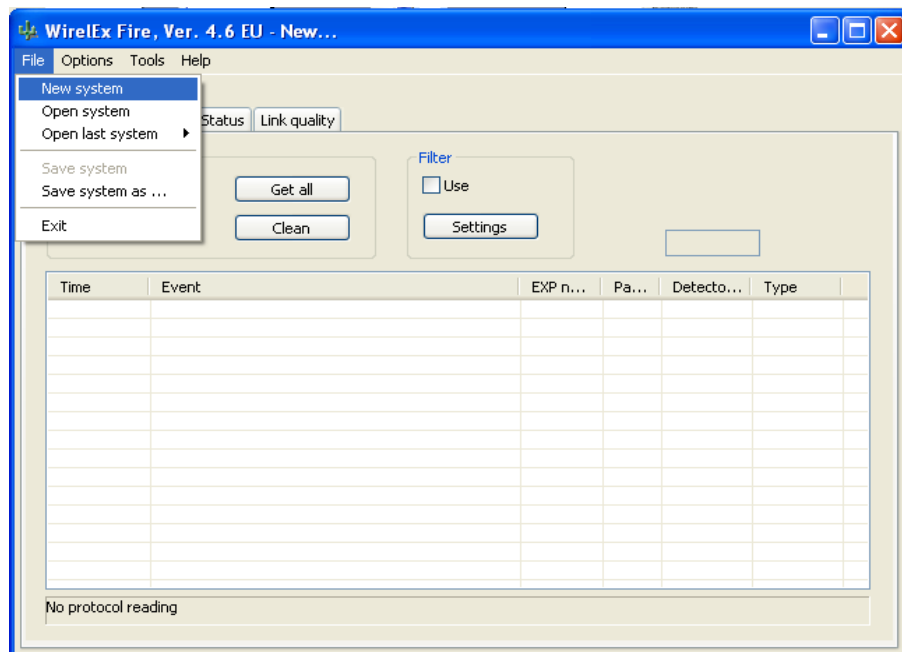


SECTION 5 (cont)

- c. Uncheck the “Open last system when starting the program” option. This will ensure that each time the application opens, the software will open with a “blank canvas”



3. At the Main Menu page, select “File” and “New System”.

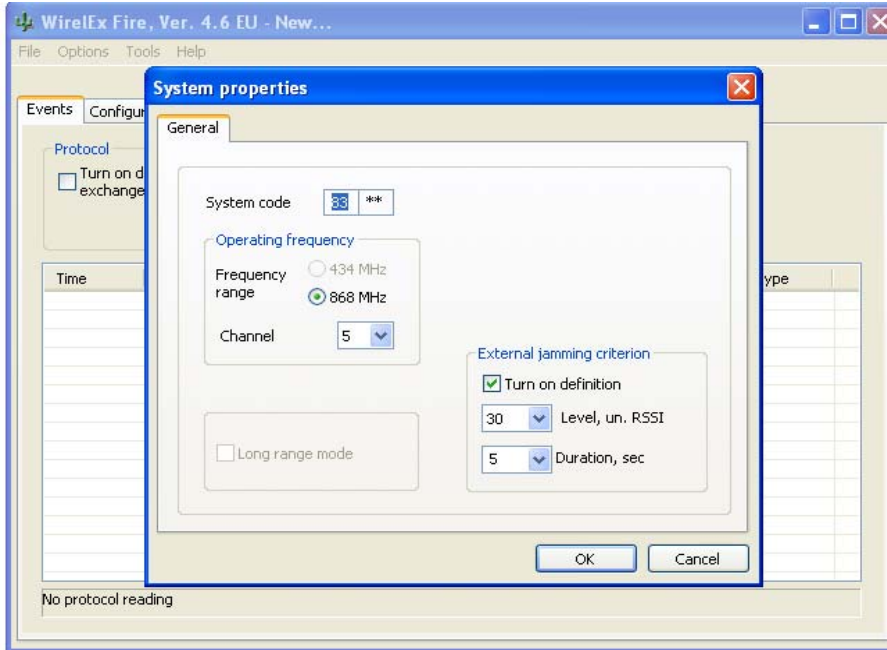


The System properties sub-window will appear. The system code is a randomly generated hexadecimal number. This is translated in to decimal at the Translator Module to give a three digit decimal number in the range 0 - 255. If required, the code and the initial operational channel can be changed. It is recommended that the default code is used unless there is a requirement to amend – if there are several Translator Modules on a system, the user may wish to identify each Translator Module with an “easy-to-remember” system code, e.g. 1f, 2f, etc.

NOTE: Only the first two alpha-numerics of the “**System Code**” can be changed – a code between 01 and ff must be entered

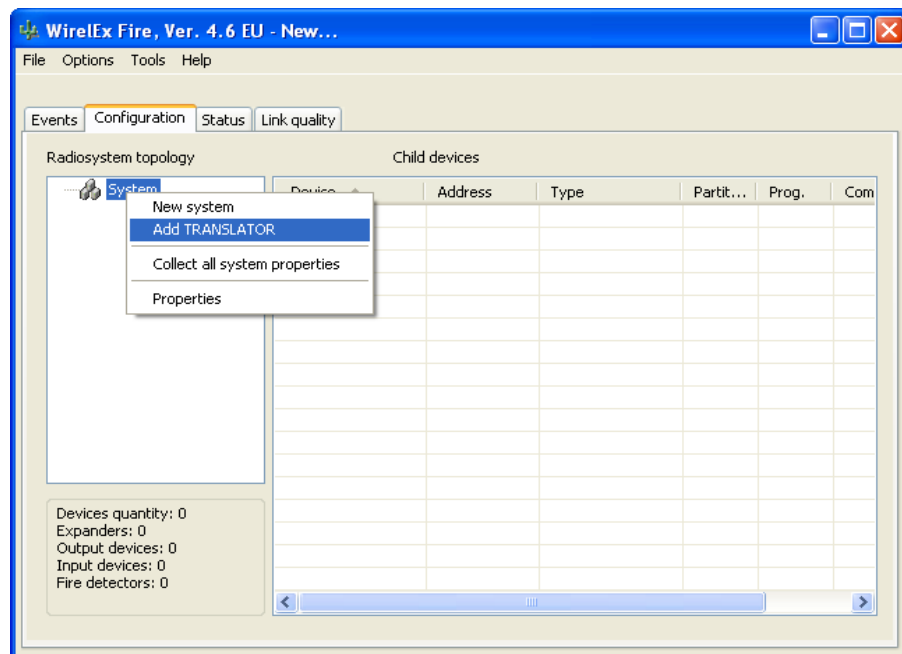
SECTION 5 (cont)

(If building a system employing multiple Translator Modules, it is recommended each Module be assigned a different operational channel – there are seven available operational channels)

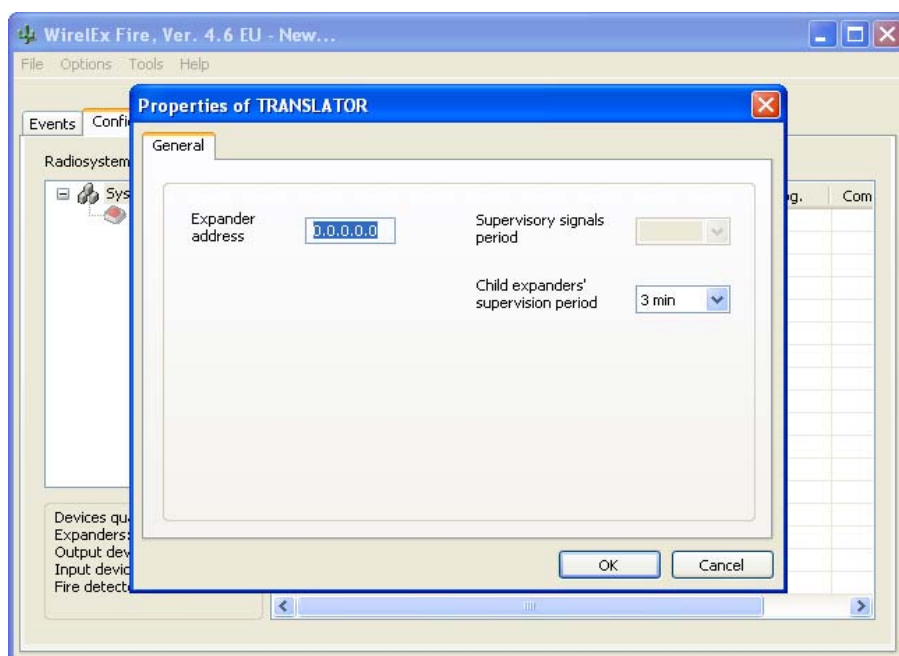


SECTION 5 (cont)

At the Main Menu page, select the **“Configuration”** tab. Right click the mouse over the “System icon” located in the Radiosystem topology area. Select **“Add TRANSLATOR”** from the drop down list.

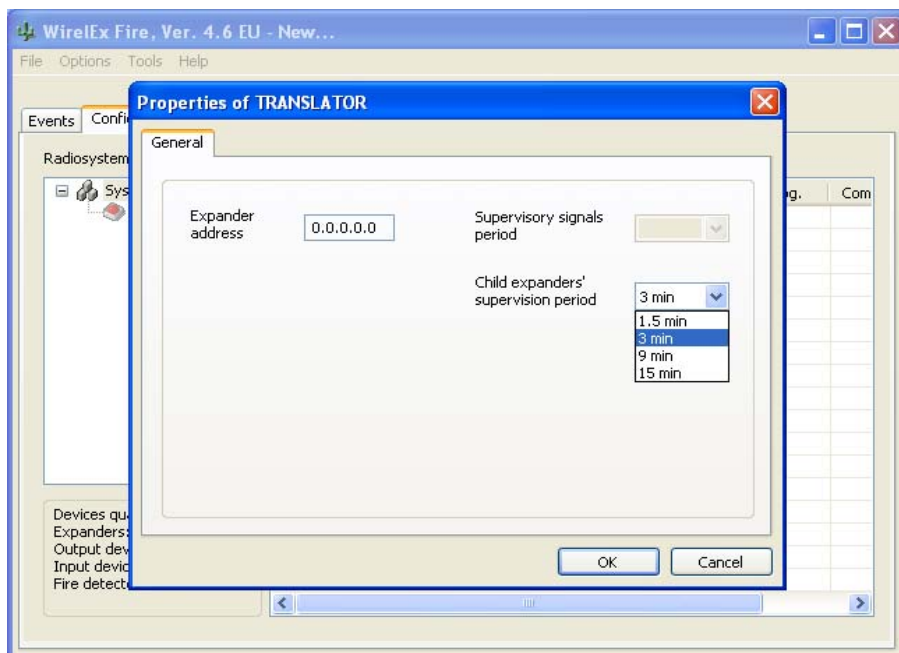


A window will appear with the Translator Module properties detailed.



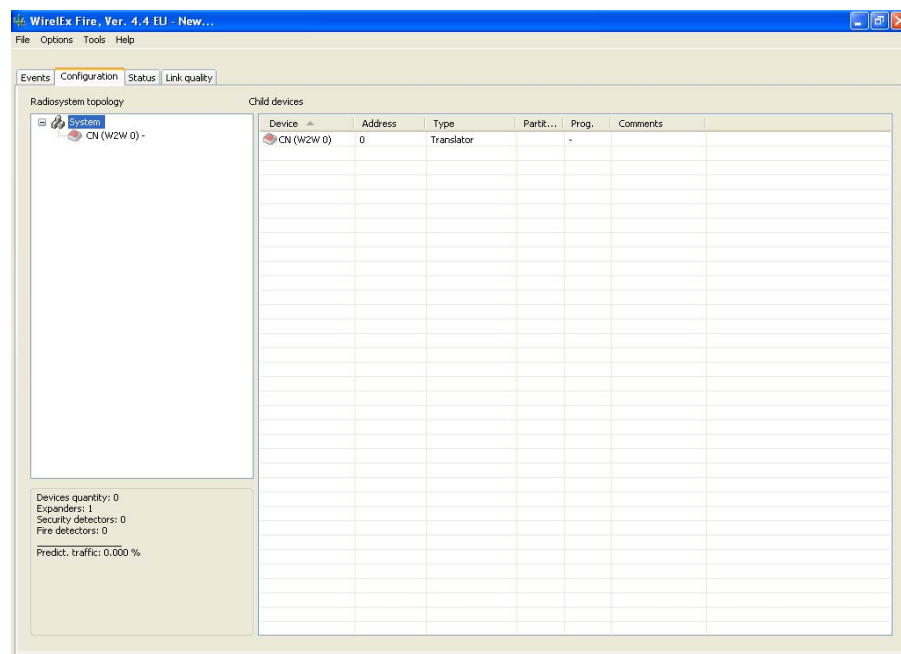
NB: Although the *“Expander Address”* is highlighted it is not possible to change this address. This is a digital address assigned by the system for future identification within the microcell environment.

The only other parameter that may be changed is the “**Child Expanders’ Supervision Period**”.



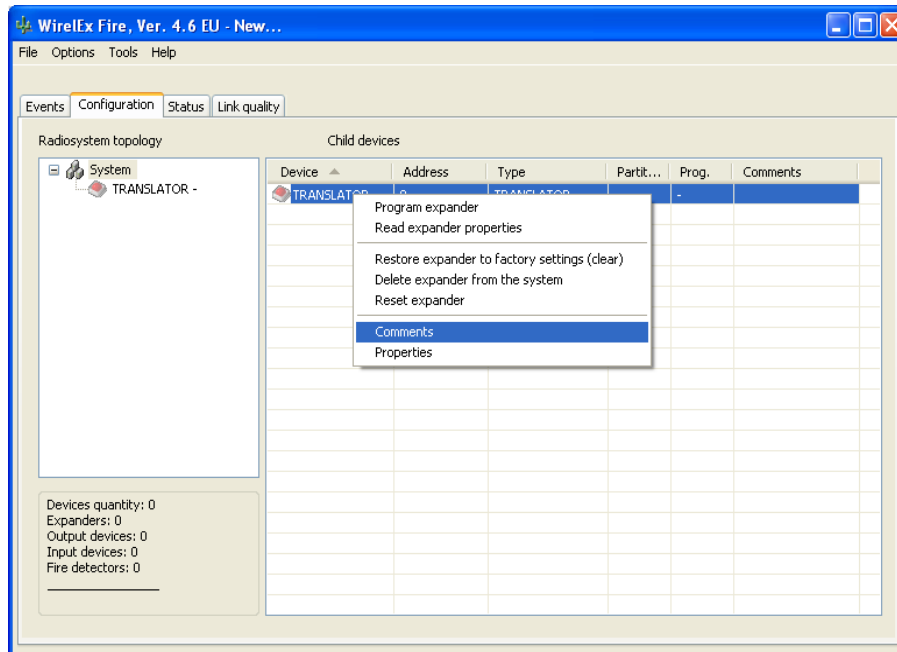
Once all parameters are as required, press to confirm the Translator Module values.

A new Translator Module has now been added to the System configuration and the related icon appears in the Radiosystem topology tree. The associated chart has been updated to reflect the addition of the Translator Module.

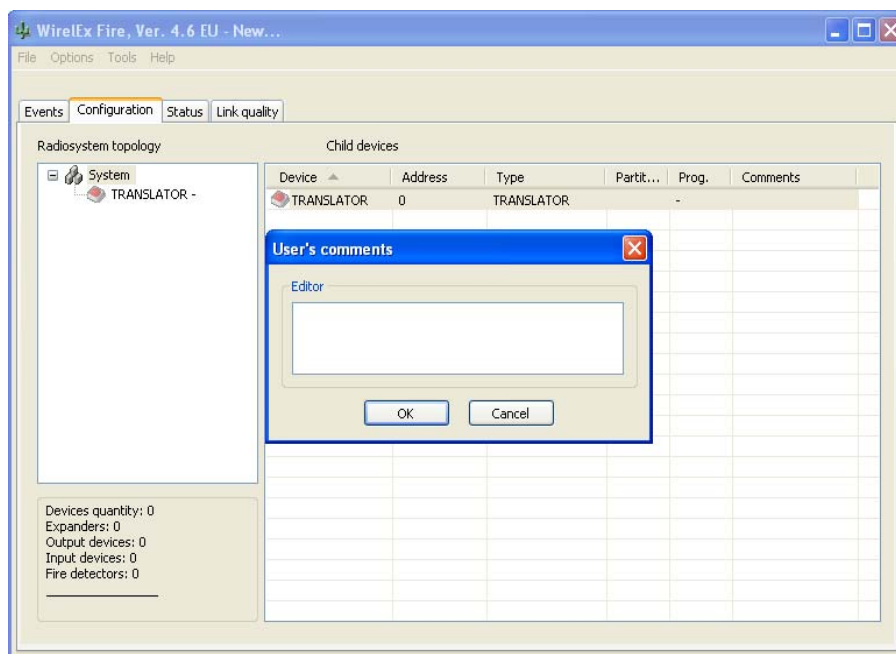


SECTION 5 (cont)

To add comments (device location, Fire Control Panel detection loop address, etc), highlight the Translator Module and right click the mouse. A small menu box will appear. Select **“Comments”**



A **“User’s Comments”** box will now appear (shown below). A maximum of 31 alphanumeric characters can now be entered.



On completion press **OK** to return to the main window.

(Tip: An alternative quicker method is to double click the mouse in the associated field device Comments box – this will present the user with the above window)

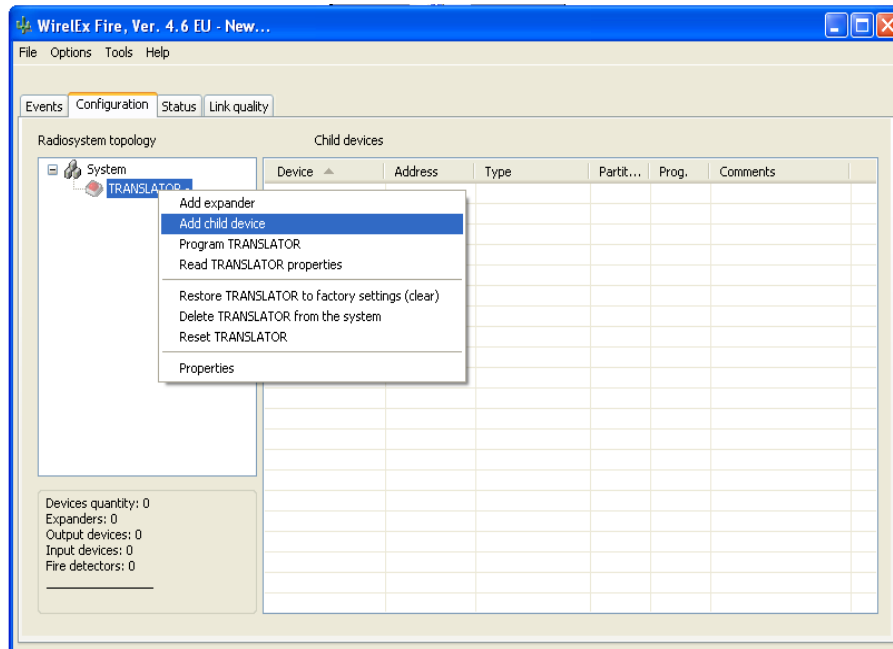
(Tip: Put the full/abbreviated location in here and if possible the Fire Control Panel detection loop address, e.g. Grd Flr Office L1 D22. This is useful when transferring the information to the Fire Control Panel Configuration Tool or if entering the information direct at the Fire Control Panel)

ADDING FIELD (CHILD) DEVICES TO THE TRANSLATOR MODULE

This section details adding on to the Translator Module a child device of each type. As each device is added to the Translator Module, the device parameters that can be amended are detailed and explained.

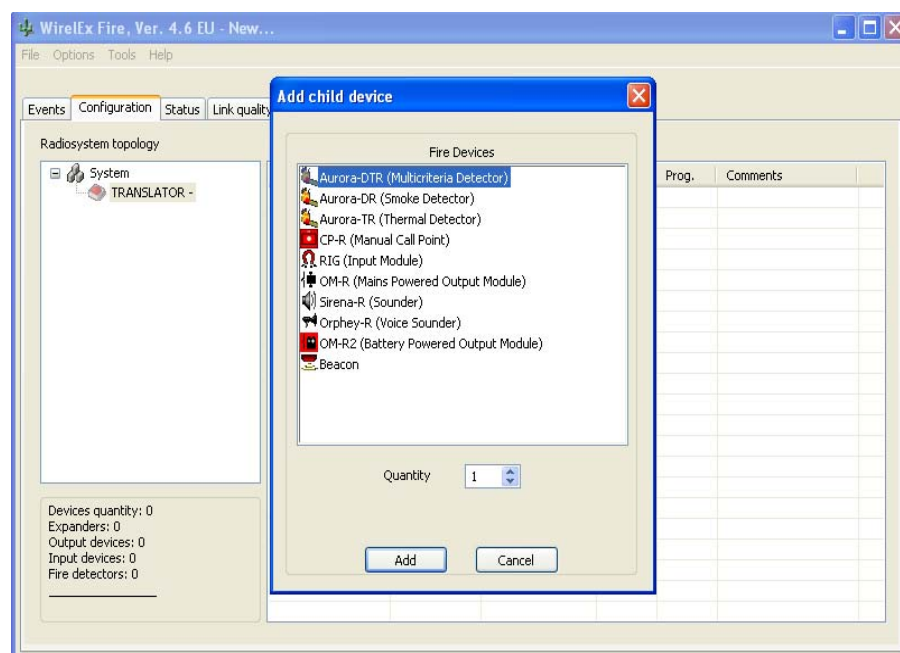
To add a field device to the Translator Module, right click the mouse over the Translator's icon and select:

“Add child device”



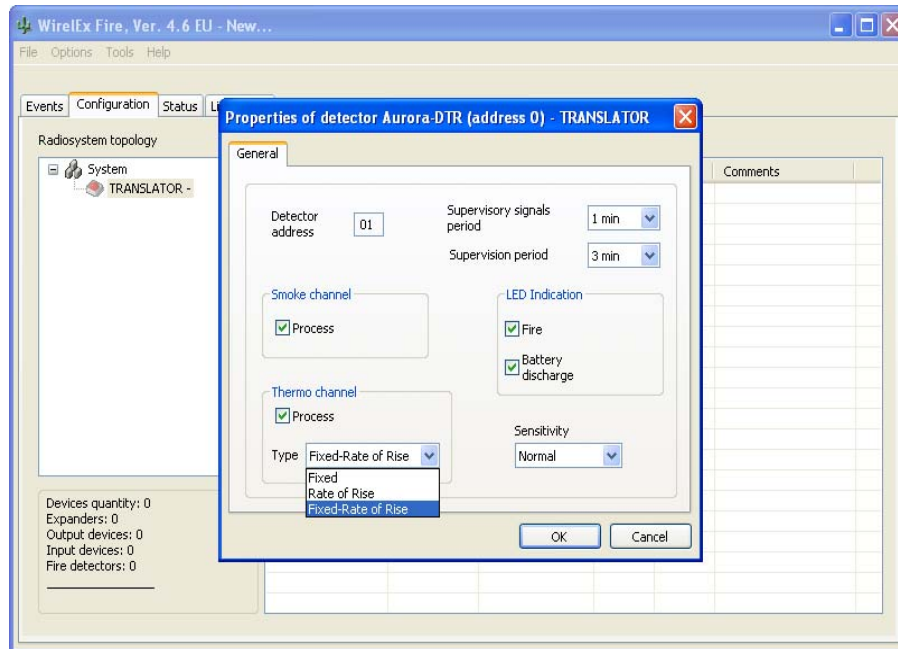
ADDING A MULTICRITERIA DETECTOR

A window with the list of selectable child devices now appears. Select the device and quantity required; press **Add** on completion.



SECTION 5 (cont)

A window will appear allowing the engineer to amend the device operating parameters.



The default mode of operation for the Multi-Criteria Detector is “Fixed Rate-of-Rise”. This can be changed to “Fixed” or “Rate-of Rise” by changing the “**Thermo channel Type**”. The Multi-Criteria Detector can also be changed in to a pure Optical Detector or Thermal Detector by un-checking the associated “Process” button. The sensitivity of the smoke channel can be amended from its default of “Normal” to “High” or “Low”.

Un-checking the “LED Indication” boxes – “Fire” and “Battery discharge” – will stop the device LED indicating if there is a fire activation or when the batteries reach a discharge state. The default for these indications is to remain checked and it is recommended that these two indications are left in the default state.

The “Supervisory Signal period” should be left at the default value of 1 minute. If the device quantity is > 1, only the first device address will appear in the parameter window but all devices of the type selected will have the same operational parameters.

The “Supervision period” would normally be left unchanged. This can be changed from the default “3 mins” by changing the level in the “Supervision period” window.

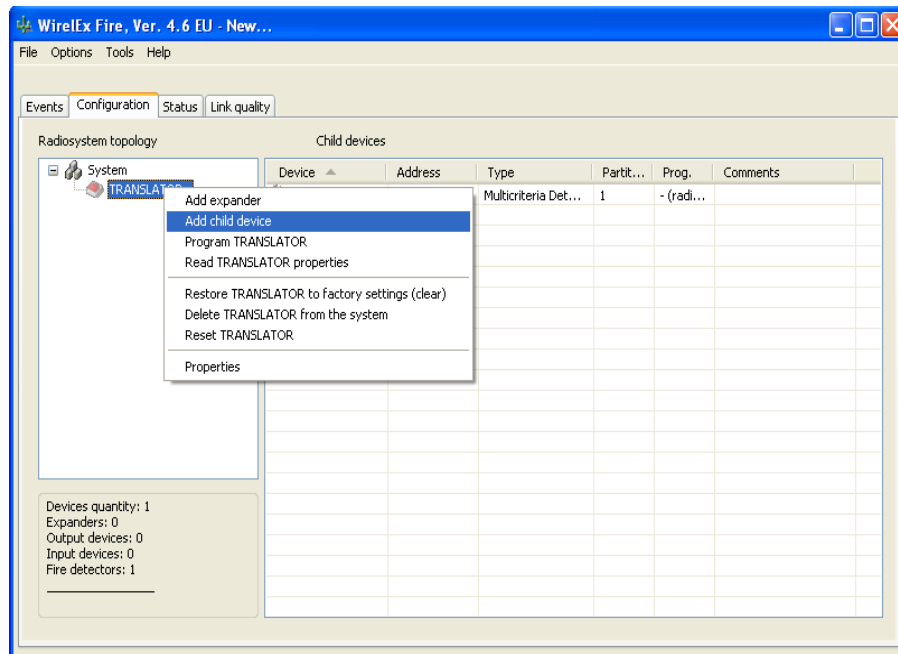
On completion of parameter/process changing press .

The window will close and the user will be directed back to the “Configuration” tab for adding further devices (if required).

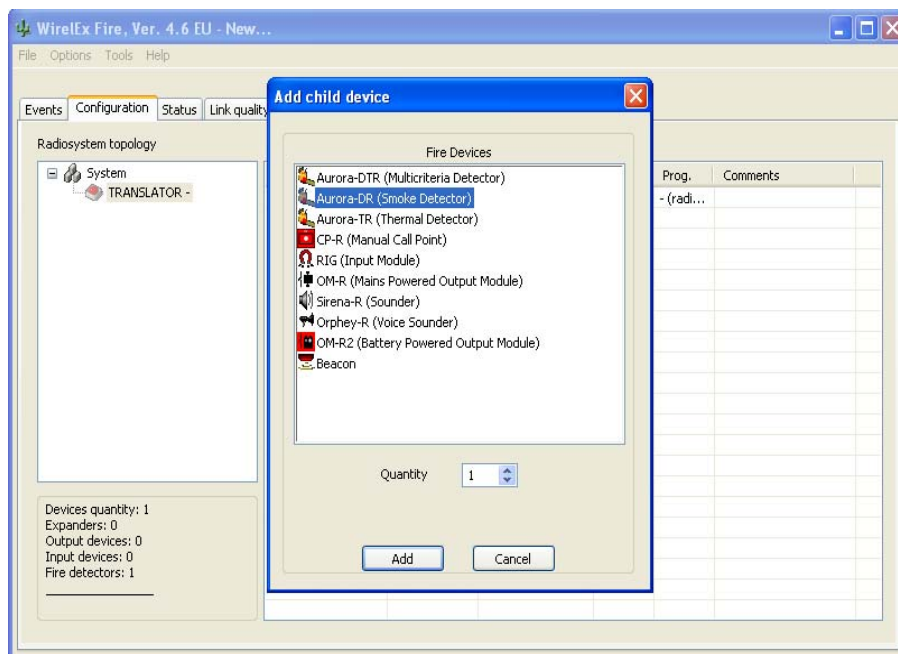
ADDING AN OPTICAL SMOKE DETECTOR

To add a Smoke Detector to the Translator Module, right click the mouse over the Translator icon selecting:

“Add child device”

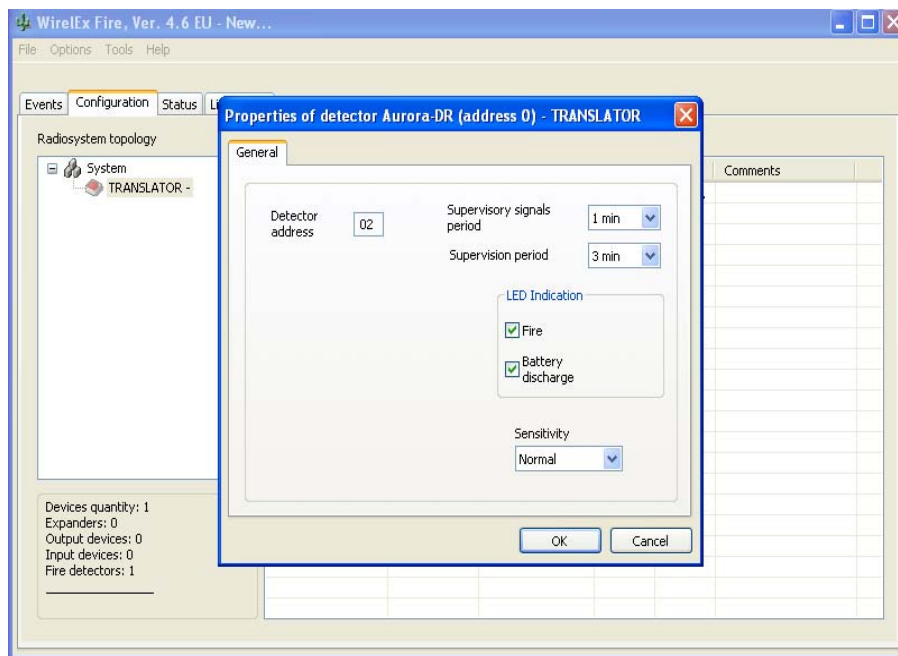


A window with the list of selectable child devices now appears. Select the device and quantity required; press **Add** on completion.



A window will appear allowing the engineer to amend the device operating parameters.

SECTION 5 (cont)



The sensitivity of the smoke channel can be amended from its default of “Normal” to “High” or “Low”.

Un-checking the “LED Indication” boxes – “Fire” and “Battery discharge” – will stop the device LED indicating if there is a fire activation or when the batteries reach a discharge state. The default for these indications is to remain checked and it is recommended that these two indications are left in the default state.

The “Supervisory Signal period” should be left at the default value of 1. If the device quantity is > 1, only the first device address will appear in the parameter window but all devices of the type selected will have the same operational parameters.

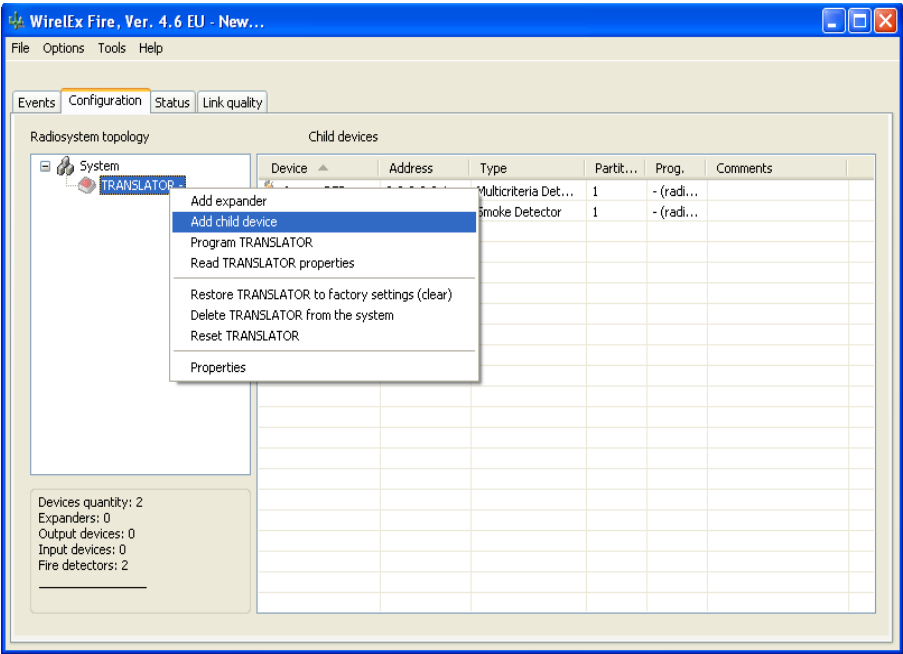
The “Supervision period” would normally be left unchanged. This can be changed from the default “3 mins” by changing the level in the “Supervision period” window.

On completion of parameter/process changing press .

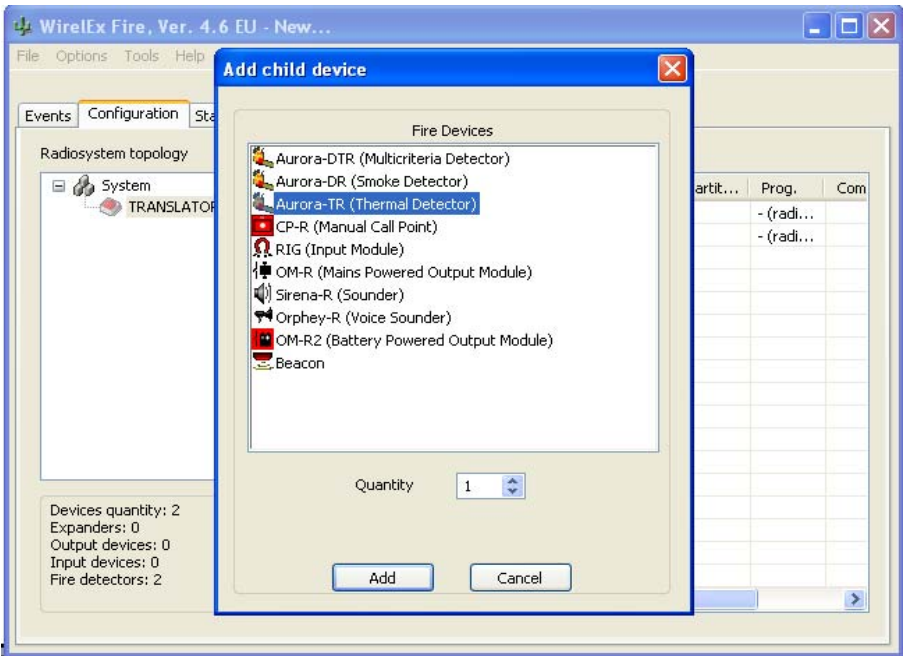
The window will close and the user will be directed back to the “Configuration” tab for adding further devices (if required).

ADDING A THERMAL DETECTOR

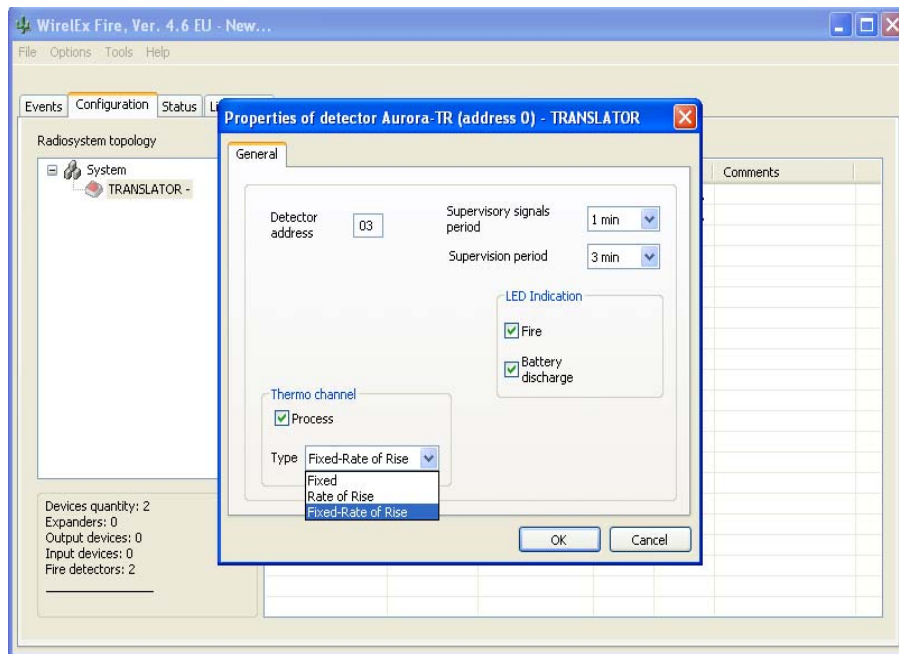
To add a Heat Detector to the Translator Module, right click the mouse over the Translator icon selecting:
“Add child device”



A window with the list of selectable child devices now appears. Select Thermal Detector and quantity required; press **Add** on completion.



A window will appear allowing the engineer to amend the device operating parameters.



The default mode of operation for the Thermal Detector is *“Fixed Rate-of-Rise”*. This can be changed to *“Fixed”* or *“Rate-of Rise”* by changing the *“Thermo channel Type”*.

Un-checking the “LED Indication” boxes – “Fire” and “Battery discharge” – will stop the device LED indicating if there is a fire activation or when the batteries reach a discharge state. The default for these indications is to remain checked and it is recommended that these two indications are left in the default state.

The *“Supervisory Signal period”* should be left at the default value of 1 minute. If the device quantity is > 1, only the first device address will appear in the parameter window but all devices of the type selected will have the same operational parameters.

The *“Supervision period”* would normally be left unchanged. This can be changed from the default “3 mins” by changing the level in the *“Supervision period”* window.

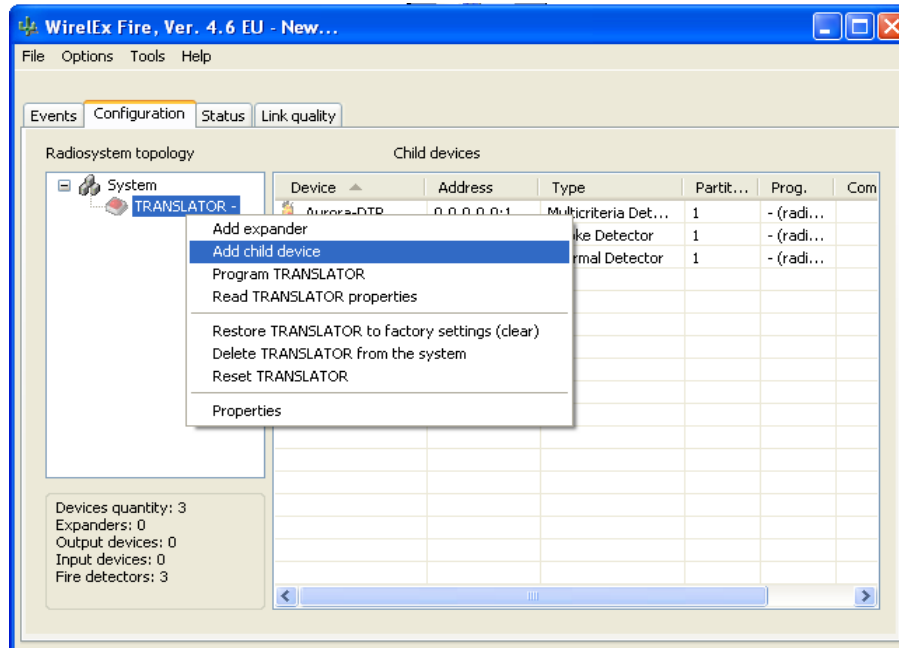
On completion of parameter/process changing press .

The window will close and the user will be directed back to the **“Configuration”** tab for adding further devices (if required).

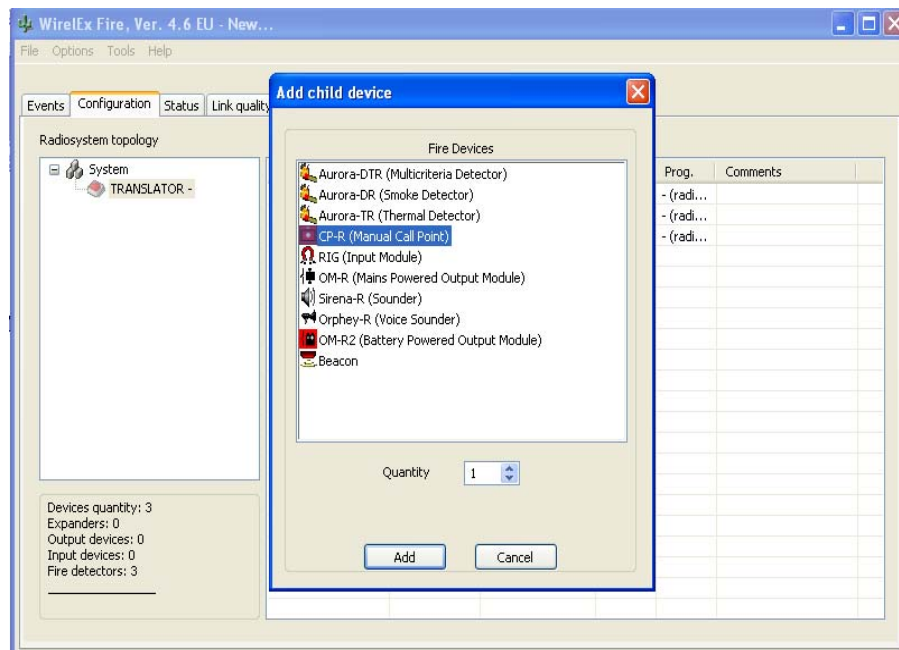
ADDING A MANUAL CALL POINT

To add a Manual Call Point to the Translator Module, right click the mouse over the Translator icon selecting:

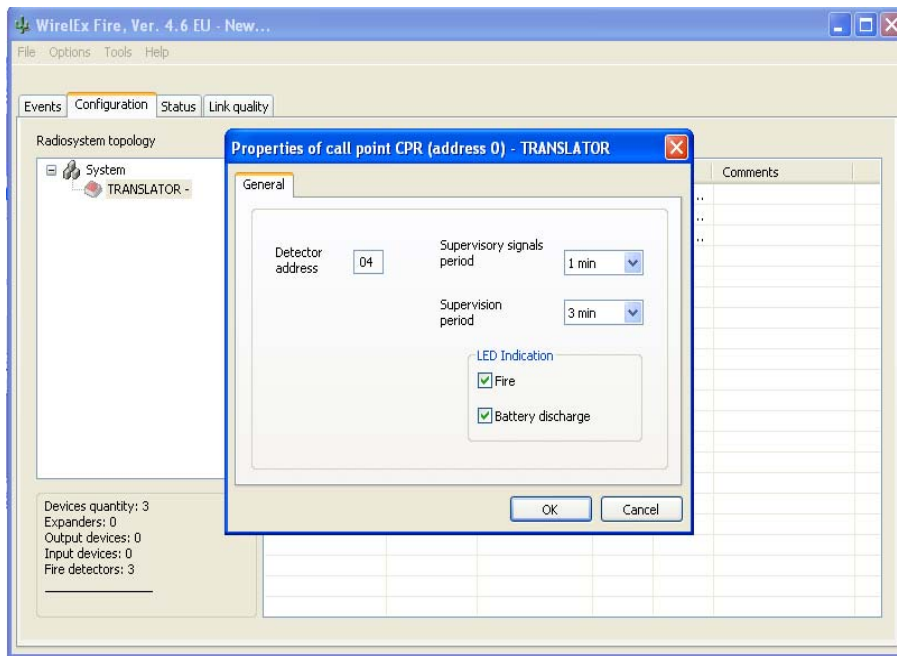
“Add child device”



A window with the list of selectable child devices now appears. Select Manual Call Point and quantity required; press **Add** on completion.



A window will appear allowing the engineer to amend the device operating parameters.



Un-checking the “LED Indication” boxes – “Fire” and “Battery discharge” – will stop the device LED indicating if there is a fire activation or when the batteries reach a discharge state. The default for these indications is to remain checked and it is recommended that these two indications are left in the default state.

The “*Supervisory Signal period*” should be left at the default value of 1 minute. If the device quantity is > 1, only the first device address will appear in the parameter window but all devices of the type selected will have the same operational parameters.

The “*Supervision period*” would normally be left unchanged. This can be changed from the default “3 mins” by changing the level in the “*Supervision period*” window.

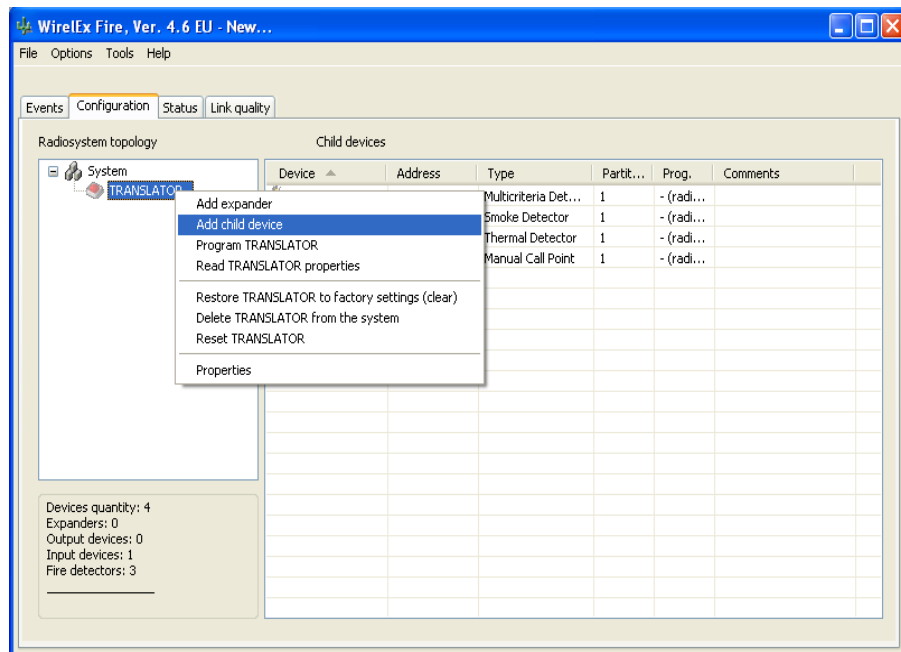
On completion of parameter/process changing press .

The window will close and the user will be directed back to the “Configuration” tab for adding further devices (if required).

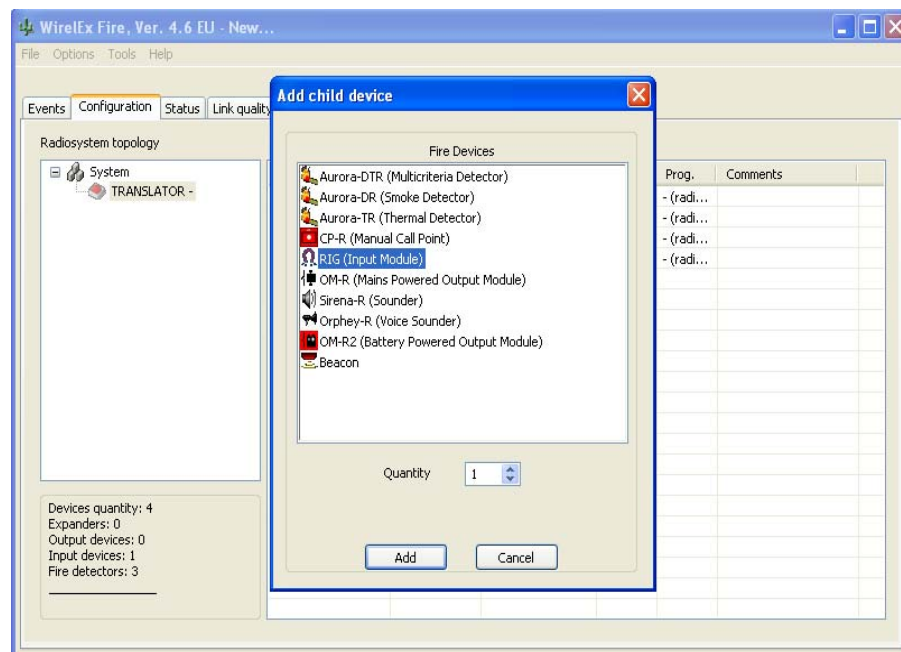
ADDING A WIRELESS INPUT MODULE

To add a Wireless Input Module to the Translator Module, right click the mouse over the Translator icon selecting:

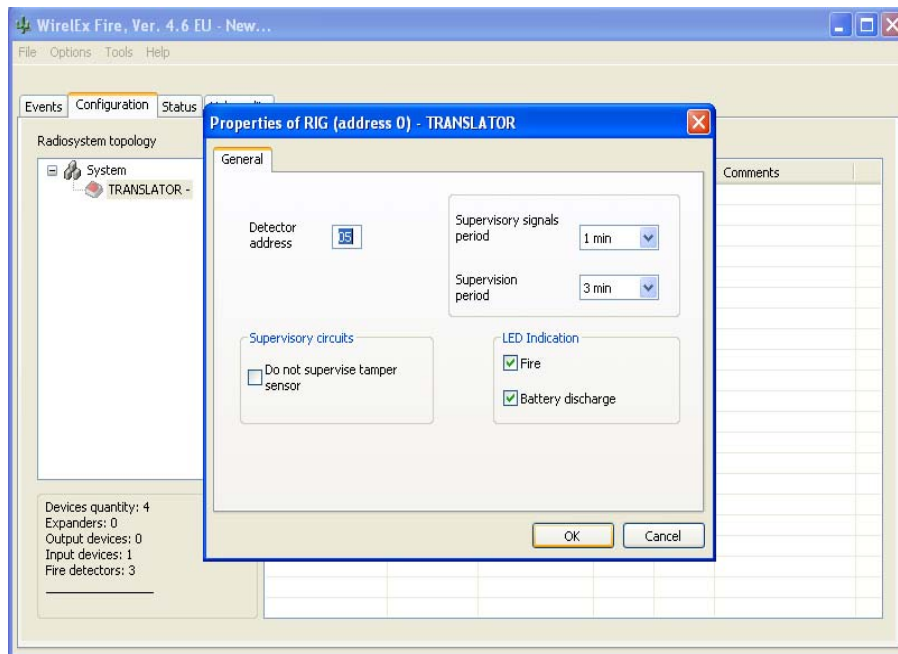
“Add child device”



A window with the list of selectable child devices now appears. Select ***“RIG (Input Module)”*** and quantity required; press **Add** on completion.



A window will appear allowing the engineer to amend the device operating parameters.



The wireless Input Module has a tamper spring mounted on the device PCB. If the device cover is removed, a fault will be reported back at the Translator Module and ultimately back at the Fire Control Panel. If there is a requirement to NOT monitor a tamper fault, the check box next to ***“Do not supervise tamper sensor”*** should be checked. The default for this process is for the check box to be un-checked

Un-checking the “LED Indication” boxes – “Fire” and “Battery discharge” – will stop the device LED indicating if there is a fire activation or when the batteries reach a discharge state. The default for these indications is to remain checked and it is recommended that these two indications are left in the default state.

The *“Supervisory Signal period”* should be left at the default value of 1 minute. If the device quantity is > 1, only the first device address will appear in the parameter window but all devices of the type selected will have the same operational parameters.

The *“Supervision period”* would normally be left unchanged. This can be changed from the default “3 mins” by changing the level in the *“Supervision period”* window.

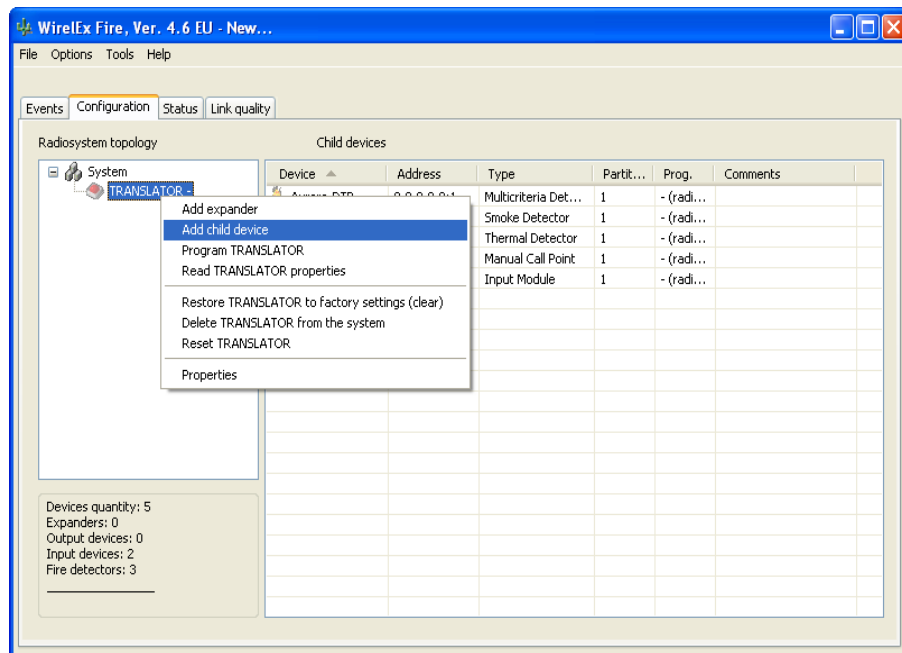
On completion of parameter/process changing press .

The window will close and the user will be directed back to the “Configuration” tab for adding further devices (if required).

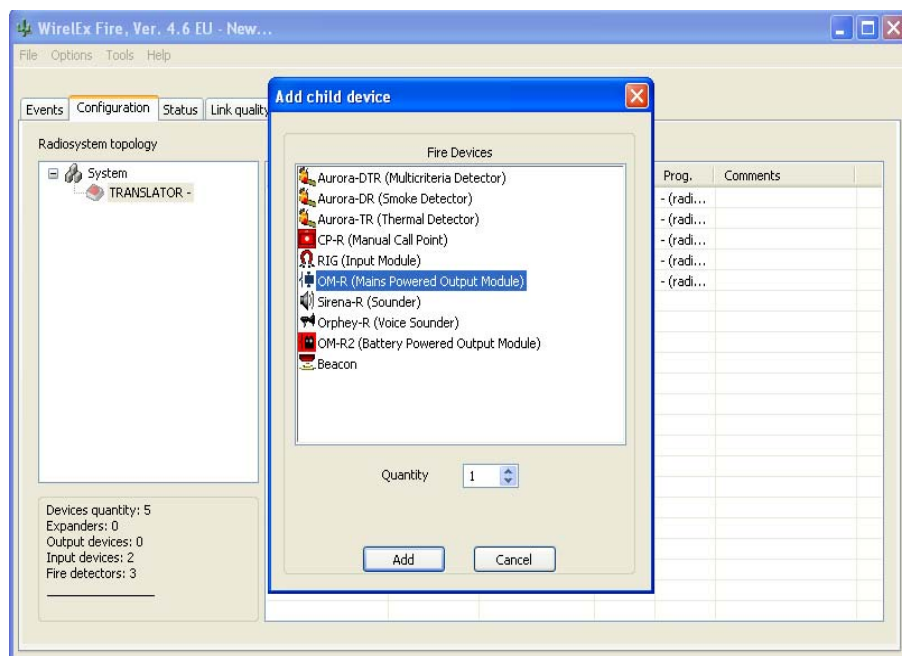
ADDING A MAINS POWERED OUTPUT MODULE

To add a Wireless Mains Powered Output Module to the Translator Module, right click the mouse over the Translator icon selecting:

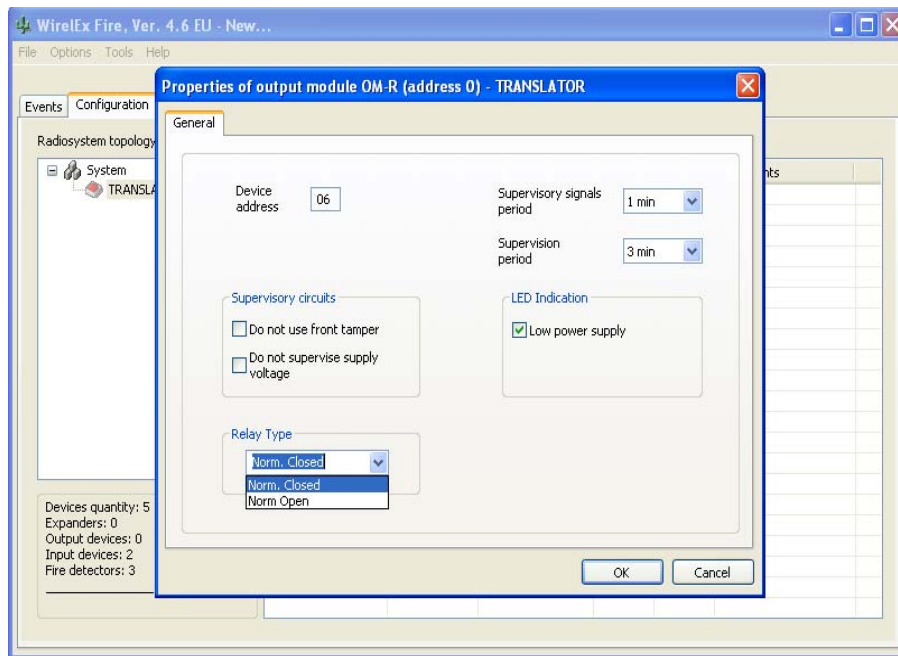
“Add child device”



A window with the list of selectable child devices now appears. Select ***“OM-R (Mains Powered Output Module)”*** and quantity required; press **Add** on completion.



A window will appear allowing the engineer to amend the device operating parameters.



The wireless Mains Powered Output Module has a tamper spring mounted on the device PCB. If the device cover is removed, a fault will be reported back at the Translator Module and ultimately back at the Fire Control Panel. If there is a requirement to NOT monitor a tamper fault, the check box next to **“Do not use front tamper”** should be checked. The default for this process is for the check box to be un-checked.

Similarly, if the power supply voltage does NOT want to be monitored, the box next to **“Do not supervise supply voltage”** should be checked. The default for this process is for the check box to be un-checked.

Un-checking the **“LED Indication”** box – **“Low Power Supply”** – will stop the device LED indicating if there is a problem with its associated power supply. The default for this indications is to remain checked and it is recommended that this indication be left in the default state.

The **“Supervisory Signal period”** should be left at the default value of 1 minute. If the device quantity is > 1, only the first device address will appear in the parameter window but all devices of the type selected will have the same operational parameters.

The **“Supervision period”** would normally be left unchanged. This can be changed from the default “3 mins” by changing the level in the **“Supervision period”** window.

The **“Relay type”** can be changed from **“Normally Closed”** to **“Normally Open”** depending on the requirement of the installation. The default for this process is **“Normally Closed”**.

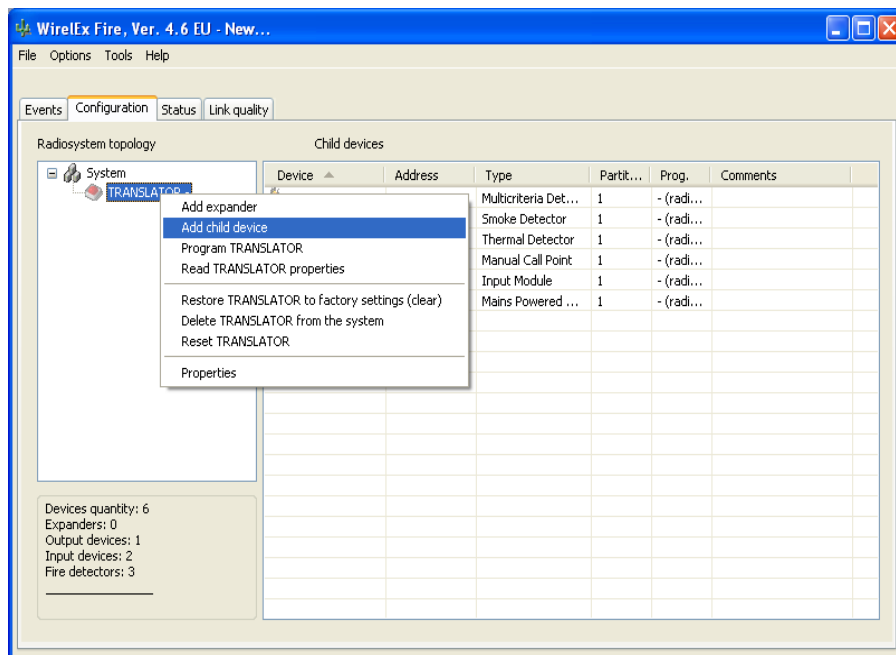
On completion of parameter/process changing press .

The window will close and the user will be directed back to the “Configuration” tab for adding further devices (if required).

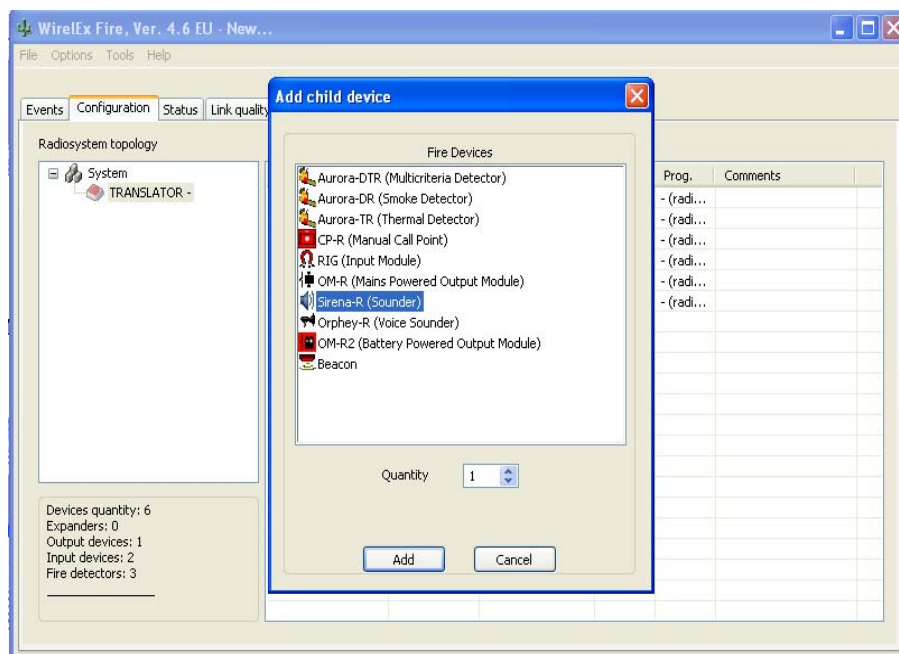
ADDING A SOUNDER/SOUNDER BEACON

To add a Wireless Sounder/Sounder Beacon to the Translator Module, right click the mouse over the Translator icon selecting:

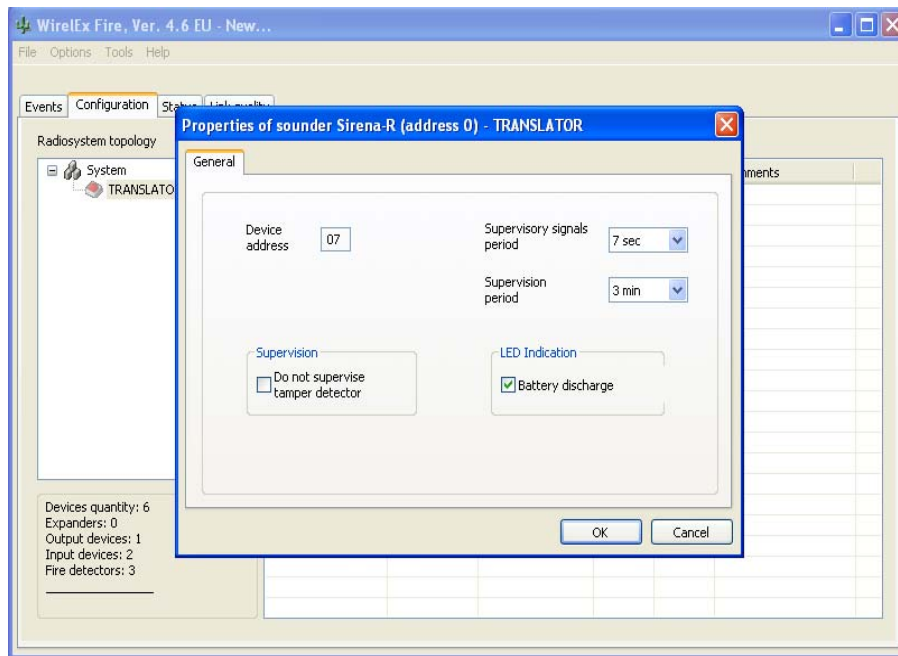
“Add child device”



A window with the list of selectable child devices now appears. Select ***“Sirena-R (Sounder)”*** and quantity required; press **Add** on completion.



A window will appear allowing the engineer to amend the device operating parameters.



Un-checking the **“LED Indication”** box – **“Battery discharge”** – will stop the device LED indicating if the batteries reach a discharge state. The default for this indication is to remain checked and it is recommended that this indication be left in the default state.

The wireless Sounder/Sounder Beacon has a tamper spring mounted on the device. If the device is removed from its base, an indication is sent to the associated Translator Module and ultimately to the Fire Control Panel. If there is a requirement to NOT monitor this process, the check box **“Do not supervise tamper detector”**, should be checked. The default for this process is for the check box to be un-checked.

The **“Supervisory Signal period”** should be left at the default value of 7 seconds. If the device quantity is > 1, only the first device address will appear in the parameter window but all devices of the type selected will have the same operational parameters.

The **“Supervision period”** would normally be left unchanged. This can be changed from the default “3 mins” by changing the level in the **“Supervision period”** window.

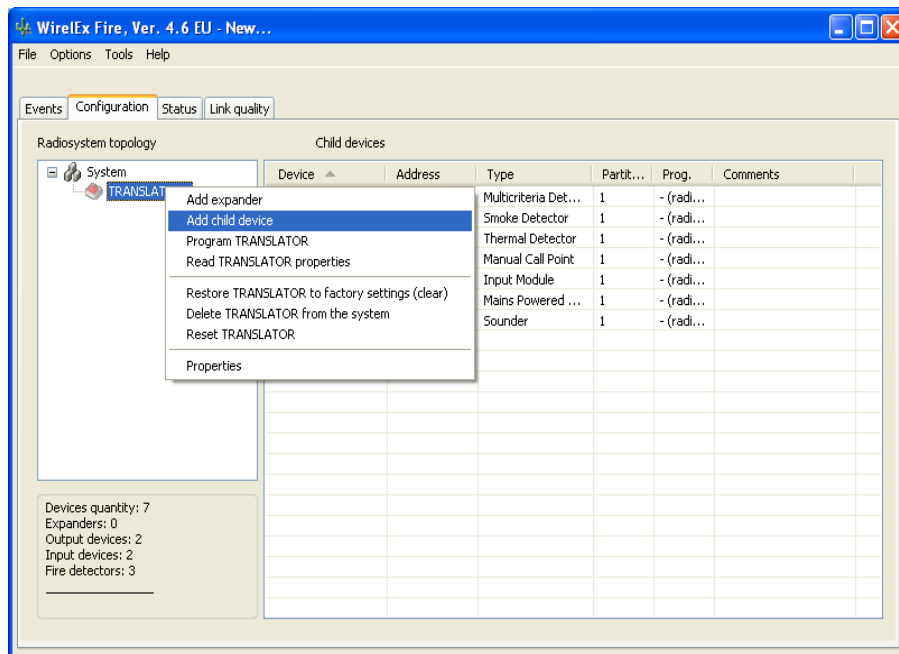
On completion of parameter/process changing press .

The window will close and the user will be directed back to the “Configuration” tab for adding further devices (if required).

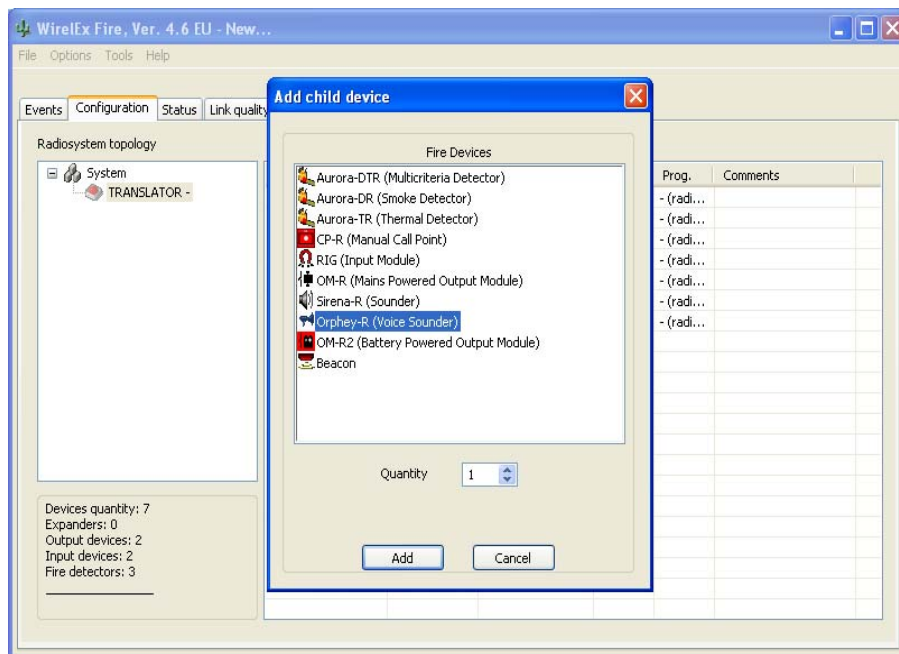
ADDING A VOICE SOUNDER/ANNUNCIATOR

To add a Wireless Voice Sounder to the Translator Module, right click the mouse over the Translator icon selecting:

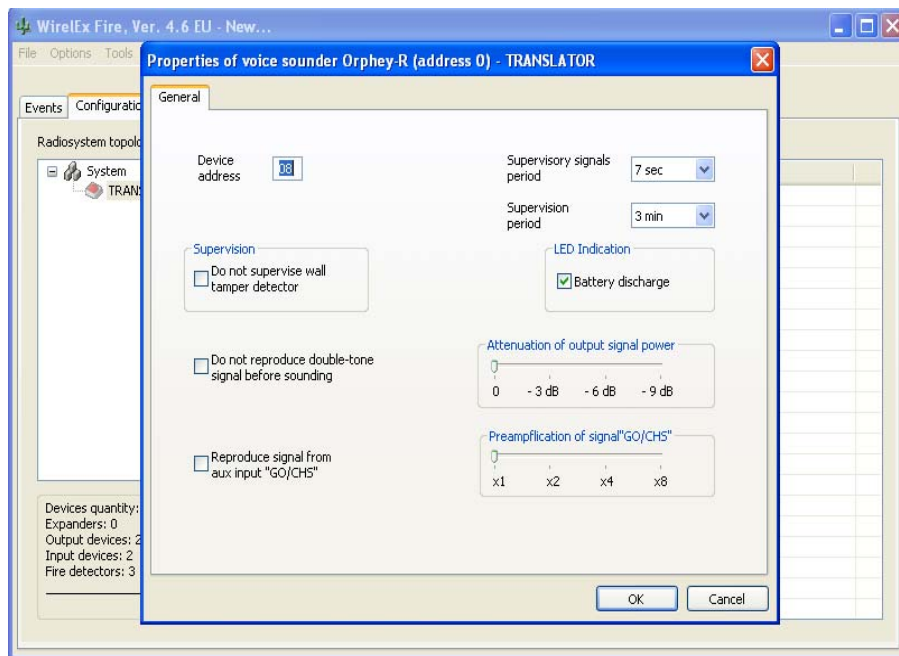
“Add child device”



A window with the list of selectable child devices now appears. Select ***“Orpheus-R (Voice Sounder)”*** and quantity required; press **Add** on completion.



A window will appear allowing the engineer to amend the device operating parameters.



Un-checking the **“LED Indication”** box – **“Battery discharge”** – will stop the device LED indicating if the batteries reach a discharge state. The default for this indication is to remain checked and it is recommended that this indication be left in the default state.

The **“Supervisory Signal period”** should be left at the default value of 7 seconds. If the device quantity is > 1, only the first device address will appear in the parameter window but all devices of the type selected will have the same operational parameters.

The **“Supervision period”** would normally be left unchanged. This can be changed from the default “3 mins” by changing the level in the **“Supervision period”** window.

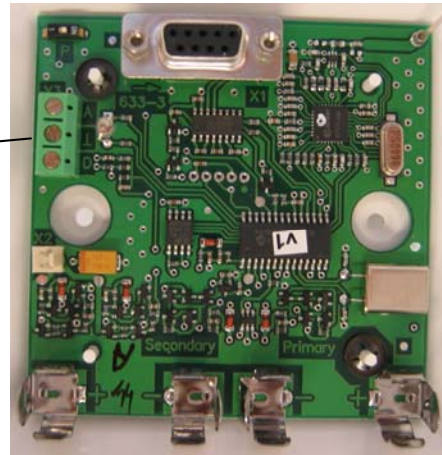
The wireless Voice Sounder has a tamper spring mounted on the base of the device that will activate if the device is moved from its installed position. If the device is moved, an indication is sent to the associated Translator Module and ultimately to the Fire Control Panel. If there is a requirement to NOT monitor this process, the check box **“Do not supervise wall tamper detector”** should be checked. The default state for this process is that the box is unchecked. It is recommended that this process be left in the default state.

When the Voice Sounder is activated, prior to transmitting the voice message, a two-tone signal is emitted. This can be disabled so that only the voice message is produced. This disablement is carried out by checking the box marked **“Do not reproduce double-tone signal before sounding”**. The default state for this process is that the box is unchecked.

The nominal output signal power of the Voice Sounder is 0.75W. This signal level can be attenuated by a factor -3dB, -6dB or -9dB. This is changed by moving the slider on the box marked **“Attenuation of output signal power”**

It is possible to connect an auxiliary (external) input to the Voice Sounder using the termination block located on the Voice Sounder PCB.

Termination Block for connecting an External Input on to the Voice Sounder



The external input can be used to activate real-time voice messages. To enable this process, the check box marked ***“Reproduce signal from aux. input “GO/CHS”*** must be checked. The default state for this process is that the box is unchecked.

The auxiliary input audio level can be changed by moving the slider on the box marked: ***“Pre-amplification of signal “GO/CHS”***.

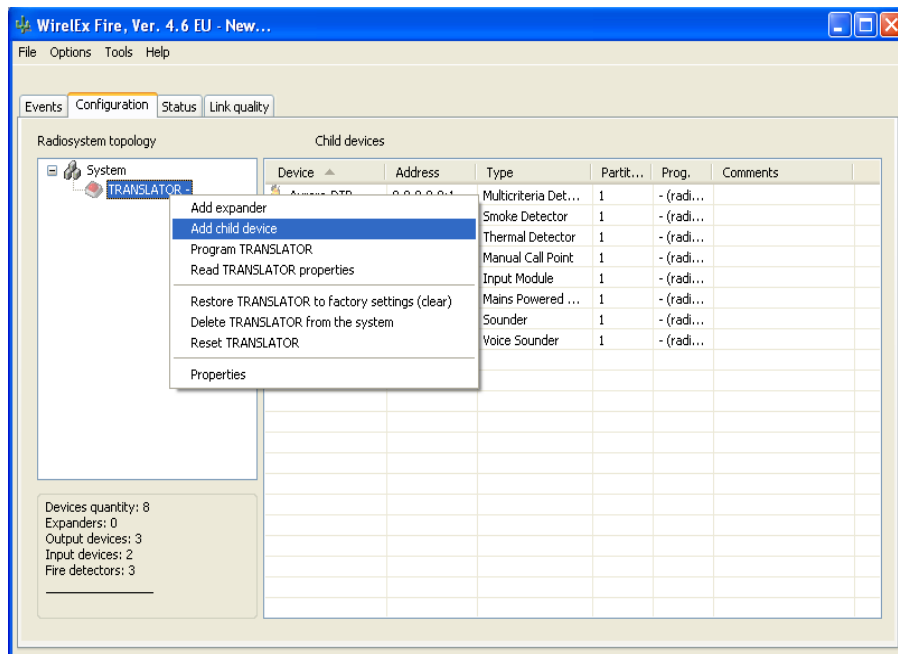
On completion of parameter/process changing press .


The window will close and the user will be directed back to the ***“Configuration”*** tab for adding further devices (if required).

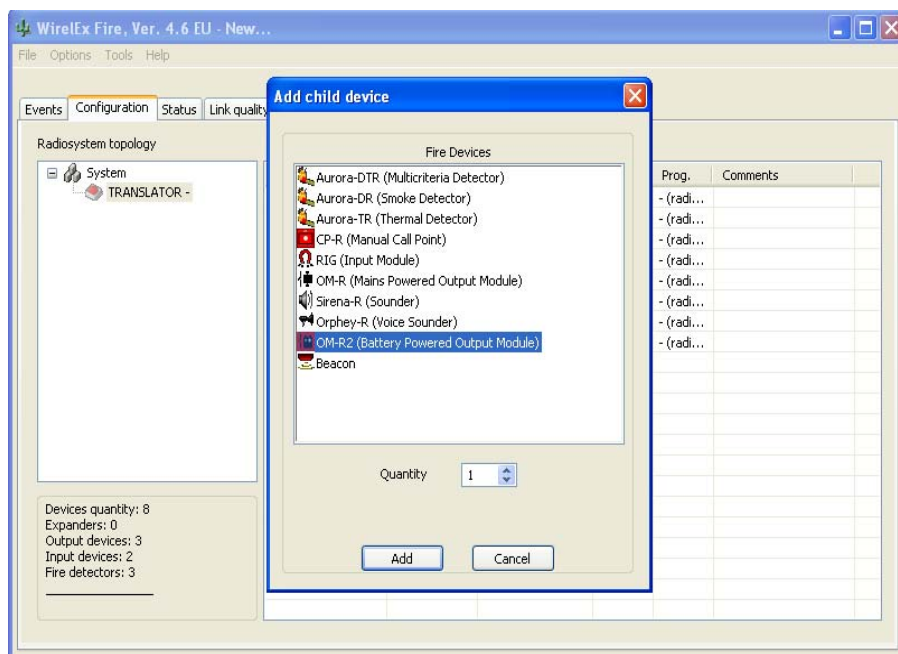
ADDING A BATTERY POWERED OUTPUT MODULE

To add a Battery Powered Output Module to the Translator Module, right click the mouse over the Translator icon selecting:

“Add child device”



A window with the list of selectable child devices now appears. Select **“OM-R2 (Battery Powered Output Module)”** and quantity required; press  on completion.



A window will appear allowing the engineer to amend the device operating parameters.

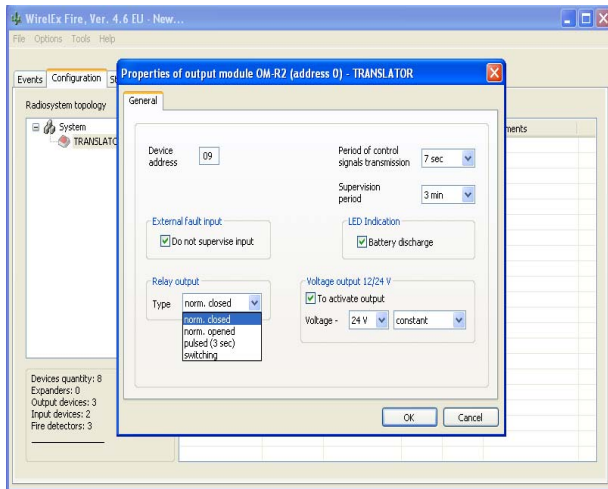


Fig A

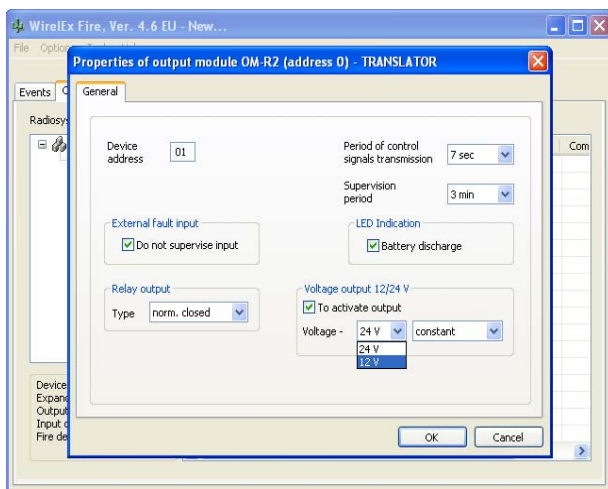


Fig B

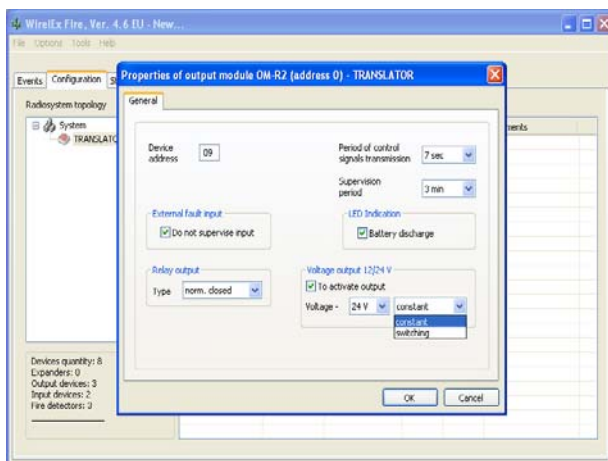


Fig C

Un-checking the **“LED Indication”** box – **“Battery discharge”** - will stop the device LED indicating if the batteries reach a discharge state. The default for this indication is to remain checked and it is recommended that this indication be left in the default state.

The **“Period of control signals transmission”** should be left at the default value of 7 seconds. If the device quantity is > 1, only the first device address will appear in the parameter window but all devices of the type selected will have the same operational parameters.

The **“Supervision period”** would normally be left unchanged. This can be changed from the default “3 mins” by changing the level in the **“Supervision period”** window.

The **“External fault input”** is, by default checked. This will monitor a fault from an external source. In this application this process is not used and should be left disabled. (see Fig. A)

The relay output of the Module can be changed to one of four variants depending on the site application. This is altered by changing the parameter in the **“Relay output”** window (see Fig A)

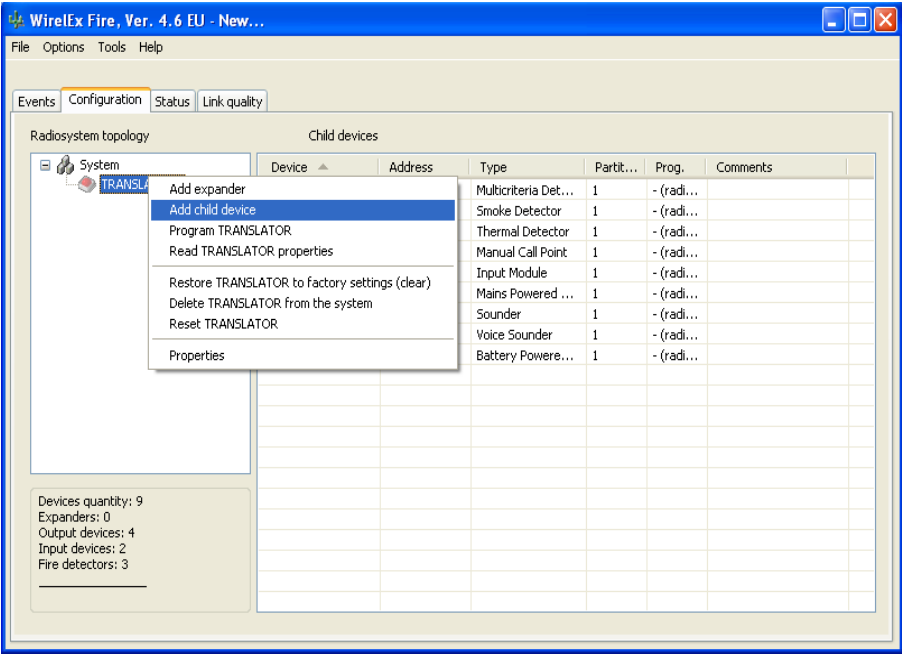
There is a stand-alone voltage output providing the installer with an option of 12V or 24V. The required output can be chosen by selecting 12V or 24V at the window shown in Fig. B. The output can be selected as a constant or switching output by changing the parameter as indicated in Fig. C

On completion of parameter/process changing press .

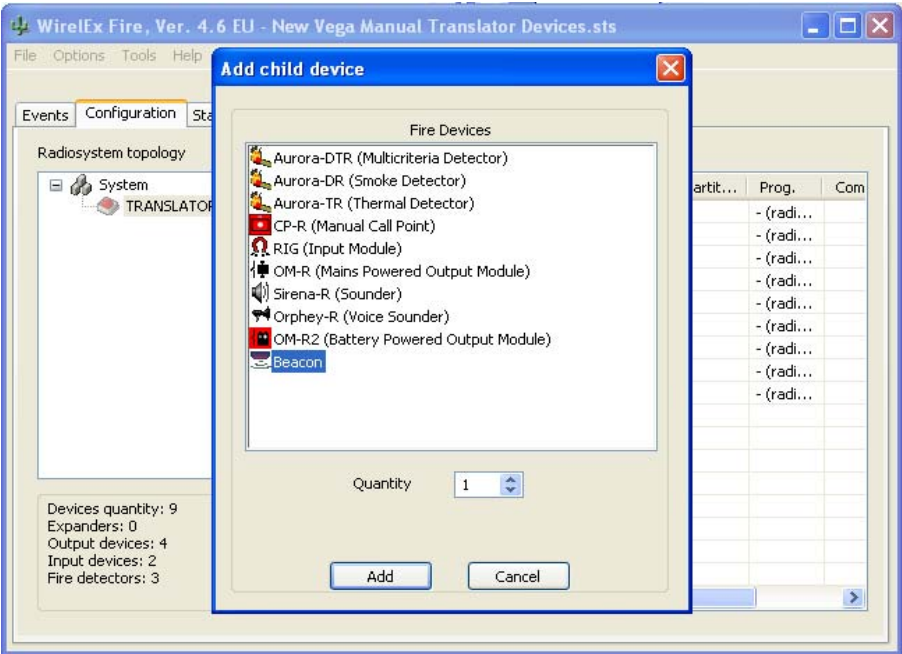
The window will close and the user will be directed back to the **“Configuration”** tab for adding further devices (if required).

ADDING A BEACON

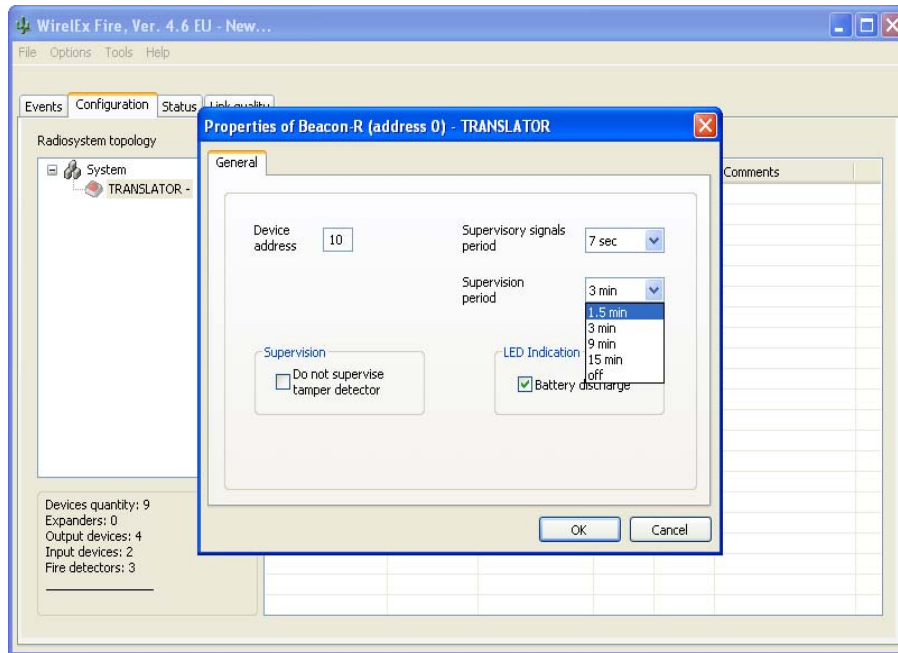
To add a Wireless Beacon to the Translator Module, right click the mouse over the Translator icon selecting:
“Add child device”



A window with the list of selectable child devices now appears. Select **“Beacon”** and quantity required; press **Add** on completion.



A window will appear allowing the engineer to amend the device operating parameters.



The wireless Beacon has a tamper spring mounted on the device that will activate if the device is removed from its base. If the tamper is activated, an indication is sent to the associated Translator Module and ultimately to the Fire Control Panel. If there is a requirement to NOT monitor this process, the check box ***“Do not supervise tamper detector”*** should be checked. The default state for this process is that the box is unchecked. It is recommended that this process be left in the default state.

The ***“Supervisory Signal period”*** should be left at the default value of 7 seconds. If the device quantity is > 1, only the first device address will appear in the parameter window but all devices of the type selected will have the same operational parameters.

The ***“Supervision period”*** would normally be left unchanged. This can be changed from the default “3 mins” by changing the level in the ***“Supervision period”*** window.

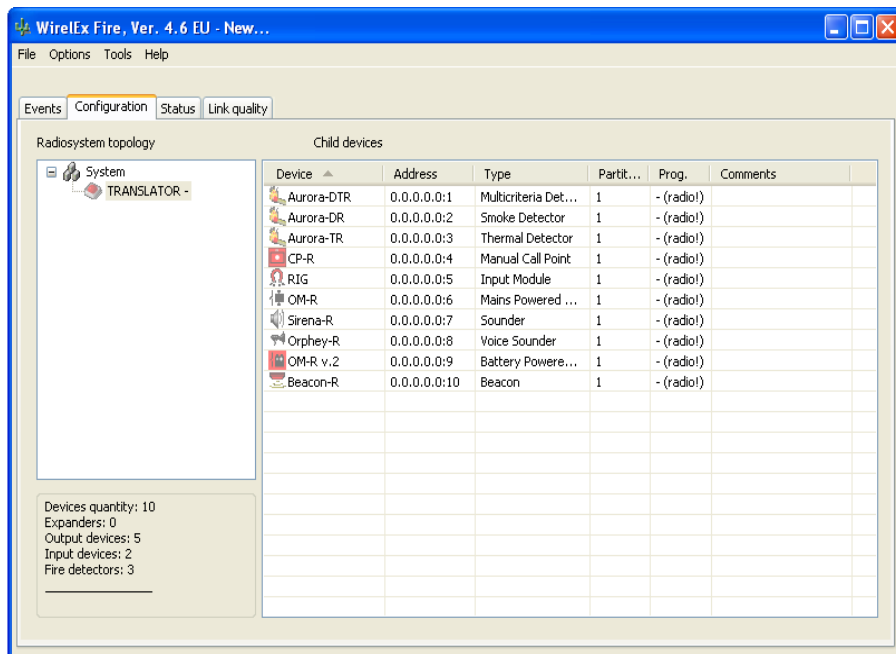
Un-checking the ***“LED Indication”*** box – ***“Battery discharge”*** – will stop the device LED indicating if the batteries reach a discharge state. The default for this indication is to remain checked and it is recommended that this indication be left in the default state.

On completion of parameter/process changing press .

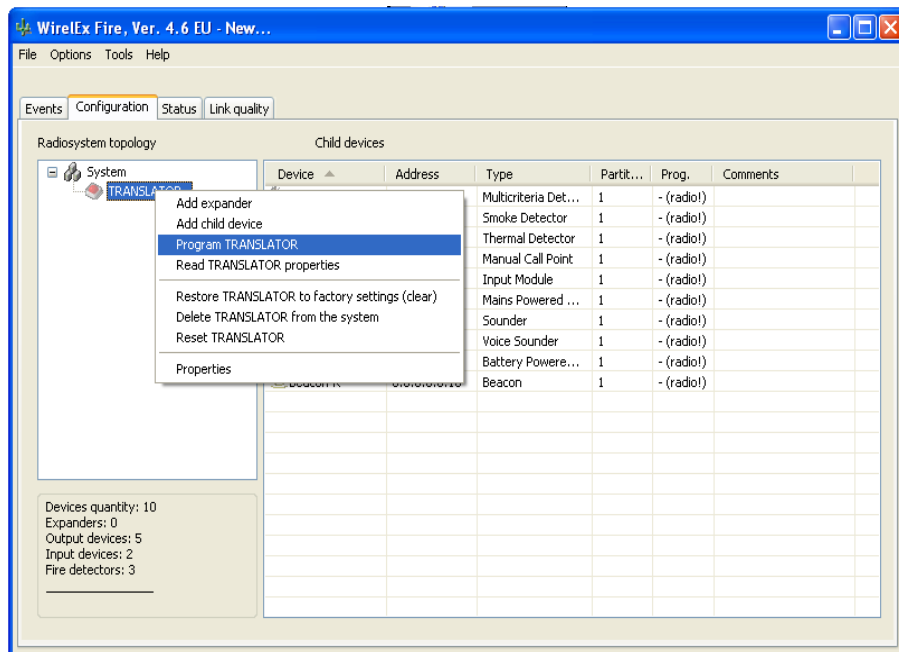
The window will close and the user will be directed back to the ***“Configuration”*** tab for adding further devices (if required).

PROGRAMMING THE TRANSLATOR MODULE AND ASSOCIATED DEVICES

When the system architecture is complete and all child devices have been added the following will be seen at the **“Configuration”** tab:

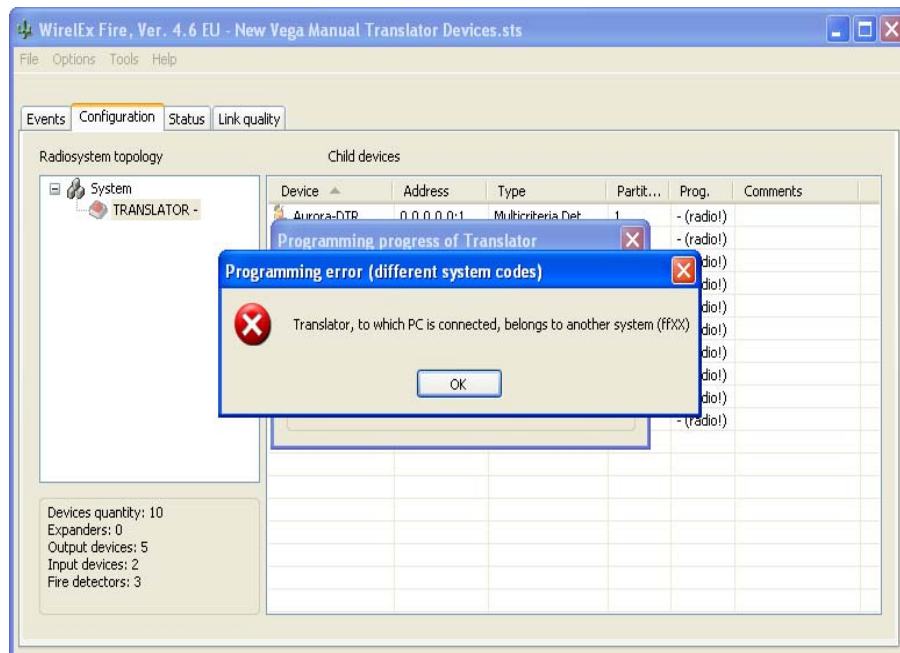


The Translator Module and its associated devices will need to be programmed. Right click over the Translator icon selecting the **“Program TRANSLATOR”** option from the drop down menu:



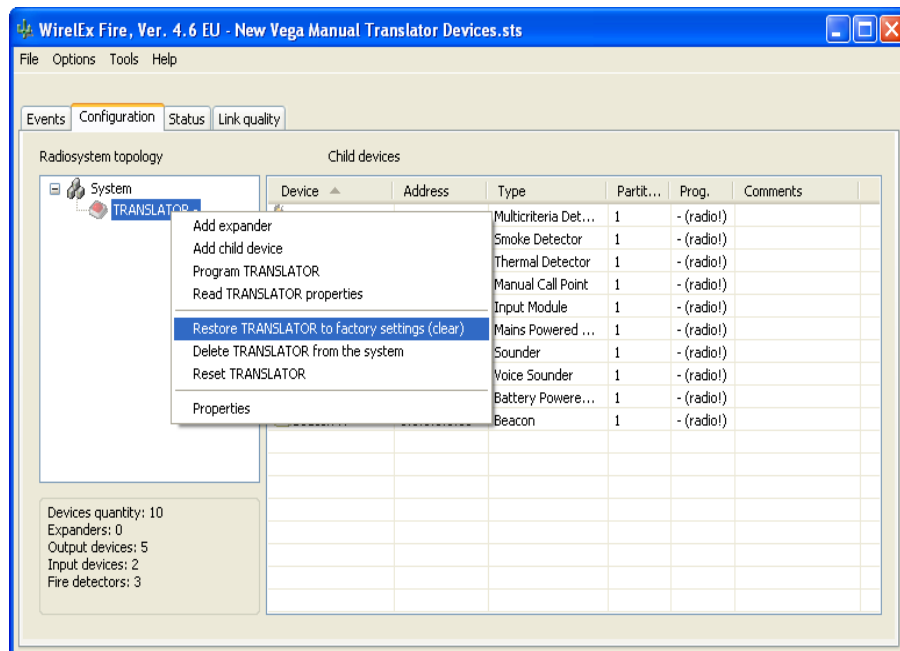
SECTION 5 (cont)

The following window may appear:-

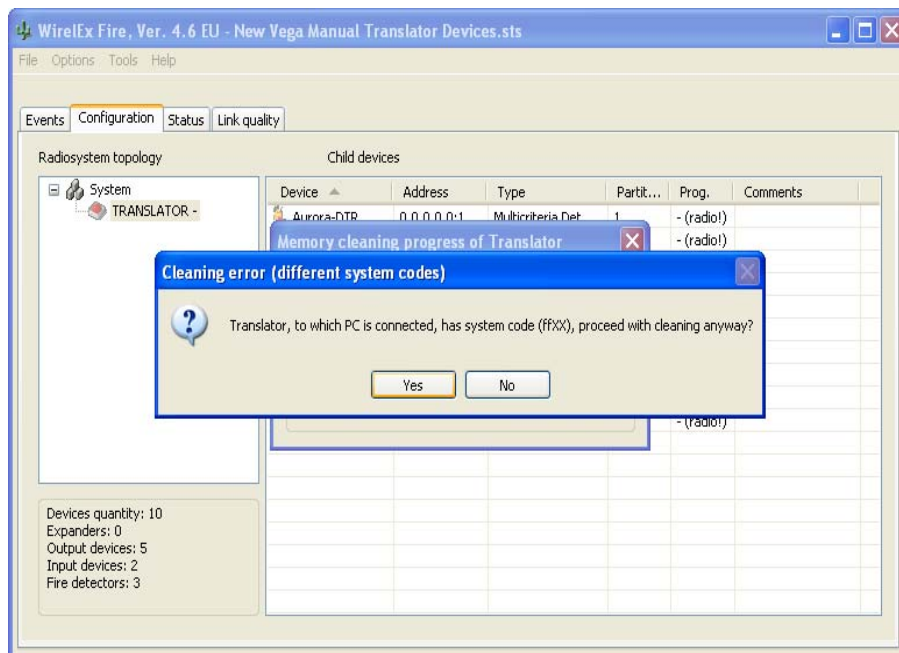


This is quite normal - when the software application is initially opened a new system is virtually built through the software; the software allocates a random system code to this Translator Module. The code that is generated by the software will be different to the code generated by the Translator Module when it is powered on. This results in a conflict when the PC is finally connected to the Translator Module. The solution is as follows:

Right-click the Translator icon in the “*Radiosystem topology*” area and select the “***Restore TRANSLATOR to factory settings(clear)***” option

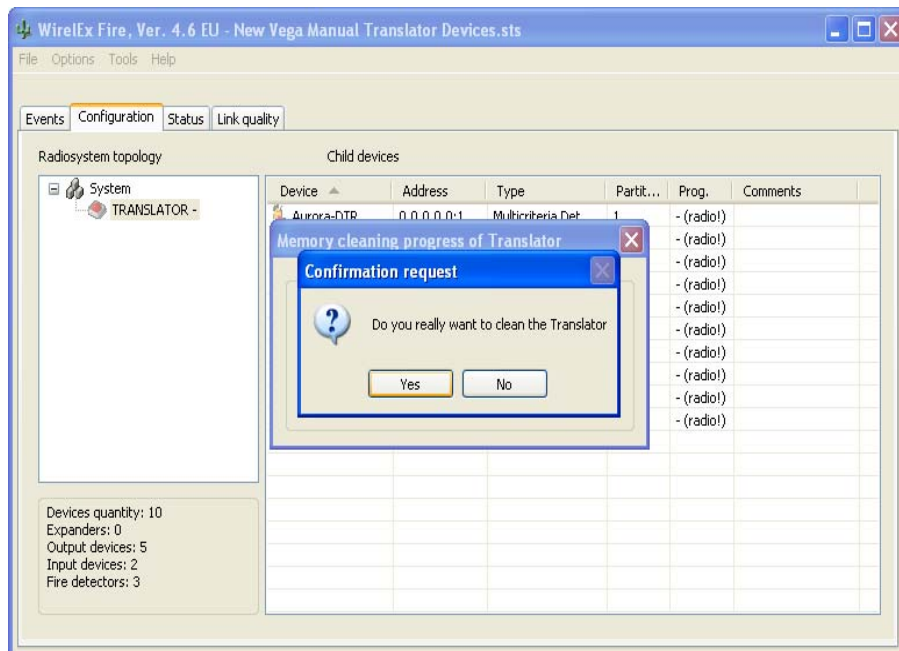


A further sub-window will appear (see below):

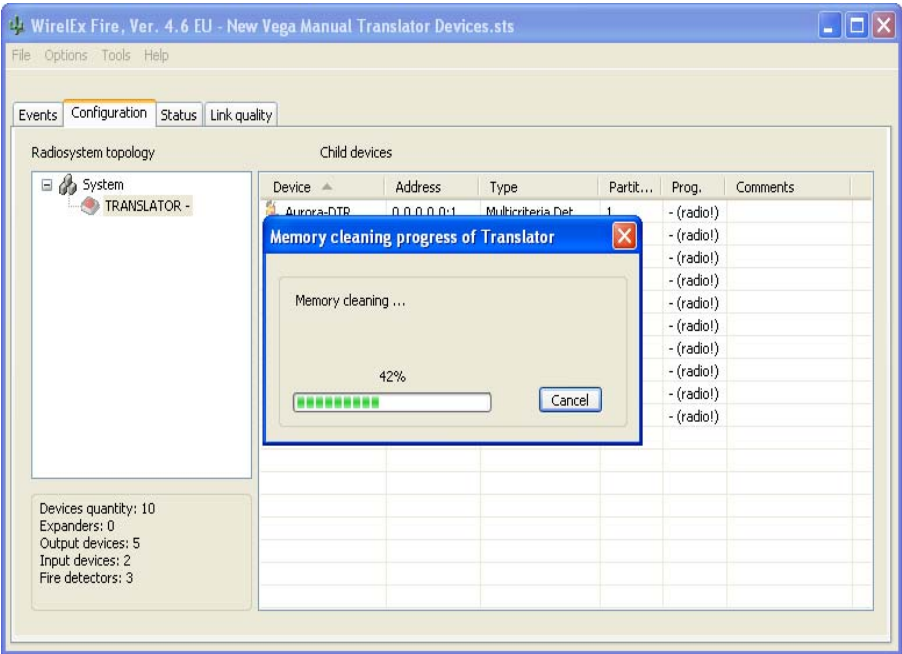


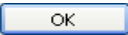
Select

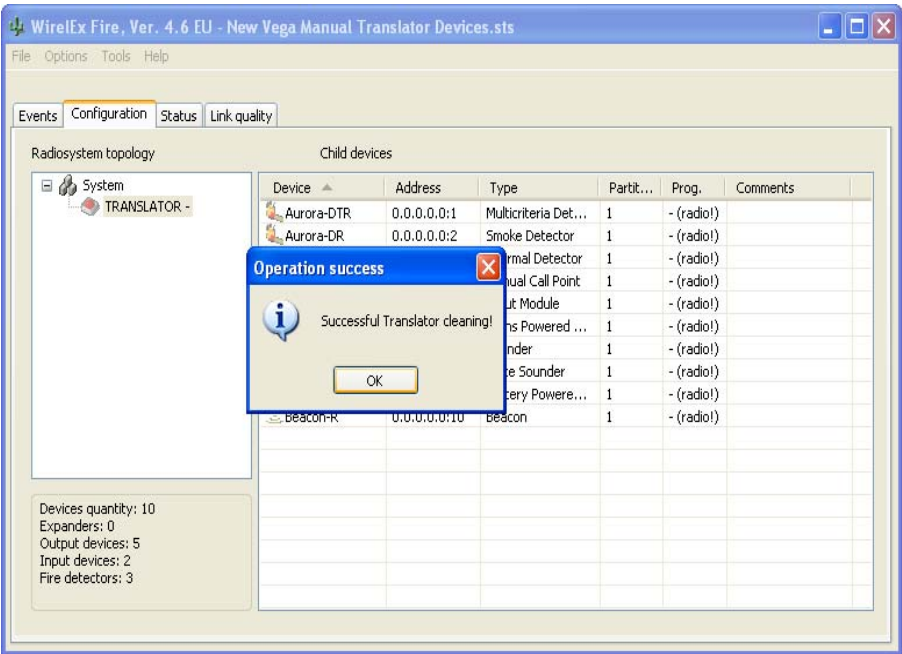
To ensure that the engineer **REALLY** wants to clear the Translator Module, a further confirmation sub-window will appear:



Select and the following sub-window will now appear indicating that a cleaning routine is now taking place and the Translator Module is being reset to factory settings:

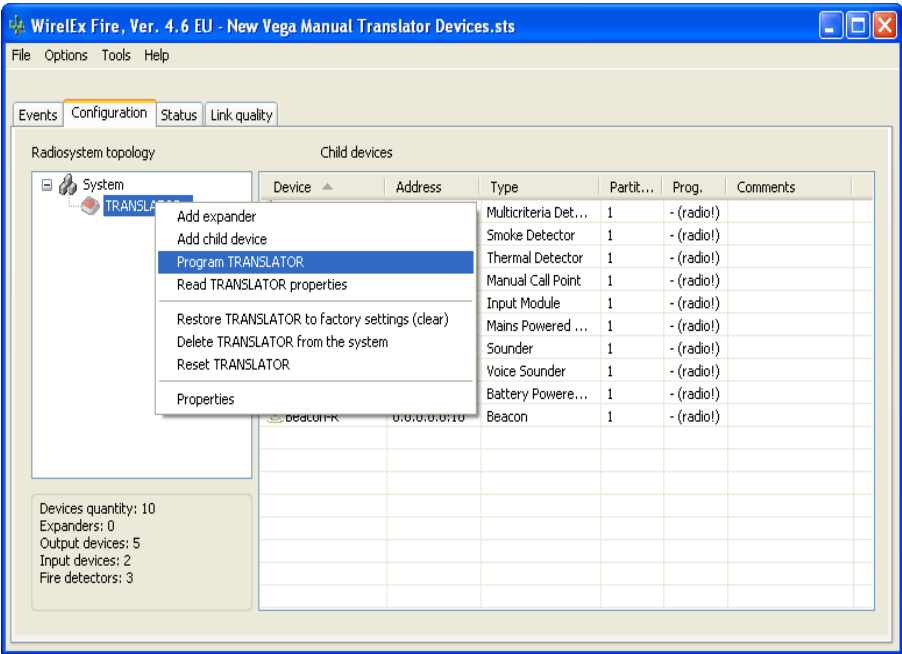


On completion of the cleaning process, a further sub-window will appear. This confirms to the engineer that the Translator Module is now ready for programming. Press 

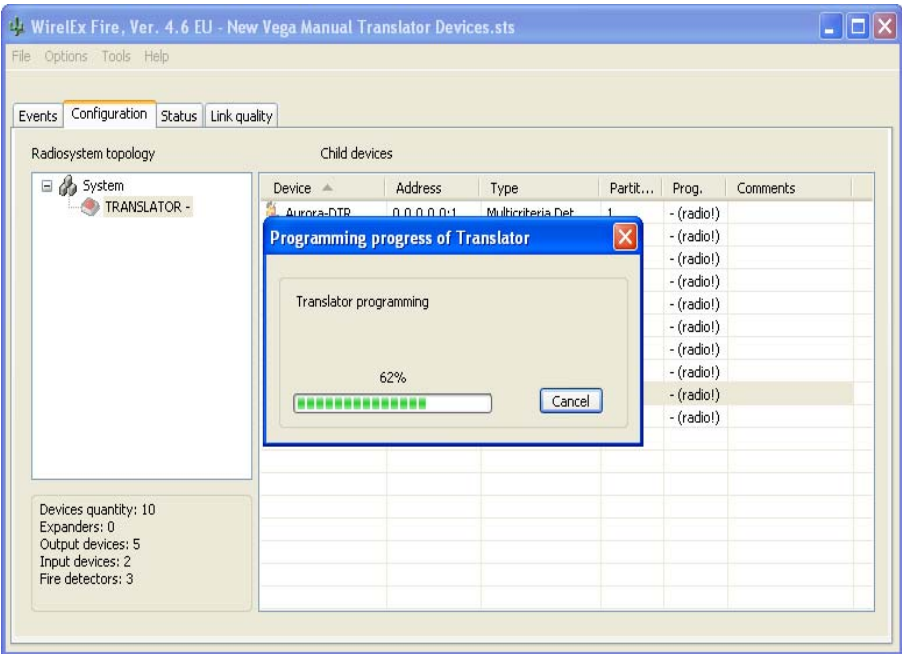


(The cleaning process ensures that the Translator Module and associated Expander Modules will be ready to accept the new program that has just been created)

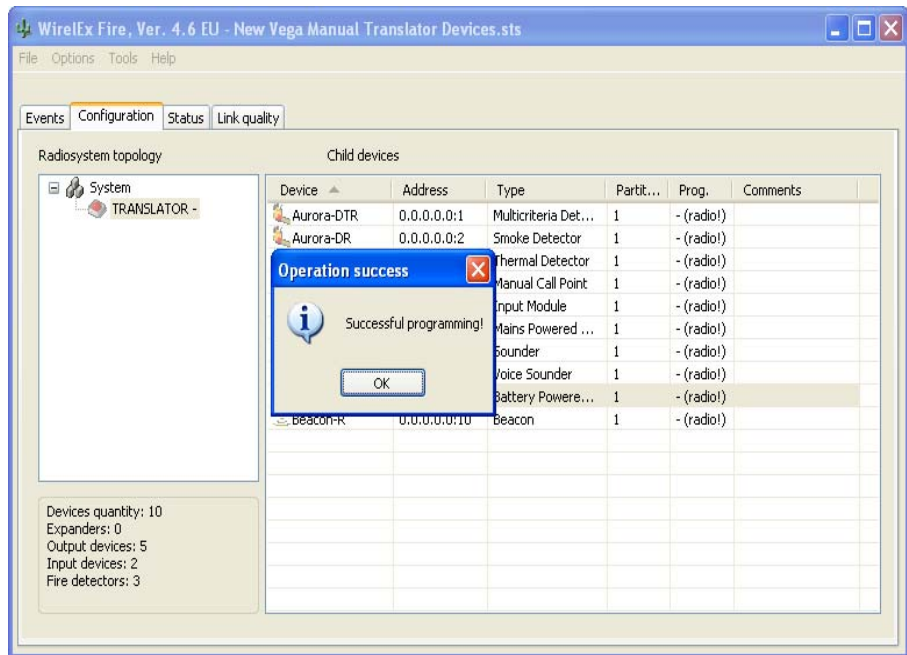
Right-click the Translator Module icon in the **“Radiosystem topology”** area selecting the **“Program TRANSLATOR”** option:

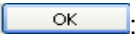


A sub-window appears indicating that Translator Module programming is taking place:

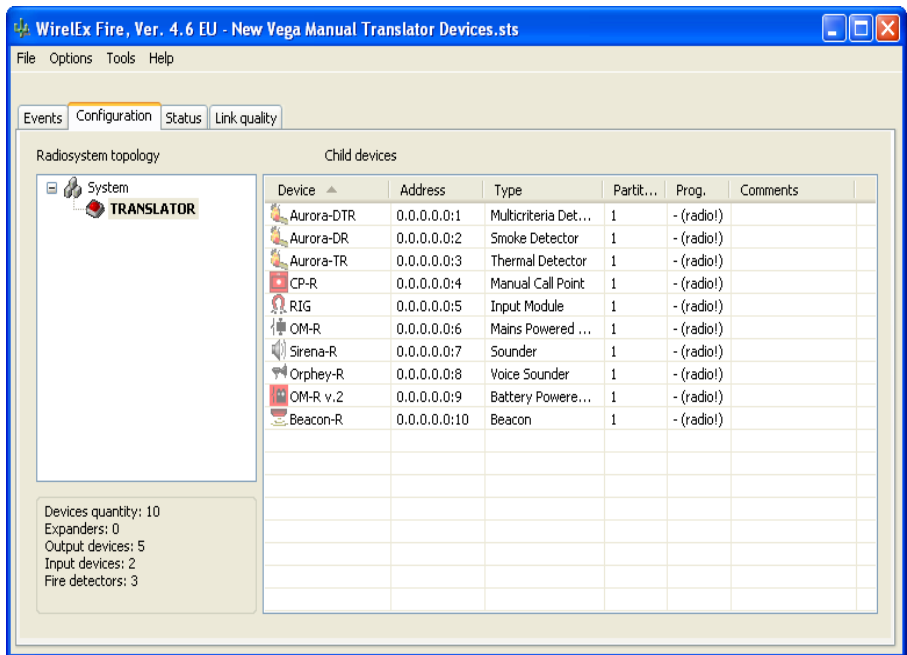


On completion of programming, the user is advised that programming is complete by the appearance of a further sub-window:



Press .

On completion of programming, the Translator Module will become **BOLD** in appearance. This indicates that the software application and the radio PCB are synchronised. In the “**Prog.**” column a “+” sign will appear to further indicate that programming is complete:



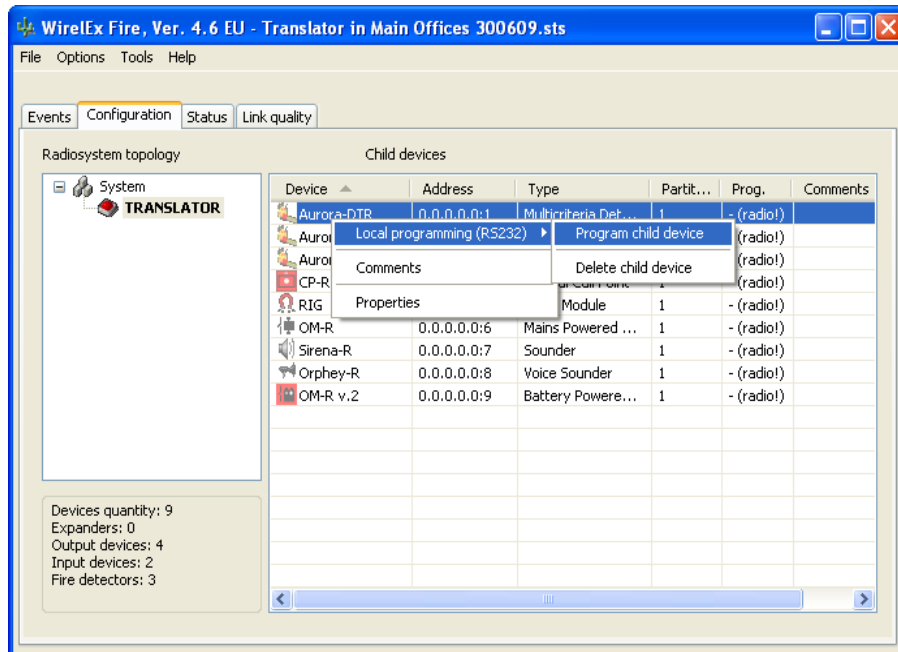
(For info - this indicates that although the Translator and Expander Module(s) (if fitted) have been programmed, the child devices still need to have its operational parameters programmed). The Translator Module needs to be programmed first prior to programming Expander Modules that have been configured on to the system.

PROGRAMMING CHILD DEVICES

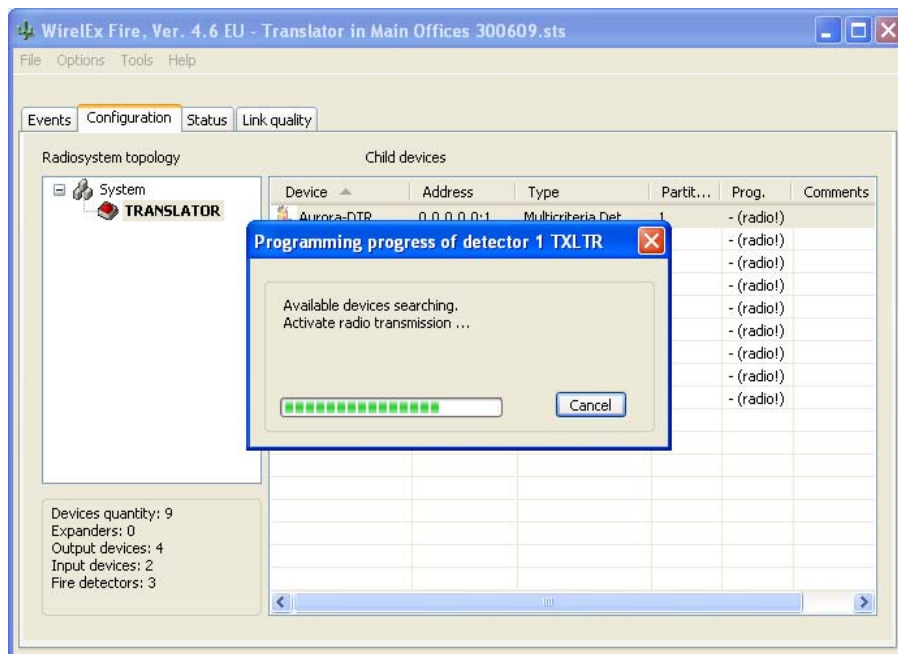
Child devices can only be programmed via its associated radio interface - Translator Module or Expander Module.

With the computer connected to the relevant Translator Module, right click the mouse over the first associated child device. Select:

“Local Programming (RS232) > Program child device”.

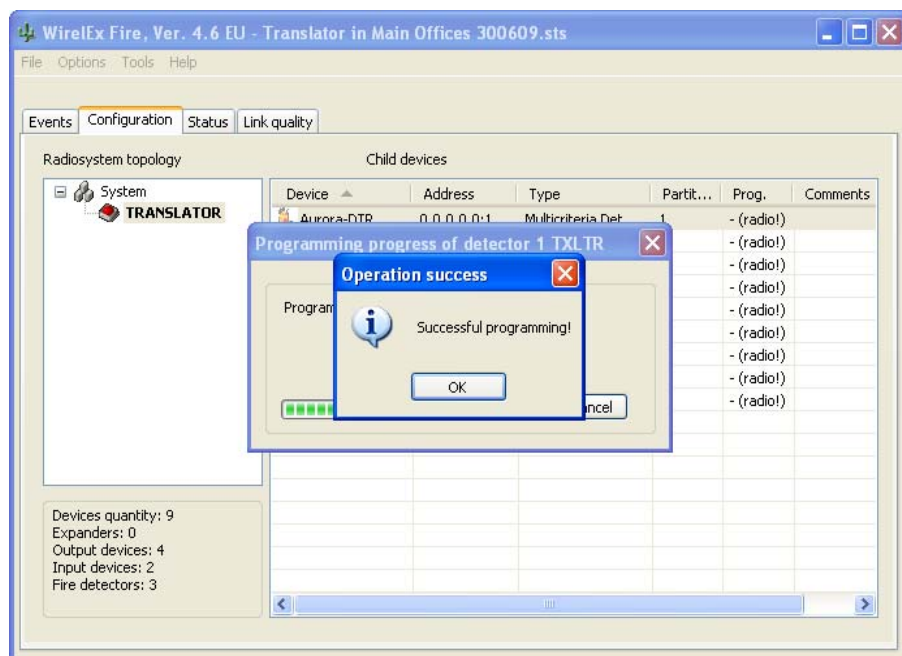


Once selected a sub-window will appear indicating that the Translator Module has started the connection process and is searching for the device to be programmed:



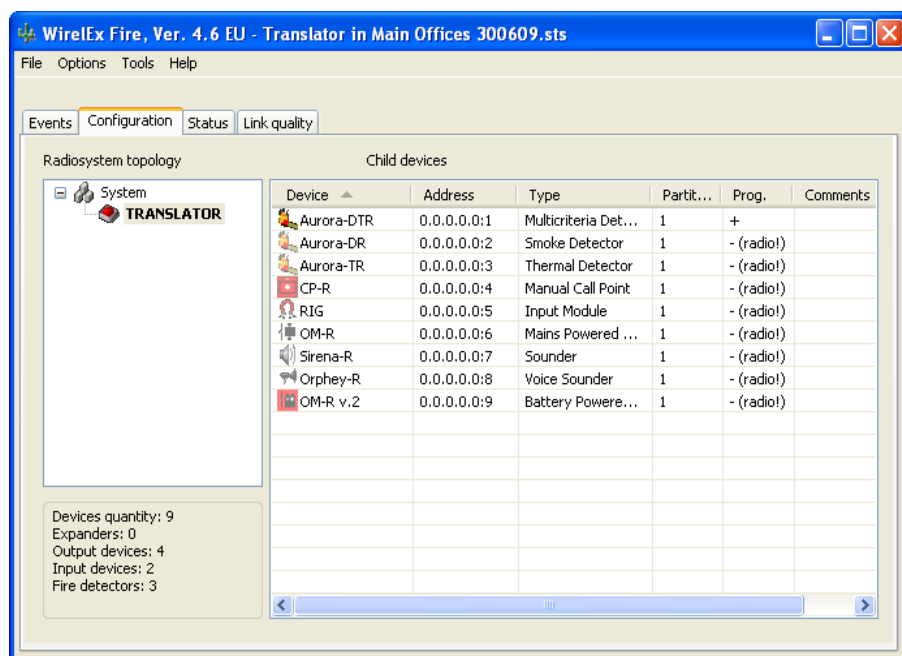
Ensure the Secondary Battery (CR2032) is fitted first, while the switch is in the 1 position. Move the programming switch on the back of the device to the **ON** position. Insert the Primary Battery (CR123A) into the device. When the primary battery is installed, the child device LED will flash **RED** four times indicating the device is in programming mode. When the four **RED** flashes have been seen, move the programming switch back to the 1 position. The device LED will now flash **GREEN** twice to indicate initial programming is complete. The device may continue flashing **RED** followed by two **GREEN** flashes prior to extinguishing. This is normal and should not be a cause for concern.

On the Wirelex Configuration Tool, a sub-window will appear indicating programming is complete:



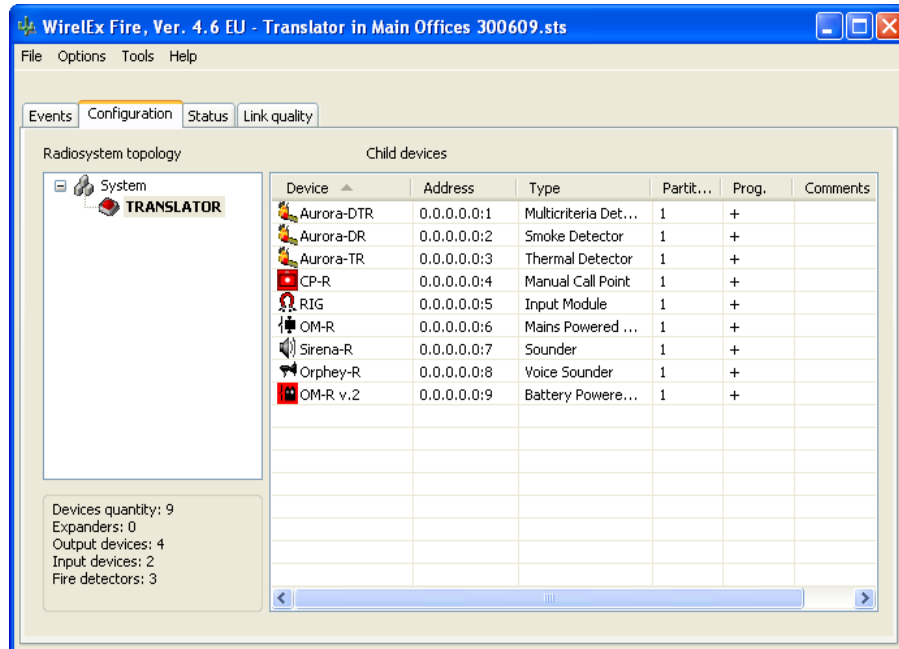
Press

The child device icon will now become bold and the content of the **"Prog."** Column will change from showing **"-(radio)!"** to a **"+"** indication:

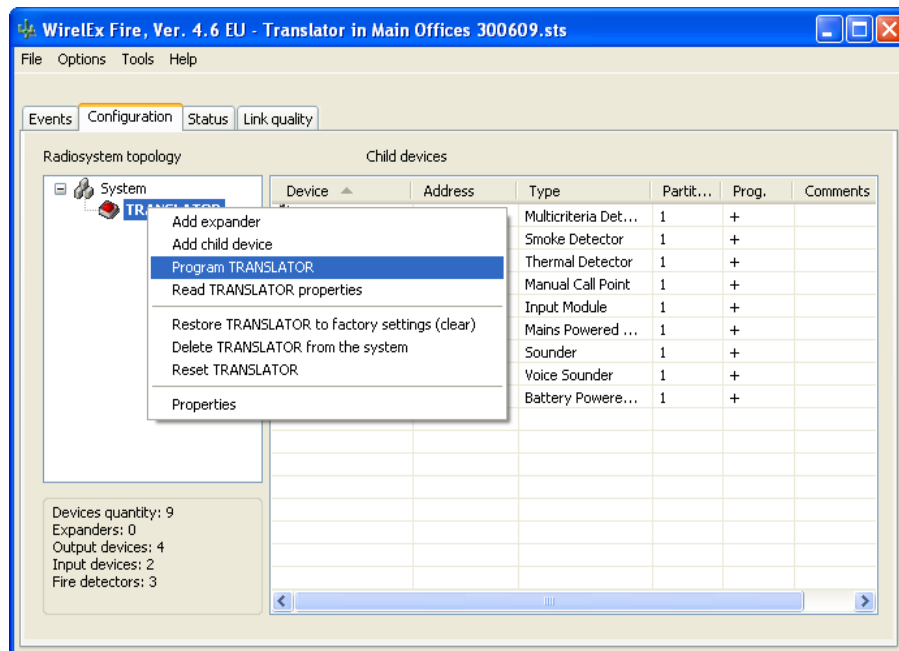


This indicates that the device is now learnt on to the RF Printed Circuit Board (PCB) of the Translator Module (this is the rear PCB (secured to the Translator Module back-box by three screws) fitted within the Translator Module housing) and can now be controlled through the Configuration Tool.

Repeat for the remainder of the child devices on the Translator Module. When all devices have been programmed, the **“Configuration”** tab will show the following:



Carry out one final programming of the Translator Module by right clicking on the Translator Module icon selecting **“Program TRANSLATOR”**:



The next step is to carry out a LOAD command at the Translator Module.

THE LOAD PROCESS

The next action is extremely important!

When programming the system using the Wirelex Configuration Tool, all steps/actions carried out to this point are between the Translator Module and the field devices via the rear PCB (the radio PCB). By performing a LOAD command at the Translator Module, this information is transferred to the front PCB, where further processing takes place allowing the wireless field devices, including the Translator Module to be recognised by the associated Fire Control Panel. The front PCB acts as the interface between the Fire Control Panel and the wireless field devices.

After carrying out all the above steps, the next actions are carried out at the Translator Module.

The Translator Module LCD display should be displaying **LOEr** and the centre yellow LED will be flashing to indicate that a Load command needs to be carried out.

At the Translator Module, using the P3/P4 buttons, scroll up/down until **rF** is displayed in the LCD window.

Select using the P2 button.

Use P3/P4 to scroll up/down until **EHP** is displayed.

Select using the P2 button.


Using the P3/P4 buttons, scroll through until **LOAD** is displayed.

Press the P2 button. **Conf** will be displayed. Confirm using the P2 button.

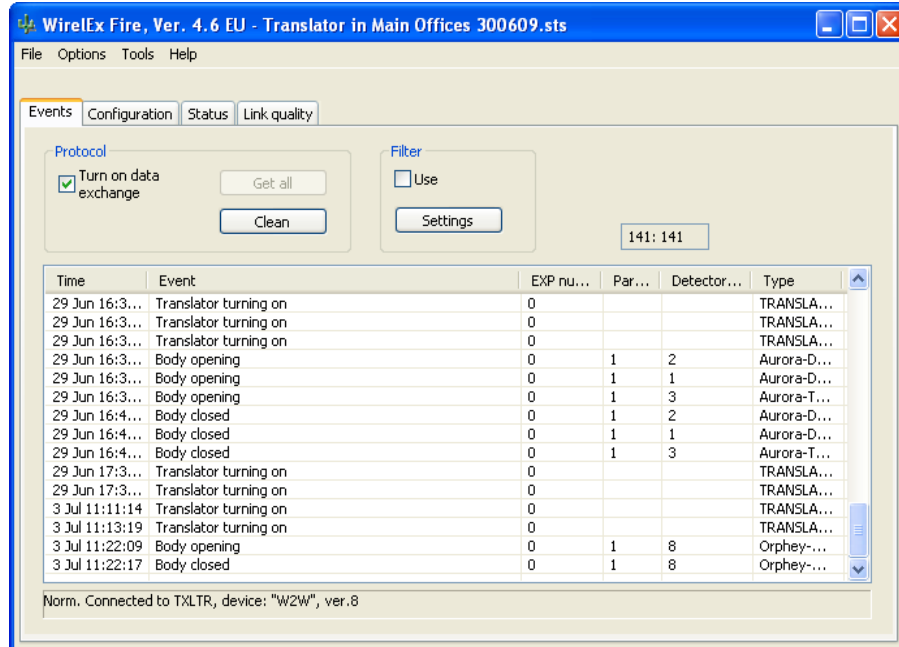
If correct, **done** will be displayed.

Press the P1 button until the LCD display is blank.

NOTE: *Only after the system has been loaded in to the Translator Module CPU (located on the front PCB) will the system function correctly with the Fire Control Panel.*

Select the **“Events”** tab and check then uncheck **“Turn on data exchange”** select . All events associated with the Translator Module and its associated devices will now be displayed. Once the Event log has stopped scrolling through, check **“Turn on data exchange”** again. This allows the computer to communicate with the Translator Module and provide the user with a history of system events.

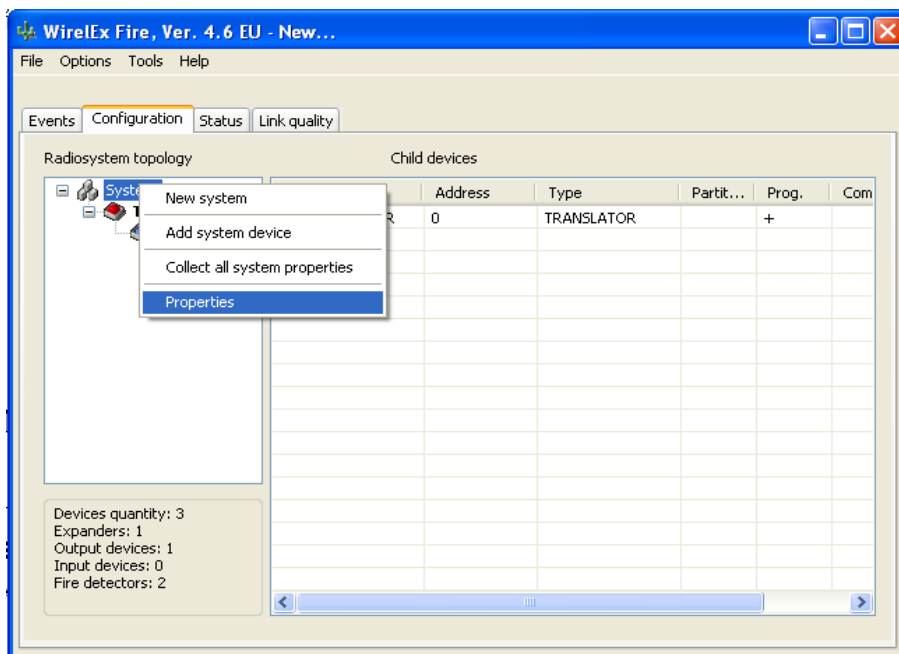
(The newest events will be at the bottom of the page)



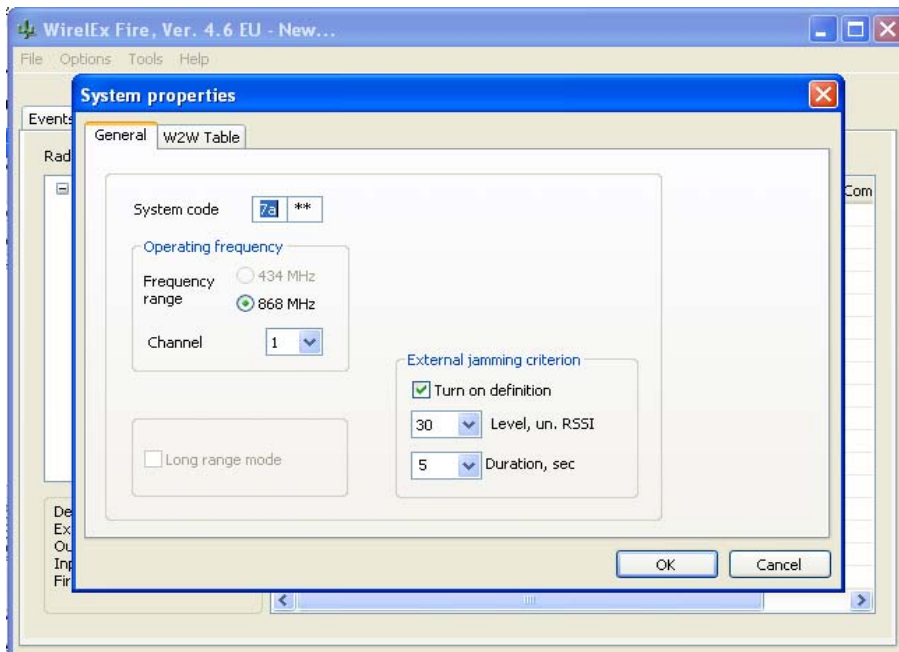
Now it is possible to control the whole system from the laptop PC via the Translator Module.

THE W2W TABLE

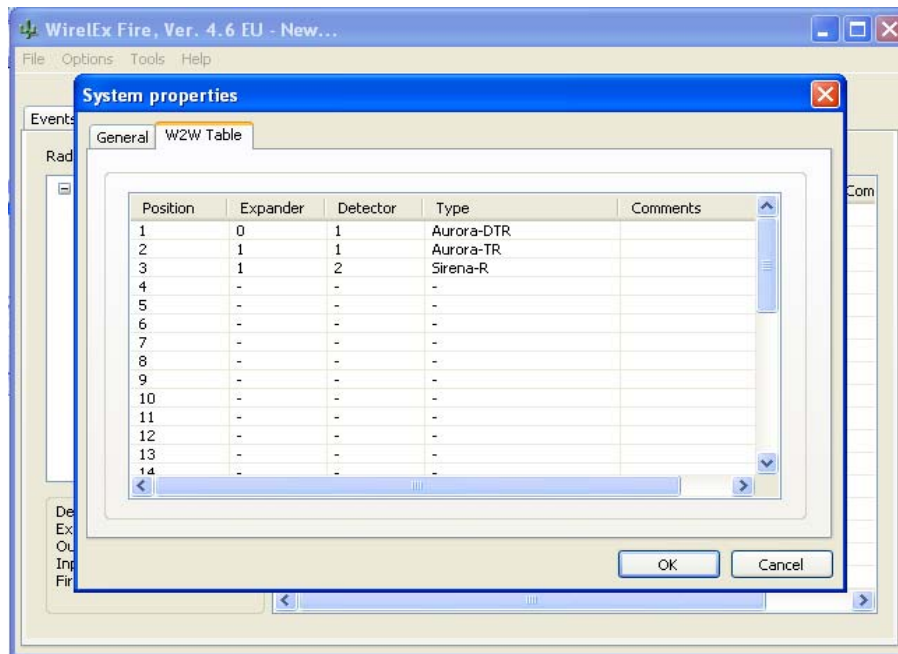
The W2W table is the process used to interface the digital aspect of the system with the analogue aspect of the system, i.e. how the analogue detection loop identifies the child devices and generates the associated analogue loop device addresses. This table can be found by highlighting the **“Configuration”** tab, right click on the word **“System”** in the **“Radiosystem topology”** area and selecting **“Properties”**:



The following window will be displayed:



Highlight the **“W2W Table”** tab. This will display the W2W table (see image on page 93). The engineer will now be able to see all the devices loaded on to the Translator Module and associated Expander Modules. (It is not possible to maximize the window to display all 32 devices)



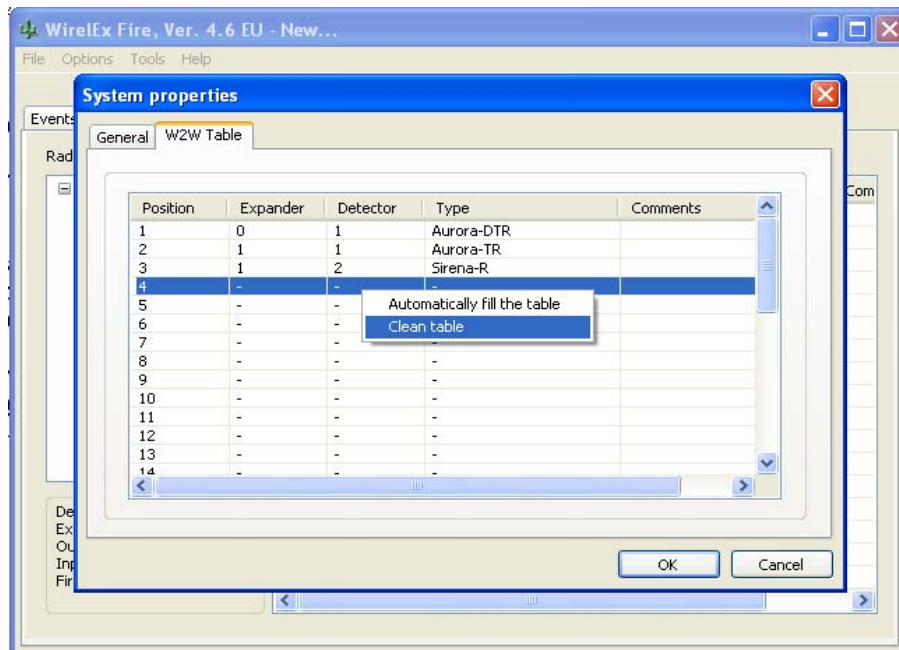
The columns shown above are:

- Position:** This is the order the devices are learnt on to the associated Fire Control Panel in. Using the vertical scroll bar on the right hand side, it can be seen that this column shows a maximum of 32 devices – the maximum number that can be associated with a Translator Module micro-cell/cluster.
- Expander:** This column indicates to the engineer if a device is on the Translator Module (Expander 0) or an Expander Module (1 – 7).
- Detector:** This column indicates the digital address that has been given to a device. As can be seen from the above example, there may be an instance where the same number occurs. This will happen if there are Expander Modules on the system. The previous column should be read in conjunction with this column to determine the correct digital address for a child device.
- Type:** This column indicates to the engineer the type of device that should be found at this address.
- Comments:** This column and cell will only have information in if the *Comments* cell in the **“Configuration”** tab has been used for the child devices.

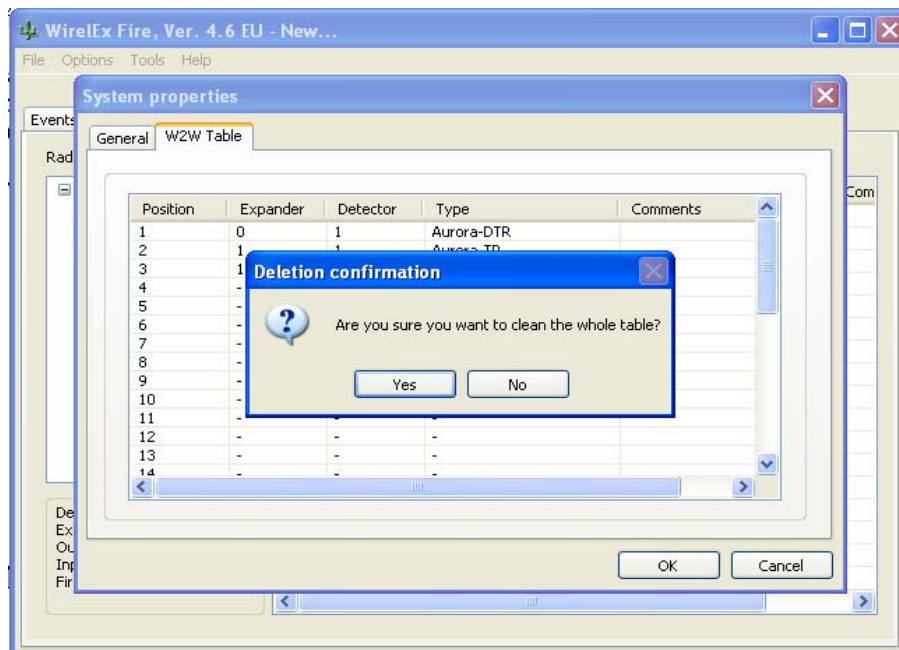
It may be that there are gaps in the above table where devices have been removed from the system. These will appear either as a series of hash marks (###) or as a gap. This can lead to incorrect identification of devices at the Fire Control Panel. To overcome this, on completion of the *LOAD* process, the following action may need to be followed.

Anywhere in the table, right click with the mouse.

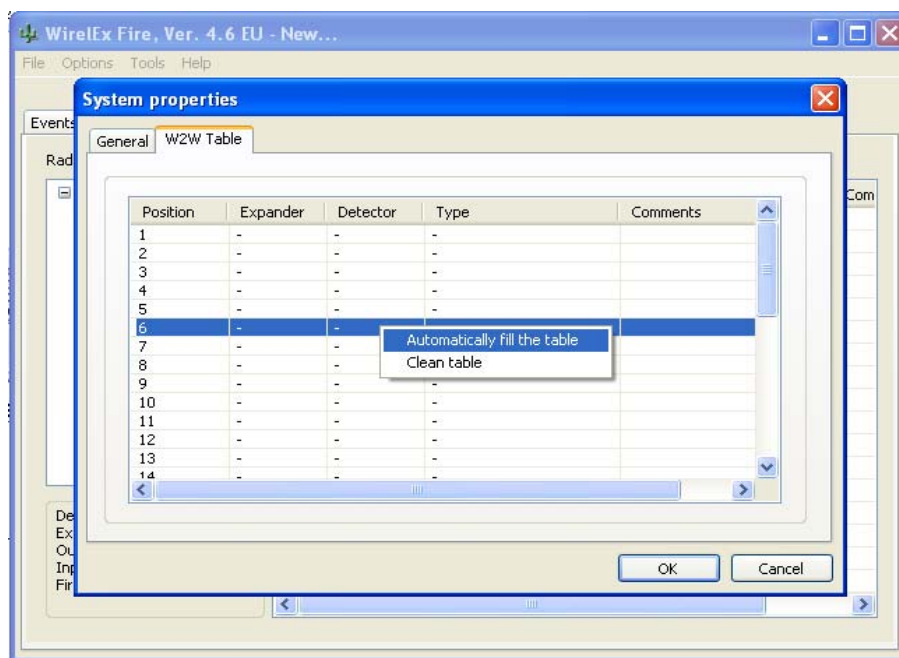
The following window will be displayed:



Highlight the ***“Clean table”*** option. This will cause a warning window to be displayed:



Select ***Yes***. This will cause the table to blank - the devices are still present on the system; it is only the W2W table that has gone blank. Right click in the blank table and highlight ***“Automatically fill the table”*** (see image on page 95).



The devices will now re-appear in a logical order starting with the devices on the Translator Module followed by devices on Expander Module 1, Expander Module 2, etc.

NOTE: *It is recommended that this process is only carried out during the initial commissioning of the system. If this process is carried out on an existing system, the associated Fire Control Panel may display incorrect device text, incorrect device types and the System Control Matrix/Cause and Effects may not function correctly.*

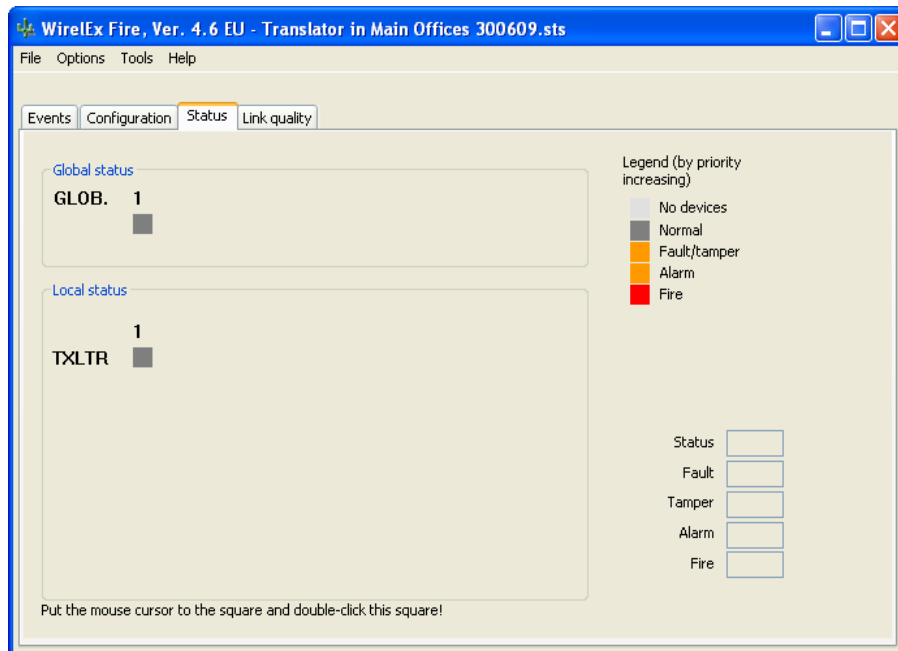
ADDITIONAL WIRELEX FACILITIES

The application is designed for both the Security industry and the Fire Detection industry. The two additional tabs – **Status** and **Link Quality** – provide additional information for the engineer:

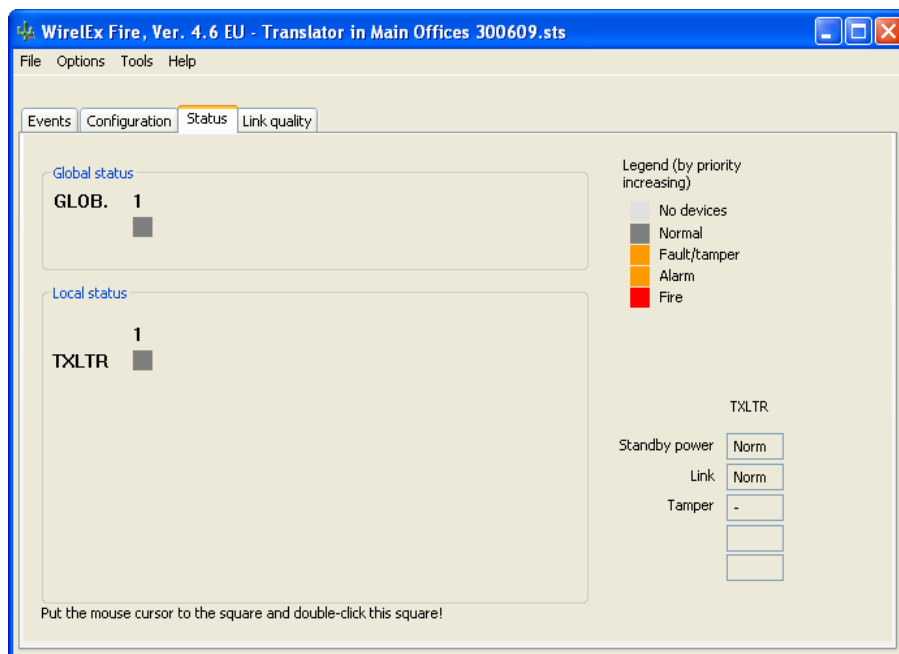
- Graphic display of RF quality of each child device.
- Graphic display of RF quality history.
- Communication control between the Translator Module and Expander Modules within a cluster.
- Fault and fire indication in a partition.
- Fault and fire indication of each device.
- Reset faults and fires within a partition.
- Power output attenuation control.

USE OF STATUS TAB

Select the “**Status**” tab on the Windows Configuration tool. The following window will be displayed:



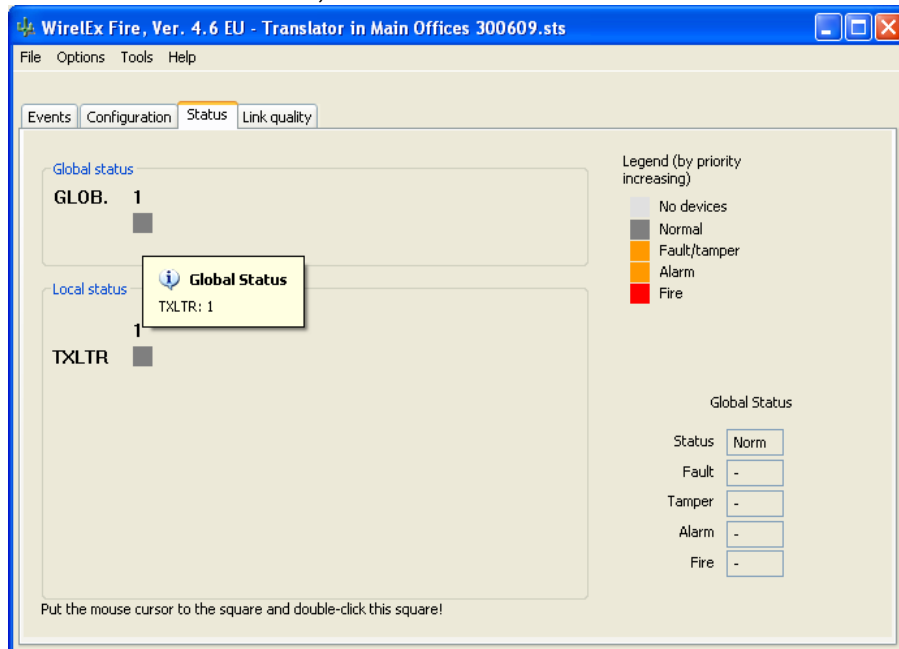
The legend on the right hand side displays various alarm/fault/status indications. These are explained below.



Holding the mouse over the **TXLTR** in the **Local Status** box will bring up the Translator Module status as indicated above.

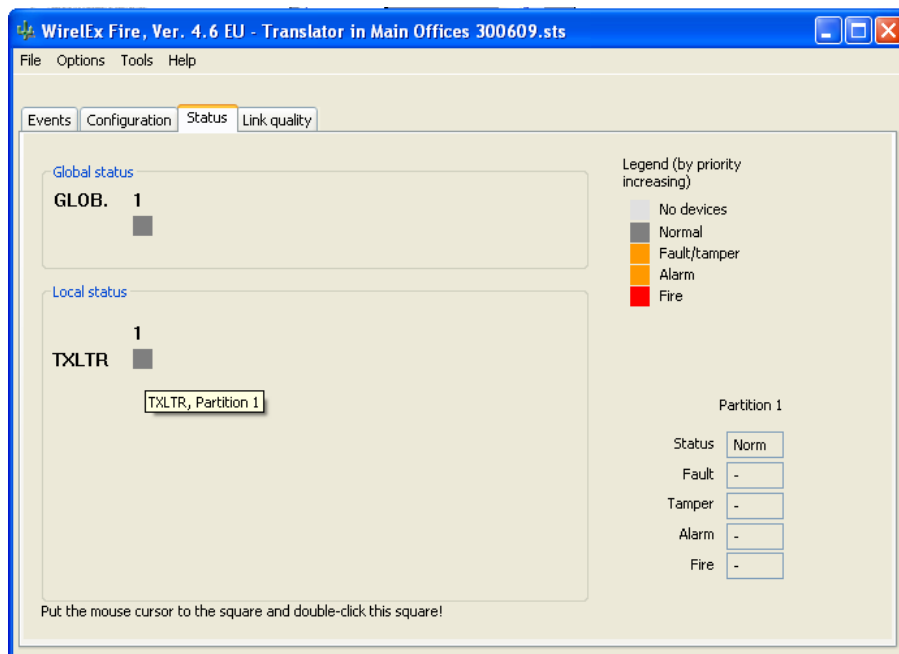
Further information can be gained from this page by moving the cursor over the dark grey box (■):



a. In the **Global partitions** area, the system indicates all global partitions on the system. In this application, the only partition that will have devices attached to it, and that will display a coloured box beneath, is Global Partition 1.



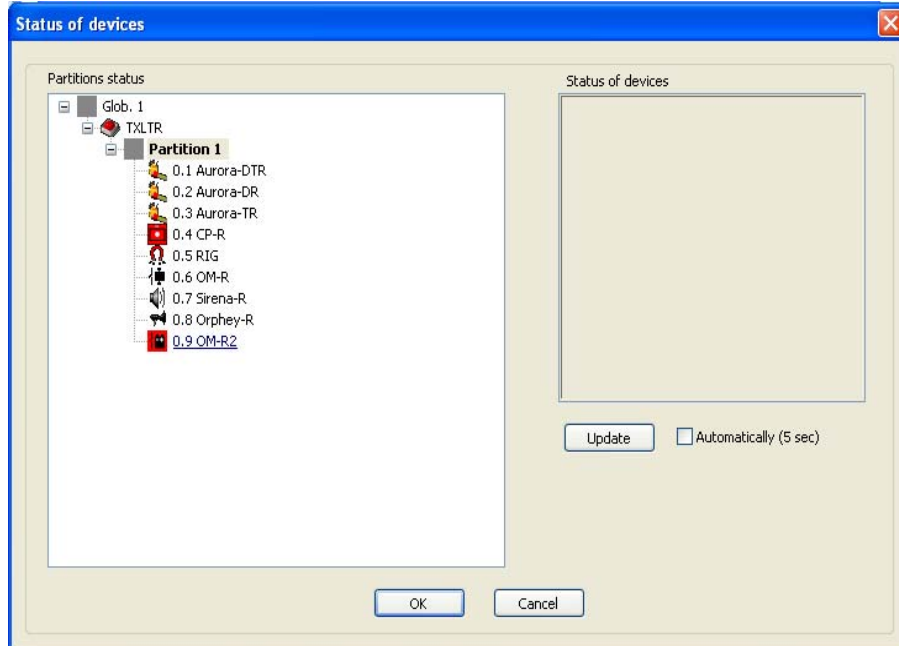
The indications in the bottom right hand box indicate that the system is fault free and no device is active.

b. In the **Expanders' local partition area**, holding mouse cursor over dark grey box will indicate a drop down window with the associated devices:



- c. If local partition 1 is indicating any other colour than light grey () (indicating no devices are attached to that partition) or dark grey () (indicating that the partition is in a normal operational state), double-clicking over the coloured square will open another window.

By left clicking over a device, its status will appear in the right hand box titled “**Status of devices**”



POSSIBLE DEVICE TYPES

Aurora-R: - Smoke Detector

Aurora-TR: - Heat Detector

Aurora-DTR: - Multicriteria Detector

CP-R: Manual Call Point

Sirena-R – Audio-Visual device

OM-R: Mains Powered Output Module

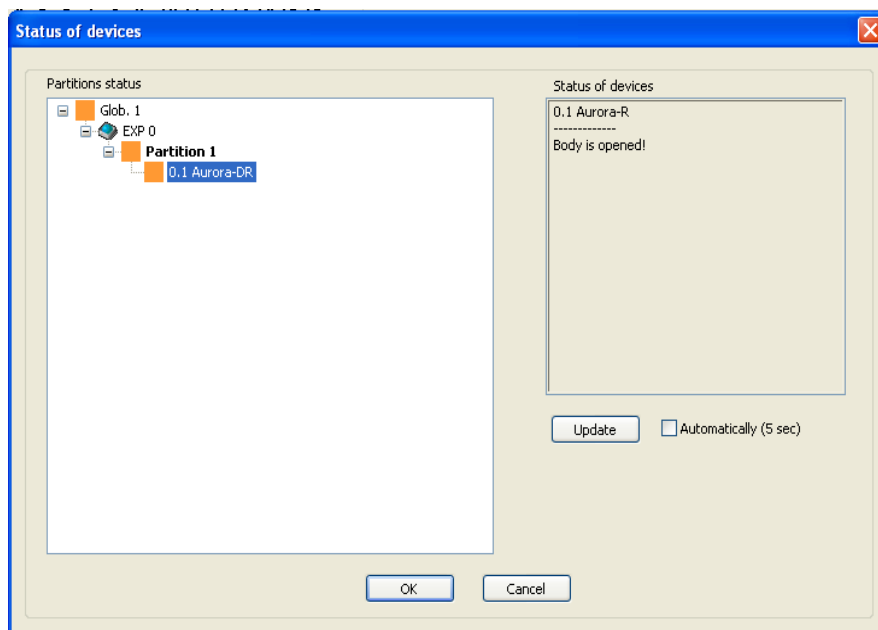
RIG:- Input Module

Orphey-R:- Voice Sounder

OM-R2:- Battery Powered Output Module

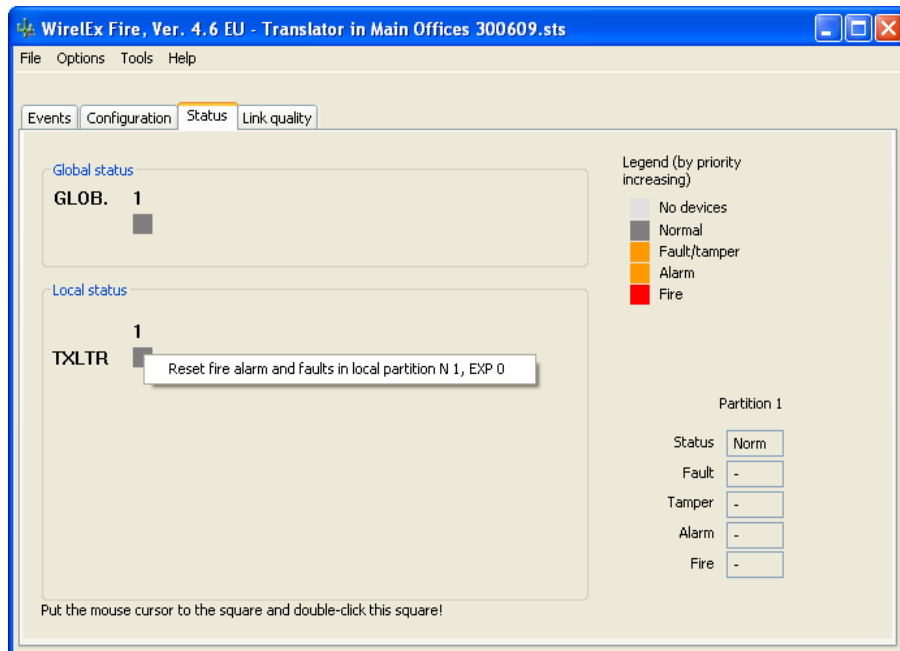
Beac: Beacon

If the device status is correct, “Norm” will be displayed. If the device is in fault, the associated icon will have an **ORANGE** box over it. An **ORANGE** box will also appear adjacent to Global Partition 1 and local partition 1. By left clicking the device, a fault indication will appear in the “**Status of devices**” box:



If there is a “FIRE” activation the associated boxes will have a **RED** square over/adjacent them. By following the same process as above, an engineer will be able to verify the child device has activated.

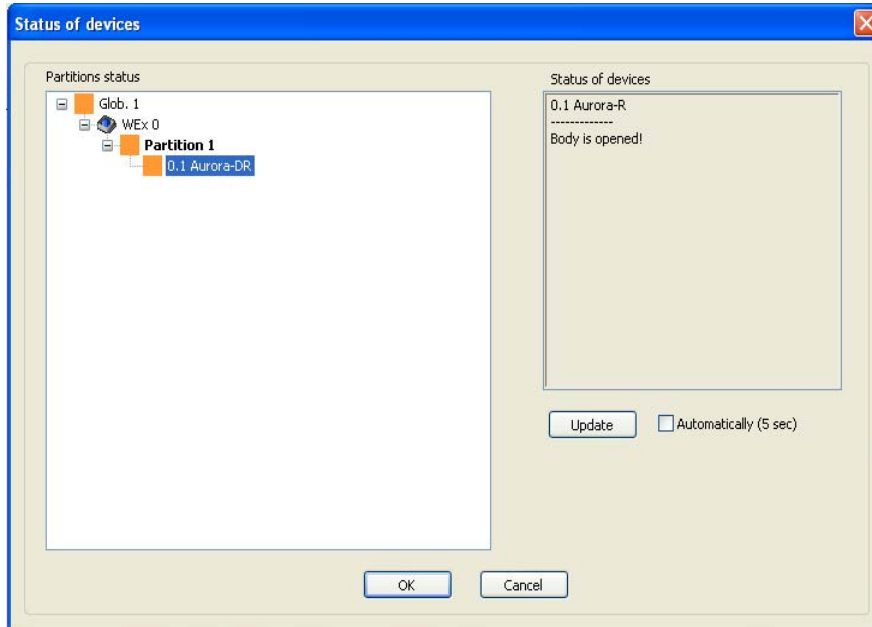
By pressing **OK**, the engineer will return to the **Status** page. By right-clicking on the partition that is in fault or fire, a sub-window appears allowing the engineer to reset faults in the partition. (This is useful if there are many faults displayed – soft faults will disappear completely, hard faults will re-appear and can then be investigated):



EXAMPLES OF DISPLAYED FAULTS

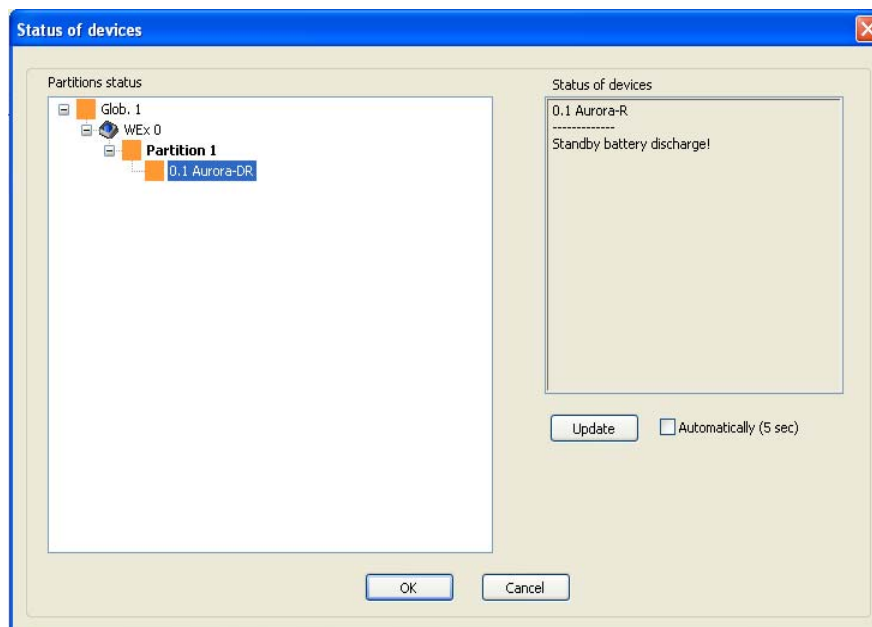
I. TAMPER FAULT

The comment shown in the box titled “Status of devices” indicates that the child device has been removed from its base and is now in a tamper condition. Check the device to ensure it is seated correctly and when this has been confirmed, carry out a RESET command and this fault will clear.



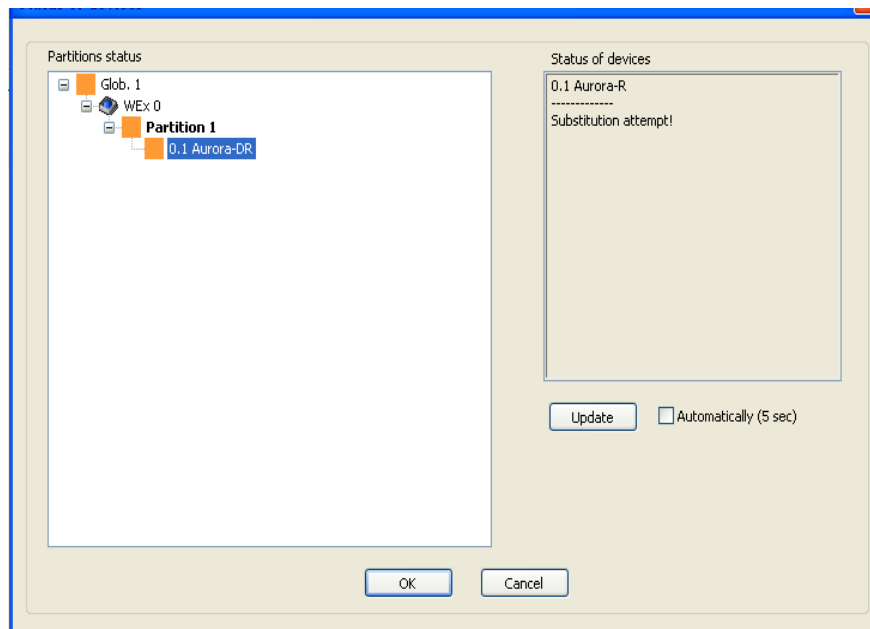
II. SECONDARY BATTERY DISCHARGE

The comment shown in the box titled “Status of devices” indicates that the Secondary or Standby battery has fallen below the voltage threshold for that cell. The cell should be replaced at the earliest opportunity. When the cell has been changed, perform a RESET command and the fault will clear.



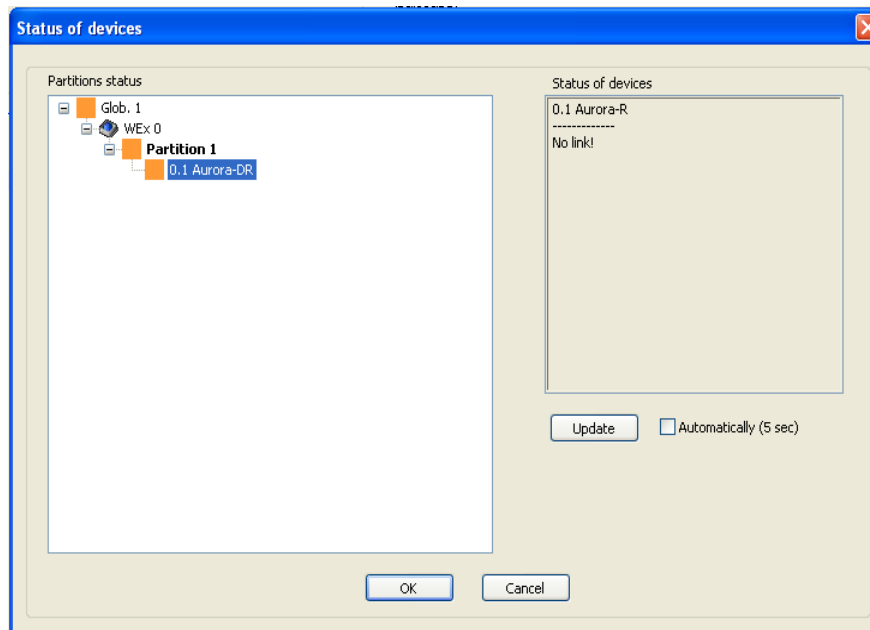
III. SUBSTITUTION ATTEMPT

The comment shown in the box titled ***“Status of devices”*** indicates that a device has been introduced to the system that has the same address – comparable with a hard-wired “Double Address Fault”.



This will happen if an apparently faulty device is removed from the system and replaced with a new device. However, if the batteries from the old device are still in place, the removed device retains in its memory the digital address originally prescribed to it by the Translator Module and will try to regain communication with the Translator Module. Removing the batteries from the faulty device and re-initialising the new device will eliminate this fault.

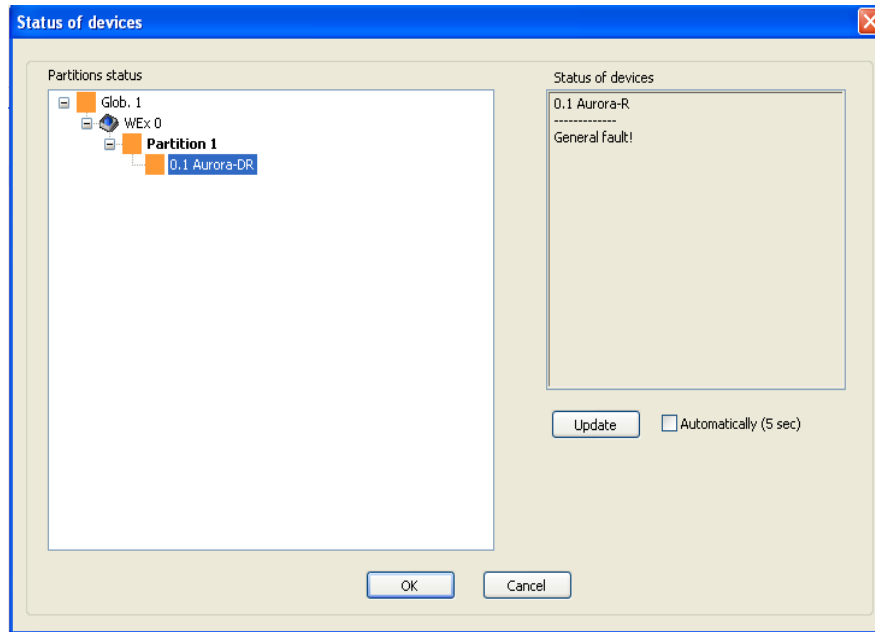
IV. NO RADIO LINK/NO LINK



This fault occurs if:

- a. A device is out of range of its associated Translator Module or Expander Module. By moving the device back in to range and performing a RESET command, this fault will disappear.
- b. If the batteries within the device have both discharged and the previous warnings about battery discharge have been ignored. By replacing both cells in the device, and performing a RESET command, this fault will disappear.

V. GENERAL FAULT



This fault occurs for a number of reasons:

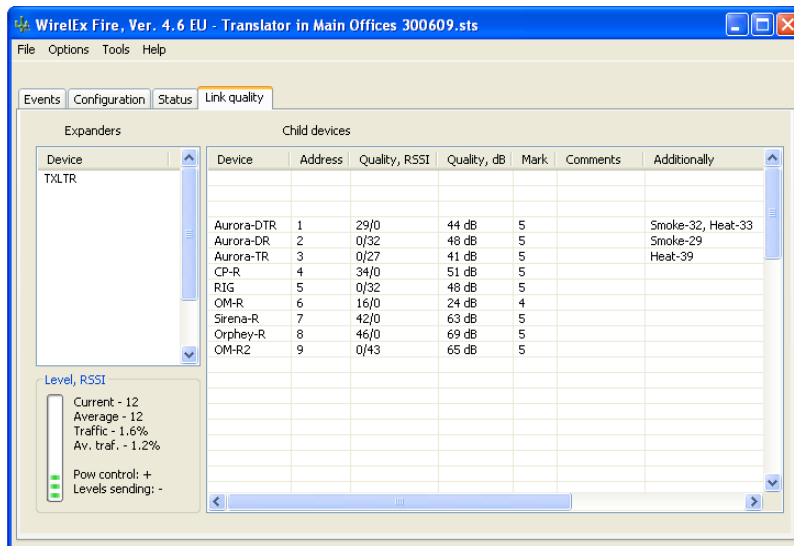
- a. The programming switch has been moved to the “ON” position after the device has been programmed.
- b. The device processing has gone faulty and the expected information has not been received at the Translator Module. The Translator Module then informs the system and a fault is generated. This is often accompanied by the central **YELLOW** LED on the Translator Module constantly glowing. The device LED may also be flashing **RED/GREEN** intermittently. The engineer will need to investigate this fault with a laptop computer and will need to check the Events Log, the “Status” tab and to isolate the fault further, the “Link Quality” tab – the Link Quality tab will indicate the wrong analogue value if the digital processing is incorrect. The device will need to be changed out and returned for further technical investigation.

All the above faults will also be displayed in the Event Log – this is accessed by pressing the “Events” tab on the software. An example of the faults as seen in the Events Log is shown below:

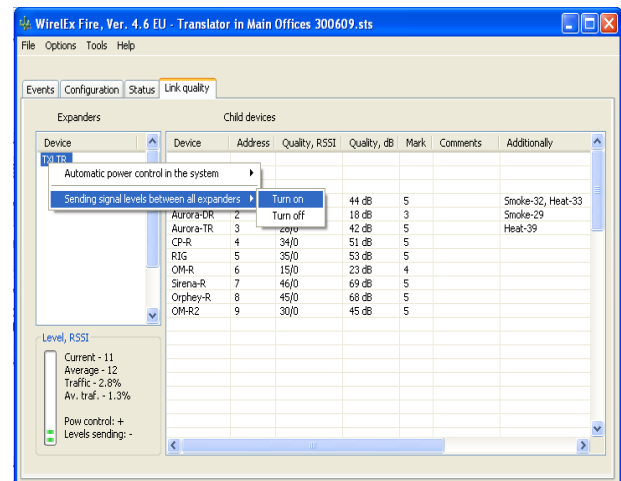
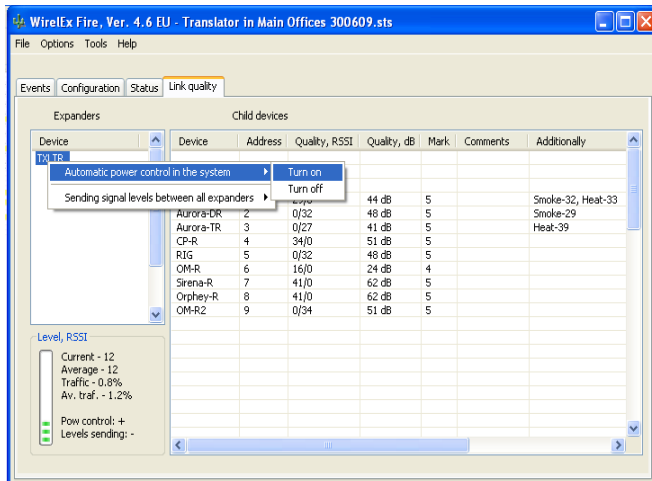
Time	Event	WE: number	Partition	Detector/User	Type
1 Jan 00:00:00	Body opening	0	0	0	RRQP
18 Feb 19:15:39	Body opening	0	1	1	Aurora-R (Fire smoke/thermal)
18 Feb 19:15:40	Relay output activation	0	R1-Relay		RRQP
18 Feb 19:21:17	Fires and faults reset	0	1	User: 0	RRQP
18 Feb 19:21:17	Relay output normalization	0	R1-Relay		RRQP
18 Feb 19:22:41	Body opening	0	1	1	Aurora-R (Fire smoke/thermal)
18 Feb 19:22:43	Relay output activation	0	R1-Relay		RRQP
18 Feb 19:23:06	Fires and faults reset	0	1	User: 0	RRQP
18 Feb 19:23:06	Relay output normalization	0	R1-Relay		RRQP
18 Feb 19:25:32	Standby battery discharge	0	1		Aurora-R (Fire smoke/thermal)
18 Feb 19:25:33	Relay output activation	0	R3-Relay		RRQP
18 Feb 19:27:56	Fires and faults reset	0	1	User: 0	RRQP
18 Feb 19:27:56	Relay output normalization	0	R3-Relay		RRQP
18 Feb 19:28:29	Standby battery discharge	0	1	1	Aurora-R (Fire smoke/thermal)
18 Feb 19:28:30	Relay output activation	0	R3-Relay		RRQP
18 Feb 19:28:41	Body opening	0	1	1	Aurora-R (Fire smoke/thermal)
18 Feb 19:28:42	Relay output activation	0	R1-Relay		RRQP
18 Feb 19:29:06	Fires and faults reset	0	1	User: 0	RRQP
18 Feb 19:29:06	Relay output normalization	0	R1-Relay		RRQP
18 Feb 19:29:06	Relay output normalization	0	R3-Relay		RRQP
1 Jan 00:00:00	Expander turning on	0			RRQP
1 Jan 00:00:00	Body opening	0	0	0	RRQP
18 Feb 19:30:00	Child device substitution attempt	0	1	1	Aurora-R (Fire smoke/thermal)
18 Feb 19:31:57	Fires and faults reset	0	1	User: 0	RRQP
18 Feb 19:32:00	Child device substitution attempt	0	1	1	Aurora-R (Fire smoke/thermal)
18 Feb 19:32:11	Body opening	0	1	1	Aurora-R (Fire smoke/thermal)
18 Feb 19:47:08	No radio link with child device	0	1	1	Aurora-R (Fire smoke/thermal)
18 Feb 19:55:51	Fires and faults reset	0	1	User: 0	RRQP
18 Feb 20:12:33	Body opening	0	1	1	Aurora-R (Fire smoke/thermal)
18 Feb 20:12:41	Generalized fault	0	1	1	Aurora-R (Fire smoke/thermal)
18 Feb 20:12:44	Body closed	0	1	1	Aurora-R (Fire smoke/thermal)
18 Feb 20:17:21	Body opening	0	1	1	Aurora-R (Fire smoke/thermal)
18 Feb 20:17:39	Fires and faults reset	0	1	User: 0	RRQP

USE OF RF LINK QUALITY TAB

Select the **“Link Quality tab”** on the Wirelex Configuration Tool. The following window will be displayed:



Expanders: The Translator Module and associated Expander Modules in the cluster are displayed here. Highlighting the Expander Module you wish to investigate will display the associated child devices in the right-hand area. Right clicking the cursor over the highlighted Translator/Expander will give two further options that will reveal in turn further options for each:



The **“Automatic Power Control in the System”** allows the engineer to turn on/off the automatic power attenuation facility within the Translator cluster. This is normally left on as the system uses complex algorithms to determine the best power level between the Translator Module/Expander Module(s) and the associated child devices. Turning this off causes all devices to work at maximum power levels. This can result in an increased level of RF noise causing communication with some devices to be lost.

The **“Sending Signal Levels Between All Expanders”** option allows the engineer to turn on/off the communication between the Translator Module and any Expander Modules fitted. If Expander Modules are employed within the microcell/cluster, this option **must** be turned on. This allows all information to pass freely between the Translator Module and Expander Modules within the cluster so that all device faults, tamper faults, fire activations can be seen when interrogating/testing the system through the Wirelex Configuration Tool

LINK QUALITY TAB – CHILD DEVICE SECTION

In the Child device section of the page, the following information is displayed:

The screenshot shows the 'WirelEx Fire, Ver. 4.6 EU - Translator in Main Offices 300609.sts' window. The 'Link quality' tab is selected. On the left, under 'Expanders', 'TXLTR' is listed. The main area, 'Child devices', contains a table with the following data:

Device	Address	Quality, RSSI	Quality, dB	Mark	Comments	Additionally
Aurora-DTR	1	29/0	44 dB	5	Smoke-32, Heat-33	
Aurora-DR	2	0/32	48 dB	5	Smoke-29	
Aurora-TR	3	0/27	41 dB	5	Heat-39	
CP-R	4	34/0	51 dB	5		
RIG	5	0/32	48 dB	5		
OM-R	6	16/0	24 dB	4		
Sirena-R	7	42/0	63 dB	5		
Orpheus-R	8	46/0	69 dB	5		
OM-R2	9	0/43	65 dB	5		

Below the table, there is a 'Level, RSSI' section with a vertical bar and the following text: Current - 12, Average - 12, Traffic - 1.6%, Av. traf. - 1.2%, Pow control: +, Levels sending: -.

Device: The device type is displayed in the first column.

Address: The device address is displayed in the next column. This address is allocated to the device by the associated Translator/Expander. This is the system digital address and NOT the allocated detection loop address.

Quality, RSSI: **Received Signal Strength Indication (RSSI)** is a measurement of the power present in a received radio signal. The signal level from each RF modem is displayed here – the value to the left of the oblique is from the Primary modem, the figure to the right is the value from the Secondary modem. This level is measured in Standard Units. Only one value will be indicated here – left or right. The other value will be zero.

Quality, dB: The signal level here is shown as a dB level.

Mark: This is an indication of the link quality based on a five point rating scale:

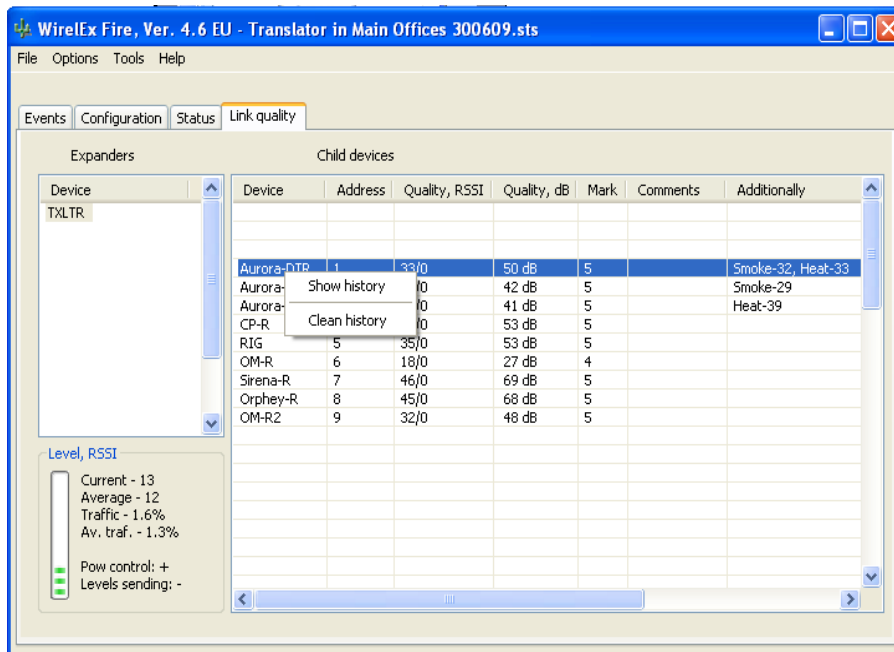
<u>QUALITY MARK</u>	<u>LINK INDICATION</u>
2	Fail – no connection or very weak
3	Not good – Link margin is between 10 - 20 dBs
4	Good – robust communication with a link margin between 20 - 30 dBs
5	Excellent – Robust communication with a link margin \geq 30dBs

Comments: This is the comment added about device location at the **“Configuration”** tab

Link: This indicates the last time communications between the device and its associated Translator Module/Expander Module took place. This indication increments in 4 second intervals. For all devices, except wireless Audio-Visual devices, this will increase to approximately 1 minute and return to zero. For the Audio-Visual devices this will increment to approximately 12 seconds before returning to zero.

LINK QUALITY HISTORY GRAPH

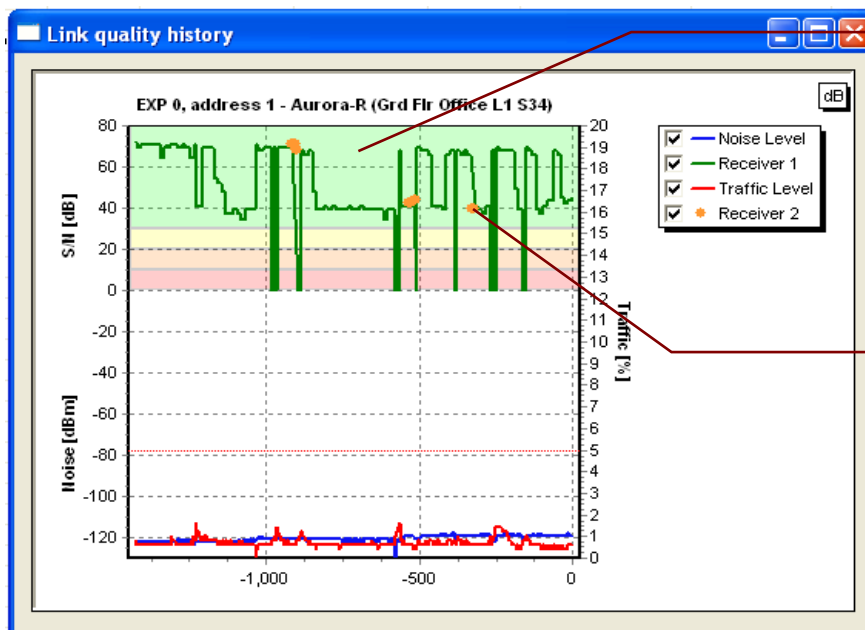
By highlighting a single device, moving the cursor over it and right clicking, two options are displayed:



Show History: Selecting this option will display the RF link quality graph (shown below)

Clean History: This will clean all RF link quality information – resetting the graph.

(Shortcut - By double-clicking the device the RF link quality history graph will be displayed)



The different colours indicate the Mark Quality:

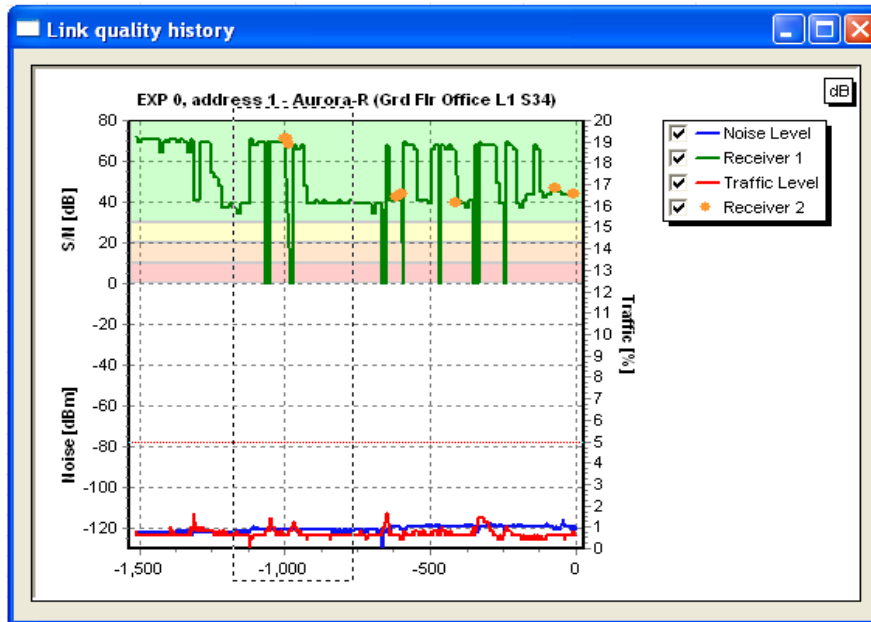
GREEN – 5
YELLOW – 4
ORANGE – 3
PINK – 2

The Orange dot indicates that the Secondary Modem signal was stronger than the Primary Modem signal for this particular reading – this does not indicate that there is a problem with the device only that during that particular time frame the signal seen at the Secondary Modem was stronger – this is caused by vagaries in radio propagation

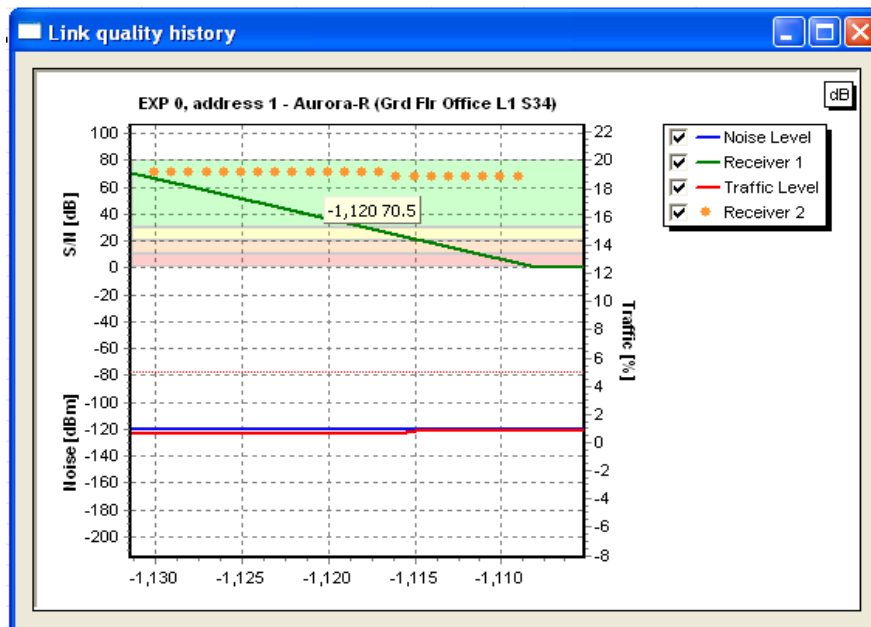
The **GREEN** waveform indicates the RF link quality history for each device. The graph will provide the user with as many as 8192 segments. This is the equivalent of a sample every 5 seconds over a 12 hour period.

ZOOM IN ON RF HISTORY GRAPH

The user can zoom in on specific areas within the graph for better analysis of the RF Quality history. This is achieved by holding down the left mouse button, creating a box by moving from top left to bottom right around the interested area and then releasing the left mouse button.



The graph will now zoom in on that area providing the user with an enhanced view of the area. This can be repeated until the area is clear enough for the user to take a reading. Once the desired level of analysis has been reached, holding the cursor over the area will produce a box giving an indication of the segment number under investigation along with a dB level.



RETURN TO NORMAL GRAPH VIEW

To return to the normal screen level, the user must make a further box moving the cursor from bottom right to top left whilst holding down the left control on the mouse – this will return the graph to its normal appearance.

SYSTEM CONFIGURATION CODE HEXADECIMAL-DECIMAL CONVERSION TABLE

The System Configuration Code is a code assigned to the Translator Module when it is powered on. It forms part of the encryption process employed by the Translator Module - the system code seen at the Translator Module LCD display is a decimal interpretation of a hexadecimal code, ranging from 01 to ff. The table shows all hexadecimal codes and the decimal equivalents.

Decimal	Hexadecimal	Decimal	Hexadecimal	Decimal	Hexadecimal	Decimal	Hexadecimal	Decimal	Hexadecimal
1	1	52	34	103	67	154	9A	205	CD
2	2	53	35	104	68	155	9B	206	CE
3	3	54	36	105	69	156	9C	207	CF
4	4	55	37	106	6A	157	9D	208	D0
5	5	56	38	107	6B	158	9E	209	D1
6	6	57	39	108	6C	159	9F	210	D2
7	7	58	3A	109	6D	160	A0	211	D3
8	8	59	3B	110	6E	161	A1	212	D4
9	9	60	3C	111	6F	162	A2	213	D5
10	0A	61	3D	112	70	163	A3	214	D6
11	0B	62	3E	113	71	164	A4	215	D7
12	0C	63	3F	114	72	165	A5	216	D8
13	0D	64	40	115	73	166	A6	217	D9
14	0E	65	41	116	74	167	A7	218	DA
15	0F	66	42	117	75	168	A8	219	DB
16	10	67	43	118	76	169	A9	220	DC
17	11	68	44	119	77	170	AA	221	DD
18	12	69	45	120	78	171	AB	222	DE
19	13	70	46	121	79	172	AC	223	DF
20	14	71	47	122	7A	173	AD	224	E0
21	15	72	48	123	7B	174	AE	225	E1
22	16	73	49	124	7C	175	AF	226	E2
23	17	74	4A	125	7D	176	B0	227	E3
24	18	75	4B	126	7E	177	B1	228	E4
25	19	76	4C	127	7F	178	B2	229	E5
26	1A	77	4D	128	80	179	B3	230	E6
27	1B	78	4E	129	81	180	B4	231	E7
28	1C	79	4F	130	82	181	B5	232	E8
29	1D	80	50	131	83	182	B6	233	E9
30	1E	81	51	132	84	183	B7	234	EA
31	1F	82	52	133	85	184	B8	235	EB
32	20	83	53	134	86	185	B9	236	EC
33	21	84	54	135	87	186	BA	237	ED
34	22	85	55	136	88	187	BB	238	EE
35	23	86	56	137	89	188	BC	239	EF
36	24	87	57	138	8A	189	BD	240	F0
37	25	88	58	139	8B	190	BE	241	F1
38	26	89	59	140	8C	191	BF	242	F2
39	27	90	5A	141	8D	192	C0	243	F3
40	28	91	5B	142	8E	193	C1	244	F4
41	29	92	5C	143	8F	194	C2	245	F5
42	2A	93	5D	144	90	195	C3	246	F6
43	2B	94	5E	145	91	196	C4	247	F7
44	2C	95	5F	146	92	197	C5	248	F8
45	2D	96	60	147	93	198	C6	249	F9
46	2E	97	61	148	94	199	C7	250	FA
47	2F	98	62	149	95	200	C8	251	FB
48	30	99	63	150	96	201	C9	252	FC
49	31	100	64	151	97	202	CA	253	FD
50	32	101	65	152	98	203	CB	254	FE
51	33	102	66	153	99	204	CC	255	FF

SECTION 6 – ADDING A WIRELESS EXPANDER MODULE

INTRODUCTION.....	Page 109
ADDING AN EXPANDER MODULE TO A TRANSLATOR MODULE.....	Page 110
ADDING ADDITIONAL EXPANDER MODULES	Page 121

INTRODUCTION

To increase the area of coverage for a Translator Module a signal booster module – known as an **EXPANDER MODULE (HFW-EM-01)** - is available. This device is used:

- To increase the range of coverage for wireless devices
- To overcome obstacles affecting radio signal integrity
- To link buildings together negating the requirement for containment between the buildings – trenches, catenary wires, underground ducting, etc.

A maximum of seven (7) wireless Expander Modules can be associated/linked with a Translator Module (see page 45/46)

Care must be taken when adding Expander Modules that the correct programming sequence for the system is followed – deviations from this can result in lost devices or even lost Expander Modules from the expected system.

An Expander Module(s), and associated devices, can only be added to a Translator Module using the Wirelax software. It is not possible to “locally” program an Expander Module.

This section details how to:

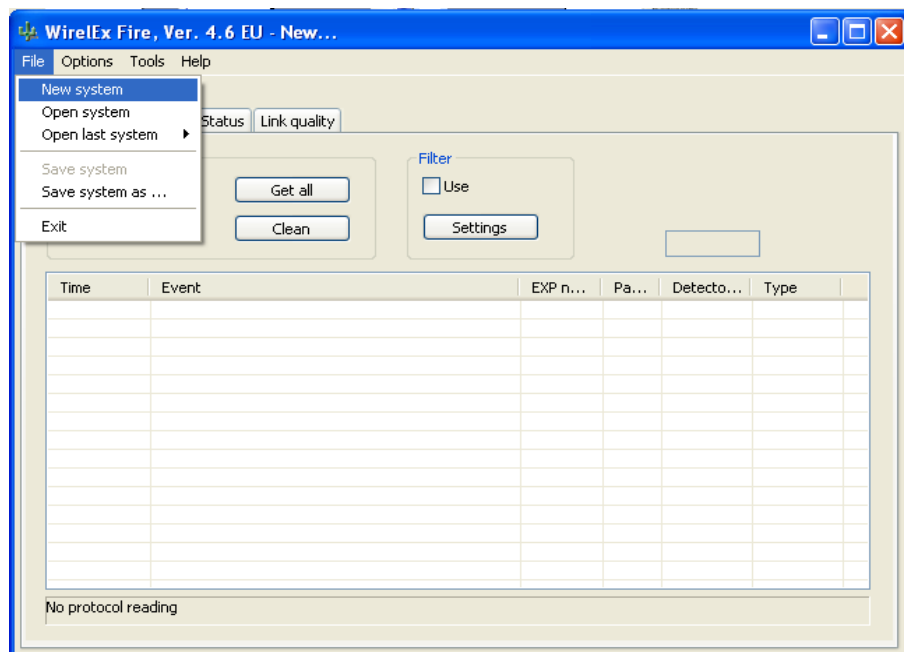
- Add an Expander Module (and devices) to a Translator Module.
- Add additional Expander Modules (and devices) to a Translator Module (daisy chain method).
- Add additional Expander Modules (and devices) to a Translator Module (same layer method).

For all systems in this section the following is assumed:

Translator Module has a Multi-Criteria Detector
Expander Module 1 has a Sounder
Final Expander Module has a Thermal Detector

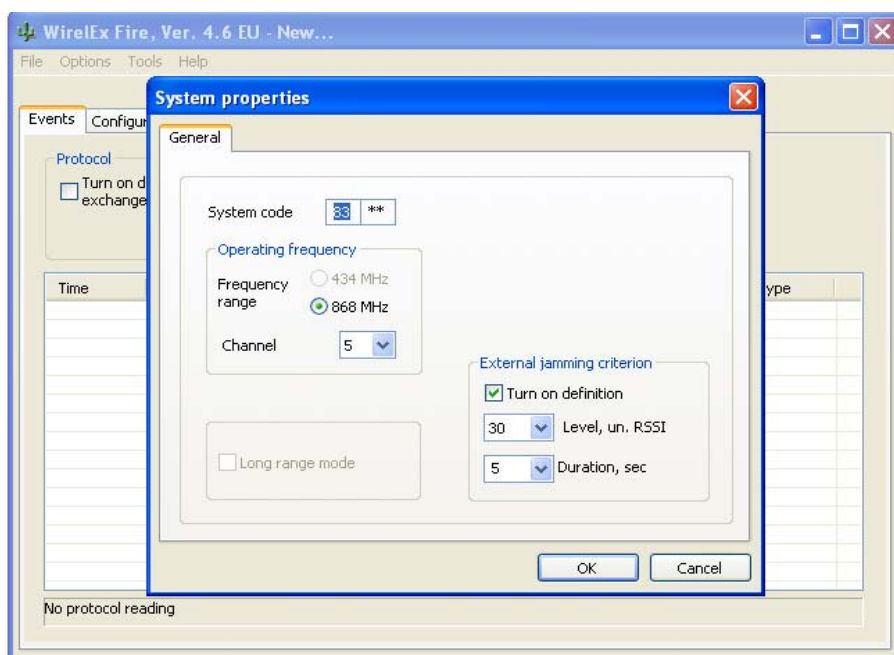
ADDING AN EXPANDER MODULE TO A TRANSLATOR MODULE

Open the Wirelex software connecting the computer to the Translator Module RS232 connection using a standard 9-pin serial cable. At the Main Menu page, select **“File”** and **“New System”**.



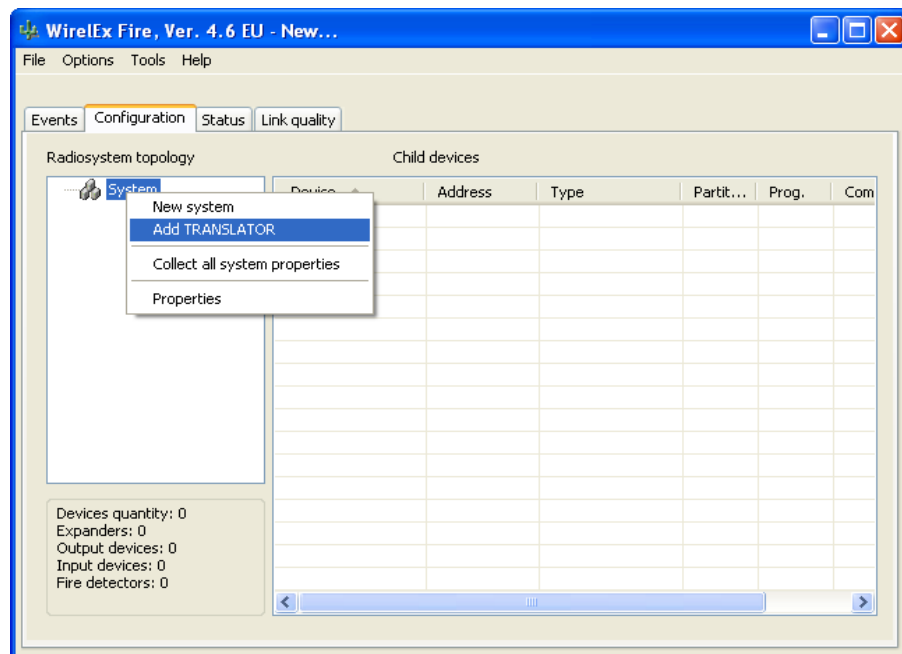
The System properties sub-window will appear. The system code is a randomly generated hexadecimal number. This is translated in to decimal at the Translator Module to give a three digit decimal number in the range 0 - 255. If required, the code and the initial operational channel can be changed. It is recommended that the default code is used unless there is a requirement to amend.

NOTE: Only the first two alpha-numerics of the **“System Code”** can be changed – a code between 01 and ff must be entered

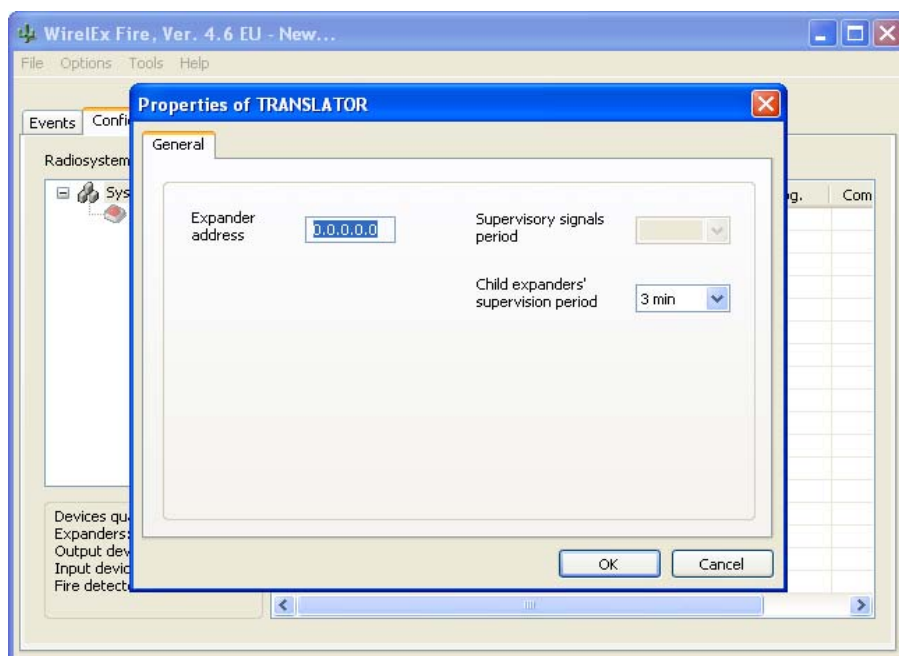


SECTION 6 (cont)

At the Main Menu page, select the **“Configuration”** tab. Right click the mouse over the “System icon” located in the Radiosystem topology area. Select **“Add TRANSLATOR”** from the drop down list.

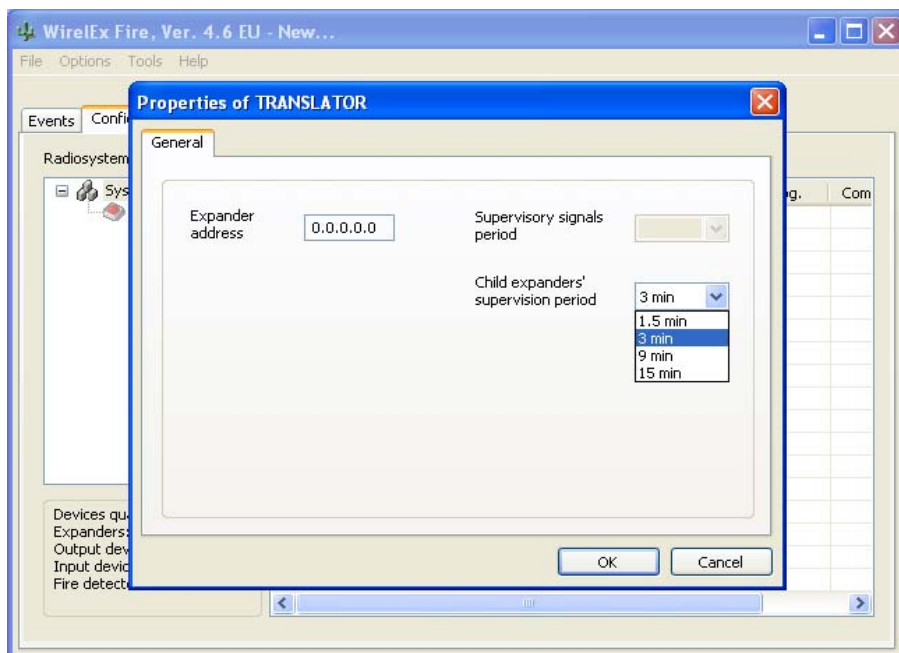


A window will appear with the Translator Module properties detailed.



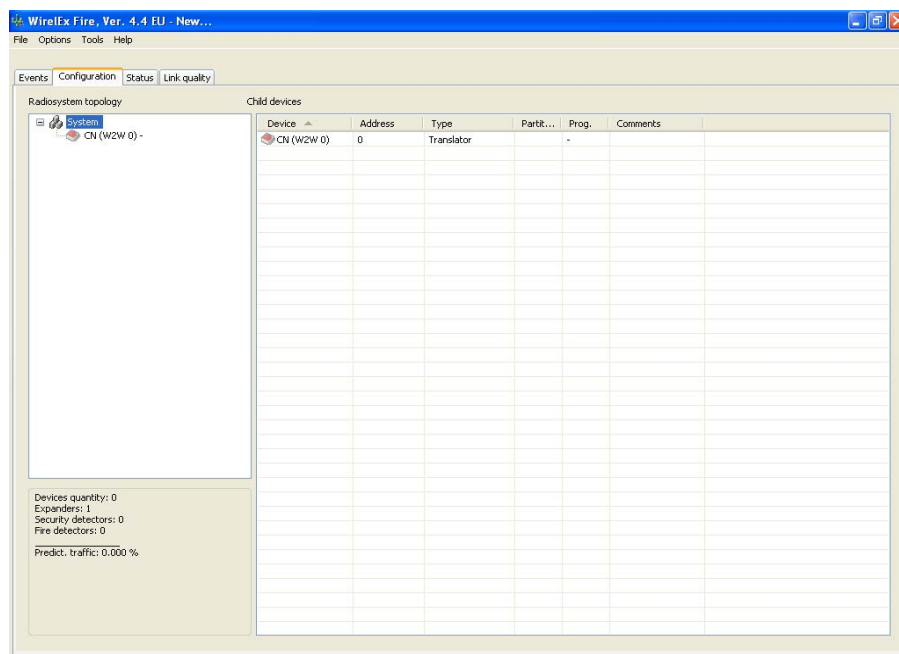
NB: Although the **“Expander Address”** is highlighted it is not possible to change this address. This is a digital address assigned by the system for future identification within the microcell environment.

The only other parameter that may be changed is the “***Child Expanders’ Supervision Period***”.



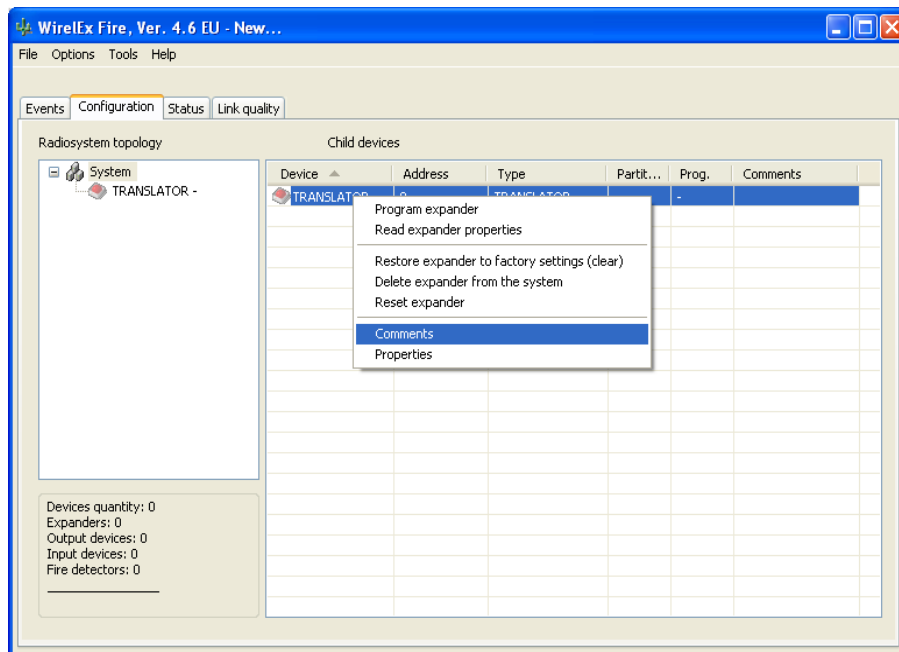
Once all parameters are as required, press to confirm the Translator Module values.

A new Translator Module has now been added to the System configuration and the related icon appears in the Radiosystem topology tree. The associated chart has been updated to reflect the addition of the Translator Module.

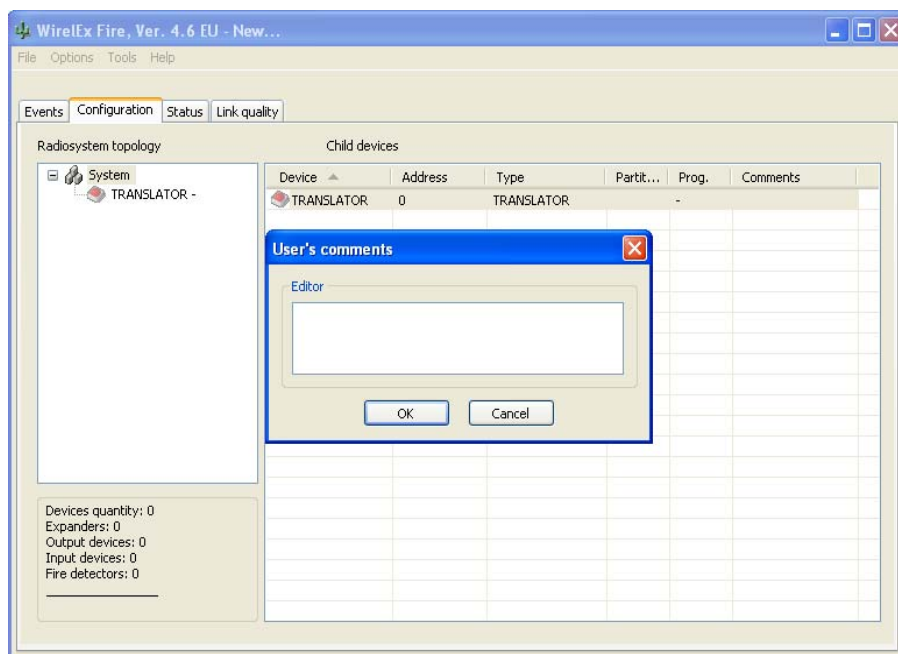


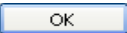
SECTION 6 (cont)

To add comments (device location, Fire Control Panel detection loop address, etc), highlight the Translator Module and right click the mouse. A small menu box will appear. Select **“Comments”**



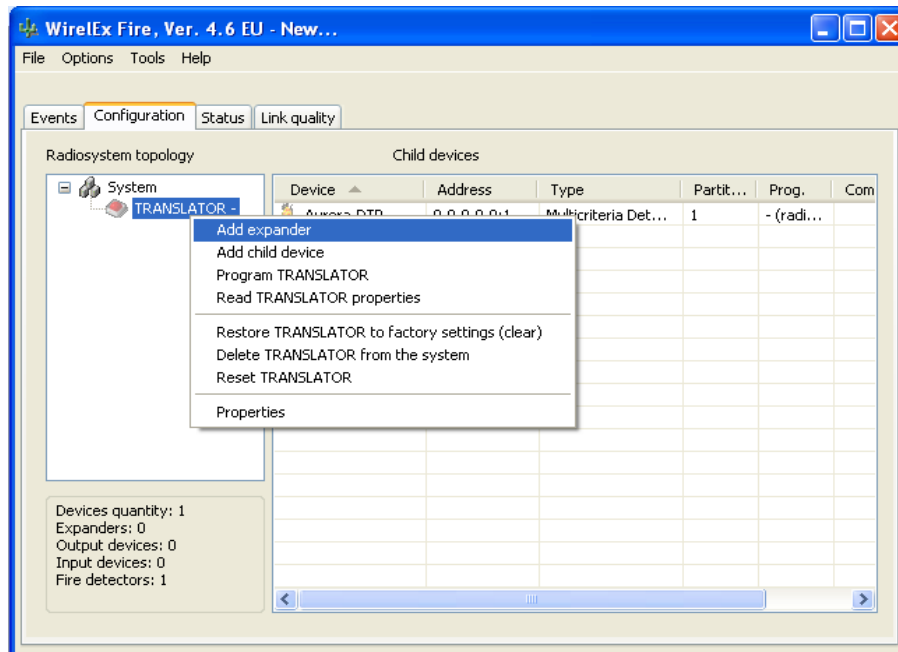
A **“User’s Comments”** box will now appear (shown below). A maximum of 31 alphanumeric characters can now be entered.



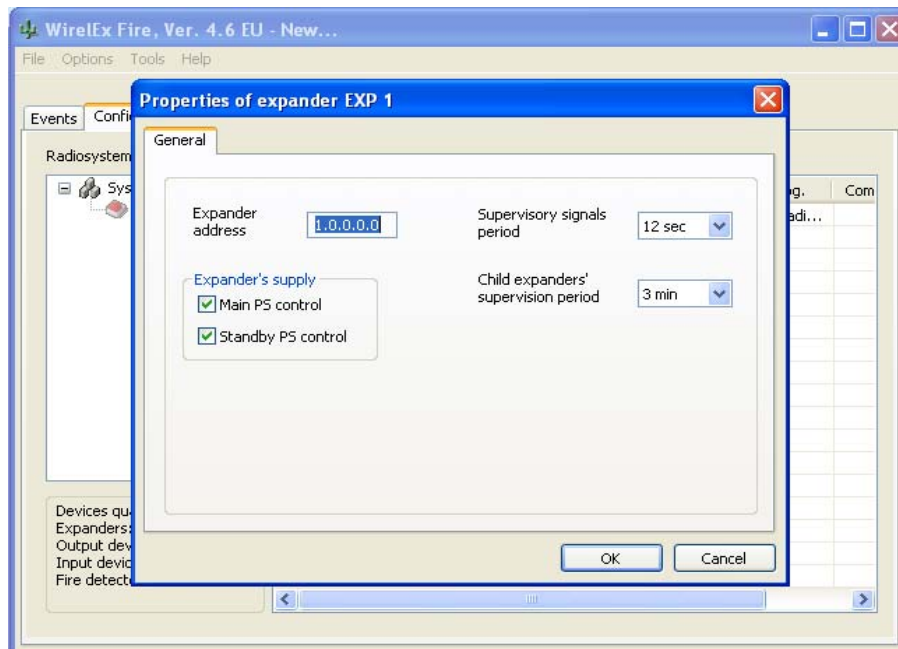
On completion press  to return to the main window.

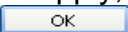
Add all child devices to the Translator Module at this point (see pages 60 – 80) for details).

To add the first Expander Module, right click on the Translator Module icon in the **Radiosystem topology** area. A drop down window will appear. Select the “**Add Expander**” option:

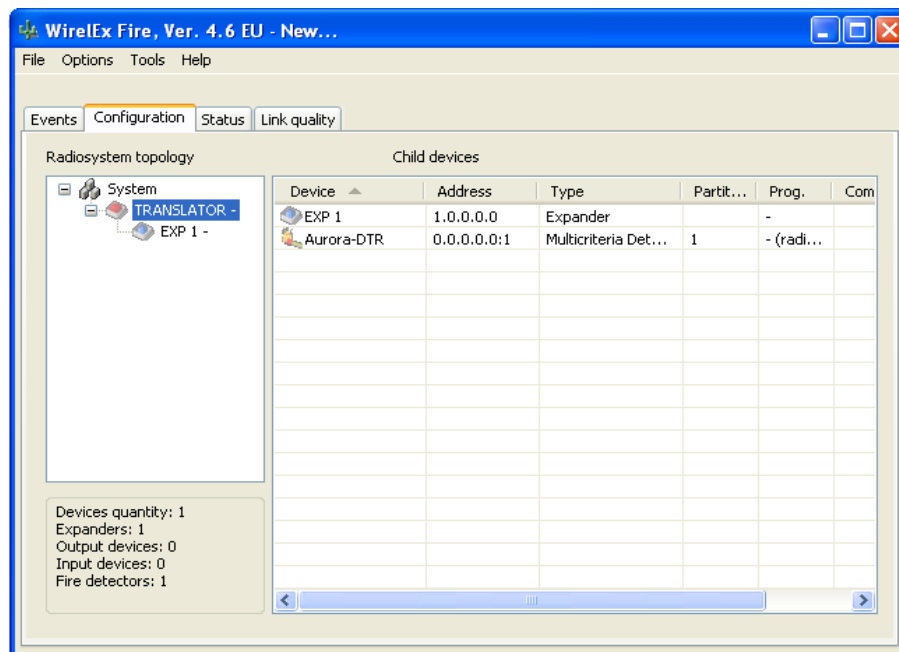


A further window will appear allowing the user to amend the operational parameters of the Expander Module.

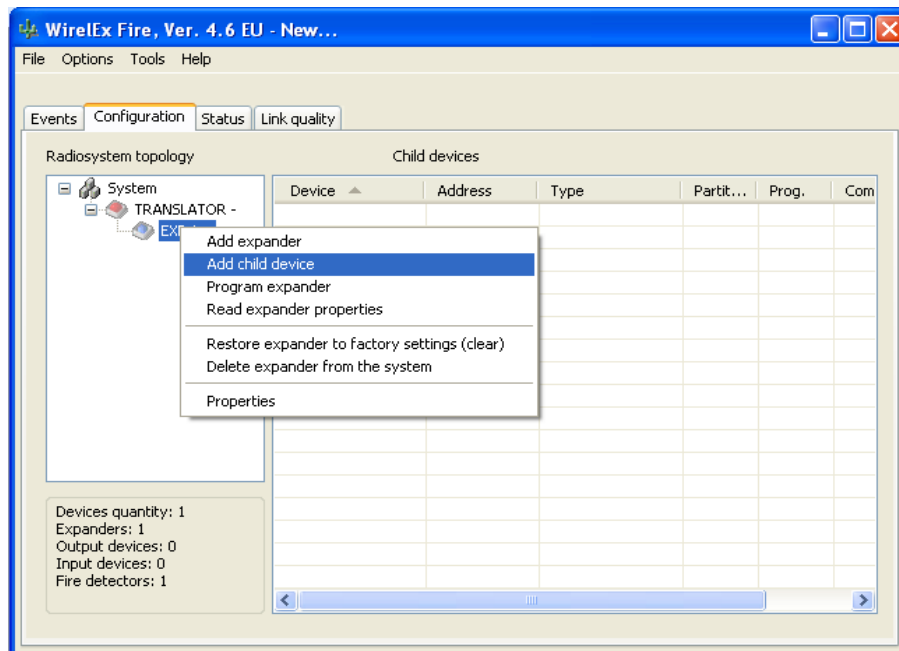


Care should be taken at this stage to ensure that the “**Expander’s supply**” parameters are set correctly to ensure no faults are reported at the Translator Module on completion. If using a non-monitored power supply, the “**Standby PS control**” box should be unchecked. If using a monitored power supply, this box should remain checked. When parameters have been changed select .

The user will be returned to the main screen and the following window will be displayed showing the Expander Module added to the system:

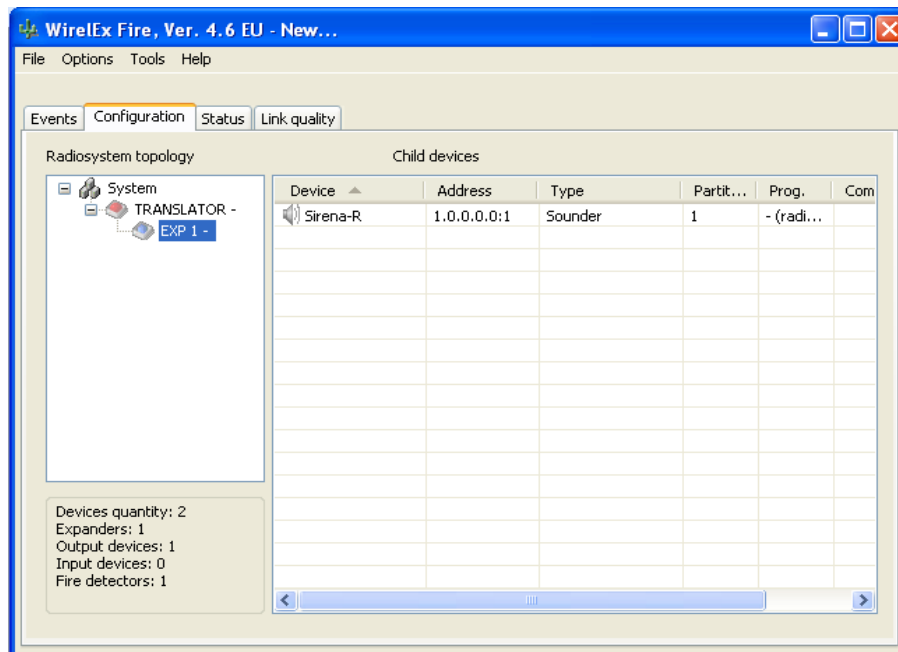


To add child devices to the Expander Module, right click on the ***“EXP 1”*** icon in the ***“Radiosystem topology”*** area.



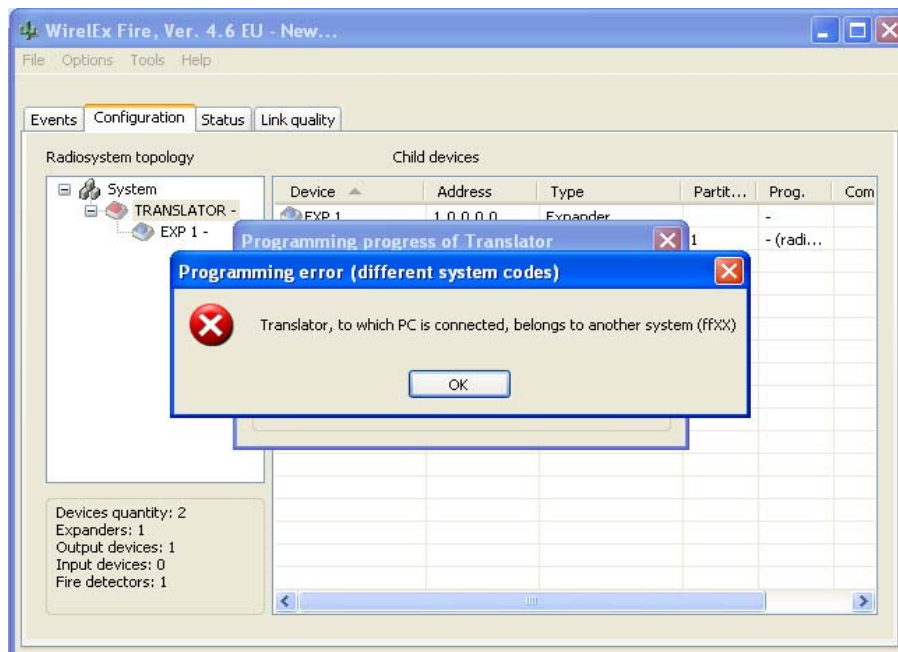
Select ***“Add child device”***. From the drop down window add the required number of child devices of each type (as per adding devices to a Translator Module detailed at pages 60 – 80).

When all devices have been added, the system topology and child devices will be shown in the **“Child devices”** section on the **“Configuration”** tab:

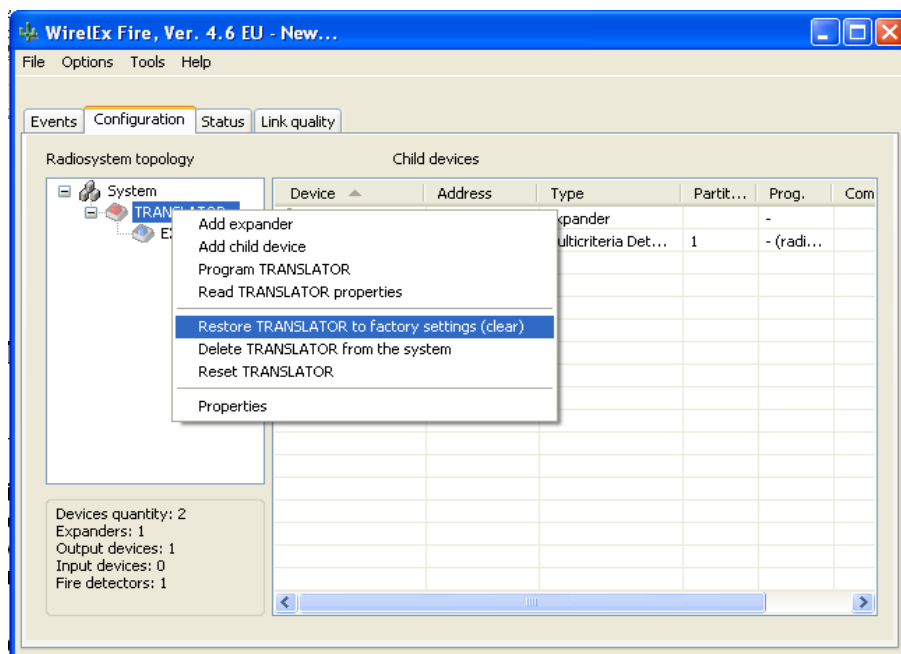


To view the devices on the Translator Module, simply left click on **“TRANSLATOR”** in the **“Radiosystem topology”** box.

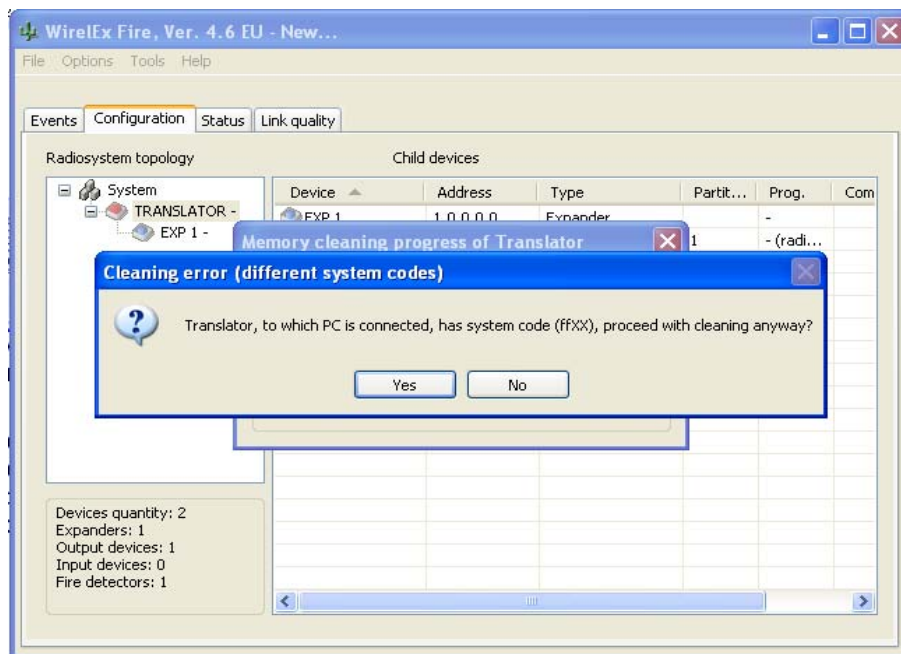
When all devices have been added, the system can now be programmed. Right click on the Translator icon in the **“Radiosystem topology”** box selecting **“Program TRANSLATOR”**. The following window may appear:



If this does happen, press . Right click on the Translator icon in the **“Radiosystem topology”** box and select **“Restore TRANSLATOR to factory settings (clear)”**.

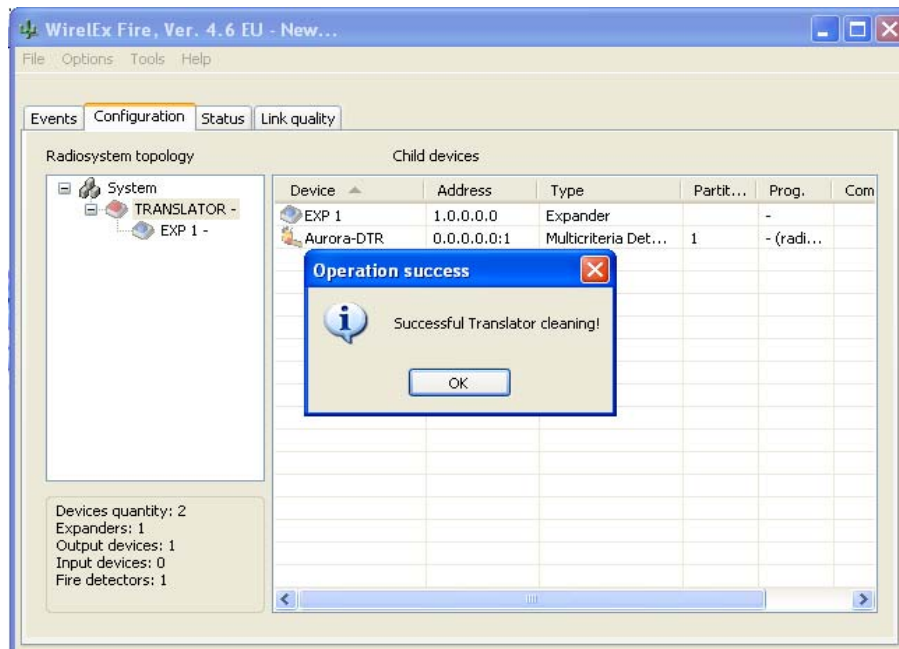


The following window will appear:

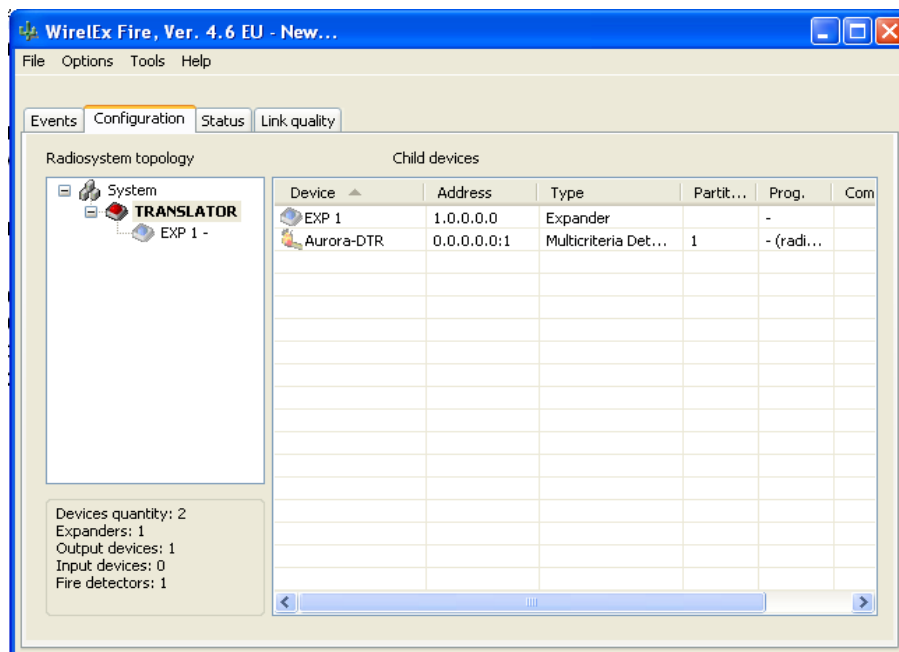


Select . A further prompt will appear asking the user to confirm that a cleaning process should be undertaken. Select . The Translator Module will now go through a cleaning process.

When the cleaning process is complete the following window will be displayed:

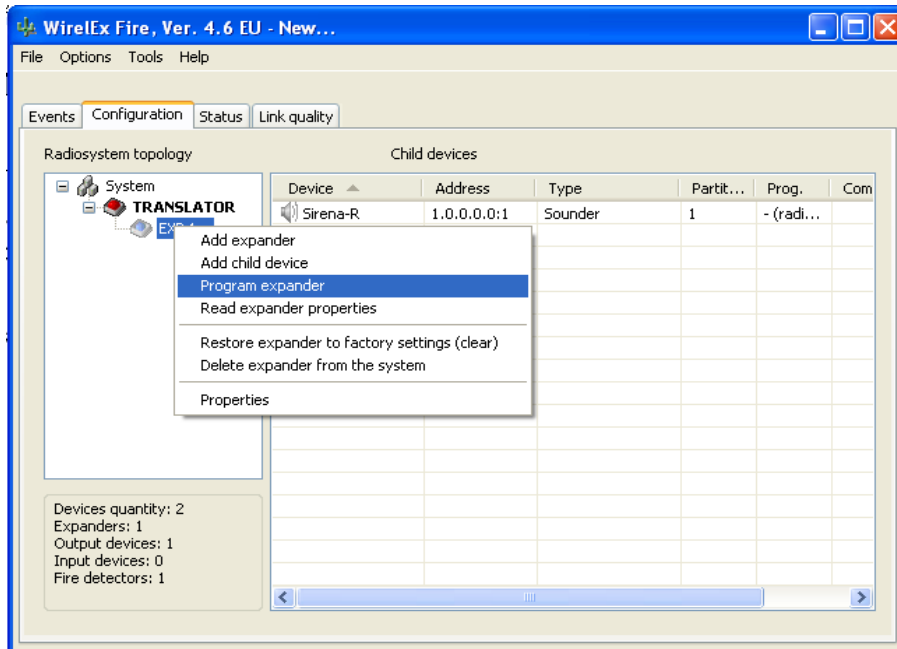


Press . Right click on **“TRANSLATOR”** in the **“Radiosystem topology”** area se **“Program TRANSLATOR”** as before. The Translator Module will now be programmed. When complete, the **“TRANSLATOR”** and associated icon in the **“Radiosystem topology”** area will appear bold as compared to the Expander Module.:

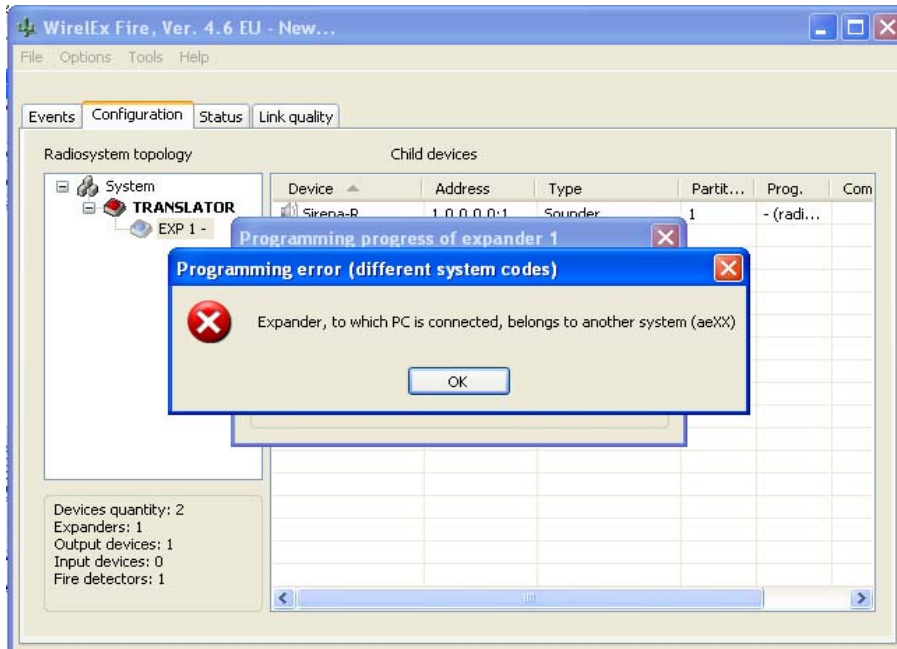


At this point, the devices associated with the Translator Module can be programmed (as detailed on page 87). On completion of child device programming, the installer should disconnect the RS232 lead from the Translator Module and plug it in to the Expander Module. The programming sequence will now be repeated.

Right click on **“EXP 1”** and select **“Program expander”**.



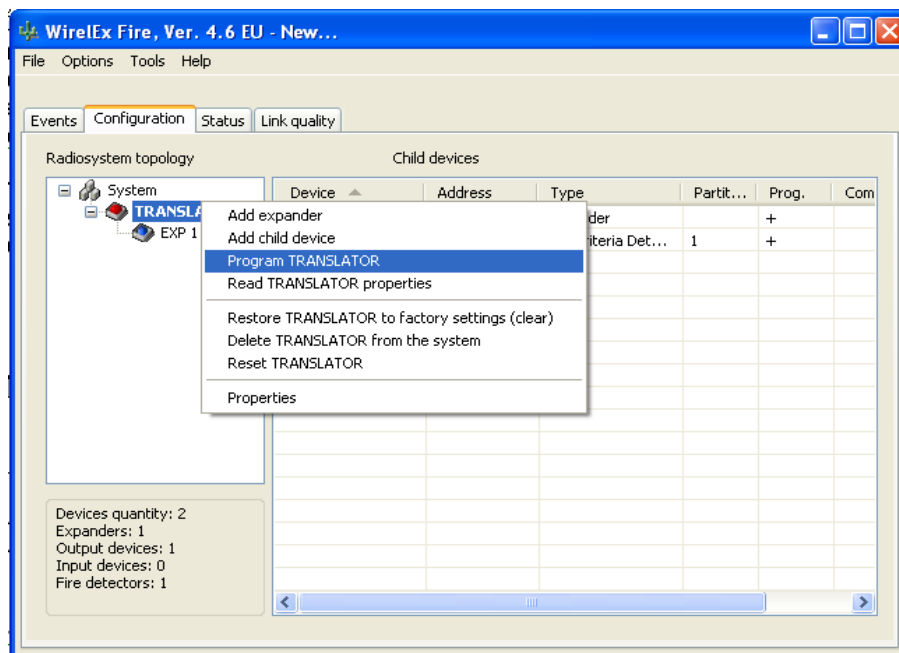
The same warning windows may appear as for the Translator Module:



Press . Carry out the cleaning process detailed on pages 117/118. On completion, select **“Program expander”**. The Expander Module will now be programmed and on completion, **“EXP 1”** and its associated icon will be displayed boldly. The child devices associated with the Expander Module can now be programmed as detailed on page 88. When the child devices have been programmed, right click on **“EXP 1”** selecting **“Program expander”**. On completion of the programming, transfer the RS232 lead from the Expander Module to the Translator Module.

NOTE: Ensure the Expander Module outer cover is secured on the Expander Module. This will prevent any tamper faults being reported back at the Translator Module for this Expander Module.

At the Translator Module, right click on **“TRANSLATOR”** selecting **“Program TRANSLATOR”** from the drop-down list:

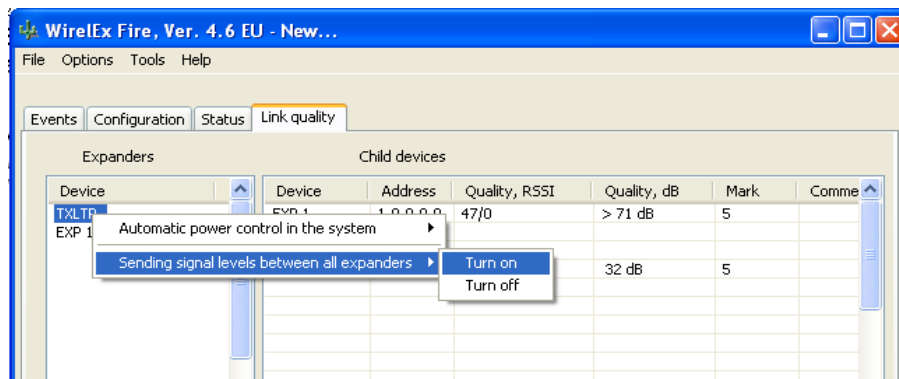


The Translator Module will now complete the final programming sequence required for this system. On completion of the programming sequence the engineer should now carry out a **LOAD** command at the Translator Module, as shown on P.90.

NOTE: During the process detailed above, the Translator Module will display **“LOEr”** on the LCD display accompanied by the centre yellow LED flashing. This is normal and no action should be taken.

It is now possible to view and control child devices on the Expander Module from the computer EVEN if the installer has the computer connected to the Translator Module – child devices can be added/deleted, remote control actions carried out, investigation of the Link Quality of the Expander Module child devices, etc.

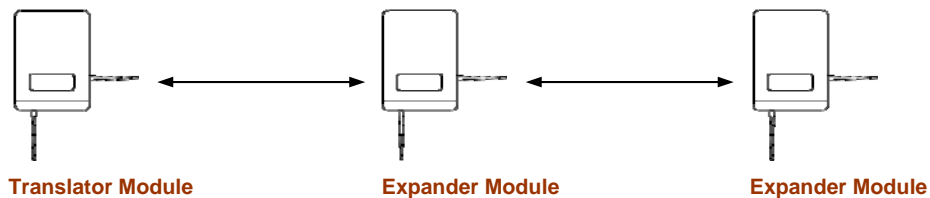
To view the Link Quality of the devices on an Expander Module, ensure the **“Turn on data exchange”** box is checked under the **“Events”** tab. Then select the **“Link Quality”** tab on the Wirelex software. Right click on **“TXLTR”** in the Expanders section, highlighting **“Sending signal levels between all expanders”** selecting the **“Turn on”** option when presented. After a short delay, all the signal levels for the devices on the Expander Modules will start to appear.



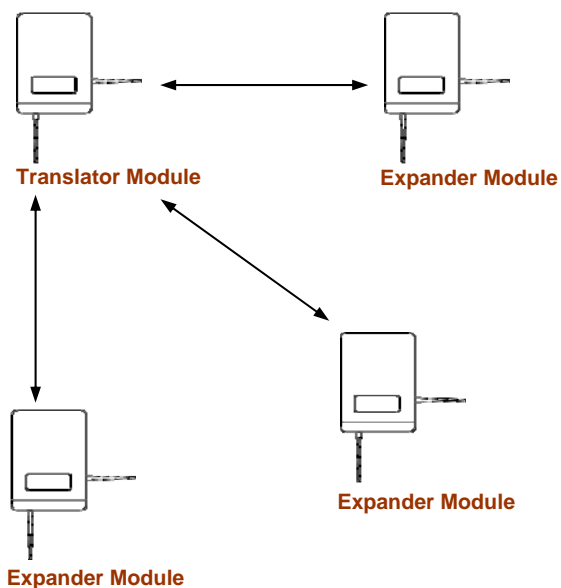
ADDING ADDITIONAL EXPANDER MODULES

If adding additional Expander Modules, these can be added in three ways – daisy chain from the previous Expander Module or on the same layer as another Expander Module, or a combination of the first two.

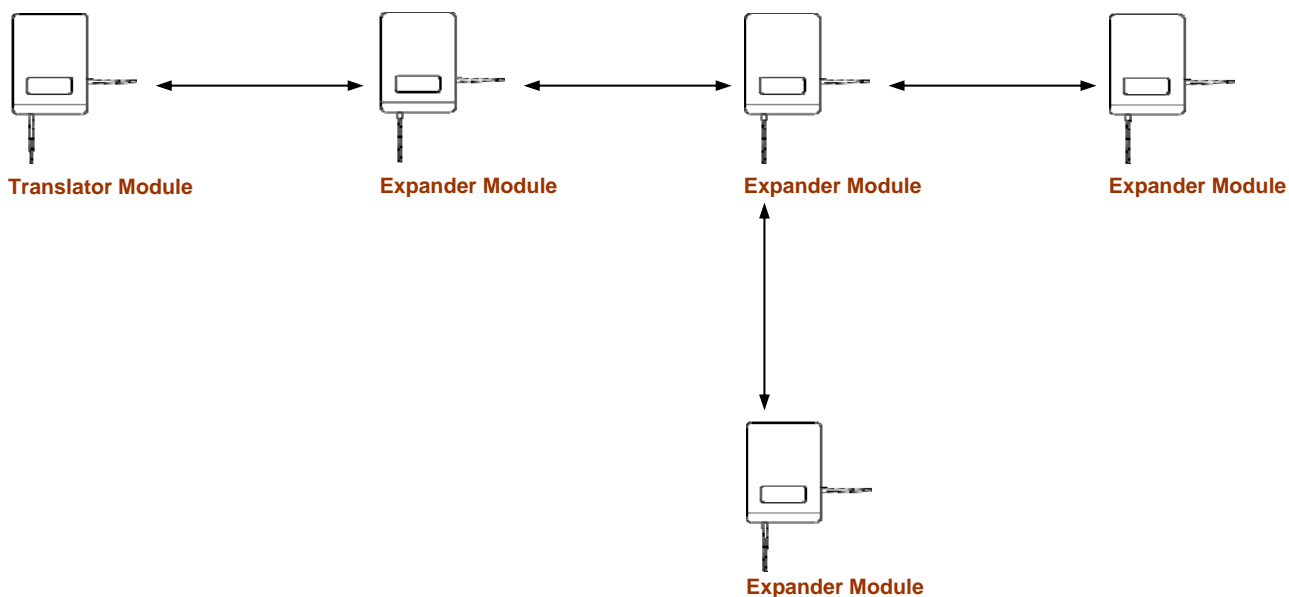
DAISY CHAIN



SAME LAYER



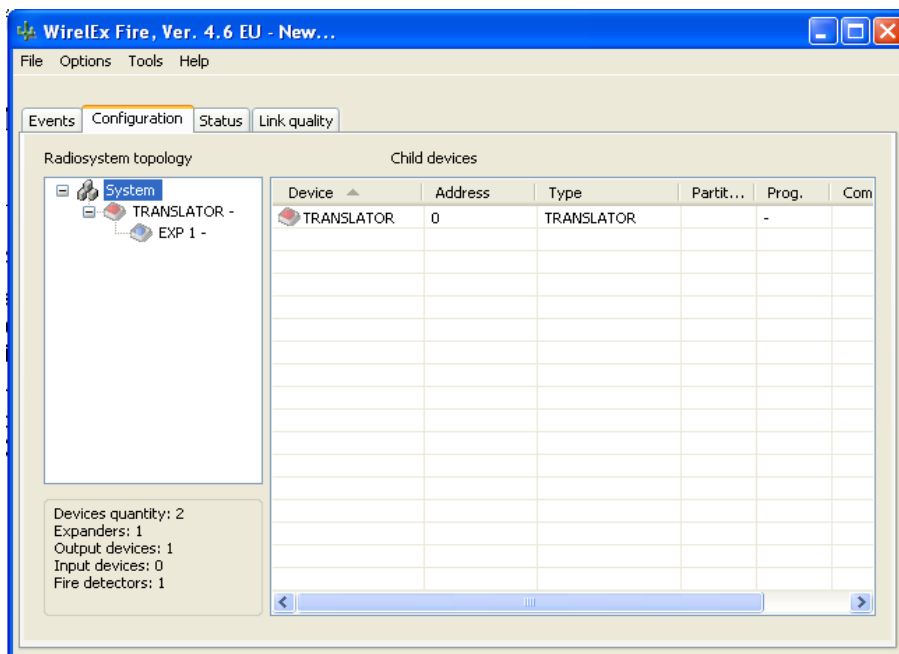
COMBINATION



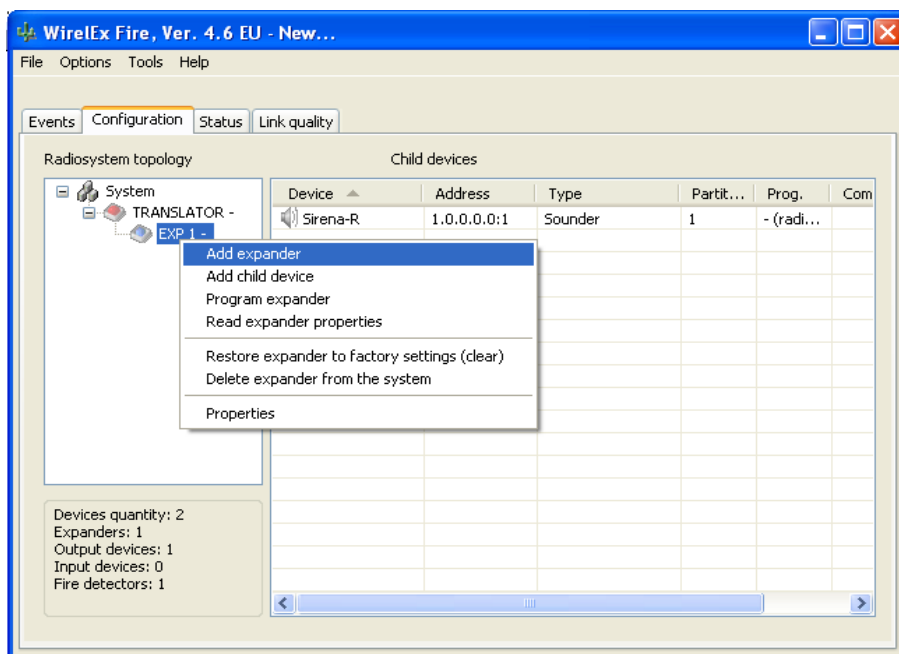
DAISY CHAIN

When adding Expander Modules in a daisy chain format, the following process should be followed. Deviation from this may result in incorrect reporting of faults and fires from trigger devices and no activation of alarm devices.

Open the Wirelex software and whilst connected to the Translator Module via the RS232 port, add a Translator Module (plus child devices) and first Expander Module (plus child devices) as detailed in pages 110-116. **DO NOT CARRY OUT ANY PROGRAMMING.** The Wirelex **“Configuration”** tab should appear as follows:

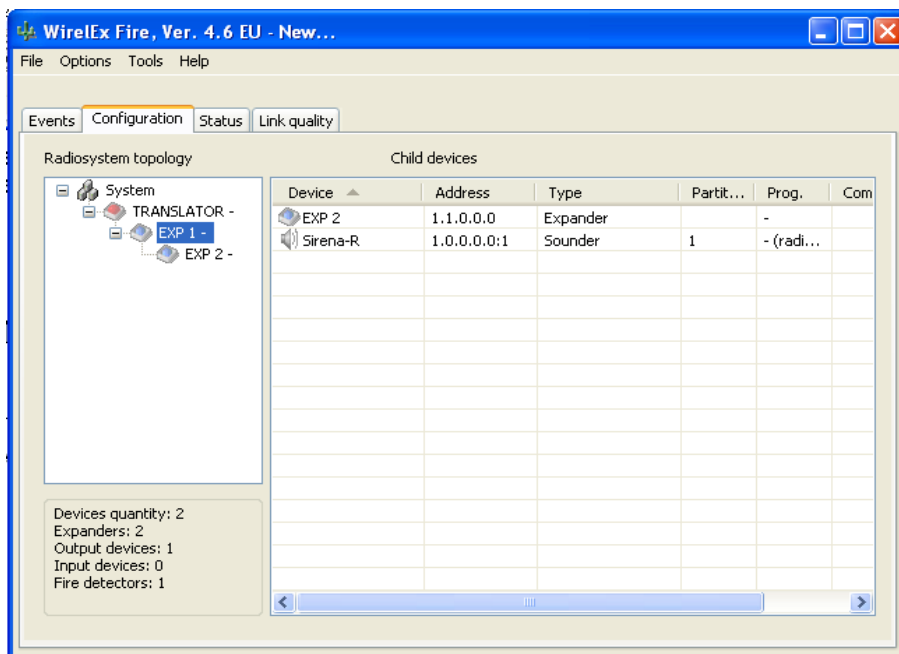


To add an additional Expander Module in a “daisy chain format”, right click on **“EXP 1”** selecting **“Add expander”** from the drop down menu:

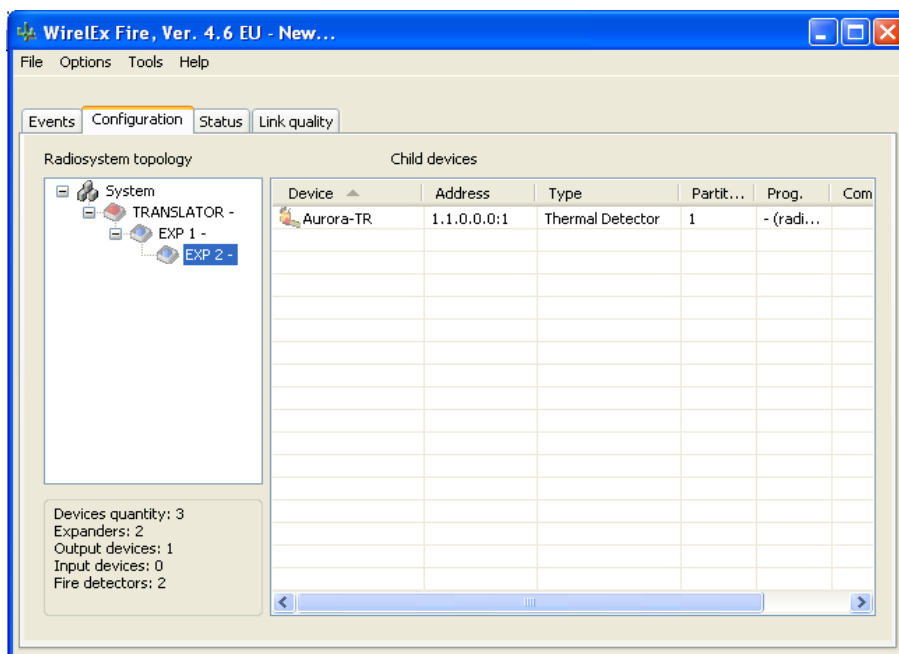


This will open up the Expander Module properties window (see page 114). Ensure the system parameters are correct. Press **OK** on completion.

The following window will be displayed showing the additional Expander Module:



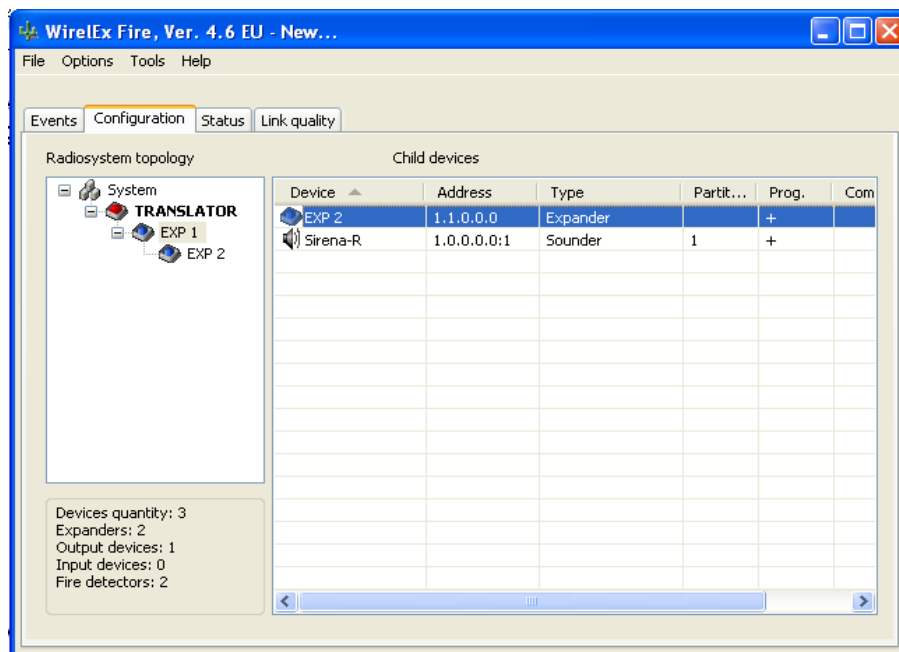
If devices are to be added to this Expander Module – in this instance a Thermal Heat Detector, these should be added as previously detailed. When all devices have been added, the following window should be displayed:



The following steps should be taken to ensure that all components of the system are programmed correctly:

- Program Translator Module
- Program Translator Module devices
(Transfer lead to Expander Module 1)
- Program Expander Module “EXP 1”
- Program Expander Module “EXP 1” child devices
(Transfer lead to Expander Module 2)
- Program Expander Module “EXP 2”
- Program Expander Module “EXP 2” child devices
(Transfer lead to Expander Module)
- Program Expander Module “EXP 1”
(Transfer lead to Translator Module)
- Program Translator Module

If the above is followed correctly, the following window should be displayed:

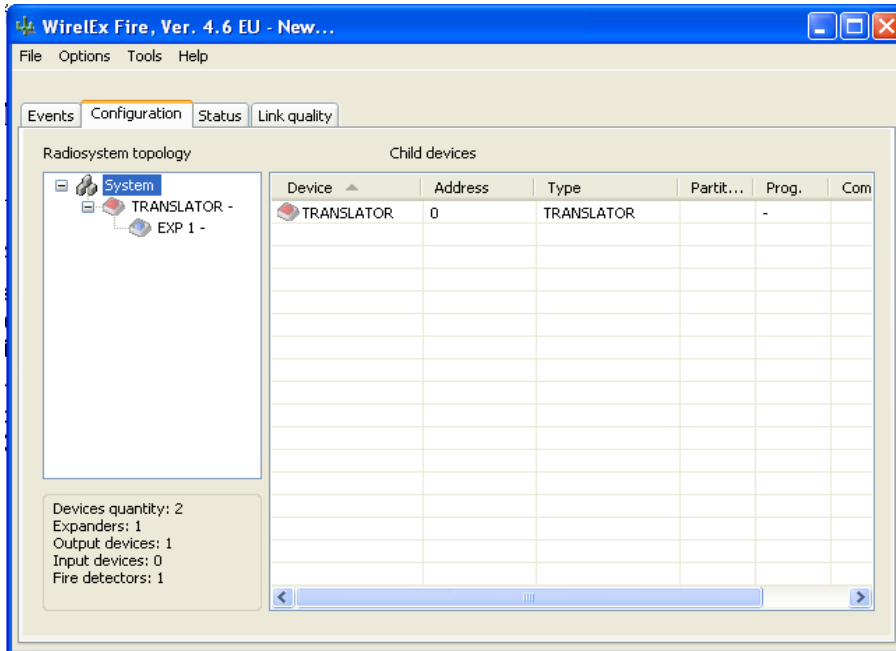


On completion of this programming sequence a **LOAD** command (see P.90) should be carried out at the Translator Module. The whole system can now be displayed and controlled with the computer connected to the Translator Module as previously indicated.

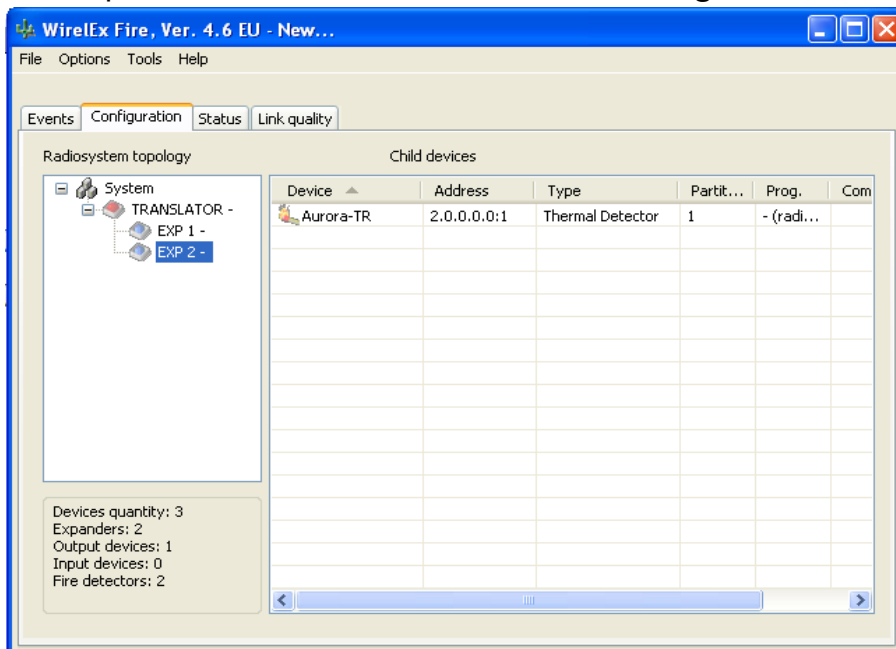
SAME LAYER

If adding a second, or third, Expander Module on to the same layer – in this instance to the Translator Module, the following process should be followed. (The following procedure should be followed if adding additional Expander Modules on to the same layer).

Open the WireEx software. With the computer connected to the Translator Module, add a Translator Module (plus child devices), then add the first Expander Module (plus child devices). The **“Configuration”** tab should display the following:



To add a second Expander Module on the same layer as the first Expander Module, right click on **“TRANSLATOR”** in the **“Radiosystem topology”** area and select **“Add expander”** from the drop-down window. When added the **“Configuration”** tab will display the following:



From the above window, the difference in the topology of the system can be seen. The difference in the digital address of the Expander Modules should also be noted. The same programming sequence should now be followed as detailed on page 124.

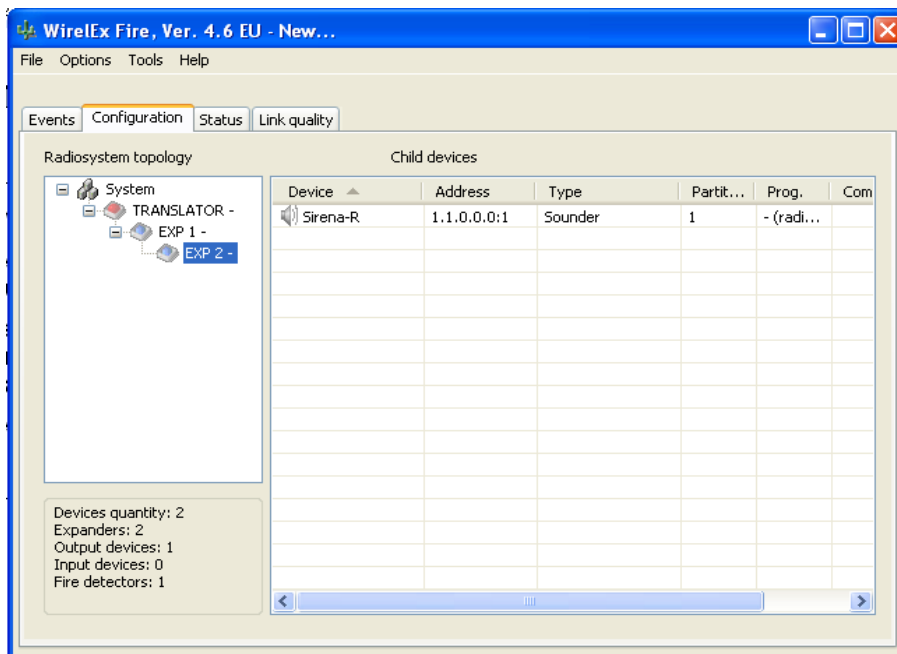
COMBINATION

There may be a requirement to add Expander Modules in a combination of the previous two sequences – this could be used in an installation with multiple buildings, for example.

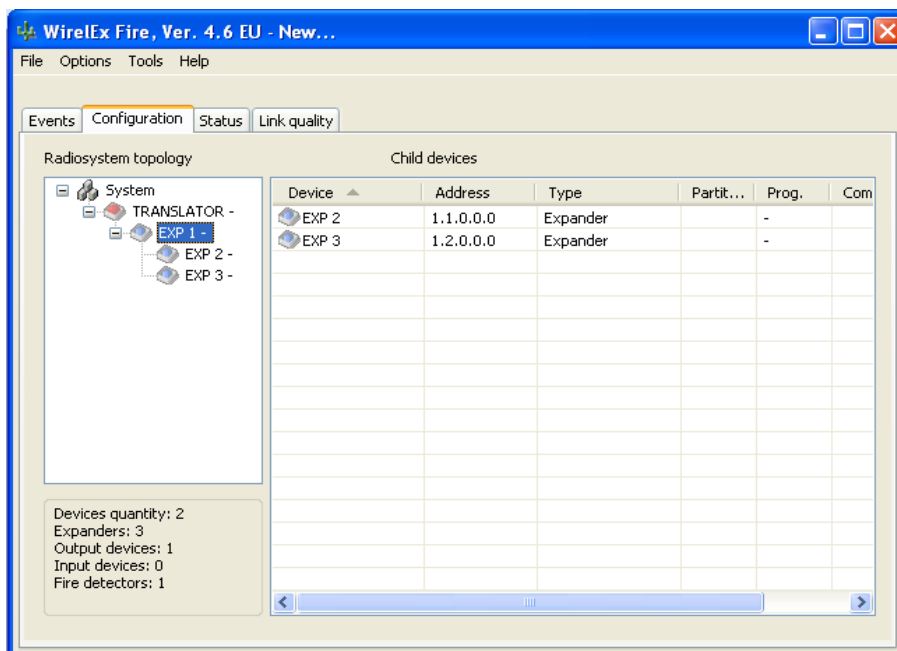
Open the Wirelex software. With the computer connected to the Translator Module, add a Translator Module (plus child devices) and two Expander Modules (plus child devices) in a daisy chain as previously described.

(For this system, Expander Module **“EXP 1”** has no child devices)

The **“Configuration”** tab will display the following:



Right click on Expander Module, **“EXP 1”**, selecting **“Add expander”** from the drop down window. Ensure all operational parameters are correct before pressing . The following window will be displayed:



From the last image, the system can be seen as a combination of the DAISY CHAIN system and the SAME LAYER system.

Programming of the system should be as follows:

- Program Translator Module
- Program Translator Module devices
(Transfer lead to Expander Module)
- Program Expander Module “EXP 1”
(Transfer lead to Expander Module 2)
- Program Expander Module “EXP 2”
- Program Expander Module “EXP 2” child devices
(Transfer lead to Expander Module 3)
- Program Expander Module “EXP 3”
- Program Expander Module “EXP 3” child devices
- Program Expander Module “EXP 3”
(Transfer lead to Expander Module 2)
- Program Expander Module “EXP 2”
(Transfer lead to Expander Module 1)
- Program Expander Module “EXP 1”
(Transfer lead to Translator Module)
- Program Translator Module

On completion carry out a **LOAD** command (see P.90) at the Translator Module. As before, it will now be possible to control the whole system with the computer connected to the Translator Module

The three processes detailed above should be used in isolation, or in combination, when adding numerous Expander Modules to a system. The process is logical and must be followed to avoid “losing” part of the system and prolonging the programming process.

SECTION 7 - ADDITIONAL APPLICATIONS ON WIRELEX CD

INTRODUCTION.....	Page 128
RF ANALYSIS UTILITY.....	Page 129
CLONEX UTILITY.....	Page 133
VOICE ANNUNCIATOR (ORPHEY) UTILITY.....	Page 138

INTRODUCTION

To assist an installation there are two additional software applications available on the Wirelex Configuration Tool CD:

- **RF ANALYSE UTILITY**

This allows the engineer to assess the background RF environment for all seven operational channels. This can assist the Commissioning Engineer to correctly allocate a “clean” RF channel during initial installation to a Translator Module and associated devices.

- **CLONEX UTILITY**

If an engineer has diagnosed that a Translator Module or an Expander Module is not processing information correctly, this utility allows an engineer to “clone” the program contained within the Module prior to replacement. This negates the requirement to re-program all the associated field devices.

If the Translator Module or Expander Module has suffered a fatal electrical problem and no power is available at the Module, this utility cannot be used – a full re-program of all devices on that Module must be carried out. If the fatal fault is on the Translator Module and there are Expander Modules linked to this, a **FULL** re-program of the whole system is required.

It is possible to use this facility to clone suspect Translator Modules. More attention needs to be paid as only system information is cloned and not the Module/Sensor start address. This information needs to be re-inserted on completion of the cloning process.

- **VOICE ANNUNCIATOR (ORPHEY) UTILITY**

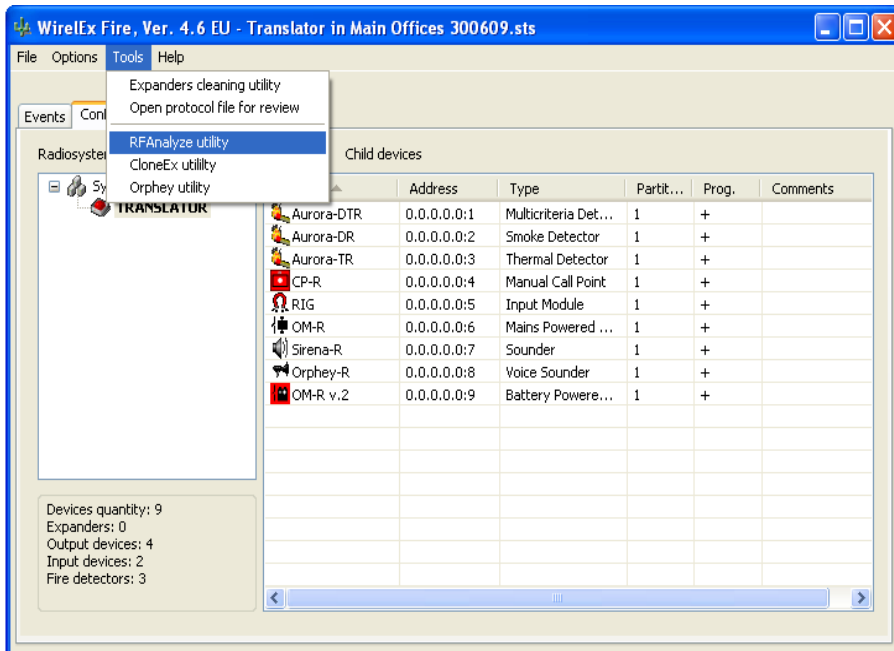
This utility assists the installer in programming the Voice Annunciator (HFW-VS-01) with voice messages. These messages can be pre-loaded prior to installation.

This section details how to access and use these utilities.

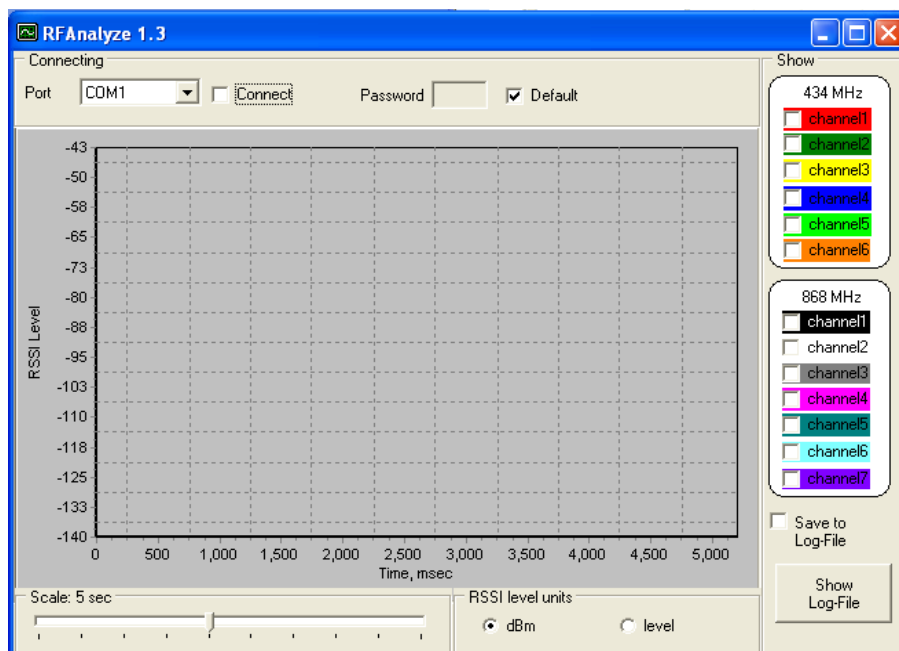
RF ANALYSIS UTILITY

Connect a computer to the Translator Module using a standard RS232 cable. Open the Wirelex Configuration Tool. Then:

To access this facility, select the **“Tools”** option and at the drop down window select **“RF Analyze Utility”**

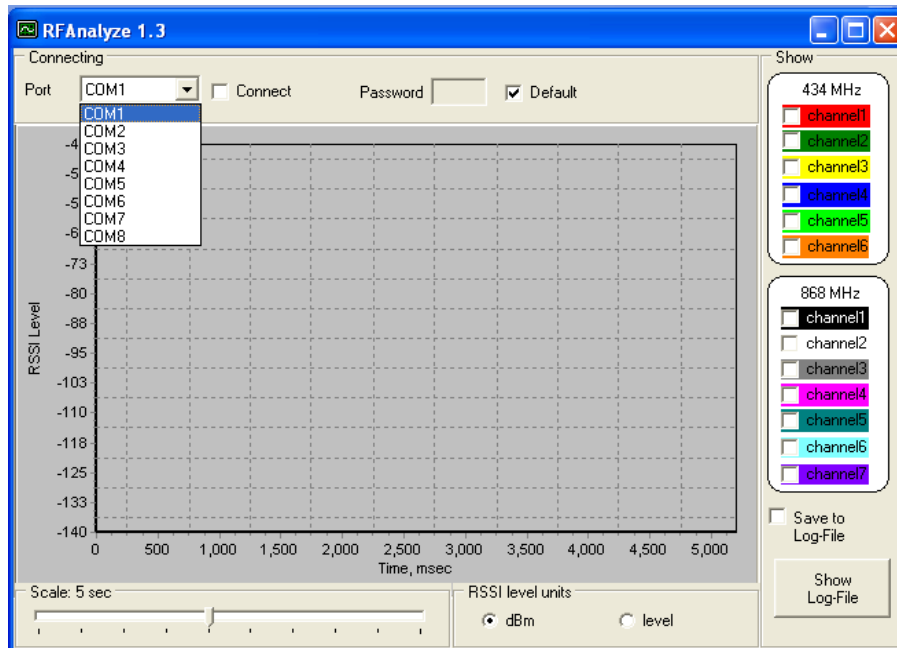


This will bring up the following window:

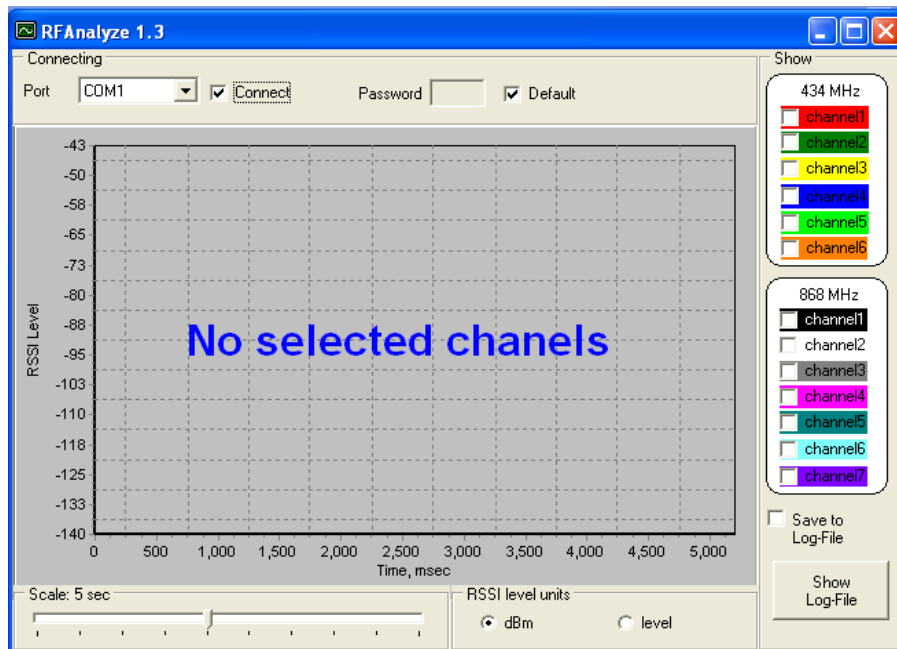


The engineer will need to ensure that the **“Port”** displayed is the same one that the RS232 lead is connected to (if using a PC with a serial port, the default for this is COM Port 1).

If COM Port 1 is not the correct port, select the correct port from the options displayed in the drop down window – there are only a choice of 8 ports that can be selected.



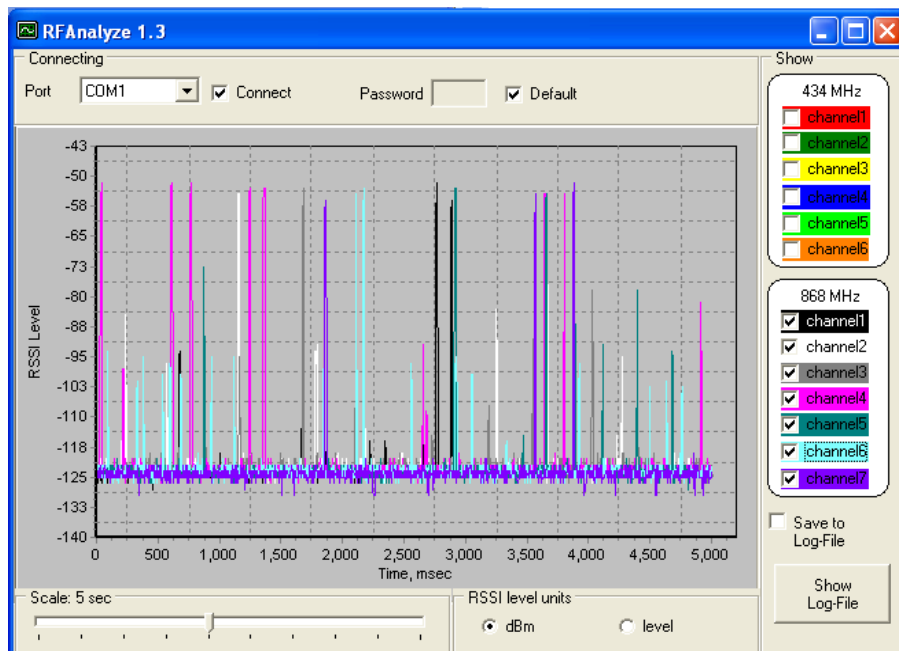
In order for the computer to display the information from the Translator Module, the **“Connect”** box needs to be checked:



NOTE: Ensure that no other application is open that uses the same port else information will not be transferred.

As can be seen from the drawing above, a warning message will be displayed if no RF channels are selected. To select RF channels to investigate, check the boxes in the right hand window entitled **“868MHz”**. Initially the engineer should select all seven channels to ensure a check is being made of the whole RF environment.

When the RF channels have been selected, a real-time display will be seen:

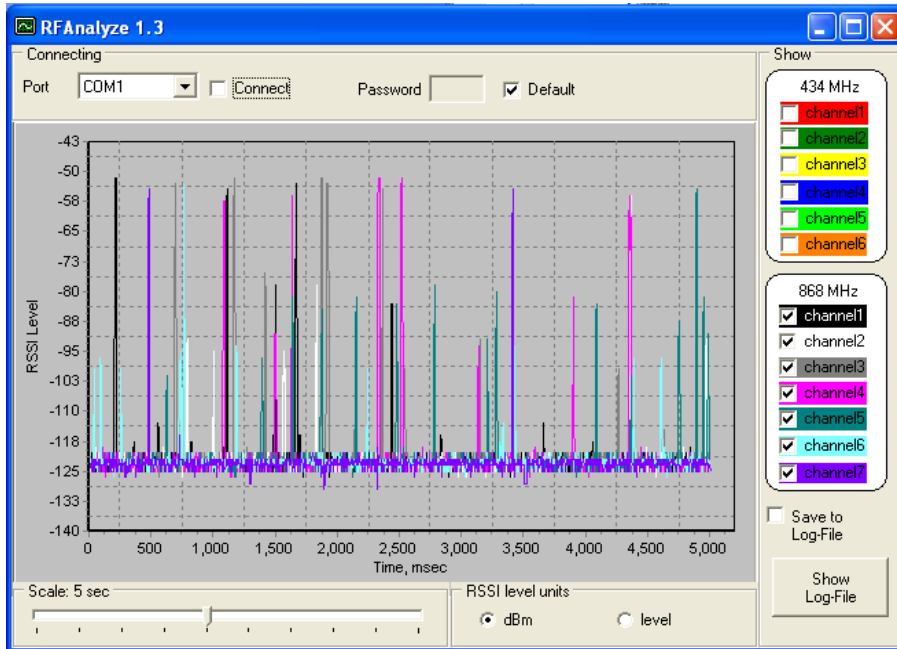


When the system changes channel, the following words are displayed on the screen and new information is displayed in the colour of the channel currently being analysed.

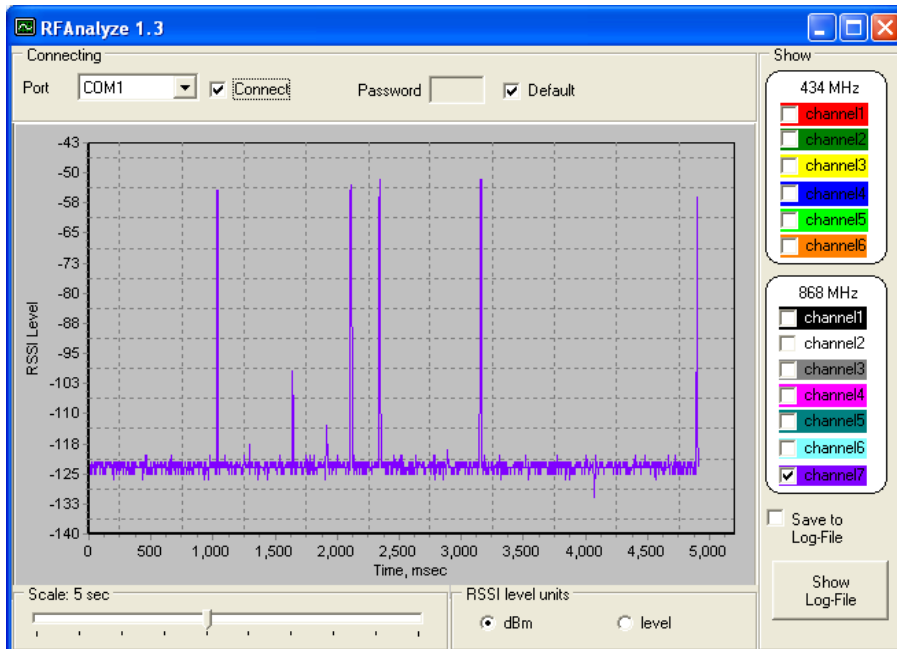


Once all selected channels have been analysed once, the utility will refresh the scan for that channel and all successive channels.

Interpreting the information displayed is relatively straightforward:



The different coloured peaks seen above indicate packet data information being sent from devices working on that frequency. At this point, the engineer can start to de-select channels, by un-checking channels in turn at the **“868MHz”** window. This will help the engineer to select the best channel, in his opinion, for the system to start from. As channels are deselected, colour scans will disappear leaving only live/selected channels. With judicious selection, the engineer can select a channel with minimum activity:



This channel can then be entered in to the **“System”** parameter options in the main Wirelex Configuration Tool.

On completion of the analysis, close the window and disconnect the computer from the Translator Module.

CLONEX UTILITY

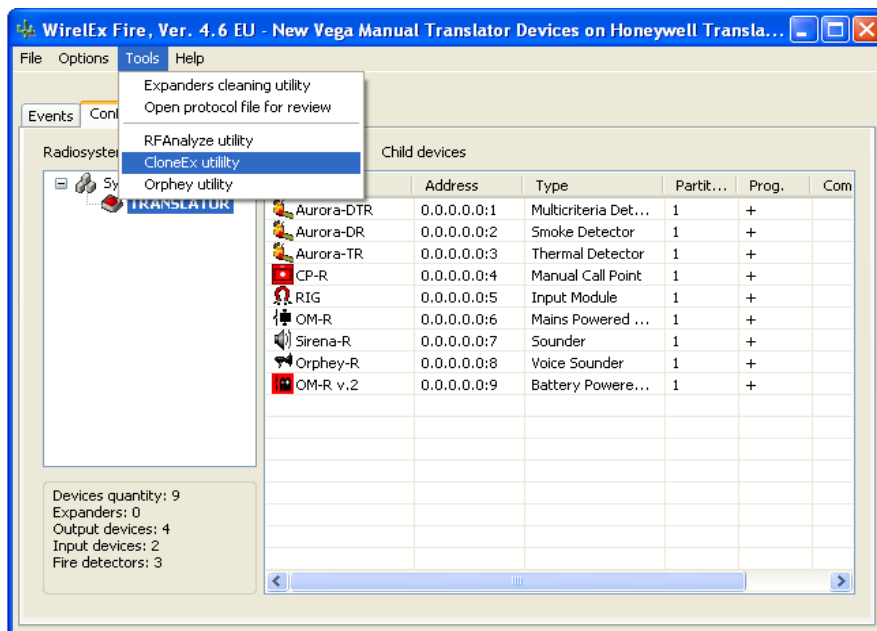
Open the Wirelex Configuration Tool. At this stage, the computer does not need to be connected to the suspect Module. A standard RS232 programming cable should be at hand.

Although the Clonex utility transfers the system configuration, the Loop Address of the translator Module and associated devices is **NOT** transferred. The Start Address should be recorded and this can then be transferred in to the new Translator Module.

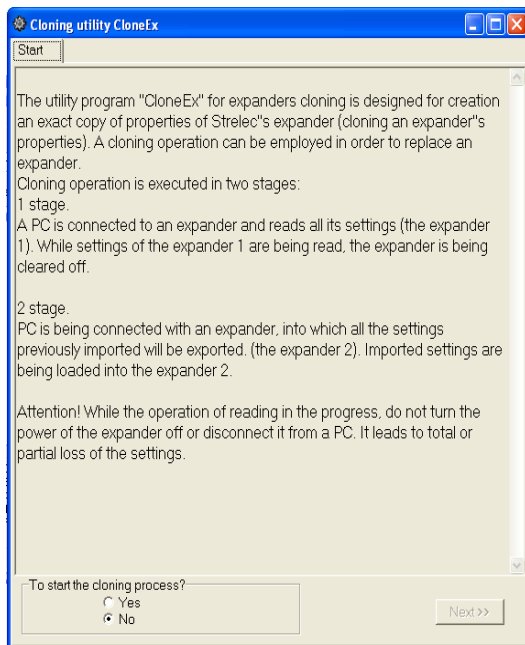
8888 ⇒ **Loop** ⇒ **SA** ⇒ 8888

To read the Loop Start Address access the LOOP menu, press P2, SA will appear, press P2, the Loop Address will now appear. Record and press P1 until the LCD is blank. On completion, the cloning process can now proceed.

To access this facility, select the ***“Tools”*** option and at the drop down window select ***“Clonex Utility”***



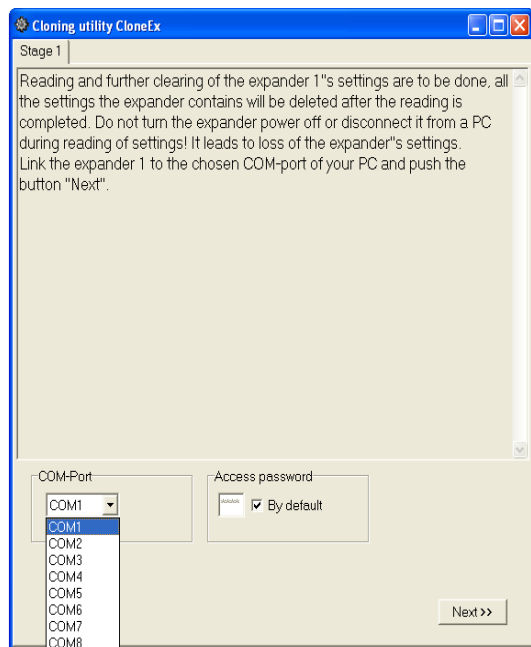
This will open the Clonex utility:



The procedure for cloning Expander Modules is relatively straight forward. The engineer should follow the directions in the window to complete the process.

When the window above is displayed, the engineer should follow the directions on the screen to complete the cloning process.

To start the process, select the ☒ Yes option. This will “un-grey” the option. Select and a new screen will appear:



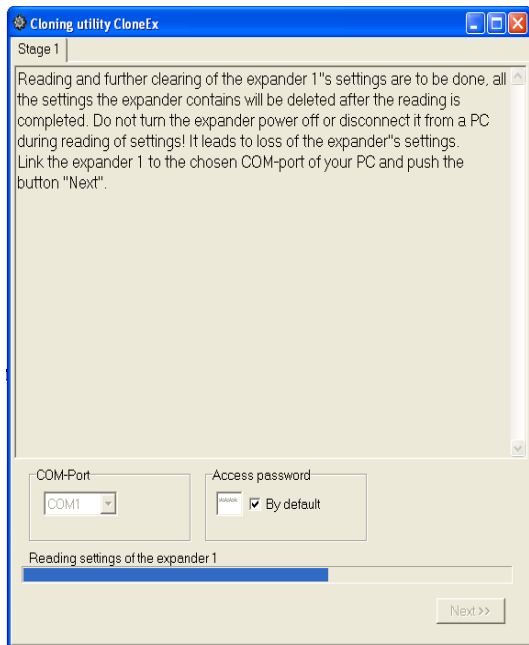
The engineer should select the correct COM Port that will allow the computer to communicate with the Expander Module. The “**By default**” option in the “**Access password**” window should be checked (the default password is 1111).

At this point connect the computer to the suspect Expander Module using a standard RS232 cable. When the COM Port has been selected, is now available. Select this option to proceed.

NOTE: The Cloning process will now commence. The process reads the information stored on the Expander Module and clears the Expander Module RF PCB on completion.

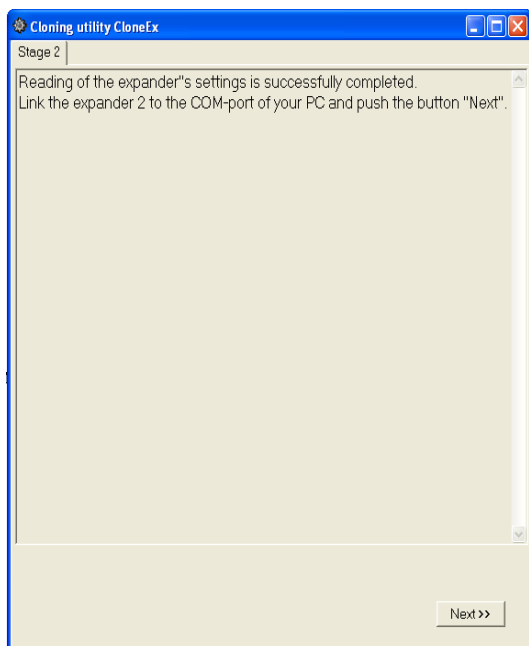
SECTION 6 (cont)

During this phase of the process the following window will be displayed:

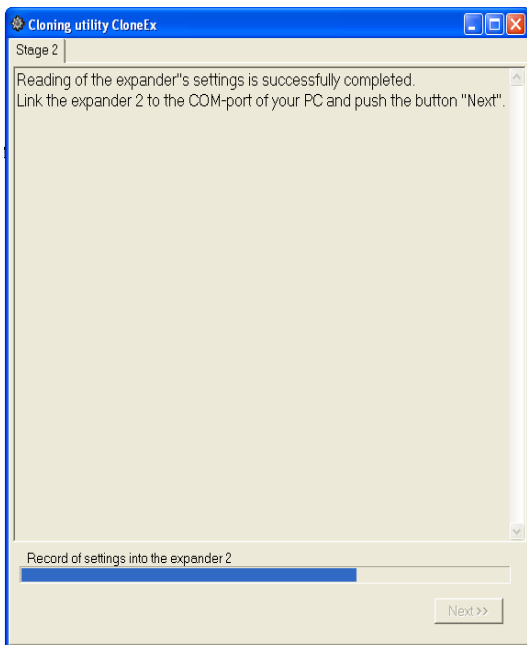


On completion of Stage 1, the **Next >>** option is highlighted.

The window below will now be displayed. At this point in the process, the Expander Module should be exchanged with its replacement. To change the Expander Module it is not normally necessary to change the Expander Module back-box. The PCBs should be exchanged ensuring the two antennae are re-connected on completion.

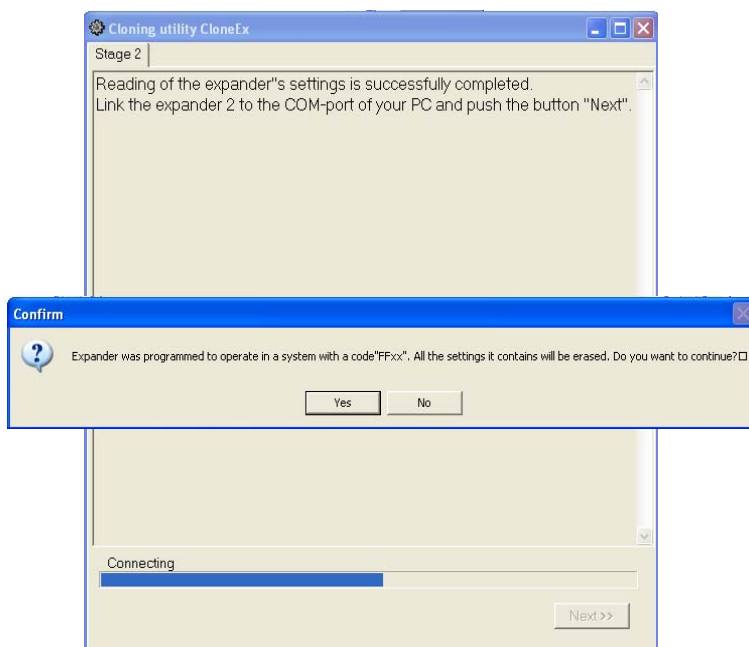


When the PCBs have been exchanged and the antennae reconnected, select to proceed to Stage 2:

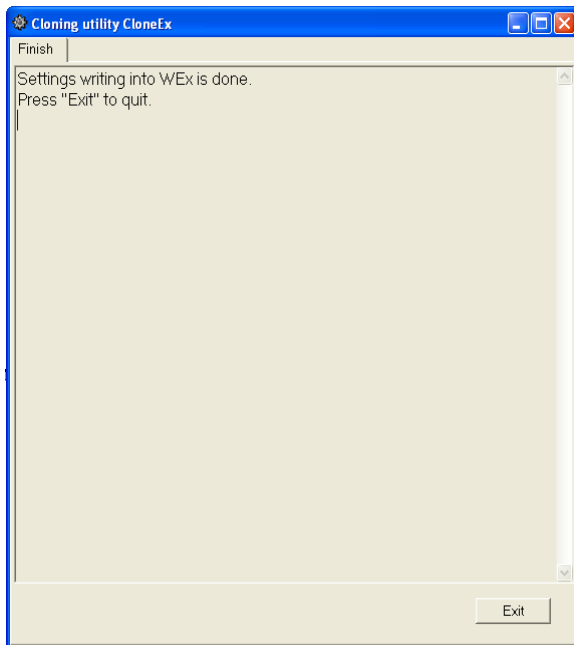


The computer will now download the program previously stored in to the new Expander Module.

The PC will start the cloning process by interrogating the new Translator Module. The system code on the new Translator Module will initially be different to the code from the old Translator Module. The software will generate a warning window (see below) to this effect. Press . The second part of the cloning process will now complete.



When the download is complete, the following window will be displayed indicating the cloning process has finished:



Press and disconnect the computer from the Expander Module ensuring the front cover plate is re-instated to ensure the IP rating of the Module is maintained.

The information is now stored in the radio PCB of the new Translator Module. In order for the system to correctly process the device information, a **LOAD** command should be carried out at the Translator Module followed by a small programming sequence using the Wirelex software and the Translator Module local programming buttons.

At the Translator Module, use P3/P4 buttons scrolling through until **rF** is displayed. Press P2, **EHP** will be displayed. Press P2; **SYS** will be displayed. Scroll up using P3/P4 buttons until **LOAD** is displayed. Press P2; **Conf** will be displayed. Pressing P2 confirms the LOAD; **done** will be displayed.

Connect the PC to the Translator Module and read the Translator Module program (as detailed in Section 7). When the program is displayed, right click on the Translator Module and carry out a **“Program translator”** command. At the Translator Module carry out a further LOAD sequence. (see P.90)

Ensure that the Loop Address recorded earlier is now transferred to the new Translator Module. This can be checked by carrying out the following process:

8888 ⇒ **Loop** ⇒ **SA** ⇒ 8888

Use the up/down buttons (P3/P4) to scroll through to the required Loop Address. Once reached, press P2 to confirm the change.

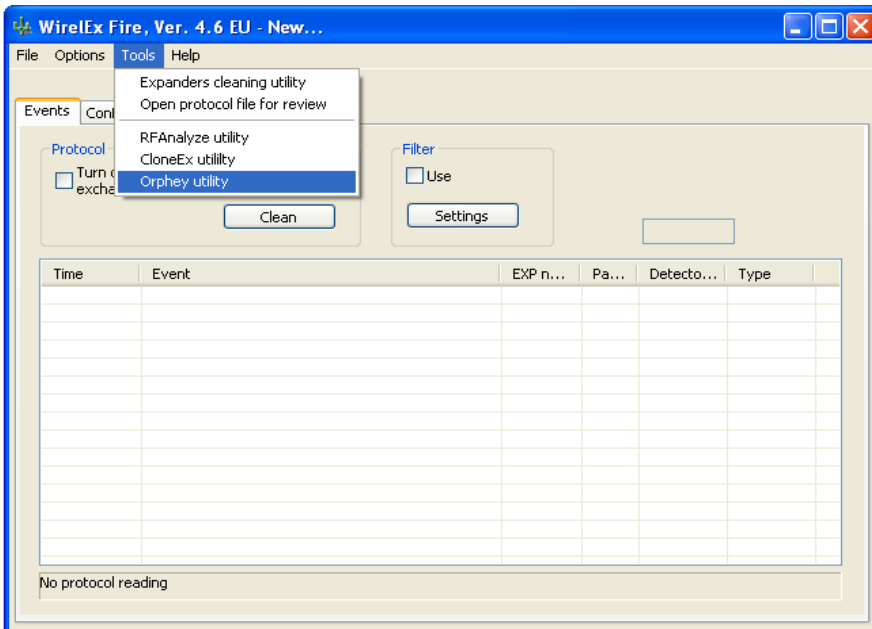
This completes the cloning process.

VOICE ANNUNCIATOR (ORPHEY) UTILITY

To program voice messages in to the wireless Voice Sounder, there is a utility available on the Wirelex software.

NOTE: Before commencing the programming process, power on the Voice Sounder by inserting the supplied batteries in the correct orientation.

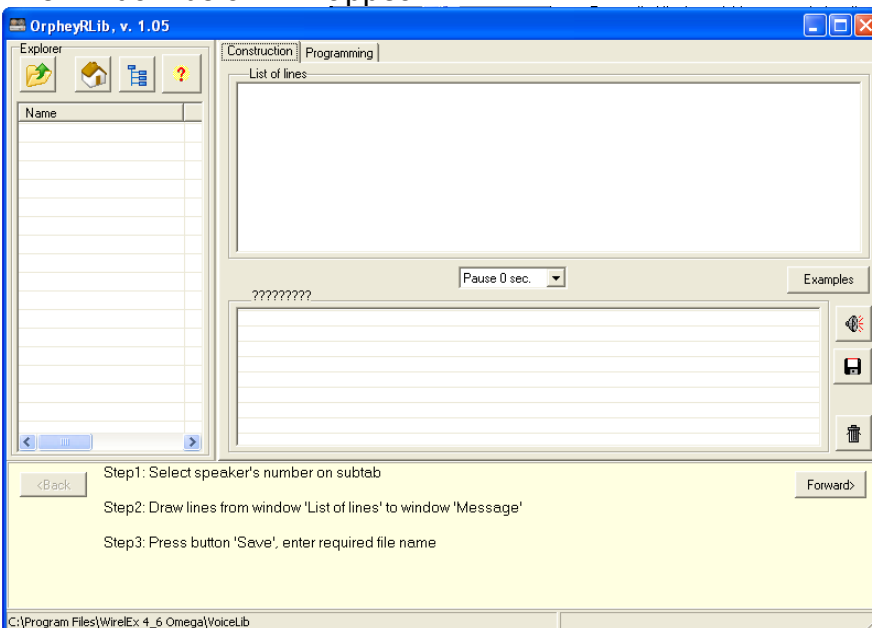
To open the utility, left click on “**Tools**” and select “**Orphey utility**” (see below)



This will open the utility and allow an installer to program Hyfire Voice Annunciator devices with bespoke messages – each device will need to be programmed.

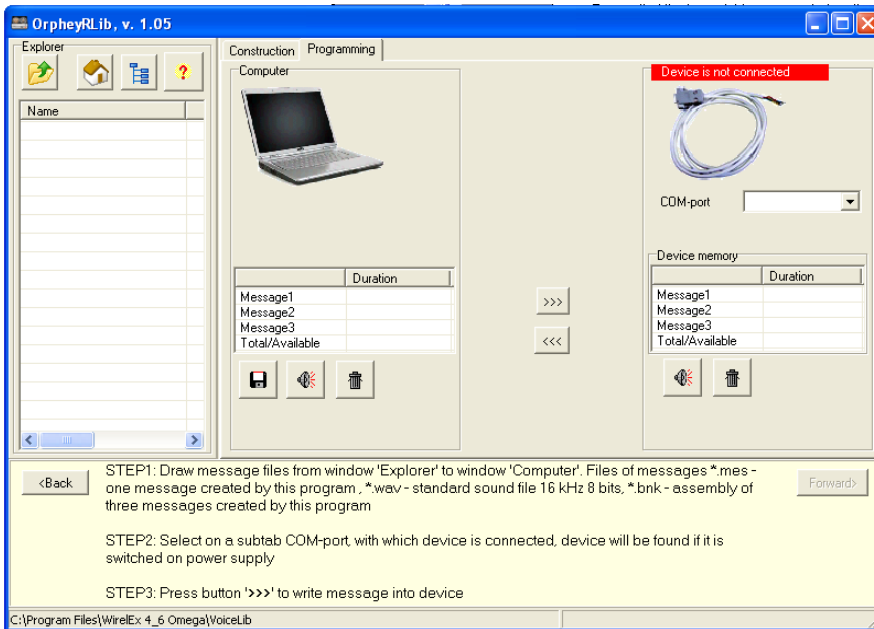
(Note: the voice message must be in a *.wav format, 16KHz 8bit format)

The window below will appear:



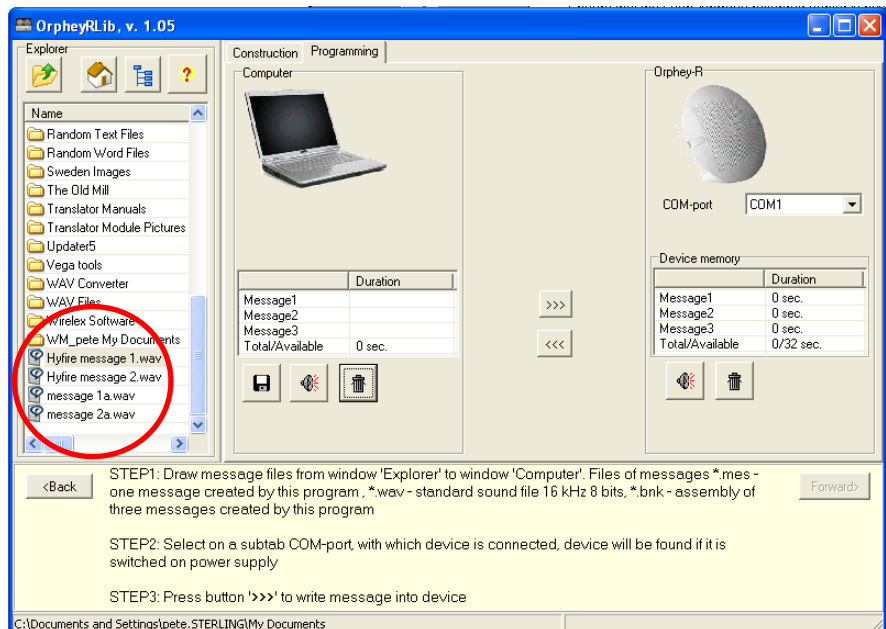
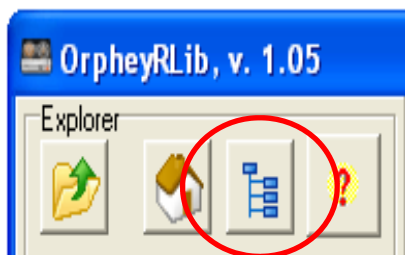
From this page, select the “**Programming**” option.

The following page will be revealed. If the Voice Sounder is not connected to the computer, a drawing of a RS232 lead will be displayed and a warning will be shown. Select the correct COM port for communication between the computer and the device.



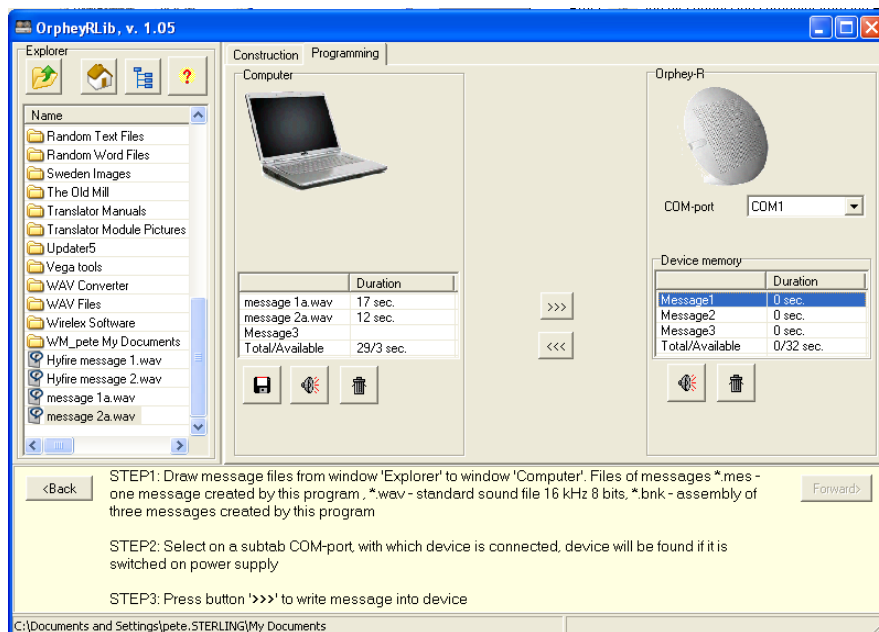
Connect the Voice Sounder to the computer using a RS232 lead and the displayed picture will change from a lead to a representation of Voice Sounder (see below).

To start the programming process, the location of the sound files to be imported must be identified. Select the correct location by clicking on the icon highlighted (below left). The sound files will need to be located from the computer hard drive (example below right)

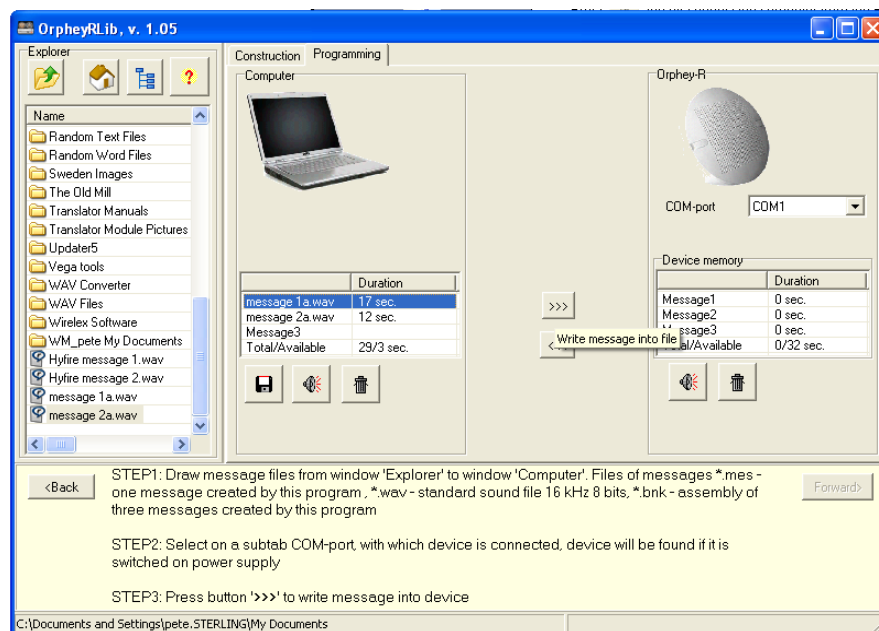


The sound files should now be detailed in the window on the left of the screen. (The image above is an example and may be appear differently on other computers)

Identify the sound file that will be loaded in to the Voice Sounder dragging it to the **“Message 1”** box in the **“Computer”** section.

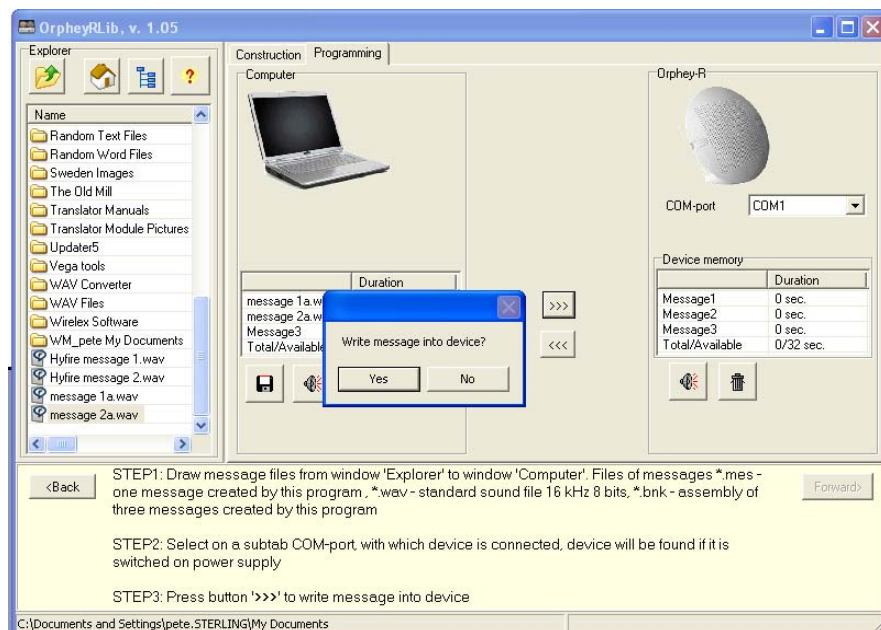


This section will be updated with the message title and the expected duration of the message. If required, the audio message can now be played back by clicking on the small sounder icon (bottom middle icon). The maximum time duration of audio messages that can be transferred is 32 seconds.

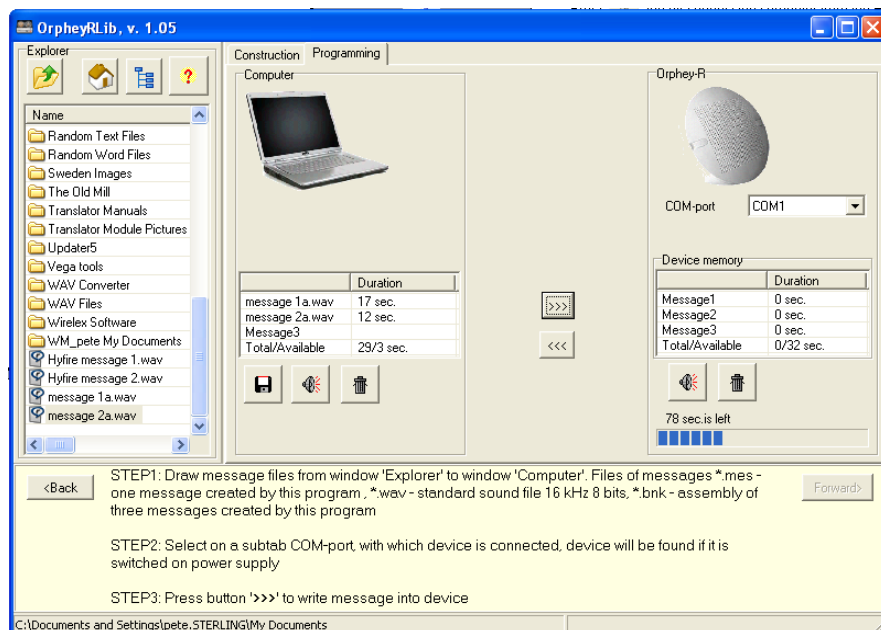


To transfer the message from the computer to the Voice Sounder, click the computer mouse over the small icon, centre screen, containing three arrows pointing to the right.

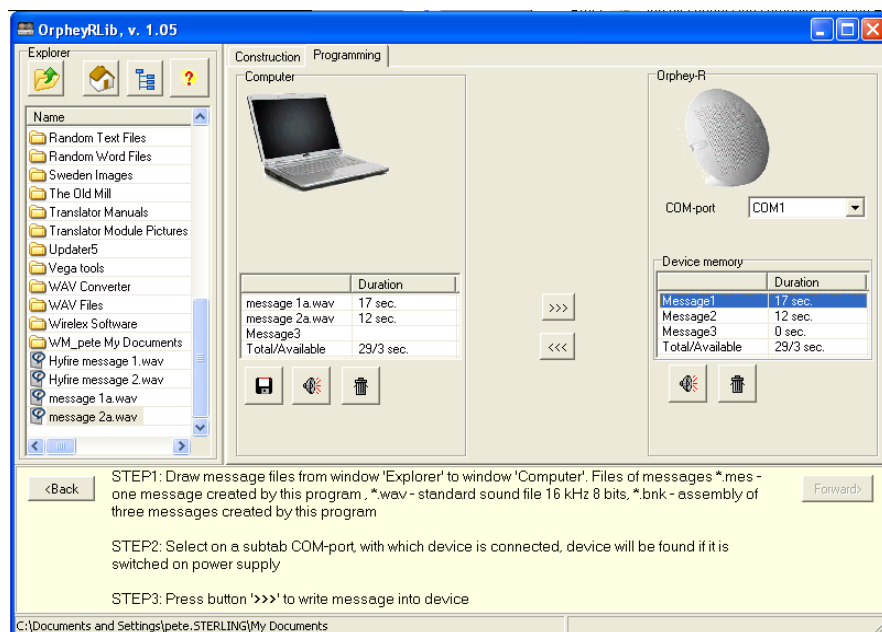
This will bring up a small warning message asking the user to confirm that the message should be written in to the device. Select .



When the transfer commences, an additional process will appear in the **“Orphey-R”** section indicating time remaining for the transfer (see below). At the Voice Sounder a small surface mounted LED will glow **RED** indicating that a data transfer is taking place.



On completion of the download, the ***Device Memory*** table will be updated and the sound files will be displayed.



The messages can now be tested by clicking on the Speaker icon in the ***“Device memory”***

The programming process needs to be completed for each device that is to be logged on the system.

SECTION 8 – SERVICE VISITS – DOWNLOADING TRANSLATOR MODULE PROGRAM

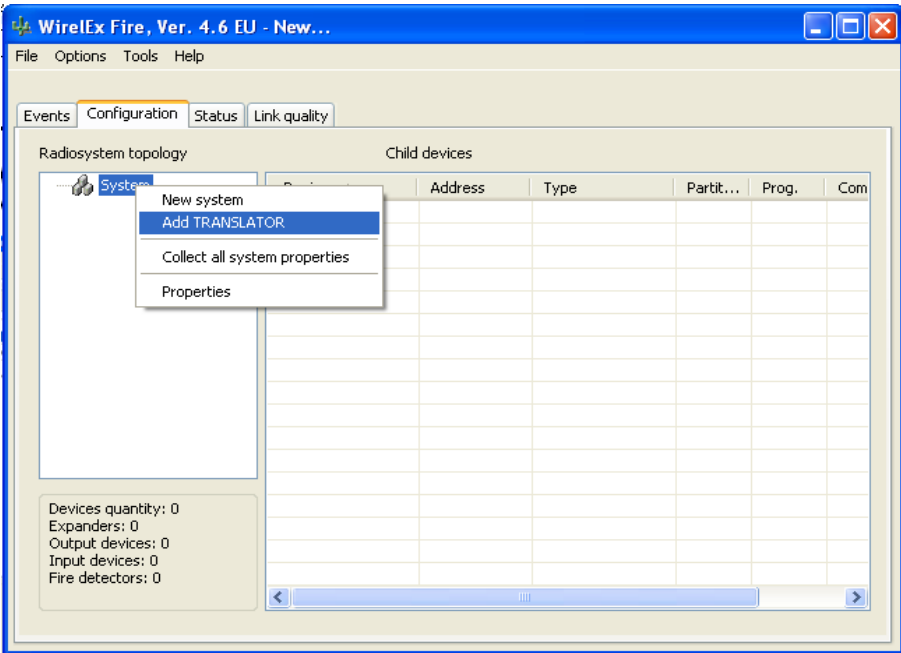
INTRODUCTION.....	Page 143
CONNECTING LAPTOP TO AN EXISTING TRANSLATOR MODULE	Page 143
REPLACING/CHANGING A FIELD/CHILD DEVICE.....	Page 152

INTRODUCTION

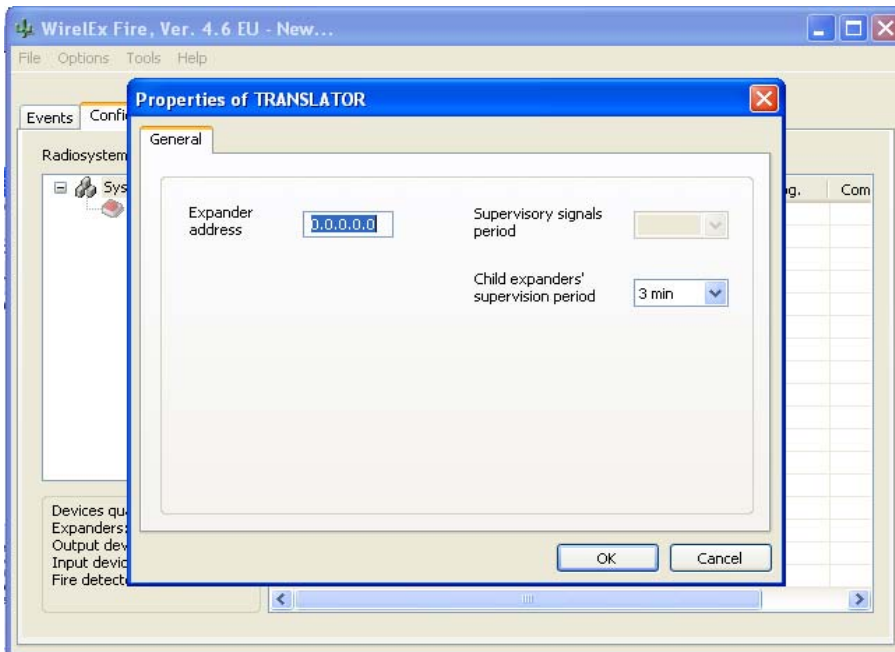
During site maintenance visits, an engineer may be tasked to take readings of an existing radio microcell to ensure the radio integrity of the system is still intact – especially if there have been changes to the building layout. If the building layout has changed, some devices may need to be added or deleted from the Translator Module – it may be that an Expander Module needs to be added to incorporate further devices in a new extension to the building or to add devices for a temporary building (e.g. portacabins) during sports events, corporate hospitality, etc.

CONNECTING LAPTOP TO AN EXISTING TRANSLATOR MODULE

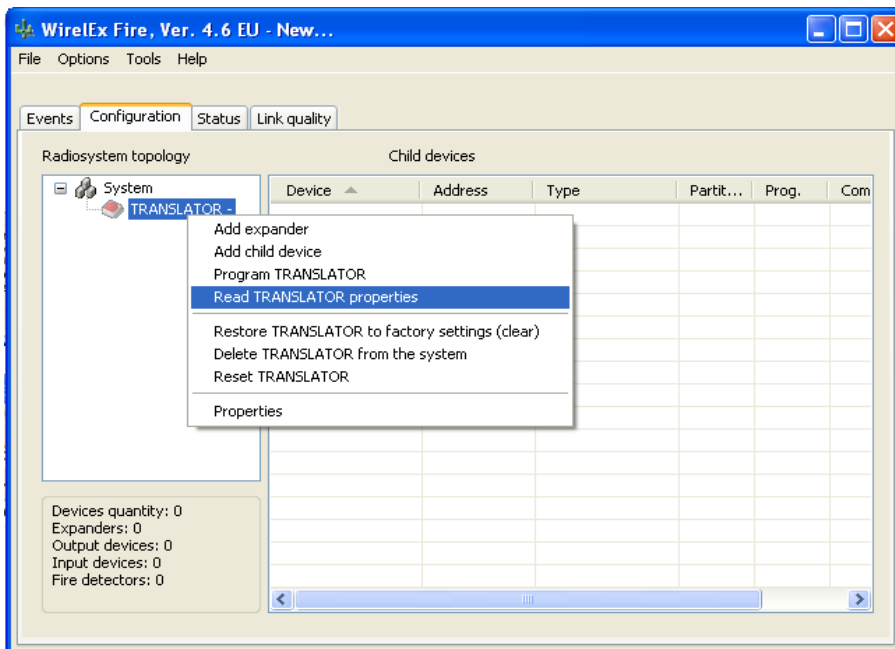
Open the Wirelex software selecting the **“Configuration”** tab. Right click on the **“System”** icon, a small window will appear. Highlight and select the **“Add TRANSLATOR”** option.



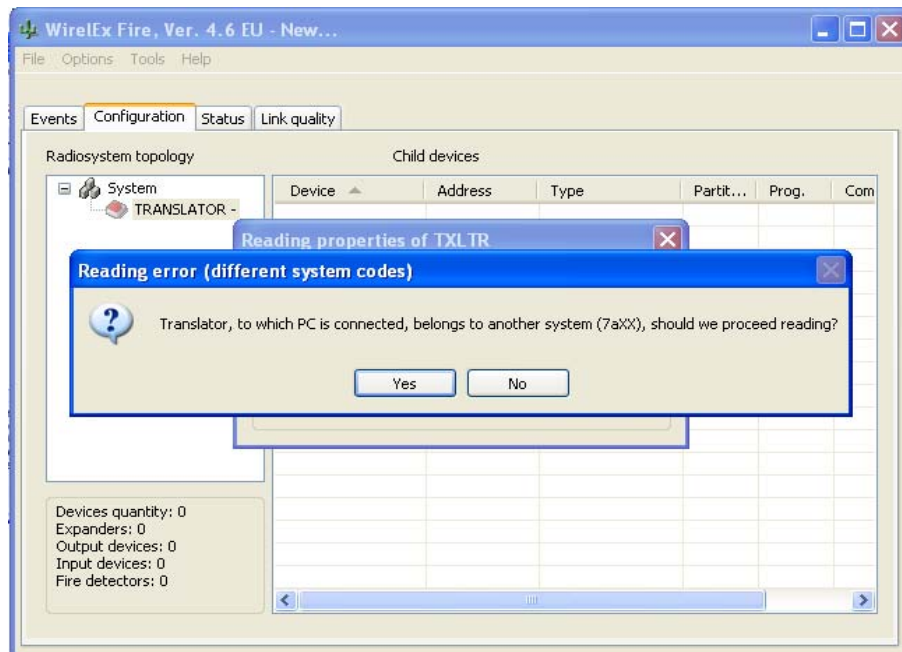
A Translator Module icon will appear in the **“Radiosystem topology”** window and a line will be added in the **“Child Devices”** window. In front of this will appear a sub-window showing the Translator Module parameters. Press **“OK”**. (There is no requirement to change the parameters).



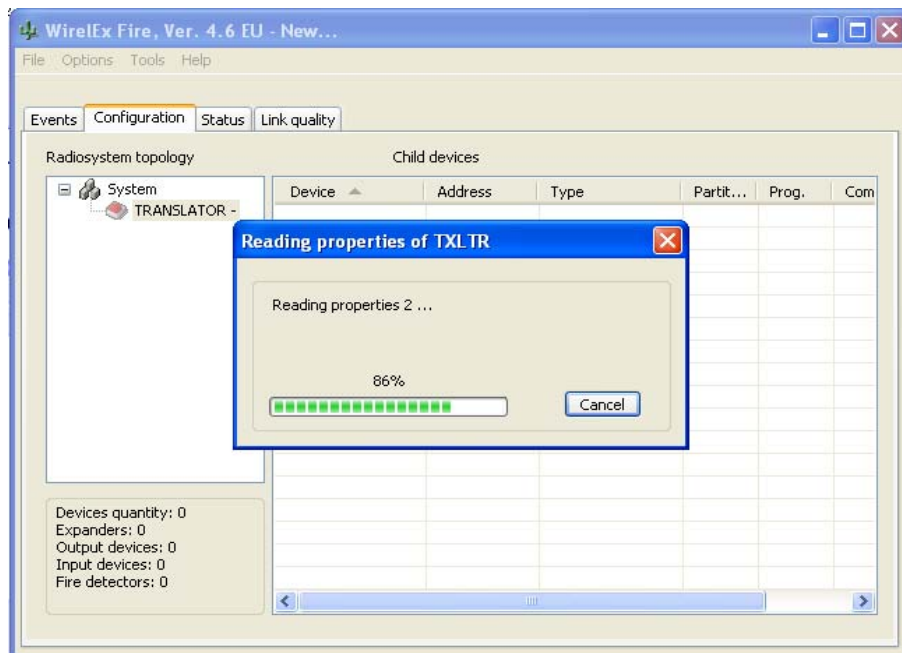
Right click on the Translator icon in the **“Radiosystem topology”** area. Highlight and select **“Read TRANSLATOR properties”**.



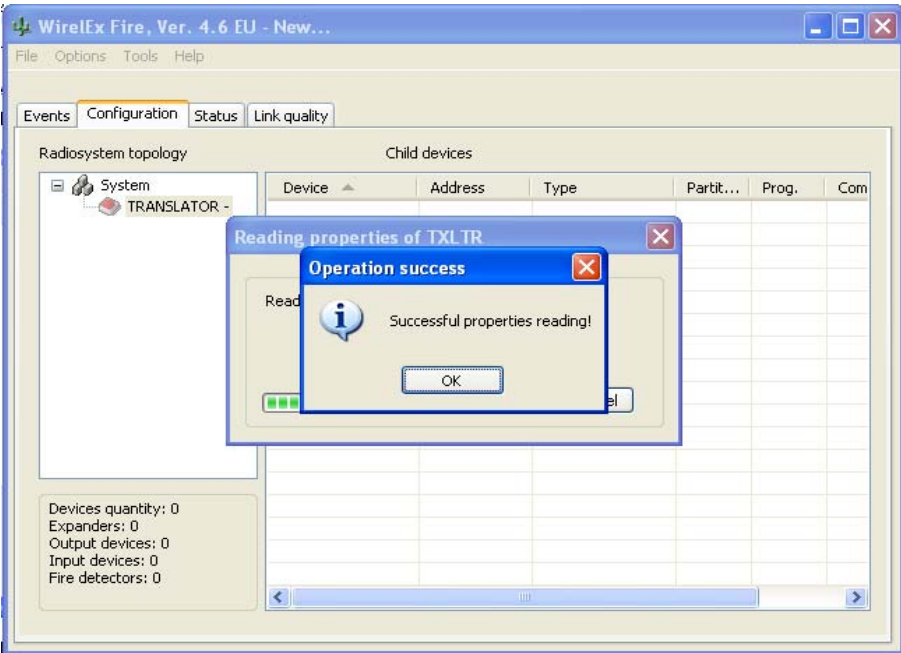
A warning window will appear indicating that the Translator Module, the PC is connected to, belongs to another system with a different System Code. An engineer will be asked to confirm that the reading process should continue (see below). Select .



A small window will appear indicating that the PC is talking to the Translator Module and reading is taking place (various single line messages will appear in the window until the Translator Module reading is complete).

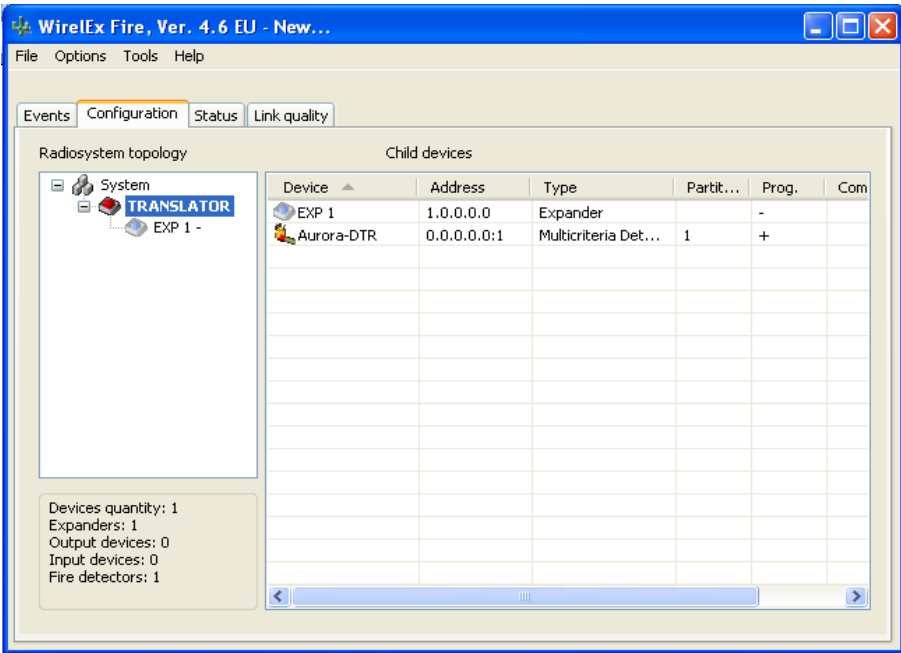


On completion of the Translator Module reading, a further sub-window will appear (see below).



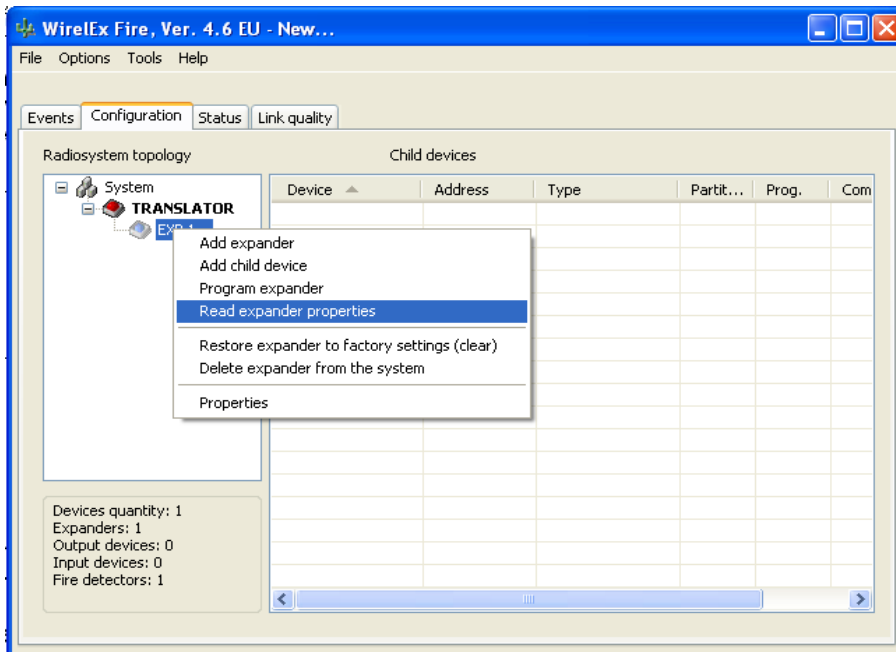
Press .

The Translator Module icon in the *“Radiosystem topology”* window will now become bold in appearance. By left-clicking on that icon, the devices associated with that Translator Module will appear including Expander Modules.

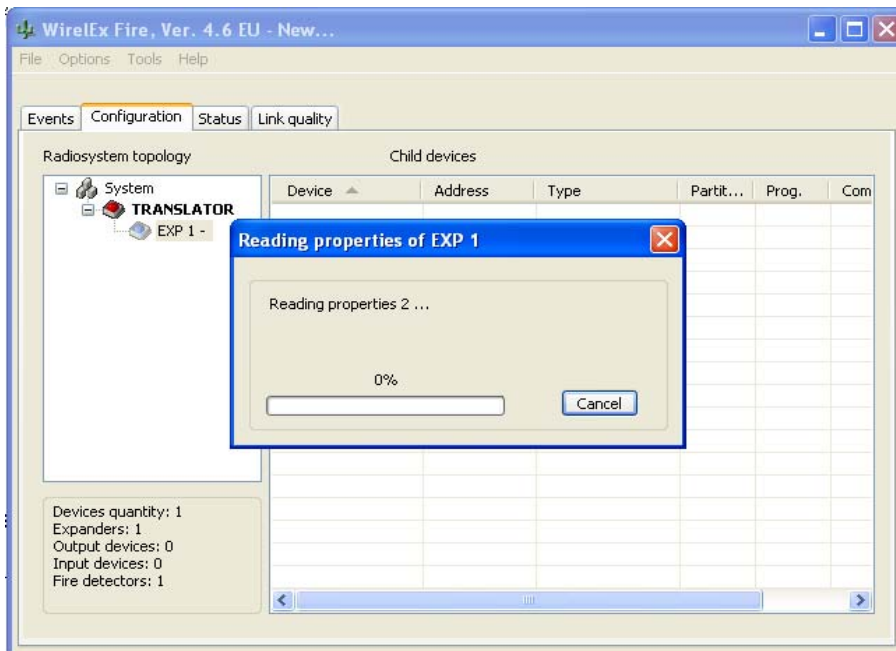


The Expander Module icon(s) will appear faint until they are interrogated. The Expander Module properties will need to be read to ensure that the whole Translator Module micro-cell/cluster has been downloaded correctly. There are two methods to do this:

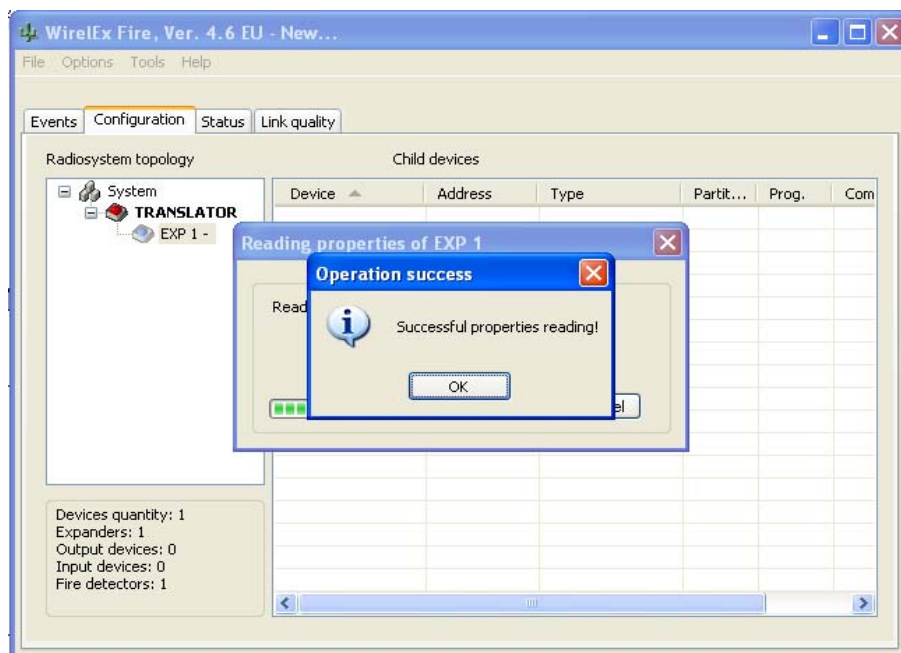
1. Move the RS232 lead from the Translator Module to the Expander Module. Ensure the **“Configuration”** tab is selected. Right click on the Expander Module in the **“Radiosystem topology”** area highlighting and selecting **“Read expander properties”**:



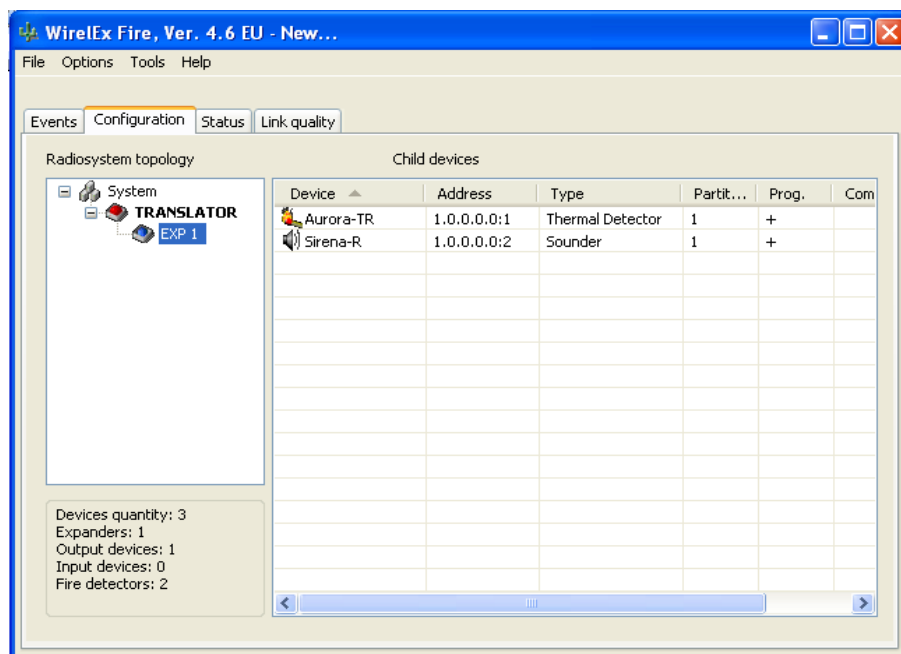
A small sub-window will appear informing the user that the Expander Module properties are being read.



On completion of reading all the Expander Module properties a sub-window will appear informing the user that the properties have been successfully read:



Press . The Expander Module and its associated devices will now appear bold:

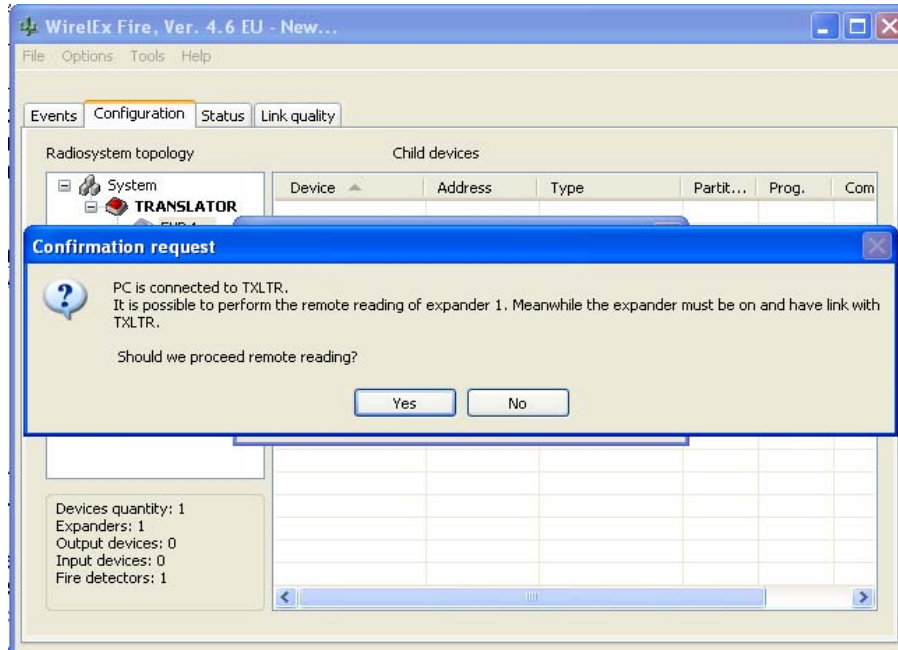


The whole system can now be interrogated. This process should be repeated for each Expander Module within the micro-cell/cluster.

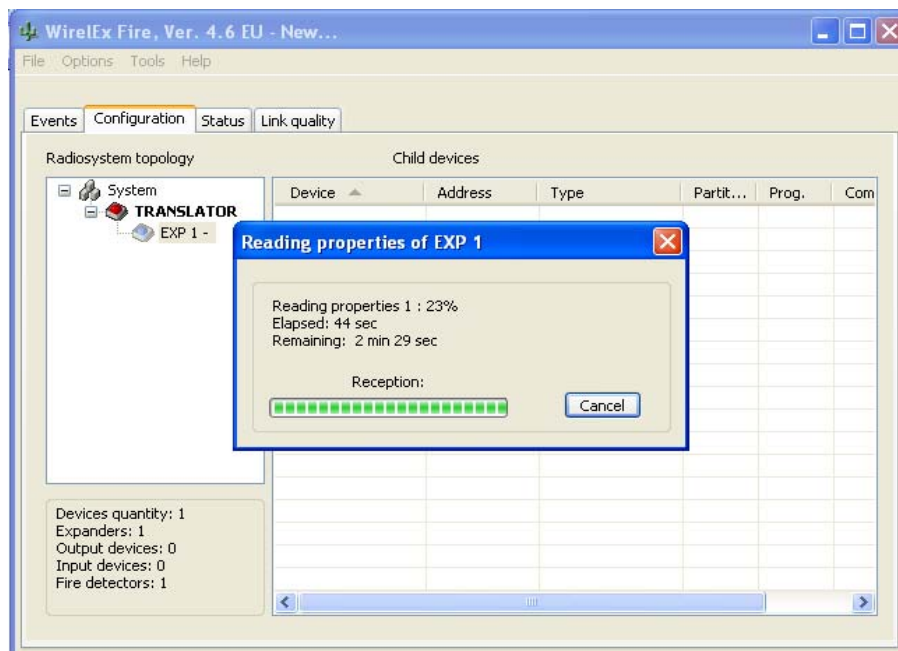
2. The second method takes slightly longer to complete, but if the Expander Modules are in hard-to-access positions, the Expander Module properties can be read remotely from the Translator Module.

Read the Translator Module properties as in method 1. Leave the RS232 lead connected to the Translator Module on completion.

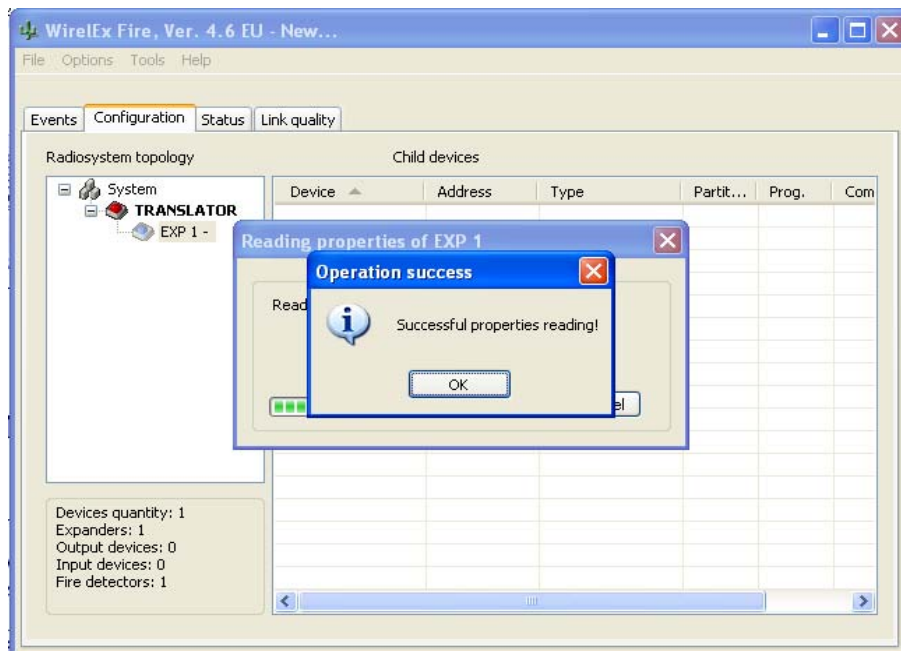
Ensure the **“Configuration”** tab is selected. Right-click the required Expander Module in the **“Radiosystem topology”** area. A sub-window will appear. Select **“Read Expander Properties”** as in Method 1. However, this time a further sub-window will appear:



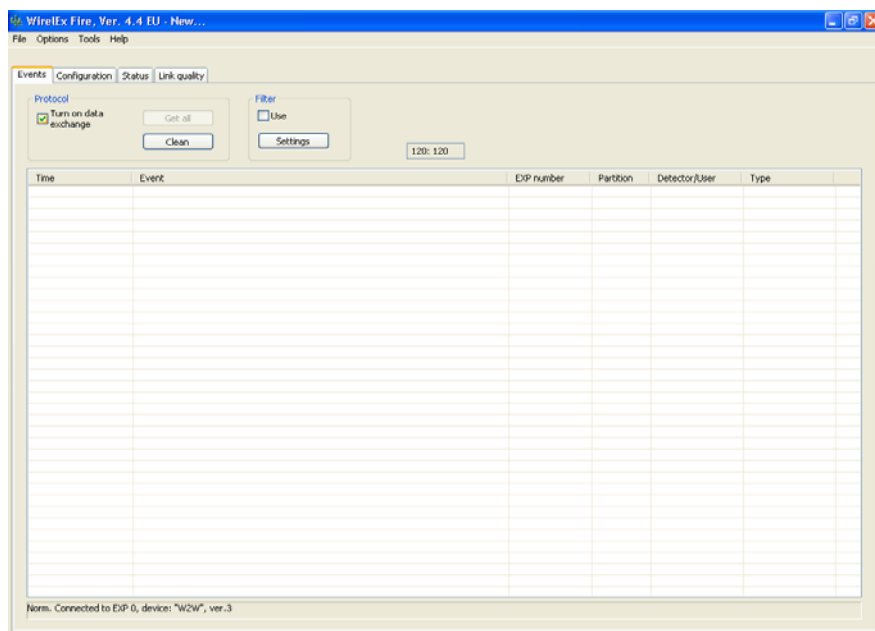
This indicates that the Expander Module properties can be read remotely but that the radio link must be established and of sound integrity and that the Expander Module must have power applied. Select **Yes**. A small sub-window will appear indicating the progress of the remote reading:



As long as there is a good link, the **“Reading properties”** percentage amount will show a constant increase. Combined with that the **“Elapsed”** time and **“Remaining time”** will sum to approximately 3 minutes. If there is a poor link, the **“Reception”** will start to count down from 60 seconds until a good link is re-established when the counter will be restored. If this continues throughout the read, the times will increase accordingly. On completion of the remote read – assuming it is successful – the following window will appear:

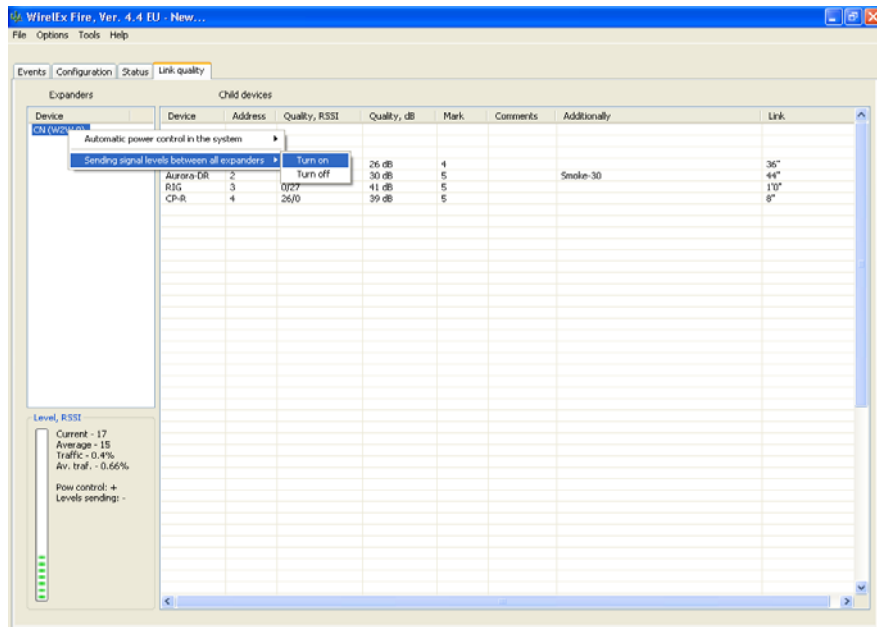


If the Translator Module has been interrogated to diagnose/investigate a problem, the **“Events”** tab should be selected and the **“Turn on data exchange”** box should be checked. This will allow the system to be investigated by selecting the **“Status”** and/or the **“Link Quality”** tab (see P.91-107)



If there are Expander Modules connected to the Translator Module, select the **“Link Quality”** tab, right click on **“TXLTR”**, select the **“Sending signal levels between all expanders”** option followed by the **“Turn on”** option. This will ensure parameters of field devices associated with Expander Modules can be viewed correctly to assist in fault diagnosis.

(Note: The **“Link”** time of devices on the Expander Modules does not increment when read from remote. This can only be achieved with the computer directly linked to the Expander Module.

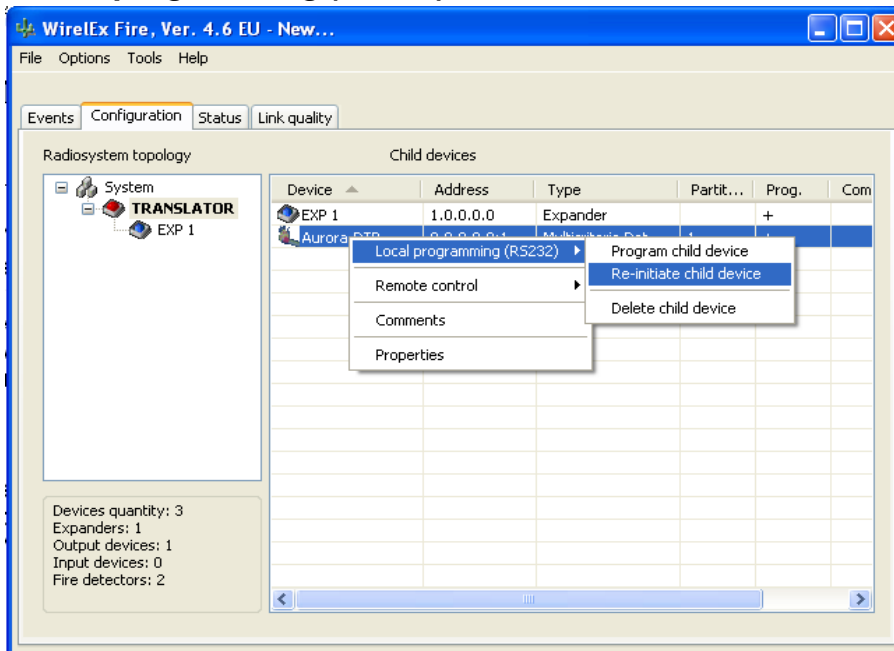


On completion of all changes/interrogation, disconnect the PC from the Translator Module ensuring the Translator Module/Expander Module front covers are secured correctly and that all faults, if not cleared, are recorded for further analysis.

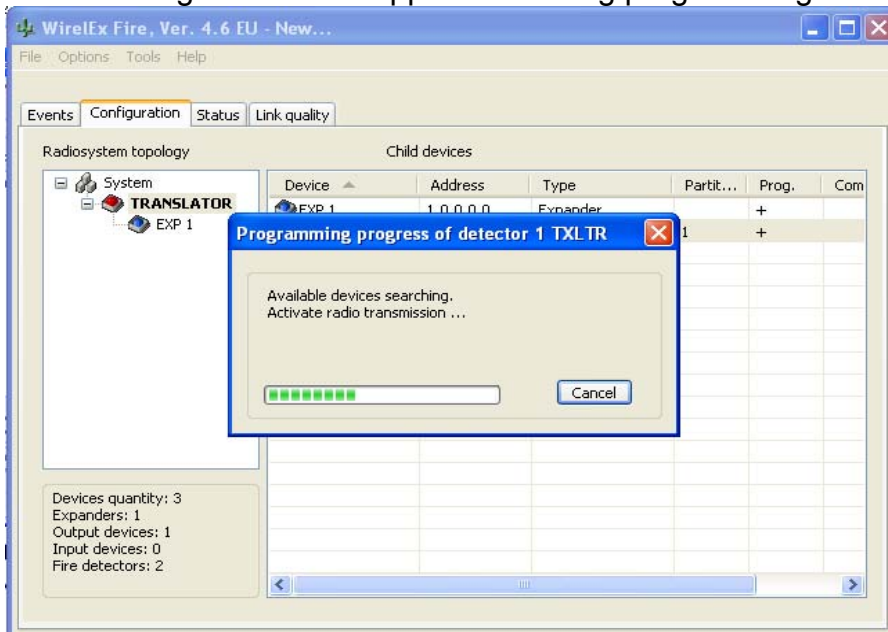
REPLACING/CHANGING A FIELD/CHILD DEVICE

If a child device is suspected of being faulty or there is a requirement to change the parameters of an existing device, the Wirelex software allows this process to happen without necessarily deleting the suspect device from the system. Having downloaded an existing system (see P.143-148), the initial action of the engineer is to remove the suspect device(s) from its installed position and remove the primary power cell from the device. This will turn the device off and will eliminate the possibility of a **“Child device substitution attempt”** (see P.101) fault appearing in the Translator Module Event Log. With the new device at hand – Secondary Power Cell inserted and the device programming switch in the **“ON”** position – follow the process below.

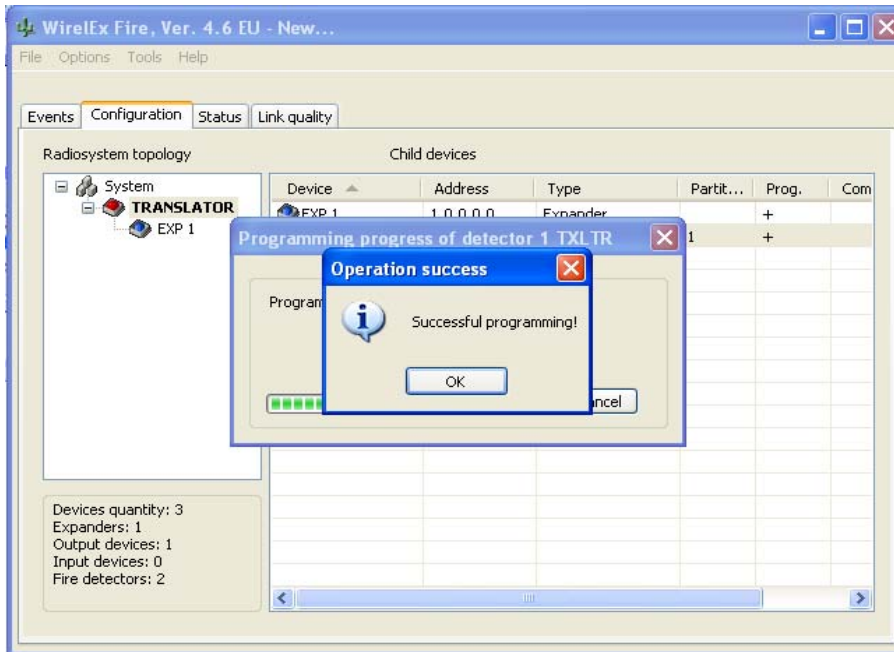
At the Wirelex software with the system open and the **“Configuration”** tab highlighted, highlight the device that is being changed and right click on the same device highlighting **“Local programming (RS232)”** and **“Re-initiate child device”**.



The following window will appear indicating programming is taking place:



Insert the Primary power cell in the new device. Wait until the RF device LED indicator has blinked **RED** 4 times (to indicate the device has entered programming mode). Switch the RF device jumper from **ON** to the **1** position. The RF device LED will flash **GREEN** (showing that initial programming is completed). On completion the following window will be displayed:



Press . The device may then flash **RED** for a short period of time. The device will then flash **GREEN** two more times before extinguishing.

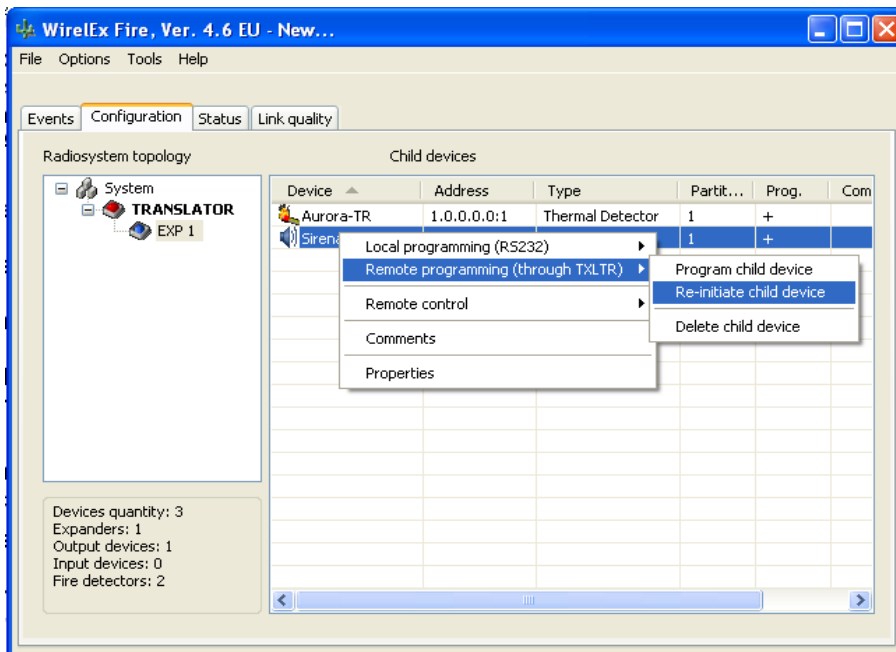
The device has now been changed and should be put back in to its installed position. This is all that is required of the engineer to change a device.

(Some engineers may choose to carry out a **“Program TRANSLATOR”** process followed by a **“LOAD”** command at the Translator Module itself. This is only necessary if a **NEW** device is added to the existing system).

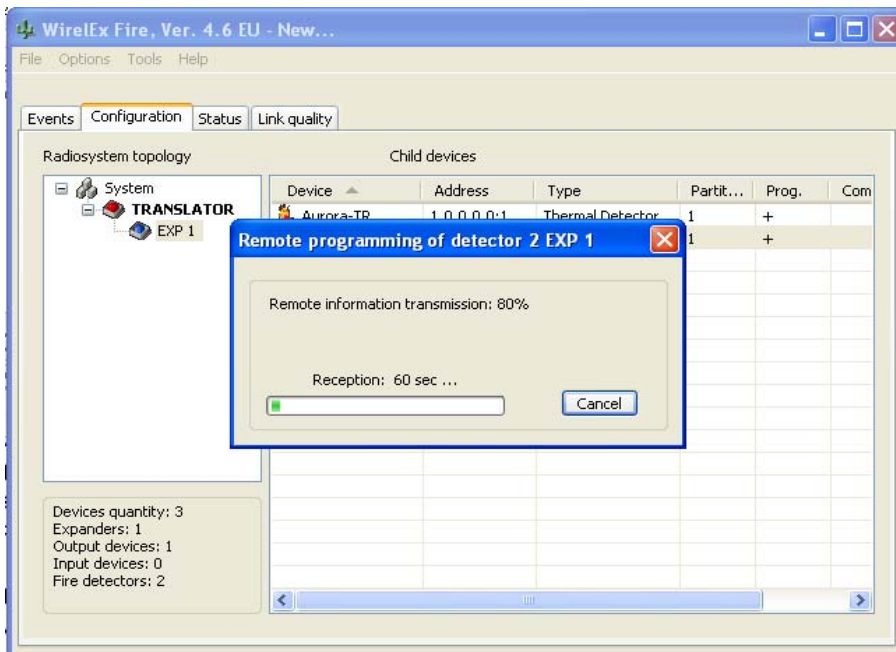
The above process can be carried out if there is a requirement to change a device on an Expander Module. The process is very similar. Download the whole program (following the procedure detailed in pages 143-148). When all the information is available to the engineer, the process to replace a device on an Expander Module is the same as for replacing a device on a Translator Module – the only difference is if the engineer is connected to the Translator Module or to the Expander Module. If the computer is connected to the Expander Module, the procedure detailed above is to be followed. If the computer is connected to the Translator Module, then a remote replacement process should be followed.

Ensure the device is removed from its installed position and that the power cells are removed. Unpack the new device inserting the Secondary power cell in to the device and moving the device **“Programming”** switch to the **“ON”** position.

At the Wirelex software, ensure the **“Configuration”** tab is displayed and that the required Expander Module is highlighted in the **“Radiosystem topology”** area. Highlight the device to be changed in the **“Child device”** area. Right click on the device highlighting **“Remote programming (through TXLTR)”** and **“Re-initiate device”** (see image overleaf).



Insert the Primary power cell in the new device. Wait until the RF device LED indicator has blinked **RED** 4 times (to indicate the device has entered programming mode). Switch the RF device jumper from **ON** to the **1** position. The RF device LED will flash **GREEN** (showing that initial programming is completed). On completion the following window will be displayed on the Wirelex software:



This indicates that the final programming of the device is taking place through the Expander Module via the Translator Module. On completion, the window on page 153 will be displayed indicating that programming is complete and that the new device can now be returned to its base.

(Note: It may be necessary to stand in the area of the associated Expander Module to complete a remote programming sequence. If the device is brought to the Translator Module and the Expander Module is at a considerable distance, remote programming may not be completed.

“For technical support concerning this product, please contact Sterling Safety Systems: -

Tel: 01926 485282

Email: info@sterlingsafety.co.uk”

“Please visit the Sterling Safety Systems website for further information relating to the Hybrid Radio Module and associated devices:

www.sterlingsafety.co.uk

Your feedback is vital for the continuing development of our offerings. If you have any comments relating to this manual, products or services please contact peter.bone@sterlingsafety.co.uk to register your feedback.