FirePoint

5000

TRANSPONDER INSTALLATION GUIDE

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1. Introduction

The installation and programming of the UHF Transponder used in conjunction with the EMS 5000 FirePoint Control Panel is detailed in the following instructions.

The model 53-5400 is a transponder unit capable of receiving VHF signals from detectors located on site and passing this information by UHF radio transmissions to a hard wired UHF remote receiver (Model 53-5428).
The remote receiver will then pass this information to the Control Panel. The transponder units are wirefree devices, which require only a 240V mains supply for operation. The number of transponder units allocated to a system is not limited, therefore greatly improving the overall range coverage of the system. A block diagram of a system using a UHF transponder unit is shown below in Figure 1.

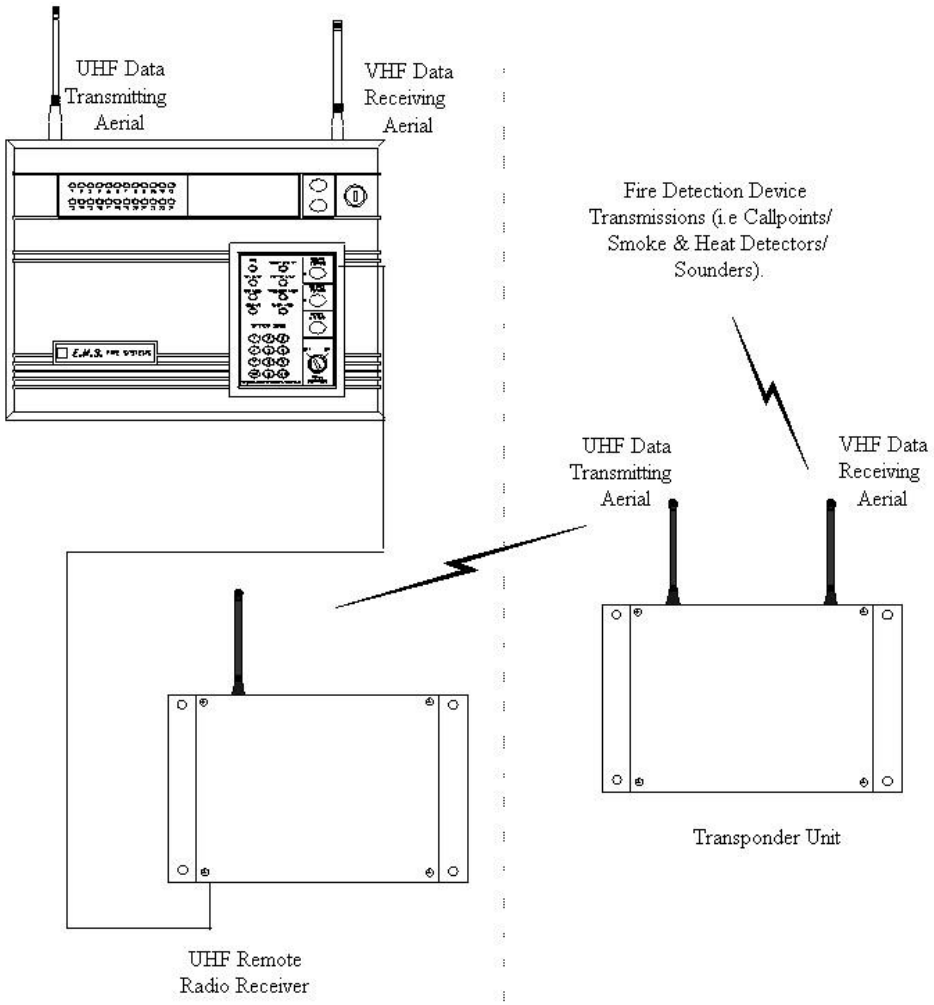


Figure 1

2. Tools & Test Equipment

Only standard hand tools are required to install the transponder. No special test equipment is needed when installing the unit, although signals from devices can be seen if a computer with a terminal programme is connected to the system. This gives a visual indication that the remote receivers are passing device data to the main control panel from the transponder unit.

3. Transponder Positioning

The optimum position for the Transponder unit will be determined upon a radio site survey. To ensure reliable communication it is essential that the Transponder unit be installed at the exact location specified upon this survey. The maximum range between transponder and any device is dependant upon the environment in which the system is operating. The range between the transponder and the remote receiver is also dependant on these conditions. The actual range achieved is determined by local site conditions. For range improvements high gain aerials can be attached to transponder. As the transponder receives information on VHF and transmits on UHF different aerials are required dependant upon the area, which has low range. If the range between the transponder and the devices is low the VHF high gain aerials should be used. If the range between the transponder and the Remote receiver is low UHF high gain aerials should be used. The table below indicates relevant aerials:-

UHF High Gain Aerials	
5-5501	High gain c/w 3m of RG58 cable and fixing bracket
5-5501/10	High gain c/w 10m of RG213 cable
5-5501/20	High gain c/w 20m of RG213 cable
5-5501/30	High gain c/w 30m of RG213 cable
5-5501/BP10	High gain c/w mounting bracket, extension pole & 10m of RG213 cable
5-5501/BP20	High gain c/w mounting bracket, extension pole & 20m of RG213 cable
5-5501/BP30	High gain c/w mounting bracket, extension pole & 30m of RG213 cable
VHF High Gain Aerials	
5-5500	Dipole Half Wave c/w 10m of RG58 cable and fixing bracket
5-5500/10	Dipole Half Wave c/w 10m of RG213 co-ax
5-5500/20	Dipole Half Wave c/w 20m of RG213 co-ax
5-5500/30	Dipole Half Wave c/w 30m of RG213 co-ax
5-5500/BP10	Dipole Half Wave c/w mounting bracket, extension pole & 10m of RG213 co-ax
5-5500/BP20	Dipole Half Wave c/w mounting bracket, extension pole & 20m of RG213 co-ax
5-5500/BP30	Dipole Half Wave c/w mounting bracket, extension pole & 30m of RG213 co-ax

When selecting a site for the transponder, the installing engineer should be aware that the aerial should be as far away from other electrical / electronic equipment as possible and a minimum of 2 metres from any such equipment. Locating the receiver closer than this will affect the systems performance. Metal objects such as filing cabinets, pipe work, radiators and air conditioning ducts will also adversely affect the performance of the system if they are too near the receiver antenna.

The transponder unit only requires a 240V mains supply, no further wiring is required. The following paragraphs outline the installation in a step-by-step format;

1 Remove the four lid retaining screws situated on the front cover. The front section of the unit can now be removed.

2 The mains cable entry point can be found situated on the right hand side of the unit, in the form of a knockout. Carefully remove the knockout ensuring the internal pcb's are not damaged.

3 Offer the unit up to the wall and check that the rear tamper switch operates. Should the microswitch not operate, remove the unit from the wall and carefully adjust the microswitch arm. Once the microswitch operates correctly the unit can be fixed to the wall and all external wiring connections made.

The unit should now be logged on to the system (see the Transponder Logging on Procedure section).

Note: If the system is supplied with the transponder, the unit should already be logged onto the system.

When all connections have been made and the unit has been logged on to the system the lid can be re-fixed. Note: The Transponder unit must **NOT** be used as a junction box or cable termination point as this will adversely affect the performance of the system.

4. Transponder Logging on Procedure

The process of adding Transponders to the 5000 FirePoint Control Panel, is largely carried out automatically, by the Panel's own operating system. It is usual practice for each unit to require "logging on" to the system. In such cases, the following action must be taken. Should the system have been received "pre-programmed", the unit will have been added to the system at the factory and this section will not be required.

To log the Transponder Unit onto the Control Panel, the "Log On Devices" setting must be "enabled". To achieve this, the following steps must be taken.

Step No	Action	Screen Display
1	With the key the "ON" position, the screen will display:	Panel In Access DATE TIME
2	Press the "0" key and the screen will now display:	|***Options *** * | > Passwords < | Time and Date | Yes =Select Time
3	Press the "∇" key until the screen displays:	| Logging | > Fire System Opts < | Remote Access | Yes = select Time
4	Press the "YES" key and the screen will now display:	|** Fire system ** | > Dev. Disable /Test< | Net. Disable /Test | Yes= Select Time
5	Press the "∇" key until the screen displays:	| System Mode | >Engineers Config < | Printer Options | Yes= Select Time
6	Press the "YES" key and the screen will now display:	Enter Your PIN For Access> Then Press YES Time
7	Press 221100 then press the "YES" key and the screen will display:	|** Eng.; Config ** | > Device Database < | Sounder Options | Yes= Select Time
8	Press the "∇" key until the screen displays:	| Sounder Options | > Log On Devices < | Site Survey | Yes= Select Time
9	Press the "YES" key and the screen will now display:	Logon DISABLED(000) Push YES to change Push NO to escape Push YES/NO Time

10 Press the "YES" key to change and the screen will now display:

```
|**Logon Options**   |
 > Logon Slot :AUTO<
|  Slot is      :FREE  |
Yes= Select        Time
```

11 Press the "0" key and the screen will now display:

```
Enter Device
(Numbers 1-256)
Number>
Yes= Finish        Time
```

12 Enter the slot number that you want to add a device to (e.g. 125) then press the "YES" key and the Screen will now display:

```
| **Logon Options**  |
 >  Logon Slot :125   <
|  Slot is      :FREE |
Yes= Select        Time
```

13 Press the "▽" key until the screen displays:

```
|  Slot is      :IN USE  |
>Logon is  DISABLED<
| /\/\/\/\/\/\/\  |
```

14 Press the "YES" key and the screen will now display:

```
|  Slot is      :IN USE  |
>Logon is  ENABLED  <
| /\/\/\/\/\/\/\/\  |
```

The system is now open and will accept "Log On" signals from the Transponders unit (see the **Sending Transponder Log On Signal** section**)** for the next necessary steps.

NOTE: This function must be returned to disabled once the logging on sequence has been completed.

Once the **Sending Transponder Log On Signal** section has been completed we can continue to step number 15 below.

15 Press the "YES" key twice and the screen will now display:

```
|  Slot is      :IN USE  |
>Logon is DISABLED<
| /\/\/\/\/\/\/\  |
```

16 Press the "NO" key three times and the screen will now display:

```
01 FAULT     TOT 02
Default Device 125

ZONE 01 DEVICE 125
```

Note: After logging the device on to the system there will be two faults: -
1st fault is processor reset. (Silence and reset)
2nd fault is the Tamper. (Make sure the device tamper is clear then silence and reset)

17 Having cleared the faults, turn the control key to the "OFF" position and the screen will display:

```
        Status Normal

Date                Time
```

The unit is now logged on and fully operational.

5. Sending Transponder Log On Signals

The Transponder Unit is shown in Figure 2 below. The device consists of two separate sections firstly the transmitter/receiver and battery section housed in the main casing and secondly the cases front cover. The re-assembling of these sections will cause the device to log onto the system when the procedure detailed below is followed.

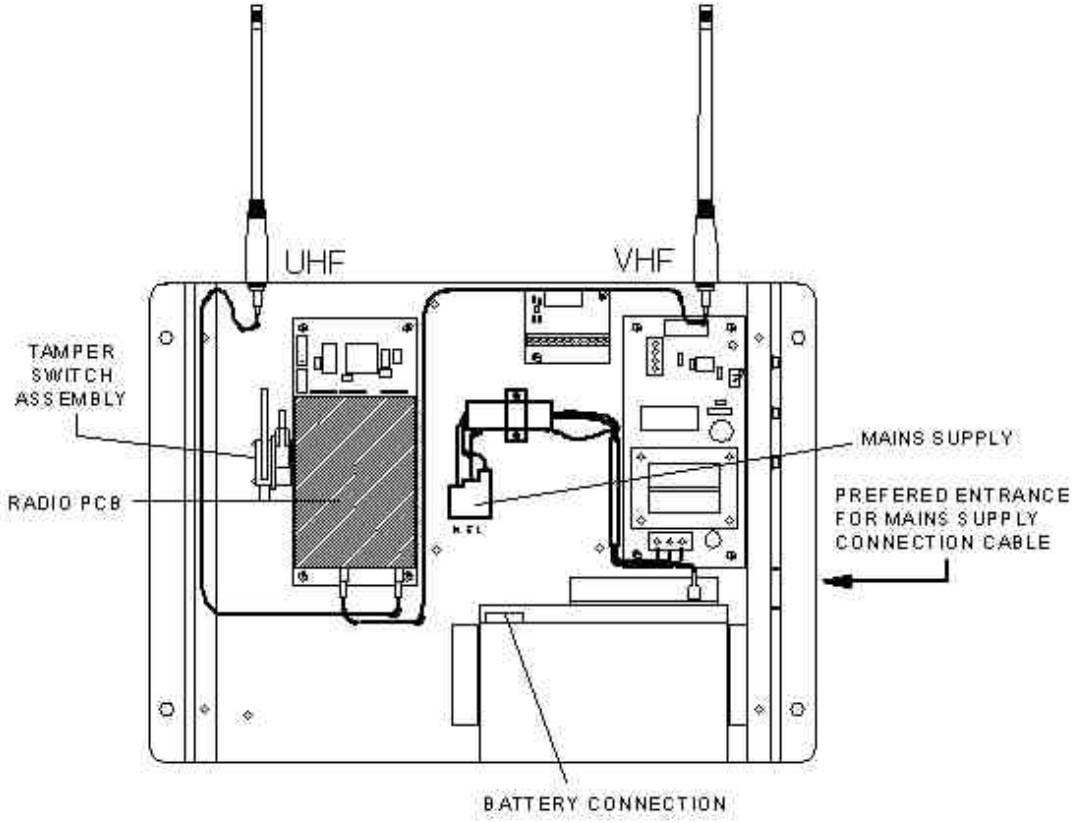


Figure 2

Remove the four fixing screws and remove the front of the unit. The two sections should now be separated.
Remove any mains voltage supplied and also remove the internal battery connectors as shown above in Figure 2**.**

The unit is now ready to be logged on. Re-connect the internal battery and then apply mains voltage.

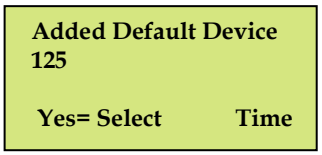
The following message should be displayed:

Logon Default Device 125
Yes= Select Time

Logon Default Device 125 (e.g., where in the example **125** is the number allocated to the device on the system), will be displayed on the front of the control panel.

Place the front cover onto the unit and ensure the tamper switch is now closed.

Added Default Device 125 will be displayed on the front of the control panel after a short time period.



To check the device is logged on, remove the front cover from the unit. After approximately 10 seconds **"Tamper Default Device 125"** will be shown on the Control Panel's display.

Fit the front cover back onto the unit and replace the previously removed screws.

NOTE: it is very important that we return to the panel to follow steps 15 to 17 above to disable the logon feature by changing the logon status back to disabled.

6. Software Configuration

To allow the Control Panel and Transponder unit to work together, it is essential a UHF remote receiver (53-5428) be connected to the Control Panel. Some software configuration will be necessary, when connecting the remote receiver to the control panel. Full programming instructions showing in a detailed step-by-step format how the configuration should take place is supplied with each remote receiver unit.

7. Testing The System:

When the Transponder unit has been logged onto the system and fully installed, each device should now be tested from their fixed positions. If the system is not performing as expected in terms of range, monitoring the Comms between the Main Control Panel and the remote receiver may well indicate the cause of the problem (see remote receiver installation instructions Figure 20 for details). For example, a large number of Time-outs by a particular remote, indicates a poor connection, poor screening, or the cable passing near enough to a data cable to introduce interference onto the bus.

8. Controller Information

TECHNICAL INFORMATION FOR THE TRANSPONDER

Dimensions:	390mm x 320mm x 80mm
Operating Frequencies:	UHF 458.5 – 459.5 MHz (Transmitter) VHF 173.2 MHz – 173.5 MHz (Receiver)
Operating Temperature:	-10 to +55 degrees C
Humidity:	Up to 75% non-condensing.
Channel Spacing:	25 kHz
Output Transmitter Power:	0.75W (500 mW) (+ 27DBH)
Supply:	230v 50Hz
Current Consumption:	102mA in standby
Battery space:	1 x 12volt 7Ah batteries (supplied) EMS only recommend: Yucel Model No: NP7-12 or a battery of equivalent specification
Recommended battery replacement intervals:	5 years

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