# EDA-Z5000 – Zerio Plus Survey Equipment V1.06

The Zerio Plus Radio Survey equipment has been designed to perform radio survey's for the Zerio Plus fire alarm systems. It should not be used to survey any of the older ranges of EDA equipment or other manufacturer's equipment as it operates on a different frequency. The frequency used is 868MHz.


## Case Contents

1 x Survey Detector (SSD)
1 x Survey Transmitter (SST)
1 x Antenna
1 x Extension Poles (x4)

## Powering on the Units

It is advisable to power on the transmitter unit first. With the antenna already fitted, press and hold the Red 'Power ON/OFF' button for 3 seconds until the unit beeps. Release the button. The LED will be illuminated and the unit will start to beep 2 seconds later.

To power on the survey detector, press and hold the white button located on the top of the device for 3 seconds. Ensure the 'Ceiling/Wall in contact' peg, on the reverse of the unit, is not pushed in. The unit will beep and flash a green led, followed by a red led. The LED will then switch off and the unit will click.

There is no auto power off in these units.

## Powering off the Units

The same procedure by pressing the buttons for 3 seconds is repeated to power the units off.

## Assembling the Detector Poles

The detector pole is split in to 4 sections for storage. To assemble remove all 4 sections and assemble as detailed below.

- Fit the two larger diameter sections together.
- Fit the two smaller diameter sections together.
- The red end of the smaller section should now fit in to the larger section to form a complete pole approximately 1m long.
- Insert pole in to detector mounting hole.

## To Disassemble the Poles

Split the pole back in to 4 sections. In order for the poles to fit in the case store as below.

- Slot smaller diameter pole with the coupler into the large diameter pole with the coupler. The smaller coupler should fit inside the larger coupler
- Slot the opposite end of red-ended pole inside the remaining pole so that only the red end is visible.
- The remaining two sections should now be the same length and can be stored inside the case.

## The Mounting Bracket

The Transmitter should be positioned using the supplied bracket, this enables it to be placed on a wall or slotted in to an object (such as a filing cabinet) to ensure the survey antenna is exactly where the antenna for the proposed panel would be.

The bracket slots over the two screws on the side of the device and should be pulled down so that the screws are secured in the smaller slots.

Included in the survey kit are Velcro pads in order to attach the transmitter to a wall, if it is not possible to stick Velcro to the wall blue tack could be used instead.

The bracket has a hole in the thinner end which can be used for hanging the device; a screw, drawing pin or a piece of string could be used in order to position it as accurately as possible.

Always ensure the transmitter is secured properly. Dropping the unit can cause it to drift off frequency and affect the survey.

## To Perform the Survey

The radio survey requires no special skills to perform.

The survey is the most important part of the installation of the Zerio Plus radio fire alarm system as any mistakes or short cuts can result in an unreliable system that potentially will not operate in the event of an alarm condition. Making assumptions about whether a device will work in a room without surveying is dangerous, as no one can be sure of any hidden materials in walls or ceilings that may effect the radio propagation. They only way to be sure, is to survey the position. Care should be taken to follow the instructions exactly.

It is recommended that the positions of devices are marked so that during installation the exact same position can be determined during installation.

Ensure both units are powered on and the red LED is illuminated on the SST (transmitter) and the survey detector is clicking. To test that the equipment is working, press the 'Ceiling / wall located' (tamper) switch on the base of the detector. The detector should beep three times and the LED will shine green to indicate a good signal strength.

Mount the transmitter unit where the proposed position for the panel is. The antenna of the survey transmitter should be exactly where the proposed antenna for the main panel will be positioned and should be vertical in orientation. Failure to position this correctly can invalidate the radio survey and when the system is installed it may not work reliably.

Attach the pole to the detector and visit all proposed device locations. The device must be pushed against the ceiling or wall where a device would be located, ensuring the switch on the base operates.

**Note: Care should be taken when pressing the detector against surfaces so as not to damage the protruding peg on the underside.**

Should the ceiling be too high for the supplied pole to reach, the survey detector can be used in conjunction with a No Climb / Detector Tester Solo pole. Simply attach the smaller section of the supplied pole in to the detector (or a length of 25mm plastic conduit), remove the head from the Solo pole and insert the detector ensuring the base is facing the ceiling. Alternatively the pole can be attached with tape to a longer pole and whilst it may not look professional, it is worth doing this to ensure an accurate survey.

Once pushed against a surface the survey detector will beep either once, twice or three times in quick succession whilst displaying a red LED.

The detector can be rotated to obtain the best signal strength. If the detector favours a particular orientation then this should be noted to ensure the device is installed in the best orientation.

| LED | Sound | Status | Action |
|---|---|---|---|
| GREEN | 3 Pulses | Good | Fit Device |
| GREEN | 2 Pulses | Average | Fit Device |
| GREEN | 1 Pulse | Adequate | Fit Device |
| RED | 2 Tone | Unsatisfactory | Relocate Device* |
| RED | None | No Signal | Add Booster |

* Must conform to current British Standards requirements.

A 2 tone beeping whilst displaying the red LED indicates there could be an acceptable signal strength near by. Try moving the position and/or orientation of the survey device. Repositioning of a device must conform to any current British Standards requirements.

If the detector is out of range of the transmitter then the survey detector will not beep and the LED will be red.

## Surveying for Booster Panels

When the survey detector starts beeping only once it is time to consider using a booster panel in order for devices further away from the control panel to have adequate signal strengths.

Look for a suitable location for the panel and check the signal strength using the survey detector. Once satisfied with the positioning move the transmitter unit to the proposed booster panel location (ensuring that the antenna of the transmitter is where the booster antenna will be sited). As the booster panel requires either a mains supply or a cable being wired back to the control panel or closest booster panel, this should be considered when locating a suitable position.

Continue the survey as before.

## Batteries

Low battery warning is indicated by a red LED flashing on either of the units. If this happens during a survey it is OK to continue but the batteries should be replaced before the next survey. If the equipment has not been used for a while we would recommend testing it before visiting site to allow enough time to re-order batteries if required.

We recommend that batteries be replaced after 100 hours of use or 12 months of use, which ever occurs sooner.

The batteries used inside the units are standard EDA batteries for the Zerio Plus system:

Part Numbers:
**EDA-Q690 – Survey Detector**
**EDA-Q690 – Survey Transmitter**

## Troubleshooting

**Unit(s) not powering up**

- Ensure the power button(s) have been pressed and held for 3 seconds. The LED will illuminate red.
- If unit continues not to power up change the batteries and retry.

**On power up either of the devices does not displays a continous red LED**

- Power both units down by pressing the button until LED goes out and then power up again.

**The transmitter will not power up, changing batteries has no effect**

- Check whether the power link inside the unit is set to on – a 3 pin link located next to the battery pack. If the link is in the off (RHS) position the unit will not power up. Fit link on LHS.

**The detector will not power up, changing batteries has no effect**

- Check whether the power link inside the unit is set to on. Remove the base to check. The power link is to the right hand side of the label. If no label is fitted it is the top link closest to the screw that should be fitted

**The units keep switching themselves off**

- The batteries are below the required voltage – replace the batteries.

**Erratic behaviour from survey detector**

- Change the batteries.

**The poles do no fit in the carry case**

- In order to fit properly in the case the poles must be stored correctly, see above for details.

**The ceiling is too high for the pole to reach**

- Use detector in conjunction with a No-Climb Solo pole in order to reach higher ceilings.

**The survey doesn't reflect the actual signal strengths listed on the panel when installed**

- The panel (and/or antenna), when installed, was not fitted at the same location that the survey was carried out.
- Devices were not installed in exact positions of survey.
- Devices were not positioned on ceiling during survey.
- Out of calibration survey equipment. Should be re-calibrated ever 2 years. If unit dropped should be re-calibrated before further use.
- Panel receiver out of calibration.

**Version**

| Version | Author | Date | Description |
|---|---|---|---|
| V1.00 | SM | 13/08/07 | Release of Z1110 Survey Equipment |
| V1.01 | MG | 03/10/09 | Change of battery pack Q660 to Q666 |
| V1.02 | DR | 03/03/10 | Zerio Plus Prototype A |
| V1.03 | DR | 04/03/10 | Zerio Plus Prototype B |
| V1.04 | DR | 01/04/11 | Zerio Plus Release |
| V1.05 | DR | 24/05/11 | Metal Positioning Bracket Added |
| V1.06 | DR | 27/03/12 | For best position rotate detector |