To put the receiver into Test Mode

When Operating Mode switch 1 is in the ON position, the receiver's Test Mode function is invoked. This function allows localised testing of the receiver (and transmitters) without the receiver triggering a call on the Quantec system. Note that the receiver's Power LED will flash green when in Test Mode and that its RF Data LED will blink green every time a successful call is received. Make sure you take the receiver out of Test Mode by returning the switch to its normal position as soon as testing is complete.

To report calls of a certain level only

The position of Operating Mode switches 4, 5, 6 and 7 determine which levels of call the receiver will respond to.

When Switch 4 is in the ON position - Attack calls will be recognised

When Switch 5 is in the ON position - Emergency calls will be recognised

When Switch 6 is in the ON position - Help Required calls will be recognised

When Switch 7 is in the ON position - Standard calls will be recognised.

For example, if Switch 4 is on the ON position and switches 5, 6 and 7 are in the OFF position, Attack calls from compatible transmitters will be recognised but Emergency, Help Required and Standard calls will be ignored.

Using the receiver with an RF Integrity transmitter

To help ensure the integrity of the receiver, an RF Integrity Transmitter (part no QT421) is available. Supplied on a single gang plate, the transmitter works by sending a periodic test transmission to the radio receiver. If the receiver fails to receive the test signal, it will send a fault message to the Quantec Controller. To invoke this function, flick Operating Mode switch 2 to the ON position. Note that the RF Group ID of the receiver and any RF Integrity Transmitters that are being used with it must correspond.

INDICATORS

Three LED indicators are provided on the receiver's front, 'Power', 'RF Data' and 'Error'. They illuminate as follows:

Power (green)   Constant = Power on
Slow Flashing = Receiver in Test Mode
Fast Flashing = Unassigned Call (Pending)
Fast Flash x 3 = Address Reset

RF Data (green)   Blink = Data Packet Received OK
Blink x2 = Data Packet OK. Group ID Mismatch

Error (amber)   Blink = Data Packet Received in Error
Constant = Internal hardware Error
Flashing = Receiver Error, Integrity Test Failed

Note that when the RF Data (green) & Error (amber) LEDs blink twice at the same time, this indicates that an unassigned call has been acknowledged and a new address has been allocated to the receiver by the Quantec Controller.
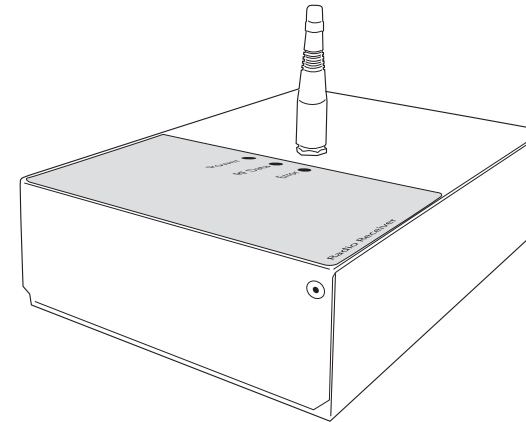
ALWAYS ENSURE THAT THE RECEIVER'S LID AND EARTH CONNECTION LEAD ARE IN PLACE BEFORE POWERING UP THE RECEIVER.

Q QT422RX

QUANTEC RADIO RECEIVER

The QT422RX radio receiver is designed for use with Quantec's QT412 and QT432 range of dual action infrared/radio transmitters and pendants.

Dependent on the transmitter / pendant used, it allows standard, help required, emergency and/or attack calls to be generated from external areas such as car parks, loading bays, etc.

Taking its power from the Quantec network, the receiver operates in a similar way to a Quantec call point except it allows calls to be triggered remotely from distances of typically 60m away (depending on physical conditions and environmental factors).

Operating at radio frequency (RF) 868.3 MHz, the flexibility of the unit means it can be configured to:

• Receive calls from certain QT412 or QT432 range transmitters only (via an RF grouping facility)

• Report calls of a certain level only (standard call, help required, emergency and/or attack)

• Operate in Test Mode (allowing localised transmitter/receiver testing)

• Receive regular test transmissions, typically once every 2 minutes, from a separately available QT421 RF integrity transmitter and to flag a fault should such a transmission not be received.

Detailed information on all of the above features, together with concise wiring and mounting instructions can be found later in this document.

THESE INSTRUCTIONS APPLY TO QT422RX RECEIVERS WITH A FIRMWARE REVISION 3A0 OR ABOVE (AS DETAILED ON THE LABEL ATTACHED TO THE RECEIVER'S PCB)

YOU MUST READ ALL OF THIS INSTRUCTION BOOKLET BEFORE ATTEMPTING TO INSTALL OR COMMISSION THIS RADIO RECEIVER.

TYPICAL COVERAGE (dependent on physical conditions and environmental factors).

Typical RF coverage using the mini-aerial supplied is 60 m.

If required, an optional external extension aerial (part no. QT422RXEX) is available to provide better coverage and to increase the receiver's range to typically 90 m - contact your distributor for details.

MOUNTING THE RECEIVER

The receiver must be mounted internally, ideally on a flat horizontal surface in the building's roofspace overlooking the area requiring RF coverage. Avoid locating the receiver too close to large metallic objects (such as a metal clad roof) and thick structutal walls. If this is unavoidable, consider using the QT422RXEX external extension aerial instead of the mini-aerial supplied.

To expose the receiver's mounting holes:

Take the receiver out of its box and undo the two screws at the top of its lid using the allen key provided. Hinge the lid down 90°, remove the earth connection lead and spring the lid gently over the two hinge bosses.

Fixing the receiver's base:

Fix the receiver's base to a flat horizontal surface using the mounting holes provided. The mounting holes are suitable for use with No. 8 woodscrews.   Always assess the condition and construction of the mounting surface and use a suitable screw fixing. Any dust or swarf created during the fixing process must be kept out of the receiver and care should be taken not to damage any wiring or components.
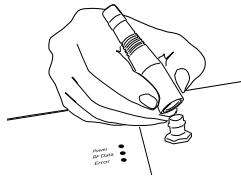
**FIG. 1:
OVERHEAD VIEW OF THE RECEIVER'S MOUNTING HOLES & KNOCKOUTS**

earth connection lead

⊙ = mounting hole   ⊘ = knockout
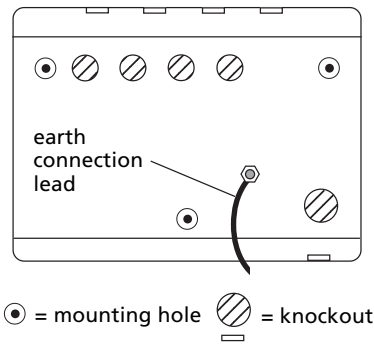
FITTING THE RECEIVER'S AERIAL

To attach the mini-aerial to the BNC connector socket located on the front of the receiver, align it up with the two prongs (see Fig. 2), push downwards and twist clockwise through 90°.
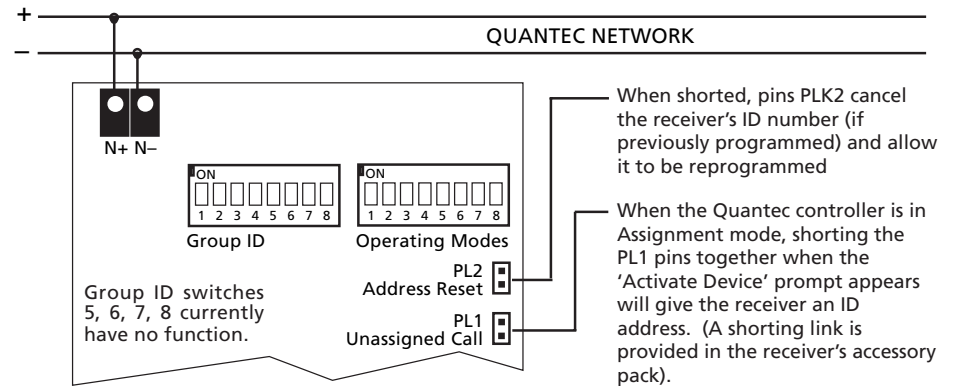
IMPORTANT: Always hold the aerial by its base as holding it by its tip could result in damage.

To attach the optional external extension aerial (QT422RXEX) to the receiver, follow the same connection process as described above. Please note that the BNC connector on the end of external aerial's connection lead MUST NOT be removed from the lead during installation. Therefore, the hole required for the cable to pass into the building must be large enough to accommodate the connector. For more detailed information, please refer to the installation instructions supplied with the QT422RXEX aerial itself.

FIG. 2: FITTING THE RECEIVER'S AERIAL

CONNECTING THE NETWORK WIRING

The network wiring should be brought into the receiver through one of the knockouts provided and be connected to the terminals marked N+ and N- respectively (see Fig. 3). These two wires provide power and data to the receiver and no other wiring connections are required. Always ensure that a good quality cable gland is used to fill the hole where the knockout has been removed. ON NO ACCOUNT SHOULD ANY MAINS VOLTAGES BE BROUGHT INTO THE RECEIVER.

FIGURE 3: NETWORK WIRING & PROGRAMMING DETAILS

QUANTEC NETWORK

N+ N−

Group ID   Operating Modes

PL2
Address Reset

PL1
Unassigned Call

Group ID switches 5, 6, 7, 8 currently have no function.

When shorted, pins PLK2 cancel the receiver's ID number (if previously programmed) and allow it to be reprogrammed

When the Quantec controller is in Assignment mode, shorting the PL1 pins together when the 'Activate Device' prompt appears will give the receiver an ID address. (A shorting link is provided in the receiver's accessory pack).

DIP SWITCH CONTROLS

The receiver has two sets of DIP switch controls, one labelled 'Group ID' and one labelled 'Operating Modes', which allow the unit to be set up to up to:

- Receive calls from certain QT412 or QT432 range transmitters only via an RF grouping facility (Group ID switches 1, 2, 3, 4). See 'To give the receiver a Group ID number**'** section below.
- Report calls of a certain level only (Operating Mode switches 4, 5, 6, 7). See 'To report calls of a certain level only' section on page 4.
- Operate in Test Mode (Operating Mode switch 1). See 'To put the receiver into Test Mode' section on page 4.
- Receive regular test transmissions from an RF integrity transmitter and to flag a fault should such a transmission not be received (Operating Mode switch 2). See 'Using the receiver with an RF Integrity transmitter' section on page 4.

IMPORTANT: Operating Mode switches 3 & 8 must be set to ON if using the receiver on a system with Quantec Controller firmware revision 8A3 or above. This allows the receiver to be assigned as a radio receiving device and invokes the receiver's coincidental call filtering function with infrared receivers. If using the receiver on a system with a Quantec Controller firmware revision less than 8A3, Operating Mode switches 3 & 8 must be set to OFF.

To give the receiver a Group ID number

The first four 'Group ID' switches (1, 2, 3, 4) can be used to give the receiver an RF group ID number so it responds to calls from certain QT412 or QT432 range transmitters only. This is a useful feature on sites with multiple, separately managed areas as it prevents a transmitter from one area inadvertently triggering a call on a receiver located in another. A total of 16 RF groups are available. The chart below shows the DIP switch arrangements for all available RF Group IDs. Note that 1 is ON and 0 is OFF.

Switch No.		1	2	3	4	Switch No.		1	2	3	4
Binary value		*1*	*2*	*4*	*8*	*Binary value*		*1*	*2*	*4*	*8*
RF Group ID 0	=	0	0	0	0	RF Group ID 8	=	0	0	0	1
RF Group ID 1	=	1	0	0	0	RF Group ID 9	=	1	0	0	1
RF Group ID 2	=	0	1	0	0	RF Group ID 10	=	0	1	0	1
RF Group ID 3	=	1	1	0	0	RF Group ID 11	=	1	1	0	1
RF Group ID 4	=	0	0	1	0	RF Group ID 12	=	0	0	1	1
RF Group ID 5	=	1	0	1	0	RF Group ID 13	=	1	0	1	1
RF Group ID 6	=	0	1	1	0	RF Group ID 14	=	0	1	1	1
RF Group ID 7	=	1	1	1	0	RF Group ID 15	=	1	1	1	1