

AquiWave

AQW-SK

Survey Kit



INSTALLATION & OPERATION INSTRUCTIONS



aquilar
leak detection solutions

AQW-SK

Survey Kit

Please read these instructions carefully and keep them in a safe place (preferably close to the module) for future reference. These instructions must be followed carefully to ensure proper operation.

A. GENERAL INFORMATION

The AquiWave survey kit should only be used for performing radio surveys for the AquiWave leak detection system. It works on the 868MHz frequency.

Each AquiWave installation will be different. For every building will have its own characteristics with regard to radio suitability. It is therefore imperative a wireless site suitability survey is carried out to ensure the system will function correctly.

The site suitability survey is an essential part of the design process and its accuracy will determine whether the system will be able to reliably report any leaks. Assumptions should not be made as hidden services within walls or ceilings could have a detrimental effect on the radio signal, any short cuts or mistakes could result in leaks not being reported back to the main control panel.

B. SURVEY CONTENT

- 1 x AQW-SK-RX - Survey detector
- 1 x AQW-SK-TX - Survey transmitter
- 1 x AQW-SA - Stub antenna
- 1 x AQW-SK-TX mounting bracket
- Extension poles (not usually required)

C. TURNING THE UNITS ON AND OFF

Before beginning the survey the RX and TX units must be powered up. It is advisable to power up the TX first. After fitting the antenna press and hold the power button for 3 seconds. When the unit beeps release the button and the red LED should be illuminated.

To power up the RX press and hold the large white button for 3 seconds, ensuring the 'in contact' button on the rear of the unit is not pressed in. Release the button when the unit beeps. The LED will flash green then red. The LED will then turn off and the unit will tick to show it is ready to use.

If the LED's flash red on either unit the batteries are low. Please see section 7. The RX and TX units must be powered down after use by holding the button down for 3 seconds.

There is no auto power off on either unit.

D. TRANSMITTER POSITIONING AND MOUNTING BRACKET

It is important the AQW-SK-TX radio transmitter be positioned in the exact position the control panel is to be mounted with the antenna in a vertical orientation. Failure to do this may invalidate the survey.

AQW-SK Survey Kit

The mounting bracket can be used to stick the TX to a wall if necessary, or wedge in to a suitable object such as a filing cabinet.

Care should be taken when positioning the TX as dropping it could cause calibration damage that may affect the survey accuracy.

E. PERFORMING THE SURVEY

To ensure the system works as expected it vitally important that every intended AQW-RTX position is surveyed accurately. We would recommend making a note, on a plan if available, of the exact position.

Ensure both units are powered on (see section 3). The red LED is illuminated on the TX and a ticking can be heard from the RX. To test functionality press the 'in contact' button on the rear of the RX. The RX LED should illuminate green and the unit beep three times to indicate good signal strength.

Now each AQW-TX location should be visited. Place the RX in the intended position ensuring the in contact button on the rear of the unit is pushed in.

Once in position the unit will indicate signal strength as described in the table below:

LED	Sound	Status	Action
Green	3 Pulses	Good	Fit AQW-RTX
Green	2 Pulses	Average	Fit AQW-RTX
Green	1 Pulse	Adequate	Fit AQW-RTX, consider fitting booster
Red	2 Tone	Unsatisfactory	Relocate AQW-RTX, or re-test after fitting Signal Booster
Red	None	No Signal	Add Signal Booster

A 2 tone beep accompanied by a red LED indicates an acceptable signal may be found by relocating the device to a nearby location.

If the LED is red with no beep then no signal is being received and a booster panel must be considered, see section 6.

F. SURVEYING FOR BOOSTER PANELS AND WIRED

ANTENNAS

If the AQW-SK-RX indicates no signal in an area where leak detection is required, then an AQW-RBP booster panel or AQW-IA wired antenna must be used to extend the signal range to the area in question.

For increased reliability Aquilar recommend using AQW-RBP or AQW-IA devices to extend signal where only adequate signal is present.

AQW-SK Survey Kit

AQW-RBP-1/2 units require a 230Vac supply from an unswitched fuse spur. The booster panel must be placed within radio signal range of the control panel to be able to relay information. Use the AQW-SK-RX to locate a suitable location taking into consideration availability of mounting space and power requirements. The AQW-SK-TX should then be positioned at this location, observing the same rules as with the control panel (ie. antenna in a vertical position, matching the booster panels intended antenna position) and the survey continue as previously. AQW-IA wired antennas do not need to be within a signal area as they are hard-wired back to an AQW-RCP control or AQW-RBP booster panel. Maximum cable run is 100m of 2 x twisted pair 4 core data cable. Power for the AQW-IA is supplied from the control or booster panel. As with the booster panel once a suitable location has been established the AQW-SK-TX should be placed in this position and the survey continued.

Use the AQW-SK-RX to locate a suitable location taking into consideration availability of mounting space and power requirements. The AQW-SK-TX should then be positioned at this location, observing the same rules as with the control panel (ie. antenna in a vertical position, matching the booster panels intended antenna position) and the survey continue as previously.

AQW-IA wired antennas do not need to be within a radio signal area as they are hard-wired back to an AQW-RCP control panel or AQW-RBP booster panel. Maximum cable run is 100m of 2 x twisted pair 4 core data cable. Power for the AQW-IA is supplied from the control or booster panel. As with the booster panel once a suitable location has been established the AQW-SK-TX should be placed in this position and the survey continued.

G. BATTERIES

Low battery warning is indicated by a red flashing LED on either of the units. Batteries should be checked prior to each survey visit to ensure they are not low.

To replace the batteries on either unit power down first. Then remove the cover and replace. Care should be taken when fitting the new battery pack to align the pins correctly. Only use AQW-BP (6770) battery packs (1 x pack per unit).

If the LED on either devices starts flashing during a survey it is OK to continue. However batteries should be replaced before the next survey.

Aquilar recommends the batteries are replaced every 100 hours or 12 months of use, whichever occurs sooner.

H. TROUBLESHOOTING

Problem:
RX/TX unit(s) not powering up.
Possible Cause:
Battery power low
Action:
Replace battery pack

Problem:
No Red LED displayed when AQW-SK-TX powered up. Or no ticking sound when AQW-SK-RX powered up.
Possible Cause:
Initialisation fault, or battery low power
Action:
Cycle power on device. If problem persists replace batteries.

AQW-SK Survey Kit

TROUBLESHOOTING CONT.

Problem:

AQW-SK-TX survey transmitter will not power up, changing batteries has no effect

Possible Cause:

Power link in 'off' position or removed completely.

Action:

Check power link is fitted and in the correct position. Within the device to the left of the battery pack is a 3 pin connector. The link should be in the left hand position (middle and pin closest to the battery pack) otherwise the unit will not power up.

Problem:

AQW-SK-RX survey receiver will not power up, changing batteries has no effect.

Possible Cause:

Power link in 'off' position or removed completely.

Action:

Check power link is fitted and in the correct position. A 4 pin connector is located on the base of the device. The link should be in the left hand 'ON' position otherwise the unit will not power up.

Problem:

Devices keep turning themselves off

Possible Cause:

Battery power is too low

Action:

Replace battery pack

Problem:

Signal strengths on installed panel different to indicated during survey

Possible Cause:

1. Panel and/or antenna not installed in same position as survey transmitter during survey.
2. AQW-RTX not located in same position as survey receiver during survey.
3. Building/office/equipment layout has changed since survey.

Action:

Relocate devices to surveyed positions, or add wired antennas/radio boosters to provide adequate signal.

Problem:

No signal indicated on receiver during survey

Possible Cause:

1. Battery low in receiver
2. Out of transmitter range
3. Survey equipment out of calibration

Action:

Replace battery. Move within TX signal range or add booster/wired antenna to survey. Survey equipment should be re-calibrated every two years.

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