

# AquaSpy™ Radio Node

## Technical Specifications

Specifications subject to change without prior notice



Developed from Data Node technology, the Radio Node is a data storage unit that uses ISM 900MHz radio to routinely transmit data to a receiving device. The data is automatically sent to either a 'Radio Receiver' or 'Network Gateway' device, where it is automatically uploaded to a PC and viewed using the included AquaSpy Display software.

## Intelligent Radio Telemetry

- 1 x Serial Sensor Channel (4-pin Switchcraft connector) configurable for RS-485 (AO protocol only)
- 1 x EXT PWR input (3-pin Switchcraft connector) for external power only
- 1 x Rittal breather valve
- Internal sensors measure battery voltage and solar/household electricity (when connected)
- Button cell battery maintains time/date settings when powered off
- Includes 3 internal communication ports:
  - IrDA
  - RS-232
  - USB (Type B)
- 2Mb of data storage capacity:
  - With a single sensor connected there is ~377 days of data storage
  - With an AquaSpy Probe 40" (10 sensors) connected there is ~287 days of data storage
- SMA connector fitted for external antenna options:
  - 3dBi stub antenna 6.6ft cable
  - 6.5dBi 'high gain' 6.6ft cable
  - 6.5dBi 'high gain' 16.4ft cable
- Choice of external power options:
  - Household electricity (12VDC power supply)
  - Solar & rechargeable battery (1 x sub Csize NiMH 1.2V 3000mAH 8 pack)
- The battery life of a Radio Node is dependent upon the life span of the rechargeable battery. In blackout conditions (no charge), when connected to an AquaSpy Probe 40" (10 sensors), the battery life = 30 days  $\pm$  20% (depending on environmental conditions)
- Choice of 900Mhz radio modules:
  - Aerocomm 100mW (A4490-200)
  - Aerocomm 1000mW (A4490-1000)
- Radio module power draw (typical):
  - 68mA (100mW module)
  - 650mA (1000mW module)
- Radio modules switch to 'idle' mode in-between transmissions to conserve power
- Radio modulation = FHSS FSK
- Radio modules have FCC & IC approval
- 'Field Utility' software tool included to enable testing and reconfiguration of the Radio Node as required
- Software suite (Windows 2000/XP compatible) included providing flexible data collection and advanced data display features
- Fibox enclosure:
  - 7.09" x 7.09" x 3.94"
  - Polycarbonate construction
  - -40°F to + 176°F
  - Ingress protection IP66/67 (only with fixing screws)
  - Impact resistance IK08
  - Total electrical insulation
  - UV resistance UL508
  - Flammability rating UL945V
  - NEMA classes 1, 4, 4X, 6, 12 & 13
- Reports health status:
  - Battery voltage
  - Solar/Household Electricity supply voltage (when connected)
  - RSSI
- Self-configuring universal 'plug and play' technology
- One year warranty