

ICESPY SYSTEM 5: BRIDGE FUNCTIONAL SPECIFICATION

Overview

- A device for forwarding data between Scout (or ScoutPlus) units and a PC, making use of Echo units to increase distance.
- Two modes of operation, broadcast reception and download request.
- Communication to/from Scout/ScoutPlus by low-power radio link
- Connected to, and powered from, USB port on PC

Functions

- *Note: all references to 'Scout' below include 'ScoutPlus'*
- Radio module for (a) collection and verification of radio broadcasts from Scout (b) transmission of download requests to Scouts and dealing with resulting data retrieval.
- Verification of data received from Scouts and Echos
- Display of operating conditions via LEDs:
 - LED to indicate communications to PC from unit
 - LED to indicate successful reception of radio broadcasts
 - LED to indicate functioning of two-way radio communications
- Provision of build standard control (software) for each module via communication modules
- Automatic building of routing table for networking of Echos and Scouts *to be implemented Q2 2007*

Data

- Conversion of RS232 data (via USB port) into radio transmissions using proprietary (unpublished, secure) protocol
- Conversion of radio transmissions into RS232 data (via USB port) using same protocol
- Maintaining routing table for up and 128 Scouts *to be implemented Q2 2007*
- All transmitted commands automatically generated by PC software
- All received radio broadcasts and responses automatically dealt with by PC software (when running)

Interfaces

- USB connection to PC, making use of FTDI drivers. Powered via USB connection.

Low-power radio module.

- Frequency: 433.9 MHz (UK/Europe), licence-free band. ETSI 300-220 standard.
- Power: max 10mW (+10dBm)
- Transmitter duty cycle <10% (ETSI 300-220 standard)

Environment / Mechanical / Electrical

- Dimensions: Approx 30mm x 30mm, Body length 120mm plus antenna 150mm approx.
- Case Material: ABS
- Weight: 170 g
- Operating temp. range: -40C to +40C, humidity 0-90%.
- Dust / Waterproofing: IP65
- Powered via USB port
- Cable length 2 metres

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