



SOLAR 2 Simulcast

Synchronised Simultaneous Broadcast over IP Networks

Solar 2 builds on the success of the Solar-Sync principles of a straight-forward plug & play digital IP simulcast and voting solution, extending this capability to enable compact integration of Traffic Manager, Voter and Network modules in a single 1U chassis together with full remote management and traffic manager resilience.

Features

- ▶ Low bandwidth (64 Kbps per Network Interface), low latency (65 ms min) simulcast infrastructure over an IP network
- ▶ Scalable, dynamic architecture allows real-time system reconfiguration and expansion
- ▶ Synchronisation of audio input to base station automatically compensate for network delay
- ▶ Full audio bandwidth for best voice quality and supports the transfer of signalling tone
- ▶ Integral voting for best received signal selection
- ▶ Easy set up utilising basic IP network equipment, and no regular alignment or costly maintenance after commissioning
- ▶ Global synchronisation signal (e.g. 1 PPS input from a GPS receiver) required at each site
- ▶ Traffic Manager multi-channel support, SNMP monitor & control and redundancy options
- ▶ Low network bandwidth requirement



Specification

Specifications

Audio I/O	DB9 Socket: 4 wire full duplex, -30 dBm to 0 dBm, 300 Hz to 3.2 kHz, +/-0.5 dB flatness across band
IP Interface:	10 Base/T RJ45 - UDP/IP
Environment	16Binary I/O
GPS 1 PPS	1 PPS Delivered to Solar via RS-422 or TTL
Temperature	Operating: -10 to 60 °C, Storage: -25 to 85 °C
Power Supply	100-240 VAC 50-60 Hz, 10-36 VDC, 32-72 VDC
Physical Dimensions	19" rack, 30.5 cm deep
Weight:	TM - 3.5 Kg, NI - 3.3 Kg
CE Mark	EN55022/24 & 61000-3-2/3
FCC approval	15B

Traffic Manager Capacity

A single Solar 2 Traffic Manager(TM) can accommodate a maximum number of 32 base stations with a maximum of 16 console interface connections by default.

With the additional channel option, the user can select stations to form independent channel groups (to a maximum of 16) and allocated the number of console connections to each channel as appropriate.

Voting

Receiver selection or receiver voting is conducted in the digital domain by the TM using signal information passed down from the station interface.

Due to the noise free nature of the digital link, no further signal evaluation is necessary at the TM which means that the IP data packets contain both the received audio and the signal level/ quality information together so voter risetime is the absolute minimum.

Solar can accommodate either a ramping voltage or a set of tones as a source of RSSI signal.

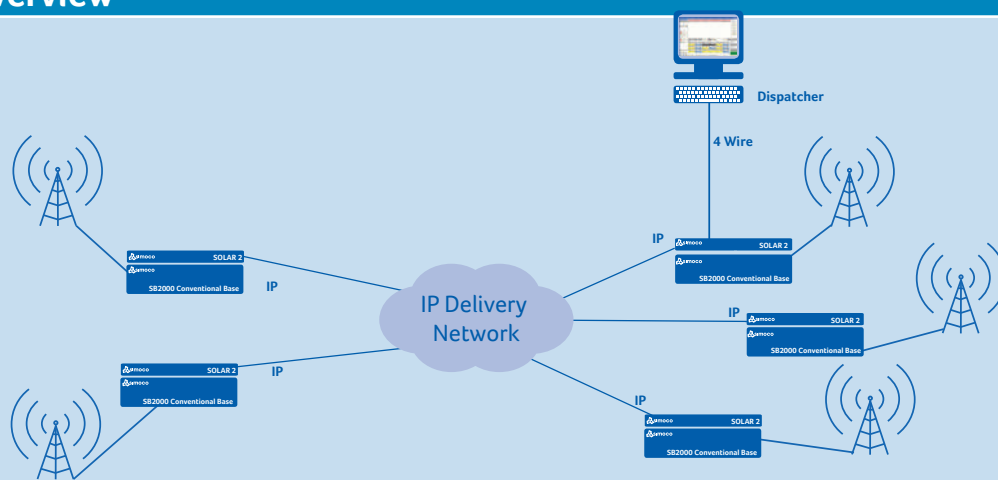
Synchronisation

Synchronisation operates within 2 micro seconds compared with other base stations for both talk in and talk out directions. Switching the "vote" mid-transaction will only cause a disturbance of the input within the specified figure.

Monitoring and control system configuration and status is available via a PC running the engineering terminal software supplied, and is connected either via USB or over the IP network to the TM. Standards based management is also available via the SNMP monitoring and control option to the TM allowing connection and sending of traps to a higher level management system.

A closed contact summary alarm output is also provided on the central NI for connection to external alarm systems.

Diagram Overview



All specifications are subject to change without prior notice.

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