SIMOCO
wireless solutions

SB2025NT-T/N
P25 Simulcast / Voting Base Station

Features
► **Enabling solutions in simulcast technologies**
► **Auto set-up and synchronisation**
► **Comprehensive remote management and diagnostics**
► **Low lifecycle costs**

SB 2025NT

simoco

Dalman

P25 SIMULCAST
BASE STATIONS

P25 Simulcast / Voting Base Station

The SB2025NT-T/N Simulcast Base Station offers market leading P25 performance in a robust, reliable yet compact 2U form factor. Designed and built to exceed industry standards, the SB2025NT-T/N is a spectrum efficient solution, perfectly suited to wide areas of coverage.
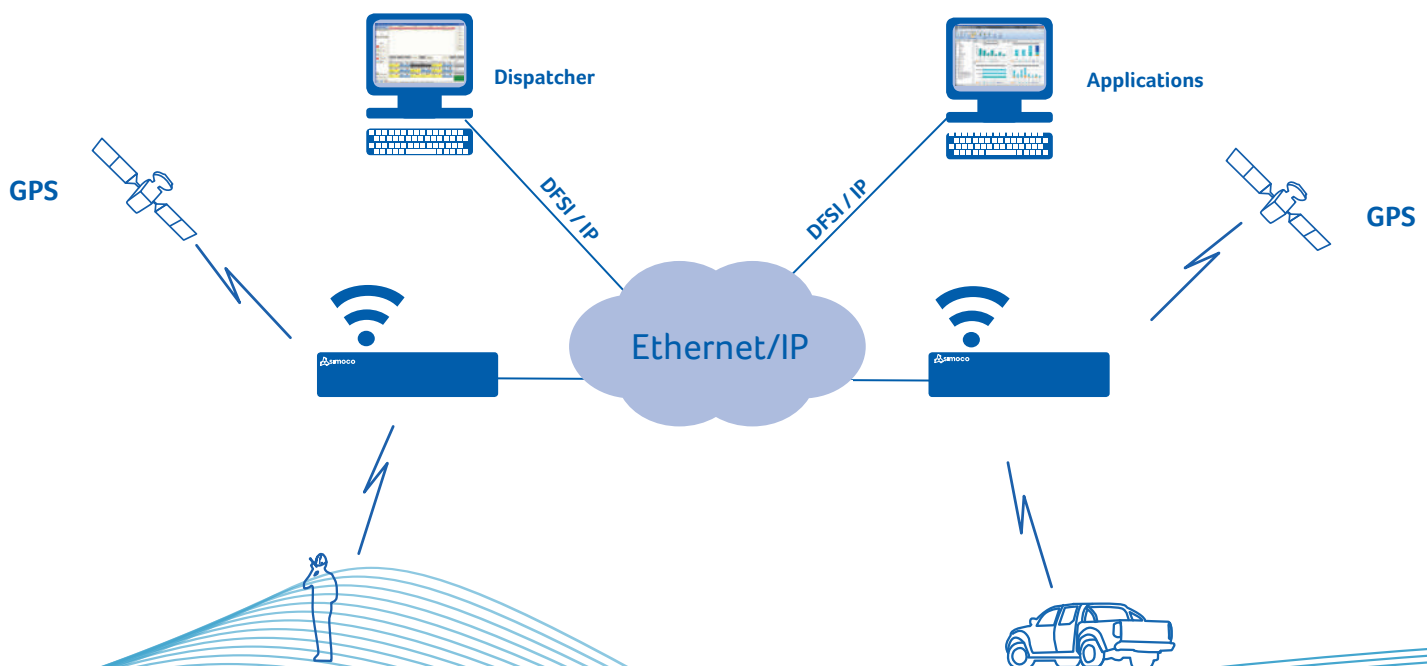
Building on the plug and play principles of analogue Dalman simulcast systems, SB2025NT-T/N integrated simulcast and voting controller offers enhanced resilience and full remote management of base station networks, while interfacing in a cost effective, compact component based P25 system.

SB2025NT-T/N Overview

- Simulcast technology synchronises duplicated channels in a wide area network to avoid interference between adjacent radio sites.
- Digital VoIP signals are better defined and more consistent than their analogue counterparts, enabling the synchronisation task to be 'processor controlled'.
- SB2025NT-T/N incorporates an RSSI voter which can operate in talk through mode with simulcast transmit.
- Easy to deploy base station, with intuitive set up and simple remote management.
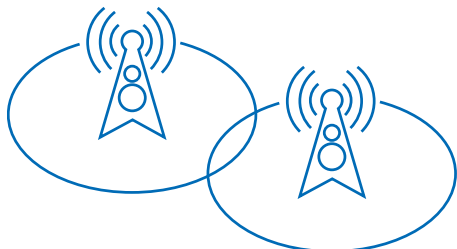
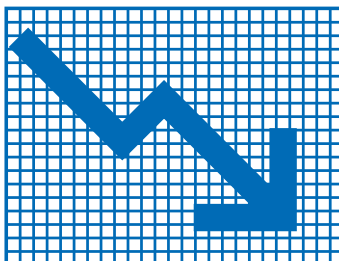## Example Diagram

Features

- ► All-in-one simulcast and voting base solution requiring less space
- ► DFSI standard interface
- ► Remote management and diagnostics
- ► IP inter-site interface
- ► 100 Watt transmit power
- ► Dual mode analogue PMR and P25 digital conventional

SB2025NT-T/N Architecture

Architecture

Simoco simulcast over IP solutions leverage the inherent consistency of digital signals to simplify simulcast synchronisation. This means that Simoco Solar 25 is fundamentally easier to manage and support and can be deployed over the enterprise IP network.

Processor-controlled synchronisation, Auto Set-Up and Remote Management enable easier deployment and simplified network control. Additionally, its compact component based design offers low lifecycle costs.

Simoco simulcast over IP solutions leverage over 25 years of dedicated simulcast engineering, research and development in Simoco Wireless Solutions Labs and are innovatively engineered to realise the advantages of digital technology in tangible business and cost benefits.

Integrated Design

The SB2025NT-T/N is an integrated system, incorporating optional traffic manager and Network Interface Modules.

The SB2025NT-T/N uses a GPS receiver to provide the timing source throughout the network, and up to one Traffic Manager Module and two Network Interface Modules, making the system extremely compact, flexible and cost effective.

SB2025NT-T/N 's can be located throughout the network and configured to the specific requirements of each customer solution.

Network Interface Module

Network Interfaces are DFSI compliant with dispatch consoles and applications such as voice recorders.

Traffic Manager Module

The Traffic Manager Module provides the synchronisation and supervisory functions throughout the network and can be duplicated to provide distributed resilience of these essential functions.

Integrated Voting

Receiver site voting is evaluated at the traffic manager. The use of IP links between the radio sites and the traffic manager gives consistent and characterized delivery of site signal quality information ensuring an accurate vote every time.

Specification

General Specifications

Antenna Connector	Rx, Tx both N type female
Channel Spacing	Analogue - Programmable 25/12.5 kHz. Digital - 12.5 kHz
Channels	255
Frequency*	148-174 MHz, 400-435 MHz, 435-470 MHz, 850-870 MHz (TX), 805-825MHz (RX) Other bands by request
Modulation	Analogue - Direct FM two point method. Digital - C4FM
Operating Temperature	- 30 ˚C to +60 ˚C (-22 ˚F to 140 ˚F)
Physical Size	2RU Height x 19" rack mount
Supply Voltage	13.8 VDC +/- 20%
Models	**SB2025NT-T** – Traffic Manager + Network Interface **SB2025NT-N** – Network Interface only

Transmitter

Frequency Stability	1.5 PPM
Modulation Fidelity	Less than 3%
Power Output	100 W
Symbol Deviation	1.8 kHz

Receiver

Audio Bandwidth	300 Hz to 3000 Hz (+1,-3dB)
Distortion	Less than 2% @ 60% deviation
Intermodulation Immunity	Better than 82 dB blocking better than 100 dB at +/- 1MHz point
Sensitivity	Better than - 117 dBm for 12 dB SINAD, typ -120 dBm. P25 - Better than - 117 dBm for 5% BER

APCO P25

• Front panel status indicators

• DFSI interface option for IP connected dispatch console

• Mixed mode repeat - analogue and digital

• NAC can be unchanged or defined

• Remote diagnostics

• Transparent P25 repeat - passes encrypted voice transparently

Options

• 4-wire analogue dispatch console interface (via central NI)

• Duplicated traffic managers for high reliability

• SNMP traps for alarms

*Note: Specifications based on standard operating conditions. Not all combinations of frequency bands and options are permissible for every market area. See Simoco Wireless Solutions Product Catalogue for a full list of specifications.

All specifications are subject to change without prior notice.
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