Service Box

A resilient, cost effective service box offering power supply and base station controller for the BS421

SB421

- **Full physical support for up to 2 DAMM BS421 base stations**
- **The Base Station Control software can control up to 4 DAMM BS421**
- **Pentium or Celeron CPU and Microsoft XP inside**
- **Built in Ethernet switch**
- **220 V AC and -48V DC power supply**
- **Built-in lightening protection**
- **IP65 encapsulation**
- **Easy installation**
- **Optional internal battery back-up for up to 2 hours operation**
- **Optional redundant hot stand-by configuration**

The DAMM SB421 Service Box offers full physical support for up to two DAMM BS421 base stations.

The SB421 Service Box is designed for out-door use and to be mounted directly on the antenna mast in a distance of up to 150 meters from the base stations. The unit is to be fastened and installed on a mounting plate, which is supplied with the service box - including clamps from 30– 102 mm Ø. As an option mounting kits to fit units up to 200 mm Ø can be supplied. The unit is supplied with individual lock system but can optional be delivered with system lock and system key.

BSC421 Base Station Controller
The core of the BSC421 is a built-in Pentium or Celeron host computer, a hard disc and/or a CF-card disc, running the operating system Microsoft XP Embedded. In addition to this the system is supplied with built-in Ethernet switch permitting LAN connection to 2 BS421 base stations and WAN connection to the IP backbone and other networks nodes.

The BSC421 base station controller is running the DAMM BSC421 software as well as the DAMM OM software.

Besides of this, it provides a solid platform for TETRA system vendors to integrate their TETRA functionality and applications to the base station controller and the connected BS421. The host computer contains an USB port, intended for dongle protection of this application software.

The message interface specification to the TETRA Layer 3 software is compatible with the BSC411, used in the DAMM BS41X indoor base stations, with some upgrades.

The BSC421 software handles message connections for up to 4 BS421 base stations and secure time and frequency synchronisation between the numbers of connected BS421. It receives the derived GPS synchronisation information from one or more of the BS421 and decides the mastersalve relations and secures the distribution to all BS421

The OM software is giving control of almost all functions and access to a large number of test points in both SB421, inclusive of the power supply, but also to the number of BS421 connected to the service box. It also makes it possible to do software upgrades and download new software and to supervise, diagnostic and control the settings and functionality of the BS421 connected. The OM software can be access either locally or remotely.

Power supply and charging
The SB421 Service Box is equipped with a built-in power supply for connection to 100-240 V AC or -48 V DC, with -48 V DC output for own circuits and for 2 DAMM BS421 base stations. The unit includes a rectifier with control and charging circuit for the optional internal battery module or external battery units. The internal battery module supplies battery back-up for up to two hours of operation depending on the number of base stations.

The unit is lightening protected by internal circuits. For service and maintenance purposes the unit can easily be dismounted from the mast by means of connection boards, which disconnects all cable connections at the same time. (See picture Inside look on next page).

Optional redundant configuration
The SB421 Service Box supplied with BSC421 software for redundant hot stand-by operation of a second service box making it possible to control 4 carriers per site. This configuration offers full redundancy with no single point of failure.

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TETRA
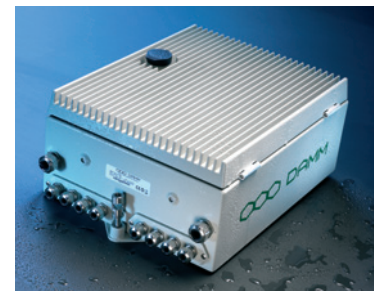
Specifications

BSC421 base station controller

CPU	Pentium M 1.4 GHz or Celeron M 1,0 GHz
RAM Memory	512 MB
Hard Disc or	40 GB
Flash Disc	1 GB
LAN connection	Ethernet 10/100 Mbit/s
WAN connection	Ethernet 10/100 Mbit/s
Operating system	Microsoft Windows XP Embedded

Power supply

Supply voltage	100-240V AC or
	-48 V DC (without back up battery)
Output voltage	-48V DC
Output current	6 Amp
Power consumption	20W (idle, excl. charging, excl. transceivers)
Optional internal battery or	4 x 12V DC 7Ah
Optional external battery	4 x 12V DC

Mechanical

Dimensions (HxWxD)	375 x 283 x 215 mm, inclusive mounting bracket
Weight (incl. mounting acc. and battery)	20 kgs
Wind area	0,10 sq. m
Operating temp. (with internal battery and hard disc)	-20° to +55° Celsius
Operating temp. (without internal battery and hard disc)	-40° to +55° Celcius
Encapsulation	IP65

Connections

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Internal connectors:	
CRT/display	15 pol. VGA
Mouse/keyboard/Dongle	USB
LAN connection	RJ45, Ethernet 10/100 Mbit/s
External connectors:	
Connection module for base stations	
2 x Power	Screw terminal 3 x 2.5# (-48V, 0V, GND)
2 x LAN/one sec.	LSA
Connection module for LAN/WAN:	
-48V DC OUT (for router/modem)	Screw terminal 3 x 2.5# (-48V, 0V, GND)
1 x LAN 10/100 Mbit/s	LSA
1 x WAN 10/100 Mbit/s	LSA
One second IN/OUT	LSA
Temperature sensor for ext. battery	LSA
8 x external alarm IN	LSA
Mains connector:	
AC mains connector	3 x 4# (Phase, 0, GND)
External DC supply or battery connector:	
-48V DC	3 x 4# (-48V, 0V, GND)

Ordering

Item number	Description
105101	SB421 Service Box, 1,4GHz Pentium M with hard disc
105102	SB421 Service Box, 1,0GHz Celeron M with CF-card
105103	SB421 Service Box, 1,0GHz Celeron M with hard disc
105105	SB421 Service Box, 1,4GHz Pentium M with CF-card

GPS — GPS

BS421 — BS421

SB421

▬	230 VAC
▬	IP-LAN
▬	Coax
▬	Power Supply -48V
▬	IP-WAN
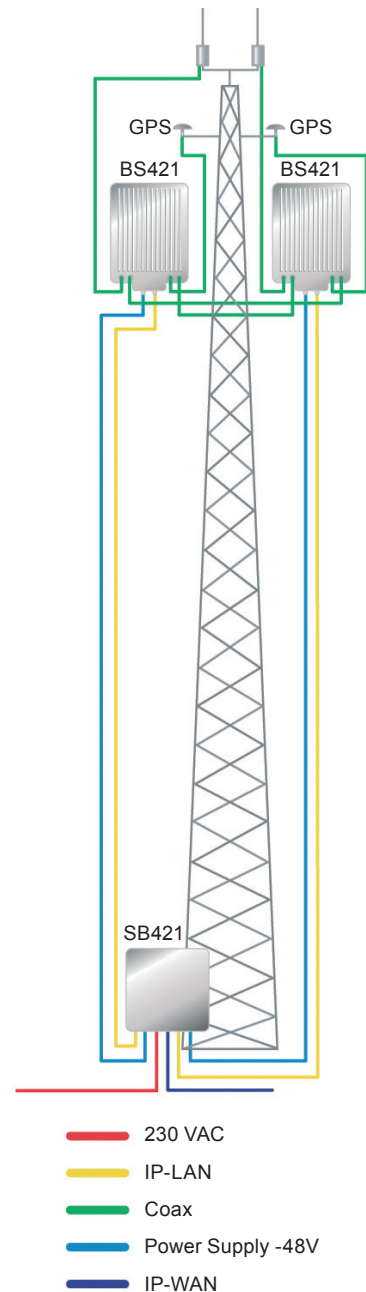
Inside look
(with optional battery module installed)

Rev. 5.1   Date: 2008-04-01