DAMM® MultiTech Outdoor Base Station BS422

The world’s only outdoor base station featuring multiple technologies in one single core-connected system: TETRA, DMR Tier III, TEDS and Analog. This technology-independent solution features multiple carriers as well as simulcast in one box within either UHF or VHF frequency ranges.

Core-connected
No more need for gateways or bridges! With the core-connected BS422 you can easily combine multiple technologies in one coherent system. Or choose the one technology that matches your current need – and scale anytime to meet changing voice and data needs with a simple click.

Multiple technologies – one software
With everything covered by one system, operation, maintenance and repairs are simply easy. Multi-technology networks can be managed in a single network management tool with one central subscriber register. Applications like dispatchers and voice and data log systems can be used across all technologies, and all technologies use the same gateways.

Seamless integration
The BS422 can be set up as a stand-alone system. It can also be seamlessly integrated into any existing DAMM single-tech network such as networks based on DAMM BS421 outdoor and/or DAMM BS418 indoor base stations.

Reduce infrastructure costs with VHF
Save on infrastructure costs by utilizing VHF frequencies to obtain the same coverage as UHF using fewer base stations.

Extended coverage with simulcast
The BS422 enables simulcast for DMR and Analog and also offers repeater functionality for TETRA and TEDS.

Rugged and compact design
The BS422 is built to withstand harsh conditions – from extreme cold to extreme heat and also wet conditions thanks to its IP65 encapsulation. Its compact and light-weight design makes it easy to install everywhere from masts to tunnels and on the back of a truck.

No single point of failure
At the core of the BS422 is a decentralized architecture, which ensures that all system information is constantly replicated to all sites in the network. This means that the system does not have any single point of failure. This way, local call and data traffic will run without interruption, even if one site loses its connection to the rest of the network.

Flexible and future-proof
The flat decentralized IP architecture and intuitive software also enable effortless, self-configuring site expansion. The BS422 can be used with single or multiple carriers as well as single or multiple technologies, giving you maximum flexibility.
The DAMM BS422 Outdoor Base Station is the first product in DAMM’s MultiTech System. It features multi-technology, multi-carriers, multi-frequency and simulcast and is core-connected, eliminating the need for any bridges or internal gateways.

- Compact, low-weight and rugged outdoor base station
- Powerful integrated controller and optional SSD drive
- Improved redundancy
- Input power: PoE or external powering
- Output power: Standard and high-power options
- Built-in or external GNSS receiver available
- Antenna setup: One antenna per box, minimum two antennas for diversity. Optimized for a setup with two boxes and two antennas only
- Two-way receive diversity for all technology modes
- Synchronization: 1PPS, IEEE1588 via LAN, GNSS (GPS, Galileo, Glonass)

**Specifications subject to change without notice**

DAMM MultiTech Platform
featuring the BS422 Outdoor Base Station

### RX – Freq. Range | TX – Freq. Range | Duplex Spacing | Duplex Bandwidth | Physical carrier bandwidth | Band
---|---|---|---|---|---
68-87.5MHz | 68-87.5MHz | 2.5MHz | 0.5MHz | 75kHz | Low VHF
146-174MHz | 150-174MHz | 4.6MHz | 1MHz | 150kHz | VHF
350-370MHz | 360-370MHz | 10MHz | 5MHz | 300kHz | UHF
380-400MHz | 390-400MHz | 10MHz | 5MHz | 300kHz | UHF
410-420MHz | 420-430MHz | 10MHz | 5MHz | 300kHz | UHF
450-460MHz | 460-470MHz | 10MHz | 5MHz | 300kHz | UHF
805-825MHz | 850-870MHz | 45MHz | 14MHz | 300kHz | High UHF

### Mechanical
- Dimensions (HxWxD) (excl. mounting bracket): 340x250x205mm
- Weight: 12kg
- Wind area: 0.08m²
- Operating temperature: -25°C to +55°C
- Storage temperature: -40°C to +85°C
- Encapsulation: IP65

### Power
- Input voltage: -48VDC
- Power consumption:
  - 95W at 10W TETRA
  - 150W at 25W TETRA
  - 200W at 50W DMR/Analog
  - 115W at 10W TEDS

### RX sensitivity
- TETRA, w/diversity. Static: -124dBm
- TETRA w/o diversity. Static: -121dBm
- TETRA w/diversity. Dynamic TU50 @ 4% BER: -118dBm
- TETRA w/o diversity. Dynamic TU50 @ 4% BER: -112dBm
- DMR/Analog w/diversity. Static: -124dBm
- DMR/Analog w/o diversity. Static: -121dBm

### Standards and approvals
- TETRA specification EN 300 394-1 v. 3.1.1; please refer to the DAMM TetraFlex feature list
- DMR specification, EN 300 113 v. 2.2.1
- Analog specification, EN 300 086 v. 2.1.2
- Multi-channel specification EN 303 039 v. 2.1.2
- IOP certification; please see www.tandcca.com, www.dmrassociation.org and www.dammcellular.com for details

### TETRA mode
- TETRA repeater-mode option
- High-power option
- Market-leading power efficiency

### DMR Tier III mode
- DMR Tier III outdoor base station with integrated duplexer and diversity receiver
- Supports wide range of DMR terminals
- Simulcast option

### TEDS mode
- Most compact TEDS outdoor base station
- Data rate: between 10 and 530kbit/s
- Real mission-critical data communication

### Analog mode
- Easy migration from Analog to TETRA or even TEDS
- Simulcast option
- Supports conventional FM radio