



DOB-500 - TETRA Digital Outdoor Base Station

Innovations for *ACCESSNET*[®]-T

The *ACCESSNET*[®]-T TETRA Outdoor Radio Base Station DOB-500 has been developed and manufactured by Rohde & Schwarz making use of the latest progress in technology in order to optimise flexibility and quality, especially for outdoor applications, and to minimise service and maintenance with the result of a cost effective product. The DOB-500 is a base station equipped with up to 2 carriers and is available for the usual frequency ranges between 380 and 921 MHz.

Outdoor operation is made possible through the latest design concepts in compact aluminium housing. During development special emphasis was placed upon the receiver unit of the DOB-500. In future network operators have the choice to either employ an "indoor" base station or the DOB-500 for outdoor coverage. Smallest dimensions, low weight, and the innovative installation concept only place minimum requirements on the installation location and thus reduce the location investment costs and leasing fees considerably.

The DOB-500 is installed close to the antennas; hence the usual long coax cabling is not necessary any more. In conjunction with this costs for the expensive coax cables are reduced and also cable transmission loss is reduced considerably. Thus the advantages of the high receiver sensitivity can be fully utilized. This tends to lead to a decrease of sites needed. Only power is needed to operate the DOB-500 if microwave is used for connection to the next available switch within an *ACCESSNET*[®]-T radio communications network.



...mobility for professionals!

DOB-500 and ACCESSNET®-T

ACCESSNET®-T network elements are modular and permit scalability with different hierarchy and spatial expansion levels. Depending on customer requirements local, regional and even nationwide networks can be installed.

Design and mechanical Construction

Operation without using a fan as well as the construction design according to safety class IP65, make the DOB-500 particularly resistant against environmental and weather-related influences. The wide operating temperature range from -40°C to $+50^{\circ}\text{C}$, without additional cooling, enables the use in outdoor applications in both very hot and very cold climates. This is fulfilled by the chamber-construction of the multipartite aluminium housing, which, for example, can be equipped with a sun protection screen against direct insolation. At one location several DOB-500 can work together as a sectoring solution. For networks with mandatory high availability, the DOB-500 adapts to the planned redundancy concept.

Technical Data

General

Frequency bands	380 - 470 MHz 806 - 921 MHz (others upon request)	Cooling	natural convection
Receiver sensitivity		Protection class	IP65, (protection against splash and dust)
Dynamic 4% BER Diversity	-112 dBm min.	Power supply range	48 V _{DC} (36 - 70 V _{DC})
Static	-115 dBm min.	Interfaces	4 x E1 3 +1 Ethernet, 100BaseT GPS connection
Receiver diversity	2-way	Dimensions	
Nominal RF-output power (at antenna jack)	25 W effective, (0,6 - 25 W adjustable)	Diameter	700 mm
Power consumption	< 350 W (1 carrier) < 450 W (2 carrier)	Height	1000 mm
		Weight	approx. 80 kg
Environment			
Operating temperature (no direct insolation)	-40°C ... $+50^{\circ}\text{C}$		
Operational relative humidity	8% to 100% according EN 300 019-1-4 Class 4.1E		

Subject to change without notice

Thus, two DOB-500s can be configured as redundant units at one location. Network operators using a DOB-500 have no need to deal with floor loads, space requirements and climatisation in the future. Every location that is structurally suitable for antenna masts and has an electrical point is suitable.

Service and Maintenance

Using the DOB-500 offers the advantage of a practice-oriented operations and maintenance concept. The DOB-500 includes the Network Element Manager (NEM), which is an integral part of the ACCESSNET®-T Network Management System (NMS). Hence, it is possible to communicate remotely with the DOB-500, e.g. for configuration changes and software updates.

DOB-500 "Highlights":

- Minimum requirements on the installation location
- Modular lightweight enclosure concept with thermally insulated, shielded, and watertight chambers
- Operation without using a fan, pure convection
- Smallest dimensions
- Low weight
- IP65 protection
- Temperature range -40° to $+50^{\circ}\text{C}$ without active cooling
- High receiver sensitivity
- Decreased investment costs for network operators
- Reduced operating costs for network operators



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