
UHF RF Repeater

TSRP-400-85-3

TSRP-400-85-3 Wireless Bi-direction Booster is cost effective and reliable solutions designed to extend and improve the coverage area of UHF, Tetra intercom communication systems. Wireless Fixed Repeaters amplifies in directions, uplink and downlink a continuous bandwidth, factory tuned. The presence of a Booster provides to the intercom communication system with a high channel occupancy rate, since coverage is extended beyond site coverage. Typical applications of this line of boosters are indoor situations such as tunnels, buildings, subways, and outdoor scenarios such as stadiums, rural areas and dense urban areas.



Features & Benefits

Auto diagnostics: BDAs are equipped with a microprocessor module that controls the unit operational parameters. This self check capability provides an instantaneous alarm output under failure situation, via local LEDs. Microprocessor module verifies amplifiers status, PA status, power supply status, intermediate filters status, and battery backup status and temperature levels.

Antenna isolation control: BDAs are provided with a built in, microprocessor controlled, antenna isolation control. This feature verifies the real antenna to antenna isolation (donor antenna to service antenna/s), and adjust the maximum available BDA gain to avoid antenna feedback and oscillation, increasing system reliability.

Control: BDAs can be controlled locally via the control panel or via RS-232, and can be remote controlled using OMS (Operation and Maintenance Software) via wireless connection. In both situations, local and remote. BDAs parameters can be adjusted (UL gain, DL gain, RF ON/OFF, intermediate filters characteristics) and alarms can be supervised (amplifiers status, PA status, power supply status, battery backup status, temperature).

Manual gain control: Uplink and Downlink gain levels can be adjusted to meet system planning requirements. Both chains (UL and DL) can be adjusted independent, digitally, in 1dB steps. This gain control can be done locally via tac switches, via RS232 (OMS) or can be done remote via wireless connection (OMS). Gain values are shown via built-in digital displays, for an easy and fast reading.

Automatic Gain Control (AGC): BDAs are equipped with Automatic Gain Control (AGC) that acts in both Uplink and Downlink chains independent. The presence of an AGC allows a maximum power operation with low inter-modulation generation, and provides a lineal operation that ensures a high quality signals amplification.

Weatherproof enclosure: Units are equipped with IP65 enclosures, to allow a simple and easy installation procedure since no special weather protection is required. Standard fixing method is wall mounting, Pole mounting brackets are available as optional.

RF Specifications

Item	Specification		Remark
	Up-Link	Down-Link	
Frequency range	410 – 415Mhz	420 – 425 Mhz	UHF
Output Power	≥30 dBm(1W)	≥33dBm(2W)	customization
Nominal Gain	≥85dB		customization
Pass Band Ripple	≤3dB		
Gain Adjust Rang	0-30dB in 1 dB steps		
AGC Rang	0-30dB		

Max. ALC level		≥25dB	
Intermodulation attenuation		≤-50dBc	
Spurious emission	9kHz-1GHz	≤-36dBm	
	1GHz-12.75GHz	≤-30dBm	
Noise Figure.		≤5dB(at maximum output power)	
Group delay		≤5us	
VSWR		≤1.5	
RF Connectors		N – female	
Impedance			

Supervising Specifications

Self diagnostic platform	Microprocessor based
Alarms	Yes, amplifiers status, power amplifiers status, power supply failure, battery backup failure, temperature, AGC, RF overload, poor antenna isolation.
Local management and supervising	Built-in gain adjustment interface and alarms/status LEDs, PC access via RS-232 (OMS)

Electrical & Mechanical Specifications

AC Supply	110/220 VAC
Housing	IP65
Temp rang	-30 to +60 °C
Size, W×D×H, in mm	530×320×196mm
Weight	18Kgs(Probably, different models will be small differences)
Mounting	Wall mounting as standard, Option PK for pole mounting.