

# REPEATERS (BDAs)

## GSM BAND SELECTIVE COMPACT REPEATER

FIPLEX BDA90G-1B1LC Band Selective Repeater is a cost effective and reliable solution designed to extend and improve the coverage area of 900MHz GSM cellular systems, compatible with GPRS, EDGE and new 3G WCDMA deploys.

Band Selective Repeaters amplifies in both directions, uplink and downlink a continuous bandwidth, software adjustable.

The presence of a FIPLEX Repeater provides to the system with a high channel occupancy rate, since coverage is extended beyond site coverage.

Typical applications of this line of repeaters are indoor situations such as tunnels, buildings, subways, and outdoor scenarios such as stadiums, rural areas and dense urban areas.

Its rugged construction and easy field maintenance reduces operational costs and ensures a high MTBF.



### Features & Benefits

**Auto diagnostics:** Compact Repeaters 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 main board status, PA status, power supply status, intermediate filters status, battery backup status, open door and temperature levels.

**Antenna isolation control:** Units 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 repeater gain to avoid antenna feedback and oscillation, increasing system reliability.

**Control:** Compact Repeaters can be controlled locally via USB, and can be remote controlled using FIPLEX OMS (Operation and Maintenance Software) via wireless connection. In both situations, local and remote, Compact Repeaters parameters can be adjusted (UL gain, DL gain, ON/OFF, etc) and alarms can be supervised (amplifiers status, PA status, power supply status, battery backup status, door open and 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 USB or can be done remote via wireless connection (FIPLEX OMS).

**Automatic Gain Control (AGC):** Repeaters 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 intermodulation generation, and provides a lineal operation that ensures a high quality signals amplification.

**Battery backup:** Repeaters can be powered with AC or DC. Battery backup mode is available for continuous operation in case of AC or Power Supply failure, or when no AC is available.

**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 and Pole mounting.



Repeaters (BDA)

Tower Mounted Amplifiers (TMA)

Products for IDEN

Products for Tetra / Tetrapol

Transmitters Combiners

Duplexers

R.F. Components

Broadcasting

## RF Specifications

Model	<b>BDA90G-1B1LC</b>
Frequency range	890 – 915 / 935 – 960 MHz
Type	Band Selective Repeater
Passband BW	Adjustable from 200KHz to 25MHz
Downlink to Uplink separation	45.0 MHz
Gain, maximum	80 dB
Passband ripple	+/- 2.0 dB
Gain, manual control, Uplink and Downlink	30dB range, digitally controlled in 1dB steps
Antenna isolation control, gain adjustment	0 to 30 dB
AGC range	0 to 30 dB
Composite output power, Downlink	+24dBm
Composite output power, Uplink	+24dBm
IM generation	< -36 dBm
Noise figure, in dB	3.0 max at maximum output power
Impedance	50Ω
Group delay	6uS max
Connectors	N(f) as standard
VSWR at operating frequencies	1.5:1 max
Harmonics	< -36 dBm
Unwanted emissions, conducted and radiated	< -36 dBm

## 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	Local access via USB
Remote management and supervising	Remote access via wireless modem, <b>option RC-G</b> (FIPLEX OMS)
RoHS compliance	Yes

## Electrical & Mechanical Specifications

AC Supply	110/220 VAC
DC Supply	12 VDC
Housing	IP65, outdoor
Temp range	-30 to +60 °C
Size, WxDxH, in mm	390 x 390 x 90
Weight	12 Kgs
Mounting	Wall mounting as standard. Option PK for pole mounting.
Fiber optic links	Available as <b>option FO</b> , intended for multiple repeaters configuration and/or long distance runs.

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