

Description

BX 254 is configuration of channel selective repeater designed for distribution of one simplex radio channel in band of 80 or 160 MHz into one up to four remote radio sites. Configuration consists of the BX 254U base part and one up to four BX 254D radio parts. Radio signals are distributed from signal source (e.g. from BTS base station) into remote coverage sites by the help of pair of optical fibres. Maximum length of the optical fibers line is 20 km.

By usage of this repeater is possible to reach improvement of coverage in areas where radio signal intensity from base station drops, e.g. in ground shifts and valleys. Except of extension of radio signal coverage in open field it is possible to use this repeater for coverage of underground areas of buildings, e.g. in warehouses and garages.

The configuration is optionally equipped with remote monitoring facility.

BX 254U is base part which enables direct connection of base radio station including antenna for local coverage. It is possible to connect one up to four remote radio parts on it by the help of optical fibres.

Base part is supplied with internal power supply unit and it is designed for installation into buildings protected against environmental effects.

BX 254D is channel selective repeater in both DL and UL directions designed for two-way amplification of one simplex radio channel in specified band. This repeater is connected with base part by the help of optical fibres. Base directional or omnidirectional antenna is connected on radio interface.

The repeater can be optionally equipped with internal power pack or external back-up power supply. It is designed for installation in areas which are not protected against environmental effects.

Monitoring of the configuration includes the base part and radio parts and it can be optionally equipped with signalling into local control system, with monitoring display and with remote monitoring.

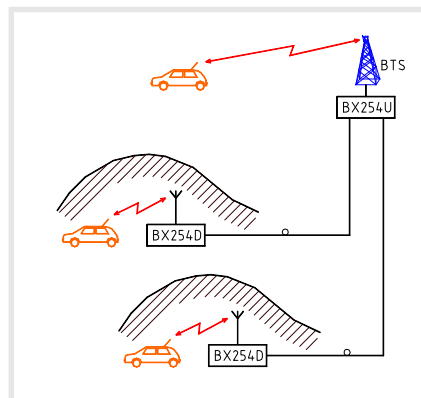
Optical receivers and transmitters and power supply of BX 254U base part are monitored under operational states. The function of amplifiers, active electronic filters, power supply fault, temperature of power amplifier (PA) and internal temperature of box are controlled under operational state in BX 254D repeaters. Also unauthorised entering into repeater cabinet, optical receiver and transmitter and back-up power supply function (if used) are checked. Monitoring enables remote switching On/Off of final stage (PA) of repeater.

Base part is equipped with status contact without voltage in local control system for signalling of BX 254 repeaters system state. It is possible to find out details regarding eventual system fault of repeaters and to localize position of fault component with help of monitoring display in base part.

Remote monitoring of the configuration enables continuous monitoring of repeater basic parameters via inbuilt GPRS modem anywhere in reach of GSM operator signal. Remote monitoring system can be delivered in two versions:

Full version of remote monitoring enables to monitor repeater state on computer in Operational and Maintenance Center – OMC. Service staff is notified of changes in stage of repeaters, can to check parameters and provides preventive maintenance interventions into system before the fault occurs. If the fault occurs, it is possible to send alarm message to chosen workplace by E-mail or in the form of SMS message. The OMC can be established by another operator for extensive systems.

Simplified version of remote monitoring is suitable for individual repeater monitoring. According to the configuration SMS messages regarding the repeater state are regularly sent or requirements for sending of information about the state are received or if the fault occurs repeater status word is sent.



BX 254U



BX 254D

Technical Specifications

Type	BX 254U	
Frequency range	MHz	band 80 or 160
Channel width	kHz	25 (20; 12.5)
Modulation		analog / digital
DL output power from BTS	dBm	+22 ÷ +44
UL output power to BTS	dBm	-45 ÷ -90
Impedance	Ω	50
Maximum attenuation of optical path	dB	12
Power supply	V / A	230 / 0.3 AC
IP protection		IP 20
Operating temperature	°C	-25 ÷ +55
Dimensions w × h × d	mm	600 × 360 × 400
Weight	kg	max. 26
Optical connection of one BX 245D repeater	by two singlemode fibres SM 9/125 μm, connectors DIN / APC	
Connectors type for antenna and BTS connection	N female	

Type	BX 254D	
Frequency range	MHz	band 80 or 160
Channel width	kHz	25 (20; 12.5)
Modulation		analog / digital
DL output power	dBm	+22 ÷ +40
UL output power	dBm	-30 ÷ -95
DL gain	dB	65 ÷ 95 (adjustable)
UL gain	dB	40 ÷ 70 (adjustable)
Gain adjustment		manual / automatic (ALC)
VSWR		< 1.3
Impedance	Ω	50
Maximum attenuation of optical path	dB	12
AC power supply	V / A	230 / 0.65 AC
Power supply from BZ 105	V / A	24 / 3.6 DC
Overvoltage protection		2 nd level – Type 2 by EN 61643-11
IP protection		IP 54
Operating temperature	°C	-25 ÷ +55
Dimensions w × h × d	mm	420 × 545 × 210
Weight	kg	max. 25
Optical connection	by two singlemode fibres SM 9/125 μm, connectors DIN / APC	
Connector type for antenna connection	N female	

Note: On customer's requirement BX 254D repeater can be set up to different operating band frequencies, such as:
80 MHz: 68 ÷ 73 MHz, 73 ÷ 78 MHz, 78 ÷ 86 MHz **160 MHz:** 158 ÷ 166 MHz, 166 ÷ 174 MHz

Power pack (optional)

Type	BZ 105	
Model	power pack, backed up	
Input	V / A	230 / 0.7 AC
Output voltage / current	V / A	24 / 5 DC
Back up time at load 4 A	hour	4.5
IP protection		IP 54
Operating temperature	°C	-25 ÷ +55
Dimensions w × h × d	mm	350 × 700 × 240
Weight	kg	52