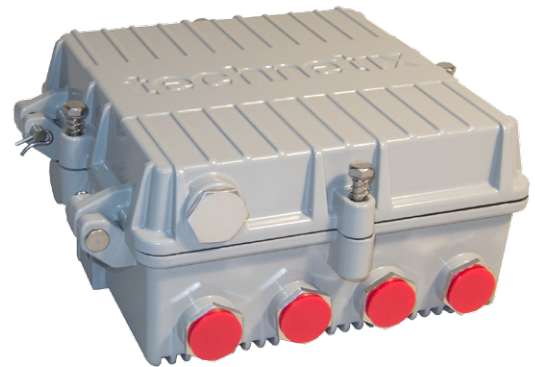


DBC-1200 - configurable single amplifier/deep fibre node



- Configurable one active output amplifier, field upgradeable to a deep fibre node
- Adaptable for one or two high level outputs
- Operates to 1200 MHz with a forward gain of up to 40 dB¹
- Return path gain of up to 25 dB
- Field upgradeable plug-in diplexers offer 65/85, 85/105 or 200/250 band splits
- Modular, power efficient design
- Onboard Ingress detection facility
- Input bypass facility



Overview

The Technetix DBC-1200 amplifier is an innovative ‘crossover’ design which provides a field upgradeable solution to deep fibre/fibre to the last amplifier (FttLA). Its RF function can be configured for use as a two output device (with or without an internal splitter / directional coupler).

Designed using energy efficient GaN (gallium nitride) technologies, the DBC-1200 offers a functional upgrade path for the majority of compact amplifiers from other manufacturers by:

- Consuming less power for the same operational gain
- Providing a similar or smaller physical footprint
- Harnessing GaN technology to provide class leading forward and return path gain, duplicating or improving upon existing units

The DBC-1200 provides reverse path transmission with a hybrid amplification stage up to 25 dB.

Forward and return path attenuation can be adjusted with electronic attenuators with electronic equalisers available for forward and return path equalisation. The cable simulator will require a JXP to be used.

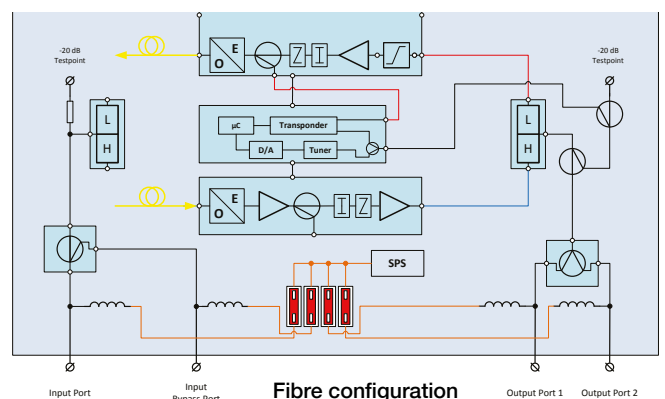
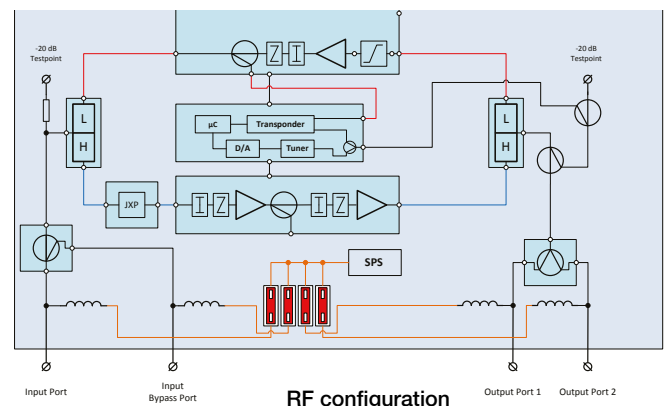
The DBC-1200 has a highly efficient long-life switch-mode power supply to provide the powering modes required for the modules used.

Gas tubes at the input and output ports protect the RF circuits in the event of lightning or mains power surges.

Benefits

- Full digital control and setup with optional integrated ASLC
- Improved Intermodulation distortion performance - innovative GaN technology operates to 1200 MHz¹
- Energy efficiency hybrid technology provides more

- gain from the same power consumption
- Power factor corrected power supply option
- Flexible to meet changing network needs
- CPD Safe® technology and surge protection mean fewer reported faults, improved customer service and a reduction in truck rolls.
- Onboard ingress detection facility provides an option to apply -6 dB or -40 dB of return path attenuation via a simple transponderless protocol.
- Field upgradeable to deep fibre node via optional optical transmitter and receiver modules which replace the existing RF modules



DBC-1200 - configurable single amplifier/deep fibre node

Specifications

Forward path

Pass band (dependent on diplex) ¹	45 - 1200 MHz
Response flatness (worst case) 47 - 700 MHz	± 0.5 dB
Response flatness (worst case) 700 - 1006 MHz	± 0.75 dB
Average full gain	40 dB ²
Return loss (min)	20 dB ³
Noise figure with zero dB attenuation installed (max)	7.0 dB ⁴
Operating output level CENELEC 42 channels flat (low power mode)	111 dBµV
Operating output level CENELEC 42 channels with 8 dB tilt (low power mode)	114 dBµV
Operating output level CENELEC 42 channels flat (high power mode)	113 dBµV
Operating output level CENELEC 42 channels with 8 dB tilt (high power mode)	115 dBµV
Operating output level without MER degradation with 78 QAM channel – flat (low power mode)	110 dBµV
Operating output level without MER degradation with 78 QAM channel – with 8 dB tilt (low power mode)	113 dBµV
Operating output level without MER degradation with 78 QAM channel – flat (high power mode)	112 dBµV
Operating output level without MER degradation with 78 QAM channel – with 8 dB tilt (high power mode)	114 dBµV
EQ control (pre-stage)	0 - 25 dB
EQ control (inter-stage)	0 - 16 dB
Gain control (pre-stage)	0 - 22 dB
Gain control (inter-stage)	0 - 16 dB
Input monitoring testpoint	-20 ± 1.5 dB
Output directive testpoint	-20 ± 1 dB w.r.t output

Reverse path

Pass band (dependent on diplex) ¹	5 - 200 MHz
Input to output port gain	25 dB ²
Return loss (min)	18 dB ³
Response flatness	± 1.0 dB
Operating output levels	Max 50 dBmV
Ingress return path attenuation step	0 / -6 / -40
EQ control	0 - 10 dB
Gain control	0 - 22 dB
Reverse directive testpoint per input	-20 ± 1 dB

Distortion performance

CSO 42 CENELEC operational (typ)	Better than 60 dB ⁵
CTB 42 CENELEC operational (typ)	Better than 60 dB ⁵
Hum modulation (min)	-70 dBc @ 7 A

General

Class of enclosure	IP68 IEC 60529 ed2.1 am1
ESD	4 kV IEC 61000-4-2:2008
Surge protection	6 kV IEC 61000-4-5:2006 level X
EMC	EN 50083-2:2012
Safety	EN 60728-11:2010
Test points	All F-Female
Operating voltage	20 - 90 VAC block / trapezium
Power req (W, typ) (1 output)	16 W
AC bypass capacity	10 A per port
Operating temperature range	-40 to +65°C
Weight (kg)	1.7
Housing dimensions	195 x 205 x 92 mm
Coaxial connections	PG 11 or 5/8" KS
Housing finish	Painted conductive chromate finish
Impedance (Ω, typ)	75

Control:

Downstream module
Attenuation pre-stage
Attenuation inter-stage
Equalization pre-stage
Equalization inter-stage
RF power level – high or low power mode

Upstream module

Attenuation
Equalization
Upstream amplifier on/off

Digital control module

AGC pilot frequency 1 (where used)
AGC pilot frequency 2 (where used)

Available options

Band-split 85/105 (pluggable diplex)

Band-split 65/85 (pluggable diplex)

Optical receiver modules available in the following:

Light wavelength: 1290-1610 nm

Optical input range (Optical AGC): -6 to +1 dBm

Optical return transmitter module available in the following:

Type LASER: DFB/CWDM/FPI

Light wavelength: 1310/1550 nm

Optical power: 1 to 4 dBm

Status monitoring module DOCSIS/HMS compliant

Full remote management

Remarks

	Equipment approval CE, WEEE and RoHS compliant
	Measurements taken at room temperature
1	Platform frequency range specified. Actual up and downstream frequency & gain depends on plug-in amplification modules and diplex filters
2	Electronic switches set to 0 dB
3	5 - 100 MHz ≥ 18 dB 40 - 860 MHz ≥ 20 dB -1.5 dB / octave 860 - 1200 MHz ≥ 13 dB
4	45 - 250 MHz max 7.5 dB // 250 - 750 MHz max 7.0 dB // 750 - 950 MHz max 7.5 dB // 950 - 1006 MHz max 8.0 dB
5	Depending on modules fitted (numbers quoted for RF configuration)

Ordering information

Item Name	Article number
DBC-1200	TBD