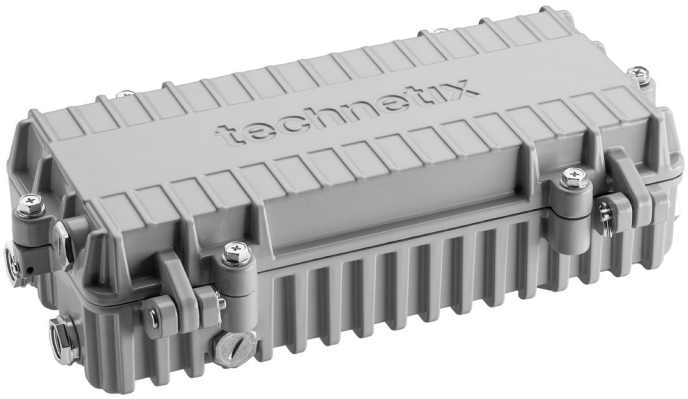
DBx access solution

DBC-1200S amplifier

- **Flexibility**
- **Power saving**
- **Plug-and-play upgrade**



Overview

The Technetix DBx-1200 access platform is an innovative modular design which is compatible with a wide range of RF amplifiers and optical nodes. With over 600,000 units deployed worldwide, the DBx is the leading access platform in the market today. The DBC-1200S can be configured as a 1/2 amplifier (active/passive RF outputs) or 1x1 optical node.

Flexibility

The DBx platform has a modular configuration, allowing for future retrofits and network upgrades with plug-and-play components while improving the longevity and flexibility of HFC networks. Operators can decide whether to swap out RF and optical modules or to upgrade to Remote PHY (R-PHY) nodes as network architectures evolve.

Power saving

To maintain competitiveness, service providers are increasing bandwidth to improve service performance. The DBx platform allows operators to use the appropriate amplifier modules with the correct gain, using a highly efficient power supply unit (PSU) in active devices and reduce the current through the hybrids during off-peak times, bringing savings of up to 40% (344 kWh) per year, per amplifier for a plug-and-play R-PHY upgrade.

Plug-and-play upgrade

R-PHY technology enables the up- and downstream relocation of traditional headend elements, generating 10 Gbps of data on a remote location to operators seeking to extend the capacity of their coax networks. With a significant current DBx installation base, R-PHY is ready for deployment by a simple lid upgrade or it can be directly enabled by using DBx R-PHY nodes and amplifiers.

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e: sales@technetix.com **w:** technetix.com

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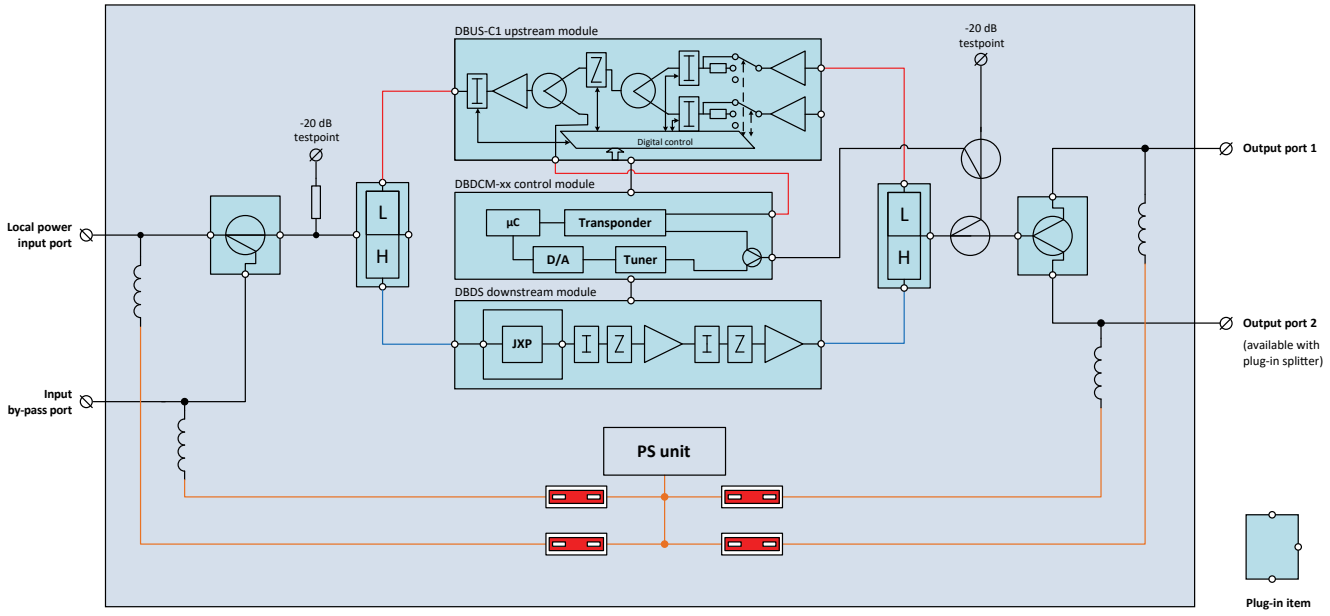
Block diagram RF configuration



RF configuration

DBC-1200S amplifier

DBC device and performance specifications

RF amplifier platform specifications device configuration used:

Control module: DBDCM-A-1
Downstream module: DBDS-B-7-1
Upstream module: DBUS-C1
Diplex filters: DBDIP-04

Forward path	DBC-1200S	Value
Pass band (dependent on diplex filter)	54-1218	MHz
Active outputs	1	
Available outputs (with splitter)	2	
Frequency response 54-1218 MHz [1]	±0.75	dB
Gain [10]	44	dB
Gain tolerance	0.5	dB
Return loss [2]	18	dB
Noise figure (with zero dB attenuation) [3] [6]	8	dB
Operating output level IEC60728-3-1 [11]	112	dBµV
Gain control (electronic) pre-stage [9]	0-20	dB
EQ control (electronic) pre-stage [9]	0-17	dB
Gain control (electronic) inter-stage [9]	0-15	dB
EQ control (electronic) inter-stage [9]	0-12.5	dB
Input monitoring point [8]	-20 ±1.5	dB
Output test-points	-20 ±1	dB

Reverse path	DBC-1200S	Value
Pass band (dependent on diplex filter)	5-204	MHz
Gain	25	dB
Return loss [2]	16	dB
Frequency response 5-204 MHz	±0.5	dB
NPR 5-65 MHZ	>50 dB: 24 dB	
NPR 5-204 MHZ	>50 dB: 21 dB	
Ingress detection switches	0/6/40(off)	dB
Gain control (electronic)	0-20	dB
EQ control (electronic)	0-15	dB

RF amplifier platform specifications (continued)

General specifications	DBC-1200S
Hum modulation [5]	-65 dBc at 15 A
Class of enclosure	IP68 IEC 60529 2.1 am 1 - 2 metres underwater
ESD	4 kV EN 61000-4-2:2008
Surge protection	6 kV IEEE C62.41 CAT C3
EMC	EN 50083-2:2012
Safety	EN 60728-11:2011
Test points	F-Male
Operating voltage [7]	35-90 VAC Square
Power consumption [4]	19 W
AC bypass and capacity & input	15 A
Operating temperature range	-40 to +65°C
Housing dimensions (metric)	188 x 355 x 89 mm
Coaxial connections	PG11 or 5/8"
Housing finish	Painted conductive
Impedance	75 Ω
Equipment approval	CE/RoHS/FCC

Remarks:

1. Aligned with 20 dB coax, add ±0.5 dB (typical) for port 2,3,4 on DBE products
2. @40 MHz, deduct 1.5 dB per octave (never worse than 12 dB)
3. From 1006 to 1218 MHz up to 9 dB in bridger modules
4. Typical, without DOCSIS transponder @50 VAC - low power mode
5. Max value up to 1 GHz. From 1 GHz to 1.2 GHz max value -60 dB
6. DBE-1200S NF is one dB higher due to bi-directional test point
7. DBPSU-05 100-240 VAC also available upon request
8. Measured with 22 dB ATT JXP in DS 1 module
9. When selecting 204/258 diplex filters with end frequency @ 1.2 GHz, extended tilt modules available offering 5 dB additional tilt
10. DBDS-B-7 modules have 44 dB gain, DBDS-B-5 modules have 38 dB gain, DBDS-B-6 modules have 32 dB gain
11. - 120 x 8 MHz channel, 256QAM, F1= 266 MHz, F120 = 1218 MHz - @9dB tilt

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