

High Power L/S Band Amplifier System

Models: DHPA30000LSB

Product Features

- *L/S-band amplifier modules built using GaN transistor technology*
- *Dual-redundant amplifier system*
- *Modular design*
- *Fully protected against input overdrive, temperature and output load VSWR conditions*
- *Integrated Modular AC/DC power supply*
- *Local and remote gain adjustment*
- *Built in LCD display for easy navigation and control*
- *Remote control and monitoring via RS485 interface*
- *HPA GUI software available for local and remote PC control*
- *Liquid or air cooled systems available upon request*
- *Exceptional operational life expectancy*



Frequency Band

L/S-Band: 1500 MHz – 3000 MHz

Product Description

The high power, L/S-Band, redundant (1:1) amplifier system provides up to 62 dBm (1600 Watts CW) of RF power over an operating frequency range of 1500 MHz to 3000 MHz. By combining the output of the main and redundant amplifier cabinets, an output power level of 65 dBm (3000 Watts CW) can be achieved.

The modular design includes a system controller, amplifier driver, and amplifier chassis with up to four amplifier modules, two power supplies chassis with hot-swappable AC-DC power supply modules, an amplifier cooling system and a harmonic filter.

The L/S-Band amplifier module is built using gallium-nitride (GaN) transistor technology. Up to four amplifier modules are placed in a single amplifier chassis and combined to provide an output power level up to 62 dBm (1600 Watts CW). High efficiency, hot-swappable AC-DC switchable power supplies are used to power the amplifier modules.

The amplifier system includes a System Controller which is responsible for configuration and management of the entire amplifier system and sub-modules. The System Controller also provides user interfaces for local and remote control.

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Product Specifications

Radio Frequency Parameters

Input frequency band	1500 MHz – 3000 MHz
Output frequency band	1500 MHz – 3000 MHz
Output power in redundancy mode (1:1)	62 dBm (1600 Watts CW)
Output power in combining mode (1+1)	65 dBm (3000 Watts CW)
Input power	0 dBm max.
Power gain	65 dB at minimum attenuator reading
Gain flatness	±2.5dB max., in all bands
Gain variation vs. temperature 0° to +50°	±2.5dB max.
Gain adjustment	30 dB min., with 0.5 dB step size
Third order Intermodulation (IMD3)	-33 dBc, with 3 dB backoff for two carriers with 1 MHz separation
Spurious harmonics	-55 dB max., relative to carrier (at all power readings)
Spurious	-60 dB max., relative to carrier in all bands
Input return loss	-10 dB max.
Output return loss	-17 dB max.
Input signal monitoring port	-10 dB max., relative to carrier, with the indication on a display in dBm
Output signal monitoring port (test load)	-60 dB relative to carrier, with calibration chart and display indication in Watts
Input signal source VSWR	1.5:1 max.
Load VSWR	1.5:1 max.
Residual radiation average power at 1m distance from the test load (with maximum power on the load)	No more than minus 64.88 dBm

Control and Indication

AC power on/off (power supply units indication)	Switch (mechanical)
Power interlock	Menu selection on/off RF power
Gain adjustment range	Menu selection: 30 dB, with 0.5 dB step size
Overheating protection	At chassis temperature from +80 °C to +85° C
Output RF power	Output power display indication in W
Amplifier temperature, hottest spot	Centigrade °C monitor temperature indication

Connectors

RF input	N –type (female)
RF output	1-5/8 (female)
Digital local interface (for servicing)	DB-9 (female), front panel of every power amplifier module
Interface RS-485	DB-9 (female) rear panel
Output RF signal monitoring port	N-type (female), rear panel
Chassis grounding	Grounding wire in power supply cable and grounding connector on chassis

(specifications are subject to change without notice)

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Product Specifications

Power Supply

Voltage and Frequency	Single phase voltage, 200 VAC to 240 VAC, 50 Hz to 60 Hz.
Power factor (cos φ)	0.98
Power consumption, max	20 kW max.
Power supply cooling	Forced air
Power Cable	220 VAC, three wire cable with 6 AWG cross section (one phase 220 VAC, neutral and ground). Cable length to be confirmed.

Mechanical Parameters

Outlay	2 (two) 19'', 42U high cabinets with amplifiers; central microcontroller and spare parts, assembly with the redundant and combined system
Amplifier Cooling	Forced liquid

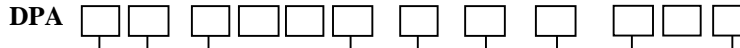
Environmental Specifications

Operating Temperature	0°C to +50°C
Storage Temperature	-50°C to +85°C
Humidity	+5% to 95% non-Condensing
Altitude	3000M above sea level



Unique Broadband Systems
a DOL Technologies Inc. Company

Part Number Configuration



Band
 YL – L-Band
 YS – S-Band
 YC – C-Band
 YX – X-Band
 KU – Ku-Band
 KA – Ka-Band

Output Power
L-Band
 0250W, 0500W
S-Band
 0150W, 0300W
C-Band
 0010W, 0020W,
 0040W,
 0080W, 0100W,
 0150W, 0200W,
 0250W, 0300W,
 0325W, 0400W,
 0650W, 0800W
X-Band
 0275W, 0550W
Ku-Band
 0060W,
 0080W, 0100W,
 0150W, 0200W,
 0300W, 0400W,
 0800W,
Ka-Band
 TWTA, UP TO
 1.5KW
 AVAILABLE
 PLEASE CALL
 FOR INQUIRY

**FOR HIGH
 POWER 1KW
 AND ABOVE
 PLEASE
 CONTACT OUR
 SALES
 DEPARTMENT**

Sub Band
L-Band
 A (1.0-2.0 GHz)
 B (1.5-3.0 GHz)
 C (1.0- 2.5 GHz)
S-Band
 A (2.02-2.12 GHz)
 B (2.20-2.30 GHz)
C-Band
 A (5.850-6.425 GHz)
 B (5.750-6.475 GHz)
 C (5.750-6.670 GHz)
 D (5.850-6.725 GHz)
 E (6.425-6.725 GHz)
 F (6.725-7.025 GHz)
X-Band
 A (7.70-8.40 GHz)
 B (7.90-8.40 GHz)
 C (7.50-8.50 GHz)
 D (9.50-10.50 GHz)
Ku-Band
 A (14.00-14.50 GHz)
 B (13.75-14.50 GHz)
 C (12.75-13.25 GHz)
 D (13.00-14.50 GHz)
 E (13.25-13.75 GHz)
Ka-Band
 A (27.5-31.0 GHz)

Configuration/Options
 STD – Standard
 ISP – Input Sample Port
 WGF* – 90° Output W/G Flange
 WSP* – 90° Output W/G Flange
 with Input Sample Port
 FPS** – Front Panel Power Switch
 RPM – Reflected Power Monitor
 FRM** – Front Panel Power Switch
 and Reflected Power Monitor
 EPS – External, Redundant Power
 Supply, 1RU N+1
 EPE – External Power Supply, 1RU
 N+1 and Rear Panel

 * Available in all but S-Band-and L-
 Bands
 ** Not Available with External 1RU N+1
 Redundant Power Supply

Block Up Converter
 B - BUC
 X – Not Available

Enclosure
 I - Indoor
 O - Outdoor