

Digital Microwave L-Band Linear RF Amplifier

COFDM – Video, Audio Telemetry and IP Products

June 2011 Data Sheet

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COBHAM

The Cobham Digital RF amplifiers bring a new level of performance and reliability to microwave transmission of digitally modulated video. The linear RF power amplifier provides 5 watts of RF power into any load.

The linear amplifier features Cobham technology at its core and is ideal for digital transmission applications in surveillance, law enforcement, military UAV and UGV, airborne data/telemetry and television broadcasting. It is designed to amplify COFDM digitally modulated signals (QPSK, 16-QAM) and features broadband operation, while requiring a minimum of DC current.

Only minimum heat sinking is required for the high output models in normal operation. Packaged in a rugged aluminium housing, the amplifier construction lends itself to applications where extreme environmental conditions are the norm. Chassis connectors are environmentally protected, making the amplifier ideal for airborne operations where it can be mounted on a helicopter skid.

The integral lineariser minimises distortions typically associated with conventional RF amplification techniques.

The amplifier is designed to meet the stringent requirements of the DVB-T spectral mask and may be used for COFDM, QPSK, QAM and CW applications.

Input and output port protection is provided with a VSWR better than 2.0:1 across the frequency band providing excellent matching into filters. Reverse polarity protection and short circuit protection are standard features.

Features:

- Designed for Digital Modulation - COFDM, QPSK, BPSK
- Ultra linear
- High efficiency
- Operating gain - 5W: 17 dB typical
- RF ports are open and short protected
- Short circuit/over-voltage protection
- Reverse polarity protection
- 11 - 28 Vdc input
- Rugged packaging
- Mute function

Specification:

Electrical

Frequency range	L band: 1.15 to 1.4GHz
Input/output protection	Open and short circuit
VSWR	≥ -14 dB input and output return loss
Non-harmonic spurious output	> -65 dBc Typ.
Nominal drive	+20 dBm
Overdrive capability	Pin (nom) + 3 dBm (typ.)
Modulation formats	COFDM, QAM, CW
Reverse polarity protection	
Short circuit protection	
Gain flatness	±0.5 dB across operating band
Operating gain	5W: (17 dB typ.)
Output power	+37 dBm
ACPR	-30 dBc (typ.)
OIP3 @ Pop (typ)	5W: 37 dBm
Power added efficiency	15% typical
PA mute on PTO	
Status LED	ON/STBY
Supply voltage	+11 Vdc to +28 Vdc
Supply current	5W output: 3.8 A (typ.) @ 12 Vdc

Environmental

Operating temperature	-15 to +60 °C, Baseplate
Relative humidity	0 to 95%, non-condensing
Environmentally protected	

Mechanical

DC input connector	PTO 4 pin - A Pin - V+ - B Pin - forward power (normal high, goes low if o/p is 6 dB less than 37 dBm) - C Pin - GND - D Pin - Mute - pull low to mute
Housing	Milled aluminium (nickel plated)
Dimensions	H 35.5mm, W 121.5mm, L 169.5mm
Weight	Approx 1.5kg
RF input	SMA female (sealed)
RF output	TNC female (sealed)

Product Code:

SOLAMP5W-115140

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