



# LA20FPDC

## Technical Product Data

### Features

- **Amplifier Gain of 20dB**  
Gain  $\geq$  20dB
- **Passes GPS & GLONASS L1/L2**
- **Excellent Passband Ripple**  
L1/L2 Ripple < 2.0 dB

### Description

The LA20FPDC GPS Filtered Line Amplifier is a one input, one output device with a 20dB min. gain block and L1/L2 filtering. The frequency response covers both GPS L1 & L2 bands. In the standard configuration, the RF output (J1) passes DC from the connected GPS receiver through the amplifier to the antenna, allowing the GPS receiver to power both the antenna and the amp.

### Electrical Specifications, $T_A = 25^{\circ}\text{C}$

Parameter	Conditions	Min	Typ	Max	Units
Pass Band: L1	Ant – J1	1.575		1.621	GHz
Pass Band: L2	Ant – J1	1.227		1.262	GHz
In/Out Imped.	Ant, J1		50		$\Omega$
Gain	Ant – J1, L1 & L2 Passbands	20	21	23	dB
Input SWR	J1 - 50 $\Omega$ , L1 & L2 Passbands			2.0:1	-
Output SWR	Ant - 50 $\Omega$			1.6:1	-
Noise Figure	Ant – J1		6.5		dB
Passband Ripple	Ant – J1, L1 & L2 Passbands		1	2	dB
Stopband Rej: L1	1595 +/- 200MHz, Relative to the passband	22			dB
Stopband Rej: L2	1241 +/- 150MHz	30			dB
Reverse Isolation	J1 – Ant	38			dB
Group delay Ripple: L1	$\tau_{d,max} - \tau_{d,min}$ : Ant – J1, Across L1 Passband			2	ns
Group delay Ripple: L2	$\tau_{d,max} - \tau_{d,min}$ : Ant – J1, Across L2 Passband			4	ns
Req. DC Input V.	Non-Network Configuration, DC Input on J1	4.0		15	Vdc
Current <sup>(2)</sup>	Amplifier Current Draw, All ports - 50 $\Omega$			30	mA

(1) Current draw on J1 port in the non-networked configuration.

## Available Options

<b>Network Power Supply</b>		
Source Voltage Options	VOLTAGE INPUT	STYLE
	110VAC	Transformer (Wall Mount)
	220 VAC	Transformer (Wall Mount)
	240 VAC (United Kingdom)	Transformer (Wall Mount)
Output Voltage Options <sup>(1)</sup>	Customer Supplied DC 9-32 VDC	Military Style Connector
	DC VOLTAGE OUT	MAX CURRENT OUT FOR CORRESPONDING V <sub>out</sub> <sup>(2)</sup>
	5 V	100mA
	7.5V	120mA
	9V	130mA
	12V	160mA
	15V	200mA
Custom	TDB	
<b>Pass/Block DC Options</b>		
Pass DC <sup>(1)</sup>	All Ports Pass DC	
DC Blocked <sup>(1)</sup>	Ant is DC blocked, Pass DC J1	
<b>RF Connector Options</b>		
Connector Options	CONNECTOR STYLE	CHARGE
	Type N	NC
	Type SMA	NC
	Type TNC	NC
	Type BNC	NC

(1) With Network Option, any RF port (input or output) can be DC blocked or can pass the network DC voltage.

(2) T<sub>A</sub> = +50°C. Assuming Source of 110V or 220V Wall Mount Transformer. In general, maximum output current can be determined by:

$$I_{out} \leq 2.9 / (V_{sourceDC} - V_{out}) \text{ A}$$

## Part Number

### **N LA20F PDC - S / 5 / 110**

Network Option:

**N** = Network Option; **Blank** = No Network

DC Options:

**DCB** = Ant. DC Blocked; **PDC** = Pass DC

Connector Options:

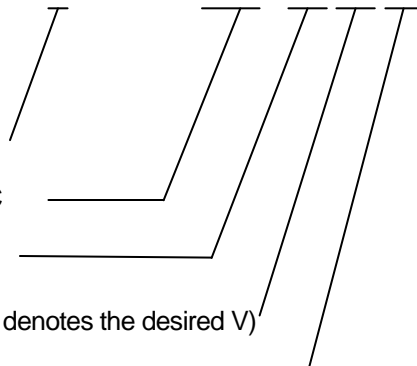
**N** = N type; **S** = SMA; **T** = TNC; **B** = BNC

DC Output Voltage:

**3.3, 5, 7.5, 9, 12, 15, CXX** (Custom: "XX" denotes the desired V)

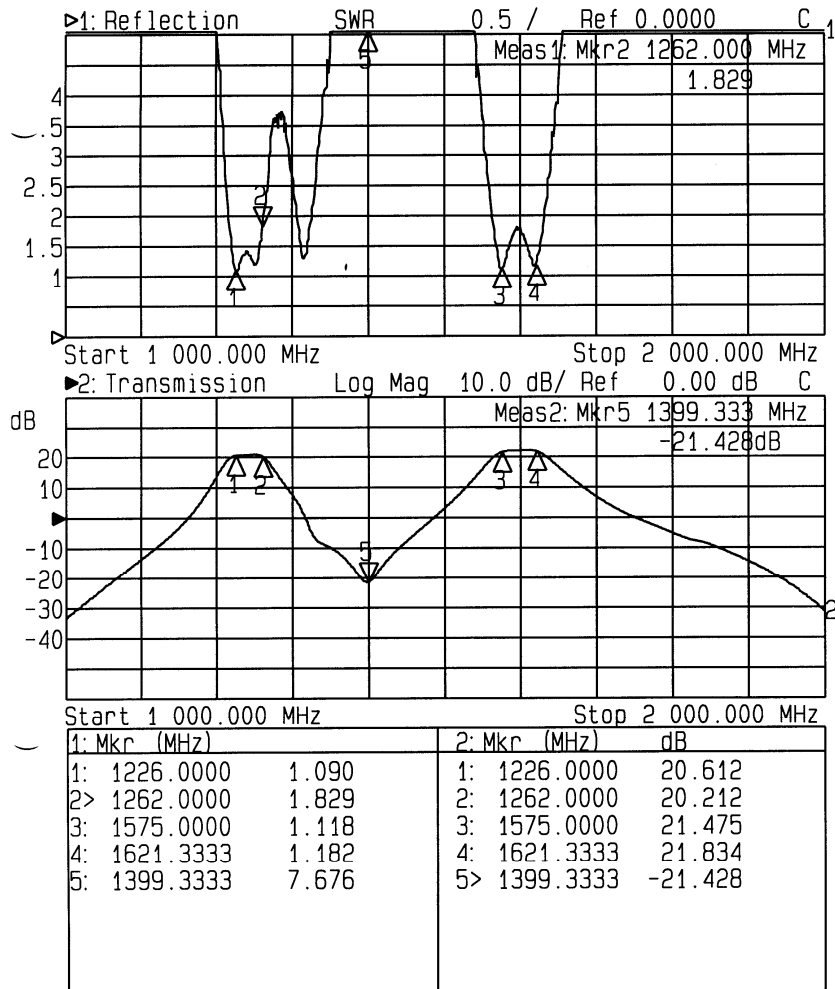
Source Voltage:

**110** - Transformer, **220** - Transformer, **240** - Transformer, **MC** - Military Conn. (User supplies DC Voltage)



## Performance

### Input SWR (Ant. Port) and Frequency Response: Ant. To J1 (Typical, type N connector):



## Mechanical

### Dimensions:

Height: 1.3"

Length (not including connectors) Body: 2.5"  
Base Plate: 3.25"

Width: 2.5"

### Weight:

9.4 oz. (266 grams)

Operating Temp. Range: -40° to + 75°C