



50 dB Gain, 14 dBm P1dB, 100 MHz to 18 GHz, Rack Mount, Variable Gain Amplifier, 6.5 dB NF, SMA

## TECHNICAL DATA SHEET

PE15A7000

The PE15A7000 is a digitally controlled variable gain amplifier which operates from 100 MHz to 18.0 GHz. The gain level is 50 dB min with available attenuation ranging up to 60 dB, and output P1dB of 14 dBm typical. The unit has an attenuation control knob on the front panel, but also has an RS-232 control feature. By connecting a serial cable from a remote PC computer to the 9 pin d-subminiature connector at the rear of the unit, commands may be sent controlling the attenuation levels. The PE3C2850, RS232 Female to RS232 Female Straight Cable, is provided to make the connection and provide the control of the attenuation. A detailed operating procedure can be downloaded from the webpage. The 19 inch rack mount package size is 1U High 10 inch Deep, and operates over a temperature range of -40oC to +85oC. The RF Input and Output Connectors are SMA Female.

### Features

- 1 U Rack Mounted Unit
- Frequency Range 0.1 to 18 GHz
- Gain 50 dB Minimum
- Variable Attenuation Range: 60 dB
- Gain Flatness  $\pm 2.0$  dB Typical
- OP1dB +14 dBm Typical
- RF Input/Output SMA Female Connectors
- RS-232 Control Feature
- PE3C2850 RS-232 Control Cable (provided)

### Applications

- Test Labs
- Instrumentation Test Rack
- Military Communications

### Electrical Specifications (TA = +25°C)

Description	Minimum	Typical	Maximum	Units
Frequency Range	0.1		18	GHz
Small Signal Gain	50			dB
Gain Flatness (Up to 55 dB Attenuation)		$\pm 2$		dB
Attenuation Range	0		60	dB
Attenuation Step Size	1			dB
Output at 1 dB Compression Point		+14		dBm
Noise Figure		6.5		dB
Input VSWR		2:1		
Output VSWR		2:1		
Operating AC Voltage (Supplied with a fuse, 6 foot power cord, ON/OFF switch and LED power indicator)		120 VAC, 50/60 Hz		
Operating Temperature Range	-40		+85	°C

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [50 dB Gain, 14 dBm P1dB, 100 MHz to 18 GHz, Rack Mount, Variable Gain Amplifier, 6.5 dB NF, SMA PE15A7000](#)



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### Mechanical Specifications

#### Size

Length	19 in [482.6 mm]
Width	10.79 in [274.07 mm]
Height	1.73 in [43.94 mm]
Input Connector	SMA Female
Output Connector	SMA Female

### Environmental Specifications

#### Temperature

Operating Range	-40 to +85 deg C
Storage Range	-40 to +100 deg C

Humidity	MIL-STD-202F, METHOD 103B COND. B
Shock	MIL-STD-202F, METHOD 213B COND. B
Vibration	MIL-STD-202F, METHOD 204D COND. B
Altitude	MIL-STD-202F, METHOD 105C COND. B
Temperature Cycle	MIL-STD-202F, METHOD 107D COND. A

### Compliance Certifications (visit [www.Pasternack.com](http://www.Pasternack.com) for current document)

Not RoHS Compliant	
REACH Compliant	12/17/2014

### Plotted and Other Data

#### Notes:

- Values at +25 °C, sea level

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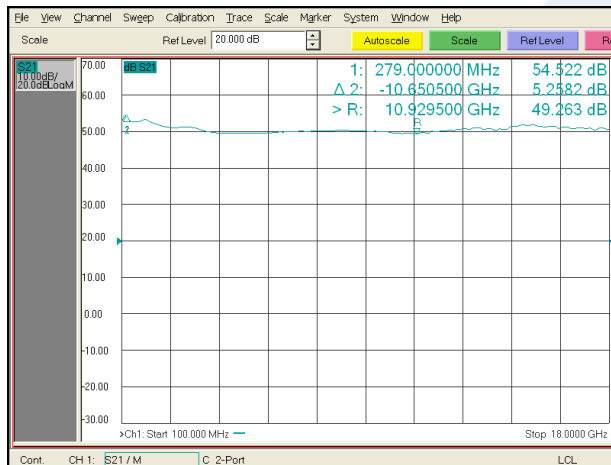
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Typical Performance Data

Gain



Gain Flatness: ±2.6dB

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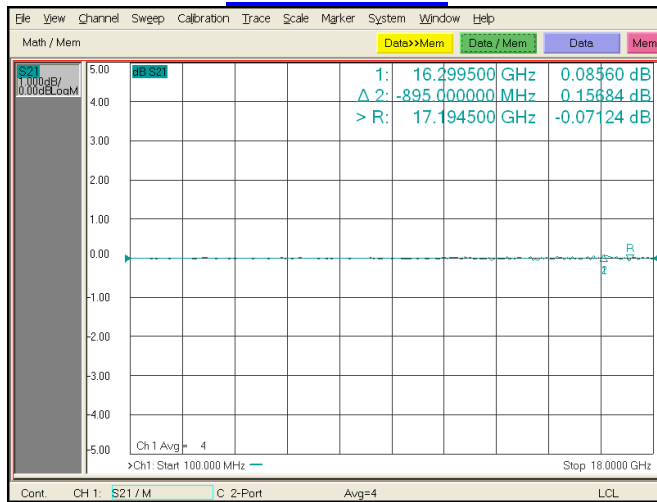


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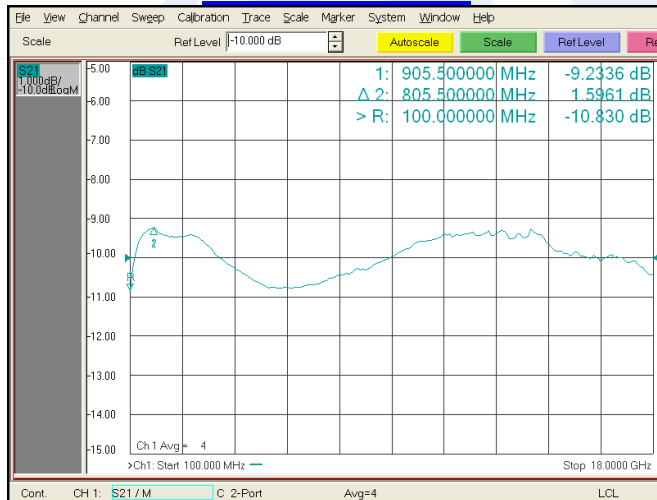
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**0dB Reference**



**10dB Attenuation**



**Gain Flatness: ±0.8dB**

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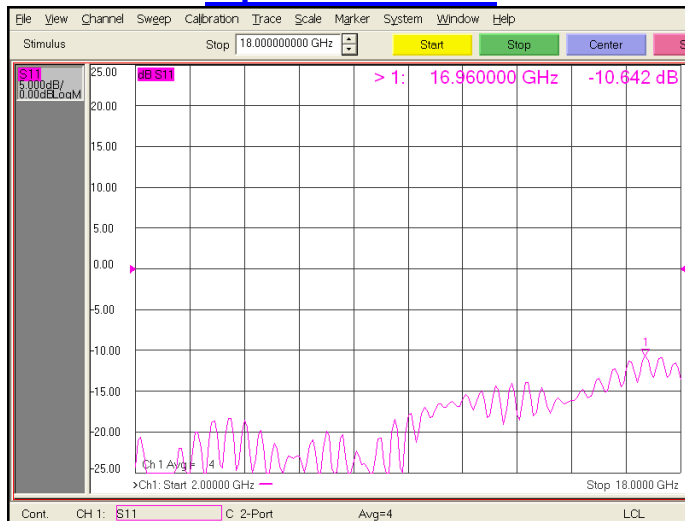


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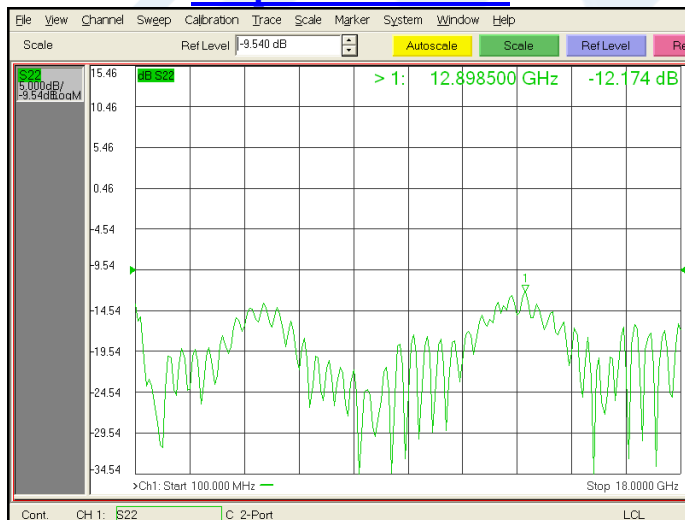
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**Input Return Loss**



**Output Return Loss**



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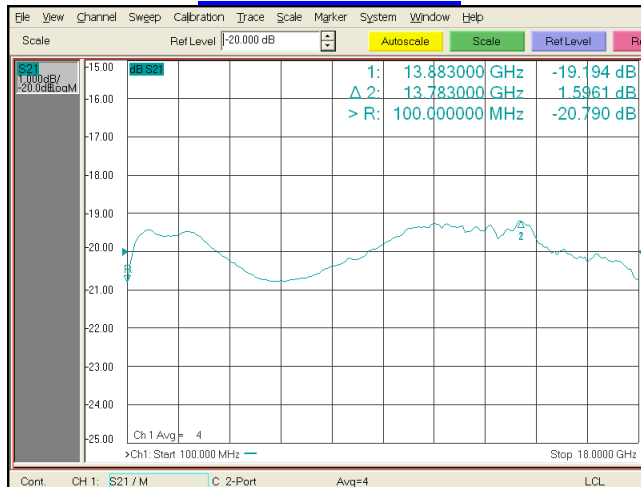


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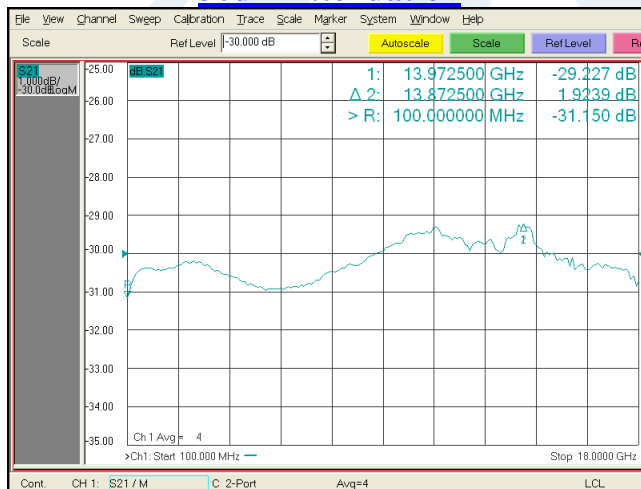
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**20dB Attenuation**



**Gain Flatness: ±0.8dB**

**30dB Attenuation**



**Gain Flatness: ±0.96dB**

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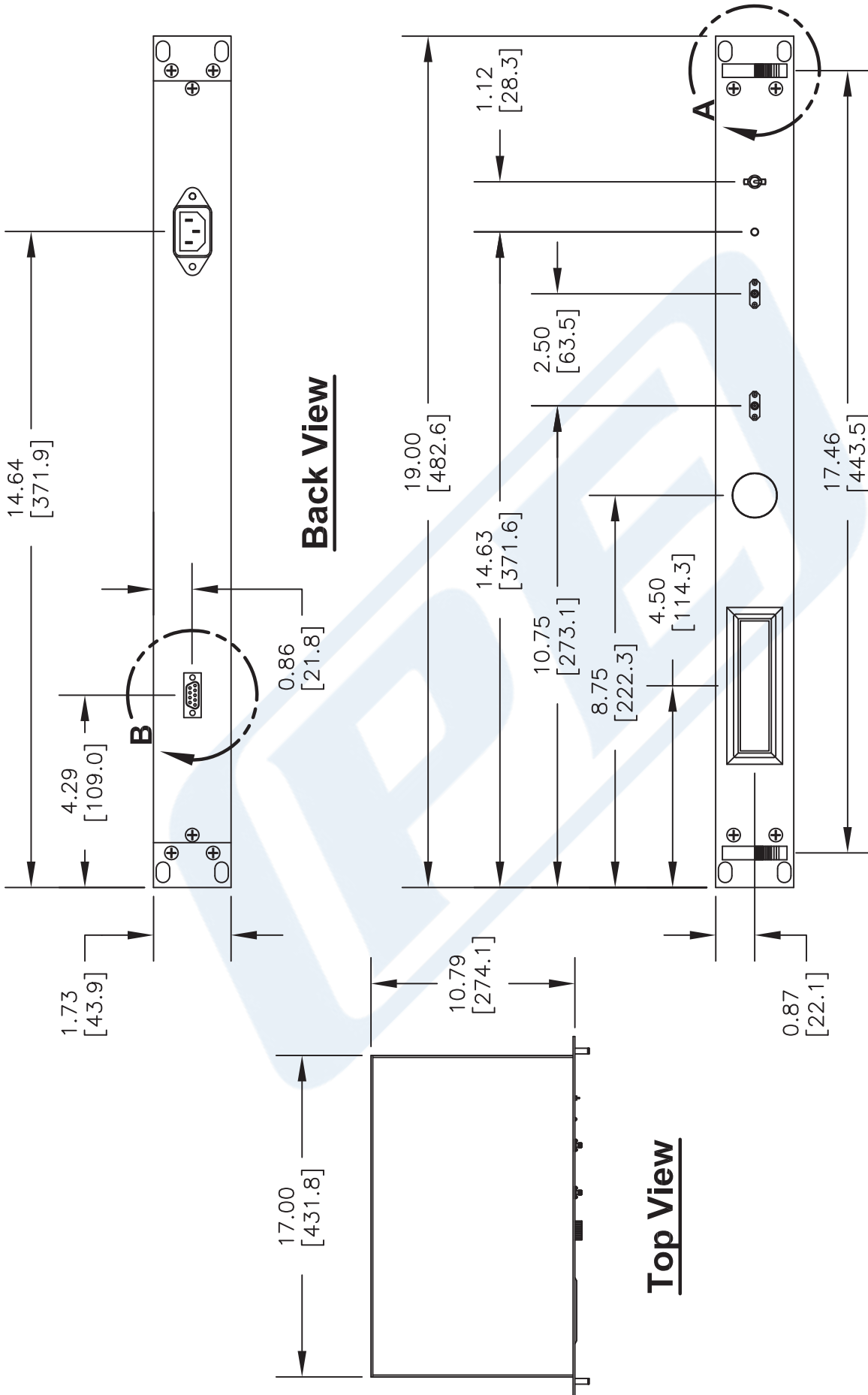
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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack does not assume any liability arising out of the use of any part or documentation.

# PE15A7000 CAD Drawing

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DWG TITLE

**PE15A7000**

- NOTES:
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
  2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
  3. DIMENSIONS ARE IN INCHES [mm].

FSCM NO. 53919

CAD FILE 010516

SCALE N/A

SIZE A

2233



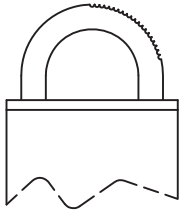
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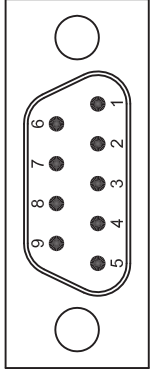


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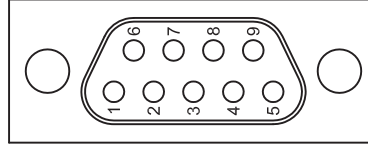
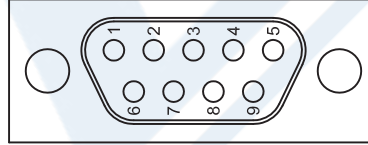
**Side of View A**



**View B**

## **D-sub 9 Connector Pinout (Commonly used for serial ports RS-232)**

NOTE: CONNECTS TO PE3C2850 FOR REMOTE CONTROL.



## **Serial Cable PE3C2850 (6-Foot)**

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