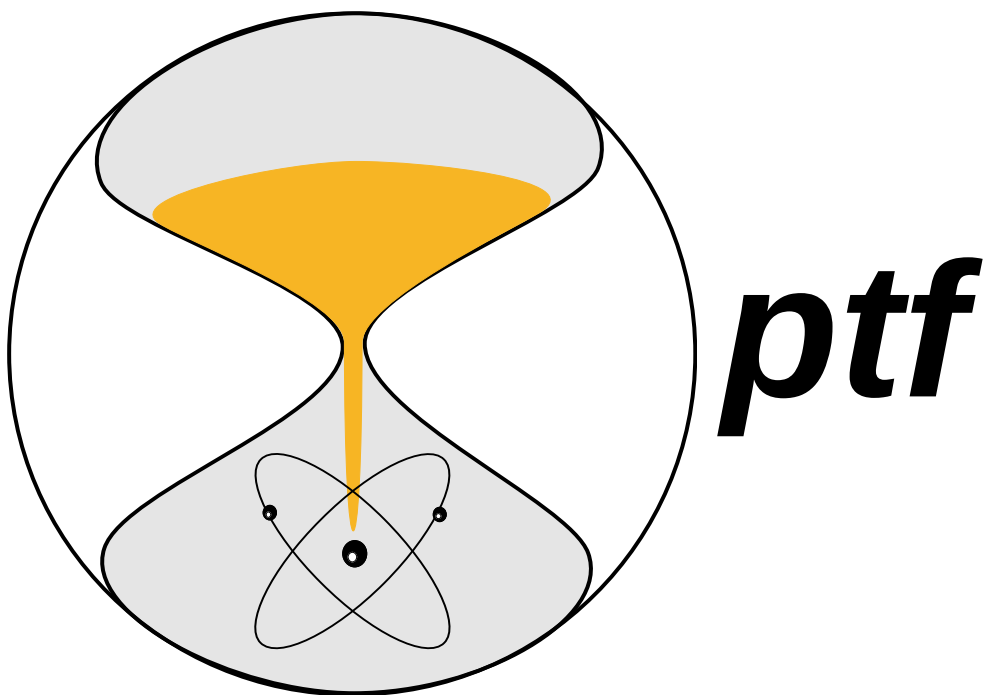




Precise Time and Frequency, Inc

***ptf* 1231A L-Band Distribution**

Operation and Maintenance Manual



Document # 10913
Revision A

Certificate of Conformance

This certificate confirms that the following equipment:

Unit type: **PTF** 1231A L-Band Distribution Amplifier

Serial Number: 911-01852-02

has successfully passed a FINAL ACCEPTANCE TEST and conforms in all respects of form, fit, and function to current specifications, including regulatory requirements and certifications.

Inspected and verified by:

Date:

Julie Sawyer

01/09/2025

For Precise Time and Frequency, Inc

Introduction

Congratulations on your purchase of the **ptf 1231A** L-Band Distribution Amplifier !

This product meets the highest standards of quality and reliability, and Precise Time and Frequency, Inc wants to insure that you enjoy the maximum benefits and functionality that this unit can provide.

The technology within this unit uses the decades of experience in time and frequency applications of our engineering team, to provide a unit that is highly advanced, and gives a very powerful feature set in an inexpensive and compact package,

Operation of the unit is straightforward and the contents of this manual are designed to provide a basic understanding of the product, set-up and functionality, and procedures for maintenance and repair.

If you have any questions or concerns, please do not hesitate to contact our technical service department who will be pleased to provide assistance.

Please help us to live up to our stated objectives, our company motto is:

KNOW THE NEEDS AND EXPECTATIONS OF YOUR CUSTOMER...THEN DELIVER!

Once again, thank you for purchasing our product, and we look forward to you utilizing Precise Time and Frequency, Inc. for your future time and frequency instrumentation needs.



President
Precise Time and Frequency, Inc.

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1. **ptf 1231A** L-Band Distribution Amplifier - Technical Overview

The **ptf 1231A** uses at its heart an electronic design benefiting from the latest technology in high performance components.

The unit uses three stages of input signal buffering to distribute the input signal to 12 separate outputs, and insure maximum isolation between individual output signals.

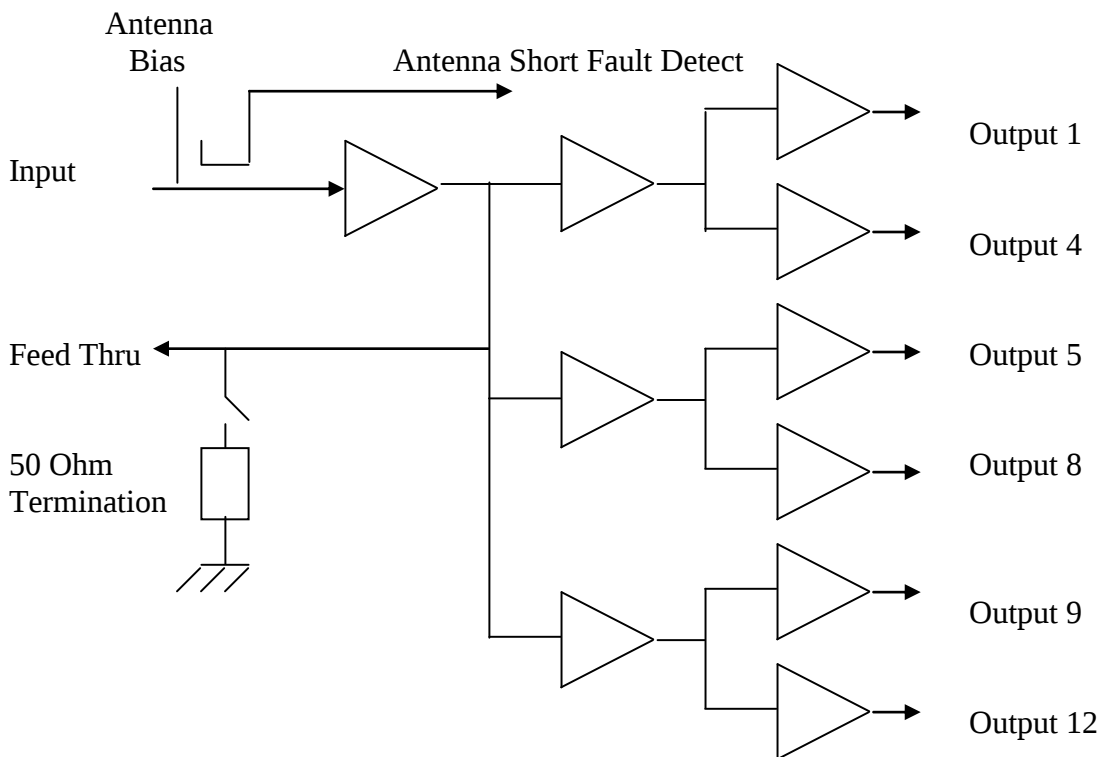


Figure 1. **ptf 1231A** Schematic

2. *ptf 1231A* L-Band Distribution - Specifications

2.1.1. Electrical

L-Band Output (twelve)

Frequency Range	200MHz to 2000MHz
Gain at each output	5 dB, +/- 2 dB
Isolation	>40dB
Noise Figure	2.0 dB
Load Impedance	50 ohms.
Connectors	TNC

L1 Input

Frequency Range	200MHz to 2000MHz
Input Level (min)	5 dBm
Impedance	50 ohms
Connector	TNC
GPS Antenna Bias	3 or 5 VDC, settable at factory.

Alarm Output

Summary alarm indicates failure of any output signal

Non-alarm condition: Relay energized (fail safe)

Connector: 9 pin D-male



Warning: Do not supply the alarm output relay more than 30VAC or 60VDC, 5Amps.

Alarm Indicator

Red LED,

2.1.2. Power Input

Standard AC power input:

Input voltage

100-240 VAC, 15W

Input Frequency range

45 to 65 Hz

Current

0.125 Amps

2.1.3. Dimensions

Chassis

Height 1.75 Inches.

Width 17 Inches

Depth 12 Inches Maximum.

2.1.4. Weight

Chassis

< 10 pounds

2.1.5. Environmental

Operating Temp:

-0 C to +55 C

Humidity

to 95% RH non-condensing

3. Unpacking/Inspection/Installation

3.1. Unpacking/Inspection

The **ptf 1231A** L-Band Distribution unit together with accessories is shipped in a custom designed package. Upon receipt the equipment should first be visually inspected for any signs of visible damage.

If visible damage is apparent immediate notification should be given to both Precise Time and Frequency, Inc., and the carrier responsible for shipment. Do not discard the shipping container, which should be made available for inspection by the carrier.

For purposes of unit reference, the unit serial number located on the rear panel of the unit should be quoted in all communications.

3.2. Chassis Installation

The **ptf 1231A** chassis is supplied with rack ears ready for simple installation into a standard 19-inch rack frame/cabinet.

For adequate support when mounted into the rack, a rear supporting bar or tray should be used as the rack ears are designed to secure the unit in the rack, NOT to support the full weight of the unit.

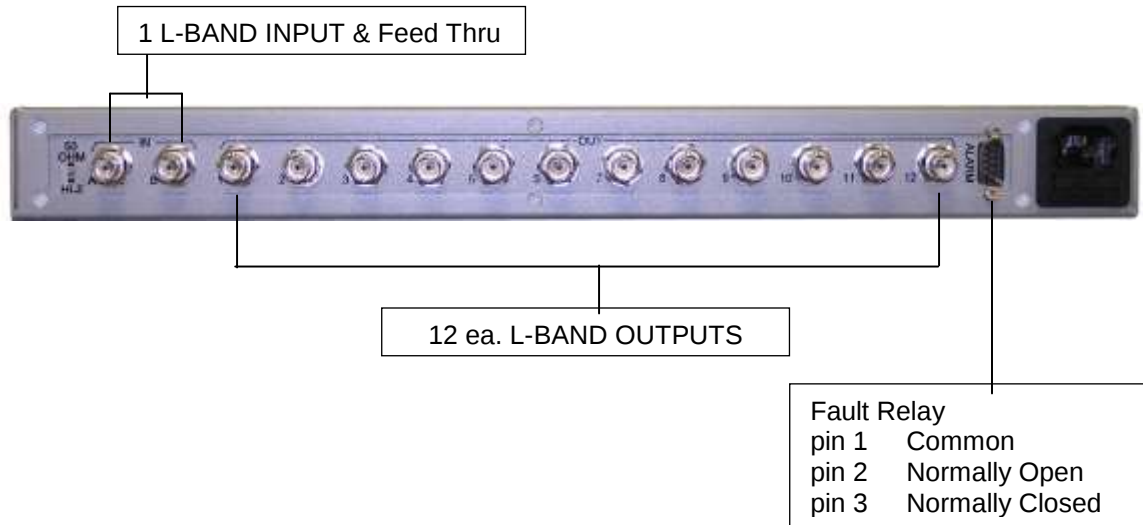
Attention should be given to the internal rack environment to insure the unit operates within it's specified operating temperature range of 0 to 50 deg. C also noting that the unit relies upon convection for cooling, so there should be sufficient air flow to accommodate this.

3.3. Power Connection

Power is supplied by connecting the supplied AC power cable to and AC source, at 120 or 230 V AC, +/-15%. The AC input is a universal input – no range switching is required.

3.4. Input/Output Connections

BNC connectors are provided for the standard **ptf** 1231A outputs.



4. **ptf** 1231A – Operation

Operation of the **ptf** 1231A is extremely straightforward. Once all of the required input and out connections have been made power can be applied for the unit.

A 50 ohm TNC termination is provided for the feed thru port when this port is not used.

Note that an additional “feed thru” input connector is provided so that if it is desired to drive more than one **ptf** 1231A distribution amplifier from the same input signal, the input can be coupled to the next unit.

In this case, the units that the signal is “fed thru” should be terminated at it’s own feed thru port. (see input termination switch). Only the last unit in the chain should be terminated to optimize impedance matching.

5. Maintenance

5.1. Overview

The **ptf** 1231A distribution amplifier uses state-of-the art solid state and semi-conductor, primarily surface mount, components.

All of the components are selected for their inherent high reliability, and as advanced techniques with highly sophisticated equipment, are used for assembly and test of the unit.

Due to the above, no periodic maintenance of the unit is required and the units can be expected to deliver many years of trouble free operation.

Any maintenance or service of the unit should be performed at a Precise Time and Frequency, Inc. authorized facility, to insure the appropriate equipment and expertise is available.

5.1.1. Fuse Replacement



Warning: This product is equipped with 3.15A/250V Fast Blow fuse type. Replace fuse with the fuse value and type.

6. Contact Information – Technical Assistance

The Precise Time and Frequency, Inc service department normal hours of operation are from Monday to Friday, between the hours of 8.00 a.m. and 5.00 p.m. US Eastern Standard Time.

24 hour, 7-day technical assistance is available under special contract.

Before returning any equipment for service or repair please contact our service department for an RMA number.

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E-mail: service@ptfinc.com

Shipping address is:

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Attn: Service Manager

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