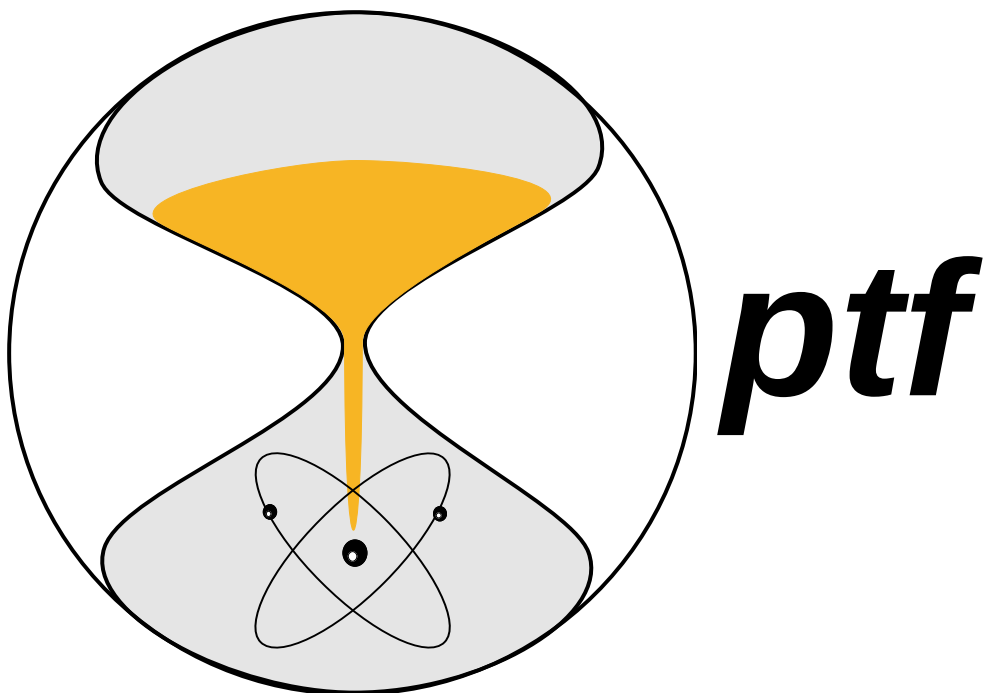




Precise Time and Frequency, Inc

***ptf* 1205A IRIG B Distribution**

Operation and Maintenance Manual



Document # 10382
Revision B

Certificate of Conformance

This certificate confirms that the following equipment:

Unit type: ***ptf*** 1205A IRIG Distribution Amplifier

Serial Number: 911-01848-06

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

December 18, 2024

For Precise Time and Frequency, LLC

Declaration of Conformity

Declaration of Conformity

This certificate confirms that the following equipment:

Unit type: ptf 1205A

is in conformity with the relevant provisions of the following standard(s)
or other normative document(s):

EU EMC Directive 2004/108/EC:

ETSI EN 301 489-1, V1.8.1 (2008-04)

Electromagnetic compatibility and Radio spectrum Matters (ERM);

Electromagnetic Compatibility (EMC) standard for radio equipment and services;
Part 1: Common technical requirements

EN 55022:2006

Information technology equipment — Radio disturbance characteristics - Limits
and methods of measurement

EN 61000-4-2: 2001

Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement
techniques - Electrostatic discharge immunity test

EN 61000-4-3:2006

Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement
techniques - Radiated, radiofrequency, electromagnetic field immunity test

EN 61000-4-4:2004

Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement
techniques - Electrical fast transient/burst immunity test

EN 61000-4-5:2006

Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement
techniques - Surge immunity test

EN 61000-4-6:2005

Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement
techniques - Electrical fast transient/burst immunity test

EN 61000-4-11:2004

Electromagnetic compatibility (EMC) - Part 44: Testing and measurement
techniques — Voltage Dips and Short Interruptions immunity test

ISO 7637-2:2004

Road vehicles - Electrical disturbances from conduction and coupling - Part 2:
Electrical transient conduction along supply lines only

EN 61000-3-2:2006 +A1:2009 +A2:2009

Electromagnetic compatibility (EMC) - Part 32: Limits - Limits for harmonic and
current emissions (equipment input current ≤ 16 A per phase)

EN 61000-3-3:1995

Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage
changes, voltage fluctuations and flicker in public low-voltage supply systems, for
equipment with rated current ≤ 16 A per phase and not subject to conditional
connection

EN 55016-1-1:2007

Specification for radio disturbance and immunity measuring apparatus and
methods — Part 1-1: Radio disturbance and immunity measuring apparatus —
Measuring apparatus Amendment1 (2007)

CISPR16-1-2:2003

Specification for radio disturbance and immunity measuring apparatus and
methods — Part 1-2: Radio disturbance and immunity measuring apparatus —
Ancillary equipment — Conducted disturbances 5
Amendment1 (2004)
Amendment 2 (2006)

EN 55016-1-4:2007

Specification for radio disturbance and immunity measuring apparatus and
methods - Part 1-4: Radio disturbance and immunity measuring apparatus -
Ancillary equipment - Radiated disturbances

EN 55016-2-3:2004

Specification for radio disturbance and immunity measuring apparatus and
methods - Part 2-3: Methods of measurement of disturbances and immunity —
Radiated disturbance measurements
Amendment 1 (2005)

EN 55016-4-2:2003

Specification for radio disturbance and immunity measuring apparatus and
methods — Part 4-2: Uncertainties, statistics and limit modeling —
Measurement instrumentation uncertainty

EU Low Voltage Directive 2006/95/EC

EN 60950-1:2006 Safety of Information Technology Equipment,
+A1+A11+A12 including electrical business equipment

EU ROHS directive compliance according to Directive 2002/95/EC

Introduction

Congratulations on your purchase of the **ptf** 1205 IRIG B Distribution unit !

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, LLC

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- 2.** Specifications
- 3.** Unpacking/Inspection/Installation
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1. **ptf 1205A** IRIG B Distribution - Technical Overview

The **ptf 1205A** uses at its heart an RF design combining the latest technology in low noise components, with decades of experience in low noise layout design, to buffer high quality input signals while preserving the integrity and purity of input signal by minimizing any phase noise addition.

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

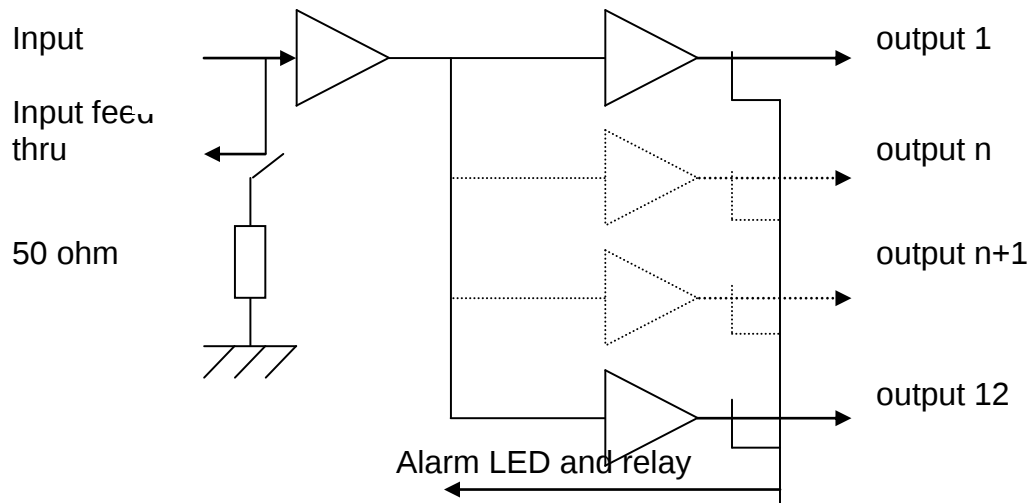


Figure 1. **ptf 1205** Schematic

2. *ptf 1205A* IRIG B Distribution - Specifications

2.1.1. Electrical

Time Code Output (twelve)

Code Format	IRIG-B
Modulation Frequency	1kHz
Modulation Ratio	3:1
Amplitude	$\leq 3V$ P-P into $50\ \Omega$ $50\ \Omega$ source impedance
Connectors	BNC

Time Code Input

Code Format	IRIG-B
Modulation Frequency	1kHz
Modulation Ratio	3:1
Amplitude	$\leq 3V$ P-P
Impedance	$50\ \Omega$ /Hi Z switch ($50K\ \Omega$)

Alarm Output

Summary alarm indicates failure of any output signal
Non-alarm condition: Relay energized (fail safe)
Connector: 9 pin D-male

Alarm Indicator	Red LED,
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2.1.2. Power Input

Standard AC power input:

Input voltage	85 to 264 V AC
Input Frequency range	45 to 65 Hz

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** 1205A IRIG B Distribution 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** 1205 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.

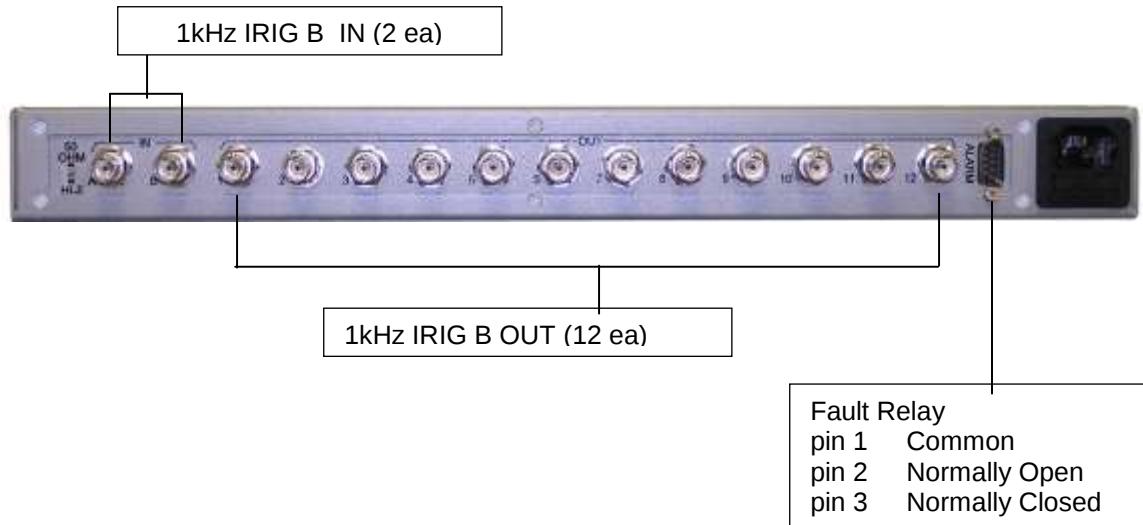
Attention should be given to the internal rack environment to insure the unit operates within it's specified operating temperature range of 0 to 50 deg. C also noting that the unit relies upon convection for cooling, so there should be sufficient air flow to accommodate this.

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** 1205 outputs.



4. **ptf** 1205A – Operation

Operation of the **ptf** 1205A is extremely straightforward. Once all of the required input and out IRIG B connections have been made power can be applied for the unit.

Note that an additional “feed thru” input connector is provided so that if it is desired to drive more than one **ptf** 1205 IRIG B Distribution 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 not be terminated at the input (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** 1205A IRIG B Distribution 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.

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.

Tel: (+1) 781 245 9090
Fax: (+1) 781 245 9099
E-mail: [service@ ptfinc.com](mailto:service@ptfinc.com)

Shipping address is:

Precise Time and Frequency, Inc.
50L Audubon Road
Wakefield, MA 01880
USA

Attn: Service Manager

Billing address is:

Precise Time and Frequency, Inc.
50L Audubon Road
Wakefield, MA 01880
USA

Attn: Accounts