

# ptf 1229A Frequency Generator/ Micro Phase Stepper

## Features

- **Wide Output Frequency Range (0.1Hz to 30MHz)**
- **High Resolution 0.1 Hz (over full range)**
- **Phase adjustments to 1ns resolution**
- **Sine and Square Wave outputs for each channel**
- **Up to Four Independent Frequency Output Channels**
- **External reference capability for precision applications**
- **Redundant Input Auto Switching Capability**
- **Full remote Monitoring/Control (Ethernet/RS232/USB)**
- **User Friendly Front Panel Keypad/Vacuum Fluorescent Display**



The ptf 1229A utilizes the latest technological advances in precision frequency synthesizers to provide a multiple output, wide range, high precision frequency reference instrument, capable of delivering frequencies over the range of 0.1Hz up to 30MHz with a resolution of 0.1 Hz over the full range.

The unit includes an external reference input to allow extremely high accuracy outputs at precisely the frequency required, together with a front panel indicator to verify "lock" to the external reference. The standard unit includes two independent frequency outputs of any frequency within the range, and provides both sine and square wave outputs for each frequency.

An expansion module gives the capability to increase the number of independent frequency outputs up to a total of four frequencies, with sine and square wave outputs for each, giving a total of eight outputs.

Additionally, the unit provides a capability to inject phase changes on the output with a resolution of 1ns. Set up allows either advance or retard of phase.

The unit includes full remote monitoring/control interfaces with the standard ptf menu system including expanded help on each command, RS232/USB, and Ethernet interfaces with telnet, and web browser protocols. For local front panel control the unit has an easy to use front panel keypad and high brightness vacuum fluorescent display that allows parameter setting through a menu system, and status monitoring with multiple status screens available on the highly visible display.

The estimated MTBF of the unit is >300,000 hours, but for applications requiring even greater reliability, the unit offers an auto switching input option, allowing two independent references to be connected to the unit.

## Specifications

### Electrical

#### Frequency Output Channels (6 max.)

Frequency Range	0.1Hz to 30MHz
Phase Range	+/- 999,999,999 ns

Isolation	>80 dB
Connectors	BNC

#### Output Level

Sine	1V rms (nominal)
Square	5V CMOS
Harmonic Distortion	<-40 dB
Non-Harmonic Signals	<-80 dB
Load Impedance	50 ohms

#### SSB Phase Noise @ 10MHz (1 Hz Bandwidth) Offset from carrier

10 Hz	-95 dBc/Hz
100 Hz	-125 dB
1,000 Hz	-148 dB
10,000 Hz	-162 dB

#### RF Input

Frequency	10MHz
Level	1 V rms (nominal)

#### Alarm Output

Alarm	Summary alarm indicates failure of any output signal
No-Alarm	Relay energized(fail safe)

Connector: 9 pin D-male

#### Controls and Indicators

Power	Green LED, power is connected signal output failure
-------	---

Alarm	Red LED,
Lock	Input signal indicator

### Environmental and Physical

Temperature: 0° to 55° C

Relative Humidity: 0 to 95%, non-condensing

#### Power Requirements

AC Input ( $\pm 15\%$ ) 90 - 264 VAC, <10W  
Dimensions (HxWxD): 1U x 19" x 12"



Rear Panel