

ITS-6200

8-Channel, 10 MHz Precision Frequency Reference with Sine and Logic Outputs



Key Features

- Eight independent outputs
- Individual Sine or CMOS outputs
- External phase locking
- Low phase noise
- High stability
- Selectable CMOS levels
- Low power consumption
- Convenient AC or DC operation
- Compact size

Description

The ITS-6200 is a versatile 10 MHz laboratory frequency reference useful for synchronizing test instruments to a common standard. Eight outputs are provided, each which can be configured independently as sinewave or logic level square-wave signals. Additionally, CMOS logic levels can be set for 5V, 3.3V, or 2.5V logic family compatibility. A 10 MHz reference input is provided to phase lock the ITS-6200 to an external reference, such as a GPS or Rubidium standard, or cascade multiple ITS-6200 units for additional outputs. The low phase noise and high stability OCXO within the ITS-6200 is suitable for the most demanding applications, whether free-running or phase locked. The compact size and low power consumption makes the instrument highly portable and suitable for AC-powered operation in the lab or battery operation in mobile or field applications.

SPECIFICATIONS

OUTPUTS

Number of Channels	8
Output Waveform	Sine or CMOS square wave
Sine Output Power	+6 dBm \pm 1 dB into 50 ohms
CMOS Output Level	Selectable 5V, 3.3V, or 2.5V into 50 ohms
CMOS Output Drive	100 mA (5V), 66 mA (3.3V), 50 mA (2.5V)
Connectors	BNC-F (4 front, 4 rear)

OSCILLATOR CHARACTERISTICS

Frequency	10 MHz
Initial Tolerance	\pm 0.1 ppm, unlocked
Thermal Stability	\pm 0.01 ppm from 0 to +50 degC
Aging	\pm 0.001 ppm per day \pm 0.1 ppm per year
Harmonics	-50 dBc max.(sine output)
Spurious	-80 dBc max.
Warm Up Time	5 minutes, typ.
External Phase Lock	10 MHz \pm 10 Hz
Locking Bandwidth	20 Hz
External Lock Level	0 dBm \pm 3 dBm into 50 ohms
Ext Ref Connector	BNC-F (rear)

PHASE NOISE (Typ free-running sine)

-90 dBc/Hz @ 1 Hz
-120 dBc/Hz @ 10 Hz
-150 dBc/Hz @ 100 Hz
-155 dBc/Hz @ 1 kHz
-160 dBc/Hz @ 10 kHz
-160 dBc/Hz @ 100 kHz

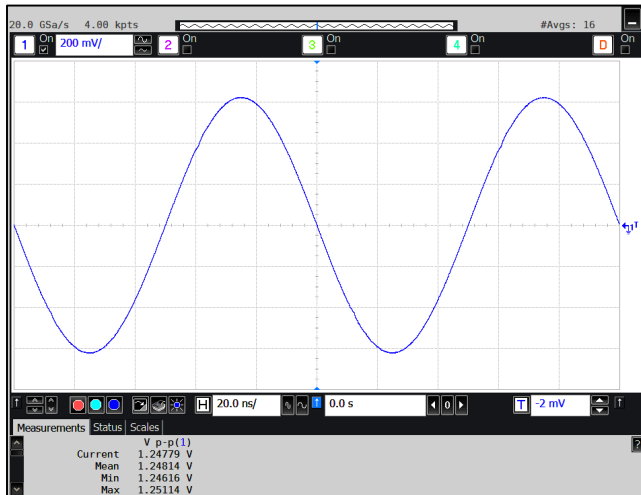
POWER

DC Input	12.0 to 15.0 VDC
Power Supply	Ext AC/DC supply provided 100-240 VAC
DC Connector	5.5/2.5 mm, center positive
Power	12 watts typ. startup 6 watts typ. sustained

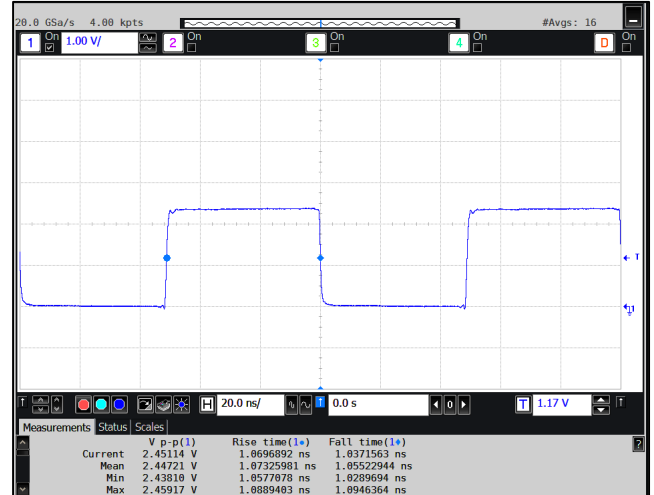
PHYSICAL

Size (inch)	6.12 W x 5.75 D x 3.25 H
Size (mm)	155 W x 145 D x 80 (H)
Weight	2 lbs (0.91 kg)

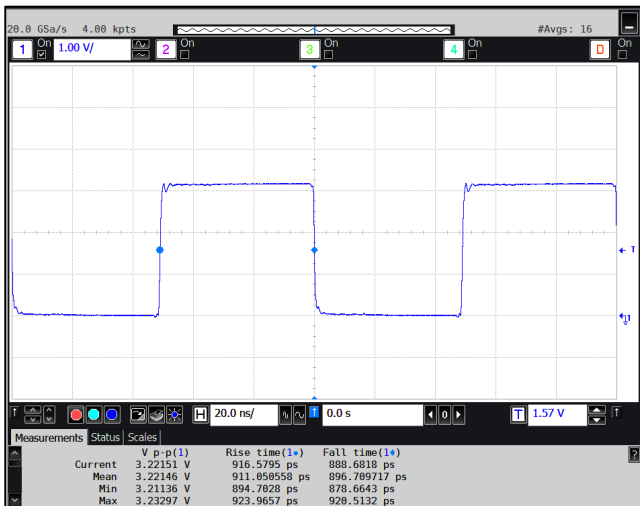
ITS-6200 TYPICAL PERFORMANCE



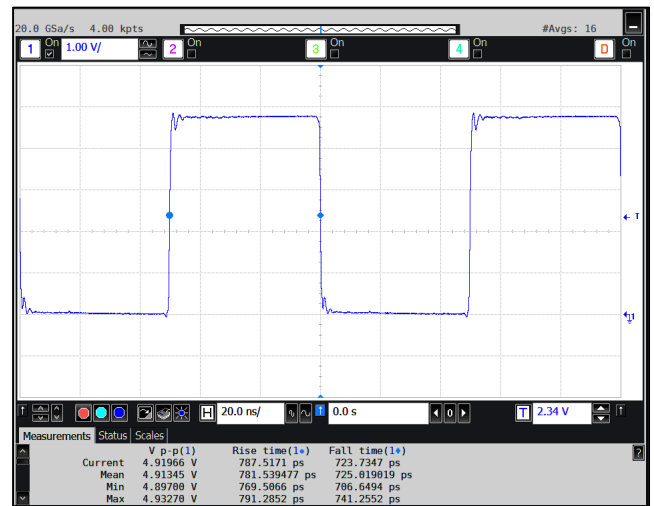
Sine Output in 50 ohms



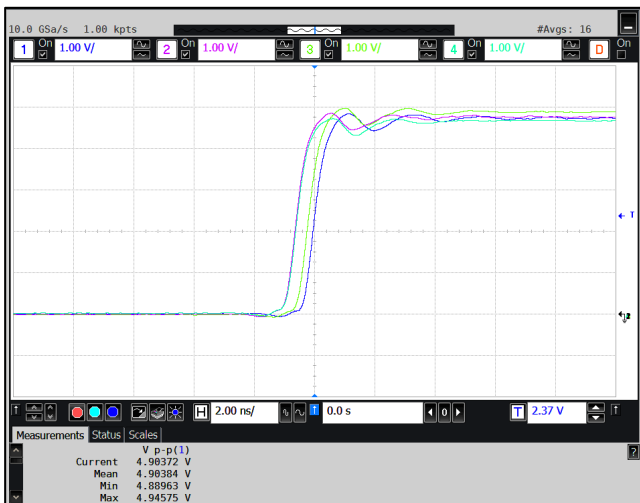
2.5V CMOS Output in 50 ohms



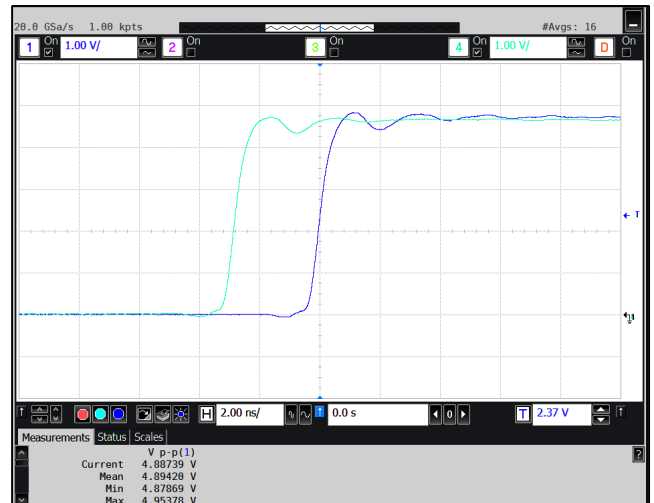
3.3V CMOS Output in 50 ohms



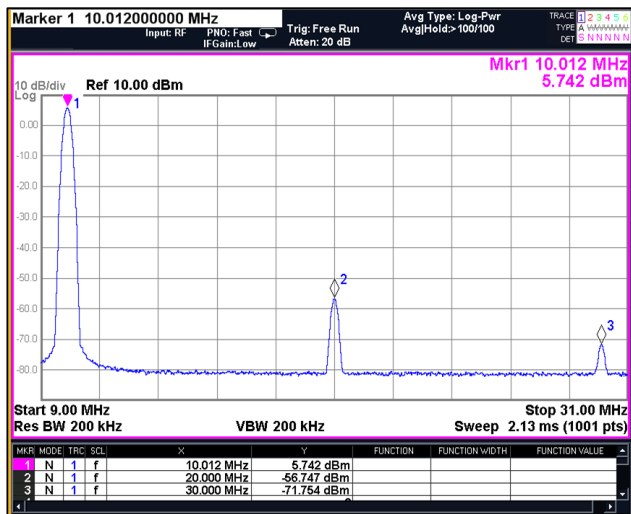
5V CMOS Output in 50 ohms



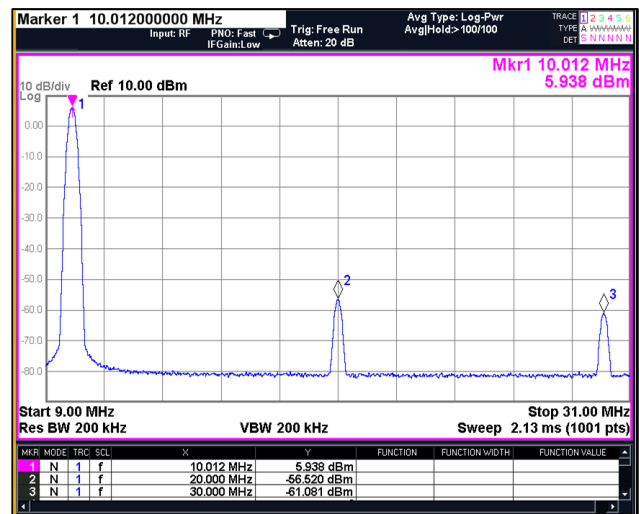
Typical Skew Between
Outputs 1-4 or 5-8



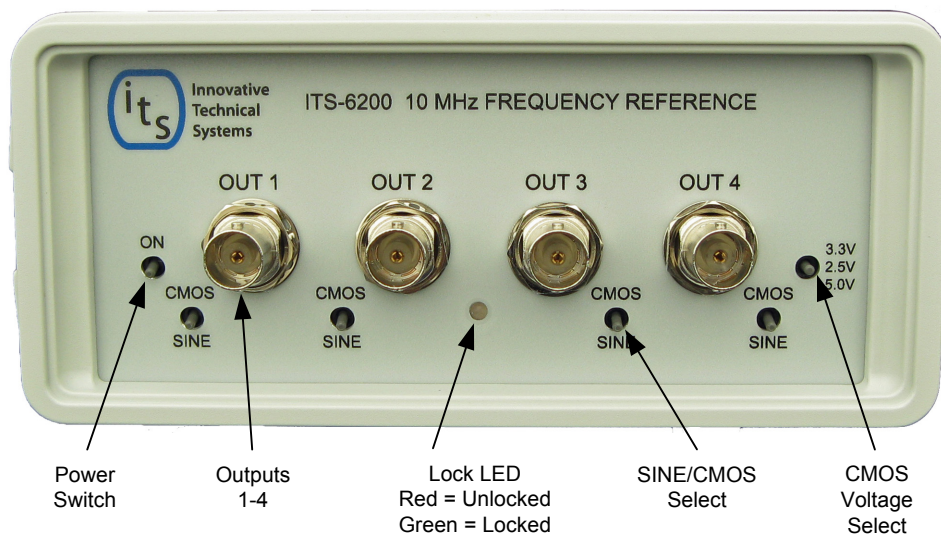
Typical Skew Between
Front and Rear Outputs



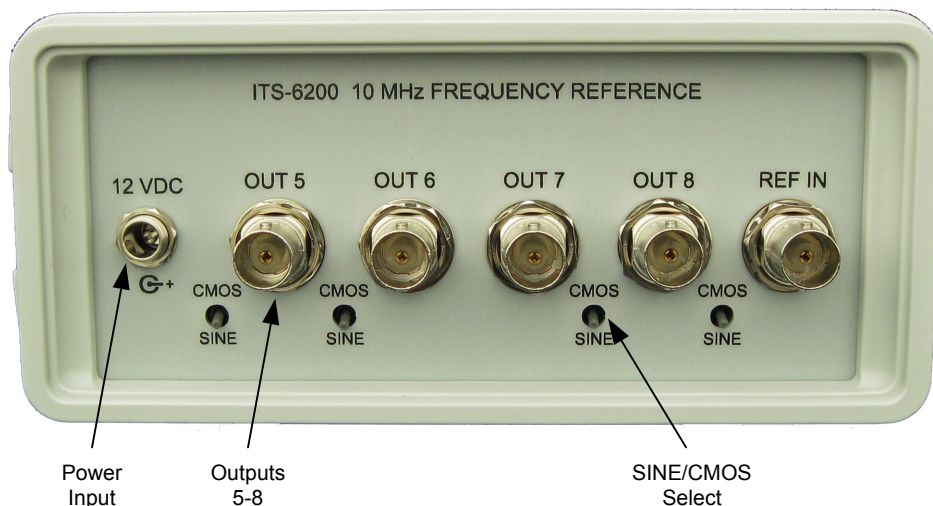
Harmonics with all outputs set to SINE



Harmonics with 1 SINE output and 7 CMOS outputs



FRONT PANEL CONTROLS



REAR PANEL CONTROLS