PRELIMINARY RELEASE

T1

10MHz Time Reference

Timing in digital systems is the key to carry and to faithfully convert digital audio content. Why so? Let's imagine that a digital to analog converter chip is fed from a clock containing a high level of phase noise, otherwise known as jitter in the time domain. Instead of being evenly spaced in time, the digital audio information converted to the analog domain is spread randomly around the ideal time, introducing undesired artifacts. The better the clock source, the lesser the phase noise, the more precise the conversion.

An ultra-low phase noise, high accuracy 10MHz oven controlled oscillator (OCXO) forms the heart of the T1, CH Precision's first clock generator.

To avoid the inexorable drift in time of oscillators, a GPS option is available. Locking on satellites' ultra-stable caesium clocks, it ensures that the T1 will perform identically today and for many years to come.

Outputs
- 10MHz nominal frequency
- Square wave: 1V or 500mV peak to peak, selectable
- Sine wave: 1V or 500mV peak to peak, selectable
- 6 outputs, 75Ω BNC coaxial
- Transformer-coupled outputs
- Independant control for each output

Inputs
- GPS input to suit the CH Precision GPS option
- 1 pulse per second (1 PPS) TTL input for external synchronization
- Ethernet for remote control (CH Control App)
- USB for firmware upgrade

Power Supply
- Dedicated ultra low noise, three-stages discrete regulated linear power supplies for each section
- Galvanically isolated power supplies for the OCXO, the OCXO buffer and the output buffers
- Magnetically and electrostatically shielded toroidal mains transformer

Mechanics
- OCXO fitted inside a heavy aluminum block for improved core temperature stability
- OCXO aluminum block mounted on soft silicon gel for maximum damping
- Power transformer mounted on silent blocks

UNIT SPECIFICATIONS

Frequency	
Nominal frequency	10MHz, +/-20ppb typical, factory adjusted
Tuning range	+/-1ppm via 1PPS input
External 1PPS Input	
Input level	100mV to 5V peak to peak
Input impedance	75Ω, BNC coaxial connector
10MHz Outputs	
Output level	1V or 500mV, peak to peak, loaded with 75Ω termination, adjustable for each output
Waveform type	Sine or Square wave, adjustable for each output
Output impedance	75Ω, 6x BNC coaxial connectors
General	
Display	480 x 272 pixels 24bits RGB AMOLED
Power Supply	Selectable 100V, 115V or 230V AC, 47Hz to 63Hz, < 1W in Standby
Overall Dimensions and Weight	440mm x 440mm x 133mm, 26kg
Control / Software Update	Ethernet based system control via Android CH Control App / USB port for software update

Specifications subject to change without notice. Illustrations are informative only.

CH Precision Sàrl | Z.I. Le Trési 6D | 1028 Préverenges | Switzerland | info@ch-precision.com | T + 41 (0)21 701 9040