

# GPS/GLONASS Disciplined Rb Oscillator VCH-311

 [vremya-ch.com/index.php/en/products-en/freq-comparators-en/vch-311-en/index.html](http://vremya-ch.com/index.php/en/products-en/freq-comparators-en/vch-311-en/index.html)



GPS/GLONASS disciplined rubidium frequency standard model VCH-311 contains multi-channel GPS/GLONASS receiver, time scale comparison unit and automatically adjustable Rubidium reference oscillator. The instrument is intended to use as a high stable frequency signal source (STANDARD mode), or precision frequency calibrator for any external standard signals (CALIBRATOR mode).

## Key Applications

- Verification of metrological parameters of precision frequency signals sources;
- time keeping metrology systems;
- scientific research measurements.

## Specifications

### Output signals:

- Sine: 5 and 10 MHz, sine, 1 V into 50  $\Omega$  load;
- 2,048 MHz, pulse, (ITU-T G.703);
- 1 Hz, pulse, TTL levels into 50  $\Omega$  load, (1 pps GPS/GLONASS receiver output).

### Input signals serviceable for frequency calibration:

- 5 or 10 MHz, sine, 1 V into 50  $\Omega$  load;
- 2,048 MHz, pulse, (ITU-T G.703).

### Metrological characteristics are given in the table:

Relative frequency accuracy in STANDARD mode	$\leq \pm 3 \cdot 10^{-12}$	
Time accuracy from UTC/UTC SU, (RMS)	$\leq 100$ ns	
Relative accuracy versus warm up time	3 h	$\leq \pm 2.0 \cdot 10^{-11}$
	9 h	$\leq \pm 7.0 \cdot 10^{-12}$
	24 h	$\leq \pm 3.0 \cdot 10^{-12}$
Allan deviation of output signal 10 MHz for average time $\tau$	$\tau = 1$ s	$\leq 1.5 \cdot 10^{-11}$
	$\tau = 1$ day	$\leq 2.0 \cdot 10^{-12}$
	$\tau = 100$ s; $T = 10^5$ s	$\leq 1.0 \cdot 10^{-12}$
Frequency calibration error in the CALIBRATOR mode for average time $\tau$ and measuring time	$\tau = 1000$ s; $T = 10^6$ s	$\leq 1.0 \cdot 10^{-13}$

**Digital control and monitoring** all operating parameters on LSD display.

**Interface:** RS-232C; USB.

**Power supply:** AC(198÷242)V, (50÷60)Hz; DC(38.4÷57.6)V.

**Power consumption:** 45 W in normal conditions (85 W warm up time 1 hour).

**Dimensions (W×H×D):** 483×133×310 mm.

**Antenna:** dimensions 185xØ181 mm. Weight 0,5 kg. Antenna cable's length is 60 m.

**Weight:** 10 kg.

**Warranty:** 3 years.

**Live time:** 15 years.

