ET3320C / ET3340C / ET3360C

ET3300C Series Dual-Channel DDS Function / Arbitrary Waveform Generator



OVERVIEW

The ET3300C series is an economy dual-channel function / arbitrary waveform generator built on direct digital synthesis (DDS) technology, producing stable, precise output signals. It provides CH1 and CH2 outputs; both channels can output basic and arbitrary waveforms, and one channel can produce modulated output while the other outputs a basic waveform.

FEATURES

- Frequency range 1 μHz to 60 / 40 / 20 MHz depending on model
- Two channels with independent output and phase synchronization
- 200 MSa/s sampling rate, 13-bit vertical resolution
- Built-in 5 basic waveforms and 32 arbitrary waveforms
- Waveform storage: supports 50 groups of user-defined waveforms in internal memory
- Built-in 100 MHz high-precision frequency meter and 32-digit counter
- Internal AM, FM and PM modulation
- Internal / external ASK, FSK and PSK modulation
- Linear / logarithmic sweep and burst waveform output
- 2.4-inch TFT LCD with a clear graphical interface
- Chinese and English menu display
- Pulse output with adjustable edge time
- Standard interface: USB Device

SPECIFICATIONS

Item	ET3320C	ET3340C	ET3360C
Sine wave	1 μHz – 20 MHz	1 μHz – 40 MHz	1 μHz – 60 MHz
Square wave	1 μHz – 15 MHz		

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Ramp (triangle)	1 µHz – 15 MHz		
Pulse wave	100 µHz – 6 MHz		
Arbitrary wave	1 µHz – 6 MHz		
Frequency	Resolution 1 µHz · accuracy ±20 ppm · stability ±1 ppm / 3 h		
Waveform types	Sine, square, ramp, pulse, noise, arbitrary (incl. DC) · 32 built-in arbitrary waveforms plus 50 user-defined waveforms · waveform length 8192 points · sampling rate 200 MSa/s · vertical resolution 13 bit		
Sine characteristics	Harmonic suppression ≥45 dBc (<1 MHz), ≥40 dBc (1 – 20 MHz) · total distortion <0.8 % (20 Hz – 20 kHz, 0 dBm)		
Square characteristics	Rise / fall time <20 ns · overshoot <5 % · duty cycle 1 % – 99 % (freq <100 kHz), 20 % – 80 % (100 kHz – 5 MHz), 40 % – 60 % (≥5 MHz), 0.1 % resolution		
Pulse characteristics	Pulse width min 20 ns, 1 ns resolution · min edge transition 20 ns · overshoot <5 % · jitter 6 ns + 0.1 % of period		
Ramp characteristics	Linearity ≥98 % (0.01 – 10 kHz) · symmetry 0.0 – 100.0 %, resolution 0.1 %		
Amplitude range	2 mVpp – 20 Vpp (freq <10 MHz) · 2 mVpp – 10 Vpp (10 MHz ≤ freq <30 MHz) · 2 mVpp – 5 Vpp (freq ≥30 MHz)		

OUTPUT & MODULATION

- **Amplitude:** resolution 1 mV · accuracy ±1 % of setting + 2 mVpp (1 kHz sine, 0 offset, >10 mVpp) · flatness ±0.4 dB (<10 MHz) / ±1.0 dB (≥10 MHz), relative to 1 kHz sine, 1 Vpp
- **Output:** impedance 50 Ω ±10 % (typical) · protection: all outputs withstand a load short circuit for up to 60 s
- **Offset:** output range ±10 Vpk, ac+dc (output amplitude >0.1 V) · ±0.250 Vpk, ac+dc (2 mV < output amplitude ≤0.1 V) · offset resolution 1 mV
- **Phase:** adjustable range 0 – 359.9°, resolution 0.1°
- **External measurement:** frequency measurement range 1 Hz – 100 MHz · gate time 0.01 s – 10 s, continuously adjustable · counter range 0 – 4294967295 · manual count mode · input signal 2 Vpp – 20 Vpp · DC / AC coupling · pulse-width measurement 1 ns resolution, up to 20 s · period measurement 1 ns resolution, up to 20 s
- **AM:** output CH1 or CH2 · carrier sine / square / ramp / pulse / arbitrary (except DC) · source internal / external VCO (external optional) · modulation waveform sine / square / ramp (up / down) · modulation frequency 2 mHz – 20 kHz · depth 0 % – 120 %
- **FM:** same carrier and source options · modulation frequency 2 mHz – 20 kHz · frequency deviation 0 to max carrier frequency
- **PM:** same carrier and source options · modulation frequency 2 mHz – 20 kHz · phase deviation 0° – 360°
- **ASK:** carrier sine / square / ramp / pulse / arbitrary (except DC) · internal / external source · 50 % duty-cycle square modulation · rate 2 mHz – 1 MHz · modulation amplitude 0 to carrier amplitude
- **FSK:** same carrier and source options · 50 % duty-cycle square · rate 2 mHz – 1 MHz · hop frequency within the carrier frequency range
- **PSK:** same carrier and source options · 50 % duty-cycle square · rate 2 mHz – 1 MHz · phase shift 0° – 360°
- **Sweep:** output CH1 or CH2 · linear or logarithmic · sweep time 1 ms – 999.999 s · start and stop frequencies freely settable · direction forward / reverse / round-trip · trigger internal / external / manual

- **Burst:** output CH1 or CH2 · carrier sine / square / ramp / pulse / noise / arbitrary (except DC) · burst count 1 – 1048575 or infinite, gated · start / stop phase 0° – 360° · internal period 1 µs – 500 s · gate source external · trigger internal / external / manual
- **Trigger input:** signal 2 Vpp – 20 Vpp · DC / AC coupling · pulse width >100 ns · response time <500 ns (burst), <10 µs (sweep)

GENERAL

- **Display:** 2.4-inch TFT LCD
- **Interface:** USB Device (standard)

ACCESSORIES

- **Standard:** three-core power cord × 1, BNC-to-alligator-clip cable × 2, BNC coaxial cable × 1, USB data cable × 1

For quotations, options and lead time, contact Kate Liu — enquiries are answered personally, typically within one working day.