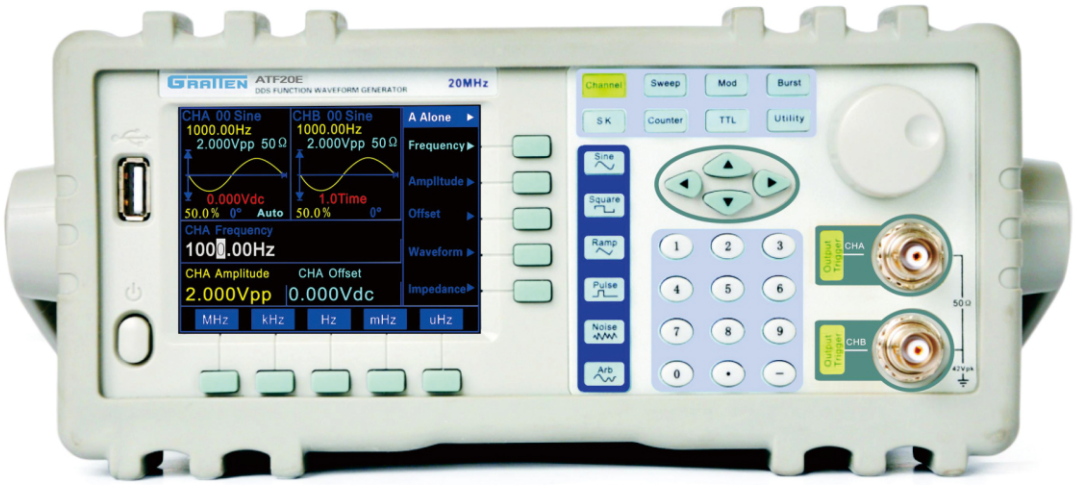
Function/Arbitrary Waveform Generator

ATF20E



Main Features

- Direct Digital Synthesis (DDS) technology, 2 independent output channels
- 3.5-inch TFT display, English/Chinese menu
- 100MSa/s sample rate, 8bits vertical resolution, 1kpts waveform length
- 32 built-in pre-stored waveforms, 8 user defined arbitrary waveforms
- Minimum stable output waveform: 1mV(50Ω)
- Multiple modulation functions: FM, FSK, ASK, PSK
- Frequency sweep, amplitude sweep and burst functions
- Over voltage, over current, output short-circuit and reverse voltage protections
- Standard parts: RS232 interface
- Optional parts: 200 MHz frequency counter, 7W(8Ω) power amplifier

Model	ATF20E
Frequency range(sine)	1μHz～20MHz
Output Characteristics : Channel A	
Waveform Characteristics	
Waveform type	32 built-in pre-stored waveforms including: Sine, Square, Triangle, Ramp, Pulse etc. and 8 user defined arbitrary waveforms
Waveform length	1024 points
Sample rate	100MSa/s
Waveform amplitude resolution	8bits
Sinusoidal harmonic rejection	≥40dBc (<1MHz), ≥35dBc (1MHz～20MHz)
Sine wave total distortion	≤1% (20Hz～200kHz)
Square rise/fall edge time	≤35ns
Square overshoot	≤10%
Square wave duty cycle	1%～99%

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Frequency Characteristics	
Frequency range	sine: 1μHz～Max.frequency (MHz) square: 1μHz～5MHz　other waveforms: 1μHz～1MHz
Frequency resolution	1μHz
Frequency accuracy	±(5×10-5)
Frequency stability	±5×10-6/3 hours
Amplitude Characteristics	
Amplitude range	2mVpp～20Vpp　1μHz～10MHz (high impedance) 2mVpp～15Vpp　10MHz～15MHz (high impedance) 2mVpp～8Vpp　15MHz～20MHz (high impedance)
Amplitude resolution	20mVpp (amplitude＞2Vpp), 2mVpp (amplitude＜2Vpp)
Amplitude accuracy	±(1%+2mVrms) (high impedance, true RMS, frequency at 1kHz)
Amplitude stability	±0.5%/3 hours
Amplitude flatness	±5% (frequency＜10MHz), ±10% (frequency ＞10MHz)
Output impedance	50Ω
DC Offset Characteristics	
Offset range	±10V (high impedance, attenuation 0dB)
Resolution	20mVdc
Offset accuracy	±(1%+20mVdc)
Sweep Characteristics	
Sweep type	frequency sweep, amplitude sweep
Sweep range	free to set the start and stop points
Sweep time	100ms～900s
Sweep direction	Up, Down, Up-Down
Sweep mode	linear, logarithmic
Control mode	auto sweep or manual sweep
Frequency Modulation Characteristics	
Carrier signal	frequency sweep, amplitude sweep
channel A signal	internal signal of channel B or external signal
FM deviation	0%～20%
Shift Keying Characteristics	
FSK	free to set carrier frequency and hop frequency
ASK	free to set carrier amplitude and hop amplitude
PSK	hop phase 0～360°, max. resolution 1°
Alternative rate	10ms～60s
Burst Characteristic	
Carrier signal	channel A signal
Trigger signal	TTL_A signal
Burst count	1～65000 cycles
Burst modes	Internal TTL, External, Single

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Model	ATF20E
Output Characteristics : Channel B	
Waveform Characteristics	
Waveform type	32 built-in pre-stored waveforms including: Sine, Square, Triangle, Ramp, Pulse etc. and 8 user defined arbitrary waveforms
Waveform length	1024 points
Sample rate	12.5MSa/s
Waveform amplitude resolution	8bits
Square duty cycle	1%～99%
Frequency Characteristics	
Frequency range	Sine: 1μHz～1MHzOther waveforms: 1μHz～100kHz
Frequency resolution	1μHz
Frequency accuracy	±(1×10-5)
Amplitude Characteristics	
Amplitude range	50mVpp～20Vpp (high impedance)
Amplitude resolution	20mVpp
Output impedance	50Ω
Burst Characteristics	
Carrier single	channel B signal
Trigger signal	TTL_B signal
Burst count	1～65000 cycles
Burst mode	Internal TTL, External, Single
TTL Output Characteristics	
Waveform characteristics	Square, rise/fall time≤20ns
Frequency characteristics	10mHz～1MHz
Amplitude characteristics	TTL, CMOS compatible, low level＜0.3V, high level＞4V
Remote operation	
Remote interface	Standard RS232 serial interface

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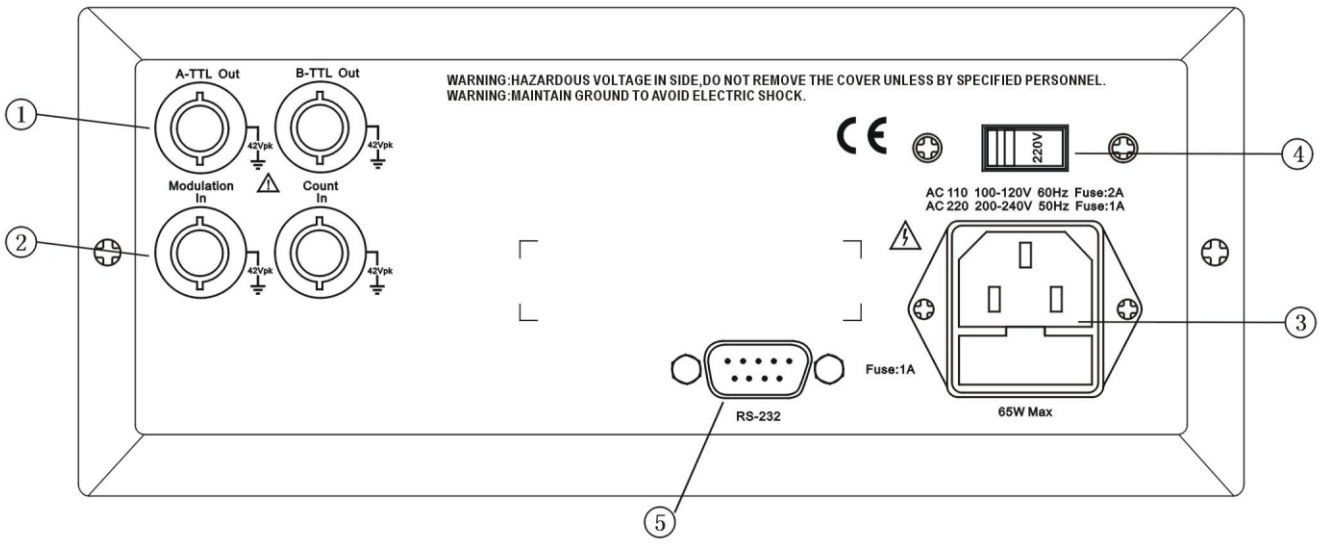
General Characteristics	
Power source	Voltage: AC220V±10%, AC110V±10% (Pay attention to the position of voltage selection switch) Frequency: 50Hz ±5% Power: <45VA
Environment	Temperature: 0~40°C Humidity: <80%
Operation characteristics	Keypad operation and rotary knob operation
Display	TFT display, 320*240, English, Chinese (simplified), Chinese (traditional)
Manufacturing technology	Surface Mount Technology, Integrated Circuit. High reliability and stability.
Accessories	Power cord, Q9 test lead, Q9 BNC-clip test lead, Operation manual, RS232 cable, RS232 interface software CD
Dimension	Machine dimension: 385(D)×260(W)×110(H)mm Chassis dimension: 415(D)×295(W)×195(H)mm
Weight	3.5kg
Optional Parts Characteristics	
Frequency counter	Testing frequency range: 1Hz~200MHz Input signal amplitude: 100mVpp~20Vpp
Power amplifier	Max. output power: 7W (8Ω), 1W (50Ω) Max. output voltage: 22Vpp Frequency bandwidth: 1Hz~200kHz



1. A-TTL/B-TTL output (BNC)
2. Modulation/External signal input (BNC)
3. Power connector with fuse
4. AC110V/220V power selection switch
5. RS232 connector