

MULTIFUNCTION GENERATOR

WF1983 / WF1984

Simple operation enables output of required waveforms.
For improving the quality and efficiency of testing.

1CH / 60 MHz



2CH / 60 MHz



WAVE FACTORY

- 0 to 60 MHz, resolution 0.01 μ Hz
- Sub-output function
- 16-bit, 21 Vp-p/open
- Parameter-variable waveforms
- Low distortion, low jitter
- Pulse edge variable function
- Floating between input and output
- Arbitrary waveform 64 Mi words

Equipped with not only basic functions but new functions which are required now.

1CH
WF1983



2CH
WF1984



Function

- Sub-output function**
Equipped with a sub-output. Independent frequency, waveform, phase, amplitude and DC offset. 1CH model can be used as 2CH model. (Sub-output has a maximum amplitude ± 3.3 V)
- Parameter-variable waveforms**
Typical waveforms such as power supply related and pulse wave related are pre-installed. One example, For attenuated waveform vibration waveform. It is also possible to freely edit the vibration frequency and time constant while viewing the output.

- Variable pulse edge**
Pulse waveforms can be edited, such as adding overshoots to rising / falling pulse transitions.

- Sequence function**
Parameters such as waveform, frequency and amplitude can be set and output sequentially. Complex waveforms can be generated with a maximum of 1023 steps.

- High-speed, large-capacity arbitrary waveform**
Complex waveforms can be output with a long memory of up to 64 Mi words / waveform. Total capacity approx. 4 Gi words, sampling up to 240 M samples/sec.

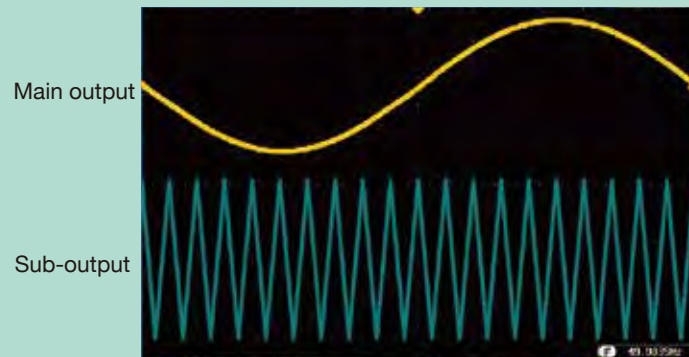
- 2-channel mode (WF1984 only)**
In addition to using 2 channels independently, various settings such as 2-phase, differential, constant frequency difference, and constant frequency ratio are possible.

- Synclator function**
For waveform conversion of external signals. Output synchronized with externally input signal is possible. The division ratio / multiplication ratio, waveform, phase difference are also changeable.

- Upper and lower limit function**
Limiting the set value prevents excessive output due to operational errors. Range limit settings for frequency, positive and negative peaks of voltage, phase, and duty are possible.

Sub-output

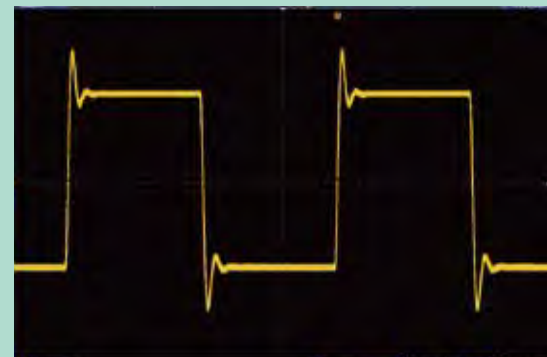
For differential output application like using two outputs at the same time.
WF1983 as a 2CH model, WF1984 as a 4CH model.



Simultaneous output of two signals used for verification of the comparator circuit.
Output sine and triangle waves at different frequency.

Variable pulse edge

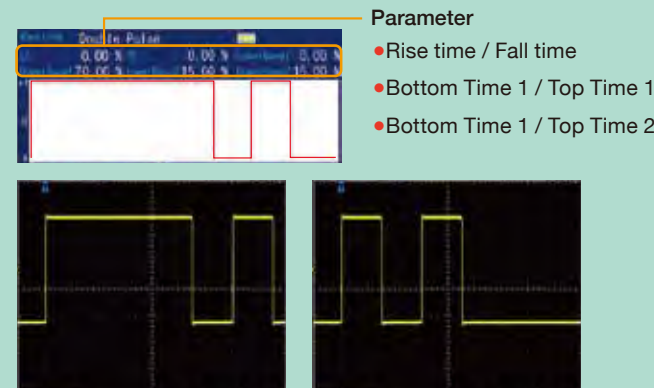
Possible to edit the transition part of the pulse waveform. In addition to general straight lines, cosine and arbitrary waveforms can also be set.



Easily create square waves with overshoot and ringing by using the built-in 2nd order LPF waveform as a parameter-variable waveform.

Parameter-variable waveform

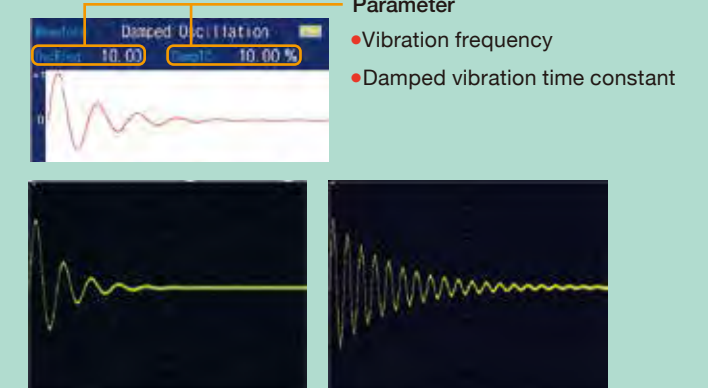
Double pulse for power device evaluation



Double pulse waveform used for evaluating switching power devices response such as SiC.
Six parameters can be changed.

Pre-installed with 26 types of major waveforms which are often used as simulated signals such as circuits, communications, and machinery. Waveform-specific parameters can be easily changed by panel operation.

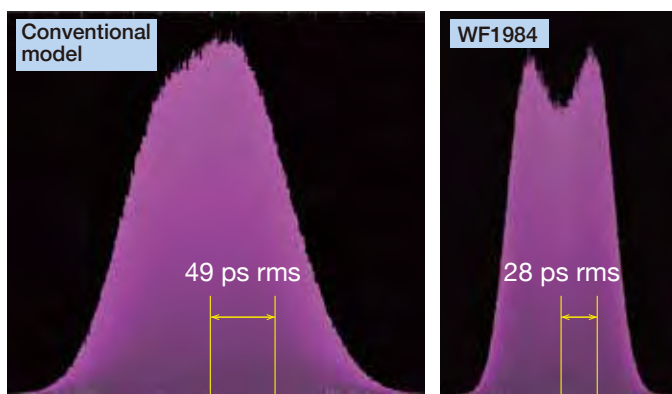
Damped vibration



Damped vibration waveform whose amplitude decreases with time, such as a transient response.

Specification

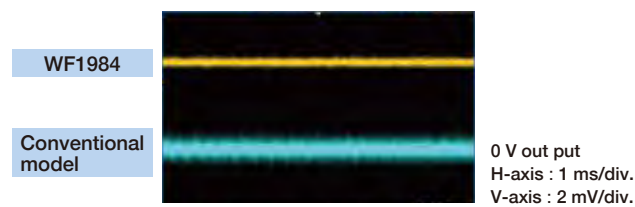
Low jitter 40 ps rms or less



Square wave, 1.11 MHz, 2 Vp-p/50 Ω
Improved distribution width compared to conventional model

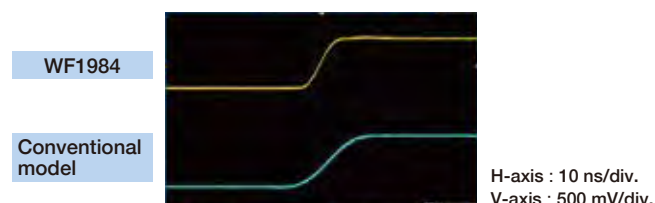
Low noise

For small amplitude signal waveform

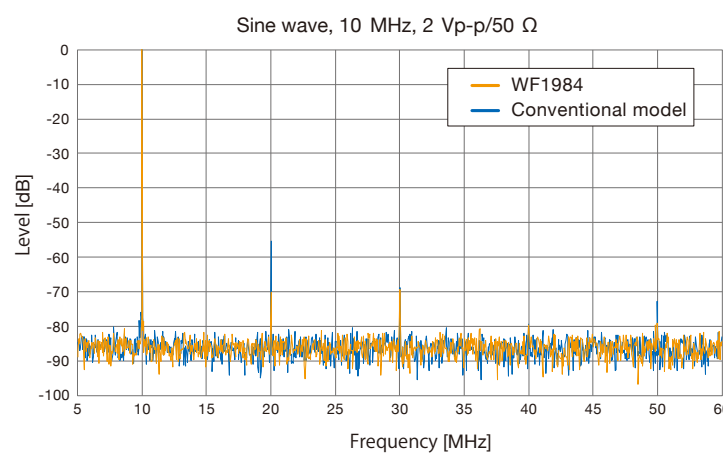


Rising / Falling 7.7 ns

Improving reproducibility of pulse wave



Low distortion



Significantly improved harmonic spurious **-60 dBc typ.** (2 Vp-p/50 Ω)
THD less than **0.03 %** (10 Hz~20 kHz, 2 Vp-p/50 Ω)

- Amplitude setting: maximum 21 Vp-p**
Appropriate voltage application at the load end
- Amplitude resolution : 16 bit**
Waveform output with high reproducibility & resolution over a wide output voltage range
- Frequency accuracy : ± (1 ppm + 4 pHz)**
Setting resolution: 0.01 μHz
- Auto range : 20 Vp-p / 4 Vp-p / 0.8 Vp-p**
Set the optimum range according to the output voltage. 0.8Vp-p range improves SN ratio at small signal output.
- Floating between input and output**
Waveform output signal ground is isolated from the housing to reduce noise caused by ground loops. The 2CH model is also insulated between channels.

Specifications

Model name	WF1983	WF1984
Oscillation frequency	0 to 60 MHz	
Number of output channels	1	2
Resolution of waveform amplitude	Approx. 16 bit	
Waveform / Frequency range		
Sine	0 to 60 MHz	
Total harmonic distortion	0.03 % or less typ.	
Square	0 to 30 MHz	
Duty variable	0.0001 % to 99.9999 %, resolution : 0.0001 %	
Jitter	40 ps rms or less typ.	
Pulse	0 to 30 MHz	
Pulse width	20 ns to 99.9999 Ms, resolution : less than 0.0001 % of period or 0.01 ns	
Duty variable	0.0001 % to 99.9999 %, resolution : 0.0001 %	
Rising / Falling time	7.7 ns to 59.03 Ms, resolution : 4 digits or 0.01 ns	
Edge waveform	Cosine, straight line, parameter-variable waveform and arbitrary waveform	
Ramp	0 to 10 MHz	
Parameter-variable waveform (26 types)	0 to 5 MHz	
Noise	Gaussian distribution, equivalent-bandwidth : selectable from Full / 30 M / 10 M / 3 M / 1 M / 300 k / 100 kHz	
DC	±10.5 V	
Arbitrary waveform	0 to 15 MHz (Limited by number of samples and sampling rate)	
Frequency setting resolution	0.01 μHz	
Arbitrary waveform length / total amount of waveform memory	16 words to 64 Mi words / approx. 4 Gi words	
Output amplitude setting	0 Vp-p to 21 Vp-p/open, 0 Vp-p to 10.5 Vp-p/50 Ω resolution : 0.1 mVp-p/open	
Oscillator mode		
Burst	Auto burst, trigger burst, gate and triggered gate	
Sweep oscillation	Frequency, phase, amplitude, DC offset and duty.	
Internal modulation / External modulation	FM, FSK, PM, PSK, AM, DC offset modulation and PWM	
Burst plus modulation / Sweep plus modulation	Modulation function available in burst or sweep	
Sequences	Parameters in steps : waveform, frequency, phase, amplitude, DC offset and square wave duty Step time setting range : 0.1 ms to 1,000 s, Maximum number of steps : 1023	
2-channel operation	—	Two channels independent, 2-phases, constant frequency difference, constant frequency ratio, differential output
Synchronization of multiple units	Up to 6 units can be connected in the form of master / slave (including master unit)	
Syncinator function	Frequency range : 30 Hz × m to 5 MHz / n (m : division ratio, n : multiplication ratio)	
Synchronous output / sub-output		
Reference phase synchronization	Square wave that rises at zero degrees of the internal reference phase of the output waveform	
Internal modulation waveform	Modulation waveform used by internal modulation function	
Sub-output	Analog waveform output synchronized with the main output is available. Phase, amplitude and offset are also adjustable. Available waveform : sine, square, triangle, rising ramp, falling ramp, noise, parameter-variable waveform and arbitrary waveform.	
Floating between input and output	The signal grounds for waveform output, sync/sub-output and external modulation/addition input are insulated from the enclosures.	
Interface	GPIB / USB / LAN	
Application software	Sequence editor / Arbitrary waveform editor	
Power supply / Power consumption	AC100 V to 240 V / 50 VA or less	AC100 V to 240 V / 75 VA or less
Dimensions / Weight	215(W) × 88(H) × 306(D) mm (not including protrusions) / Approx. 1.8 kg (main unit)	

• For detailed specifications, please refer to the website.

*Note: The contents of this catalog are current as of August 21th, 2023.
Product appearance and specifications are subject to change without notice.
Before purchase, contact us to confirm the latest specifications, price and delivery date.

NF Corporation

Head Office

6-3-20 Tsunashima Higashi, Kohoku-ku, Yokohama 223-8508, Japan

Phone : +81-45-545-8128 Fax : +81-45-545-8187

<http://www.nfcorp.co.jp/english/>