

TEST INSTRUMENTS

- OSCILLOSCOPE
- LCR METER
- SIGNAL GENERATOR
- DISTORTION METER
- SPECTRUM ANALYZER
- AND MORE...



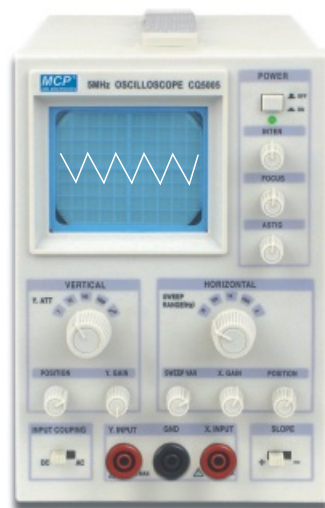
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CQ 5005

Features

- .5MHz single channel
- .Sensitivity 50mV
- .Easy to operate
- .Low cost, high performance
- .Signal input with binding post



CQ5005

Technical Data		CQ5005
CRT	Type	3" round
	Display area	8 × 10DIV (1DIV=6mm)
	Potential	1.3kV
Vertical System	Sensitivity	50mV / DIV ± 10%
	Width of band (-3dB)	CQ5005 DC:0~5MHz AC:10Hz~5MHz
	Input impedance	1M Ω ± 3% 40pF ± 5pF
	Input coupling	DC, AC
	Max. input voltage	400V (DC + ACpeak)
	Attenuator	1 / 1, 1 / 10, 1 / 100, 1 / 1000
Horizontal system	Sweep time	10Hz~10kHz 4 steps and fine control
	Trigger	INT (positive or negative)
	Sensitivity	100mV / DIV ± 10%
X-Y operation	Width of band (-3dB)	10Hz~500kHz
	Input impedance	1M Ω ± 3% 60pF ± 5pF
Power source	110~127 VAC ± 10%, 220~240VAC ± 10% 50Hz ± 2Hz, 60Hz ± 2Hz	
Dimensions (W × H × D)	220mm × 90mm × 270mm	
Weight	3kg	
Other	Accessories	One operation manual, one fuse, one power cable, two test leads

STUDENT PRINCIPLE OSCILLOSCOPE

CQ5010T 

Features

- .Transparent housing
- .10MHz single channel
- .TV synchronizing, X-Y operating
- .Operation and principle study
- .High performance, sensitive 5mV/DIV



CQ5010T

Technical Data		CQ5010T
CRT	Type	3" round
	Display area	8 × 10DIV (1DIV=6mm)
	Potential	1.3kV
	Lighting color	Green
Vertical System	Sensitivity	5mV / DIV~5V / DIV ±3%
	Width of band (-3dB)	DC: 0~10MHz AC: 10Hz~10MHz
	Input impedance	1MΩ ±3% 30pF ±5pF
	Input coupling	DC, GND, AC
	Max. input voltage	400V (DC + ACpeak)
	Trimming ratio	2.5 : 1
Horizontal system	Sweep time	0.1s / DIV ~ 0.1 μ s / DIV ±3%
	Trimming ratio	2.5 : 1
Trigger system	Mode	AUTO, NORM, TV
	Source	INT, LINE, EXT
	Polarity	"+" or "-"
	Trigger sensitivity	INT: 1DIV, EXT: 0.3V, TV: 2 DIV
	External trigger input	Input impedance: 1MΩ ±3% 25pF ±5pF Max. input voltage: 160V (DC+ACpeak)
X-Y operation	Sensitivity	X: 0.5V / DIV Y: 5mV / DIV ~ 5V / DIV
	Width of band (-3dB)	DC: 0-1MHz AC: 10Hz - 1MHz
	Phase difference	≤3° (DC ~ 50kHz)
Calibration	Source	1kHz±2% 0.5Vp-p±2% square wave
Power source		110~127 VAC±10%, 220~240VAC±10% 50Hz±2Hz, 60Hz±2Hz
Dimensions (W × H × D)		220 × 90 × 270mm
Weight		3kg
Other	Accessories	One operation manual, one fuse, one power cable, one probe

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

STUDENT DUAL CHANNEL OSCILLOSCOPE

CQ5010X 

Features

- .10MHz dual channel (Y and y)
- .Y channel magnification ($\times 5$)
- .TV synchronizing, X-Y operating
- .Easy to operate
- .High performance, sensitive 5mV/DIV
- .Electrical encoder switch to make high stability



CQ5010X

Technical Data		CQ5010X
CRT	Type	3" round
	Display area	8 × 10DIV (1DIV=6mm)
	Potential	1.3kV
	Lighting color	Green
Vertical System	Sensitivity	5mV / DIV~5V / DIV ±3%, Y×5MAG
	Width of band (-3dB)	DC: 0~10MHz AC: 10Hz~10MHz
	Input impedance	1MΩ ±3% 30pF±5pF
	Input coupling	DC, GND, AC
	Max. input voltage	400V (DC + ACpeak)
	Trimming ratio	2.5 : 1
Horizontal system	Sweep time	0.1s / DIV ~ 0.1 μ s / DIV ±3%
	Trimming ratio	2.5 : 1
Trigger system	Mode	AUTO, NORM, TV
	Source	INT(Y, y, ALT), LINE, EXT
	Polarity	"+" or "-"
	Trigger sensitivity	INT: 1DIV, EXT: 0.3V, TV: 2 DIV
	External trigger input	Input impedance: 1MΩ ±3% 25pF ±5pF Max. input voltage: 160V (DC+ACpeak)
X -Y operation	Sensitivity	X: 0.5V / DIV Y: 5mV / DIV ~ 5V / DIV
	Width of band (-3dB)	DC: 0-1MHz AC: 10Hz - 1MHz
	Phase difference	≤3° (DC ~ 50kHz)
Calibration	Source	1kHz±2% 0.5Vp-p±2% square wave
Power source		110~127 VAC±10%, 220~240VAC±10% 50Hz±2Hz, 60Hz±2Hz
Dimensions (W × H × D)		140 × 196 × 290mm
Weight		3kg
Other	Accessories	One operation manual, one fuse, one power cable, two probes

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

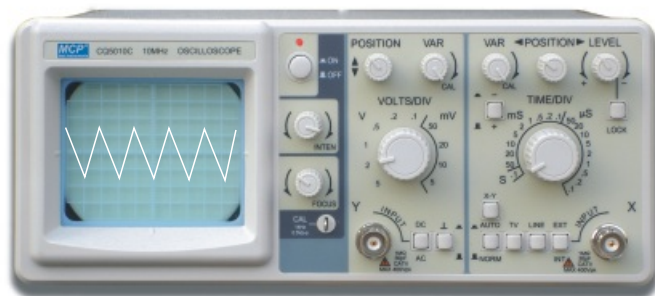
ACCESSORY

SINGLE CHANNEL OSCILLOSCOPE

CQ5010C/5010D

Features

- .Electrical encoder switch to make high stability
- .10MHz single channel
- .TV synchronizing, X-Y operating
- .Easy to operate
- .High performance, sensitive 5mV/DIV
- .New novel appearance



CQ5010C



CQ5010D

Technical Data		CQ5010C/CQ5010D
CRT	Type	3" round
	Display area	8 × 10DIV (1DIV=6mm)
	Potential	1.3kV
Vertical System	Lightering color	Green
	Sensitivity	5mV / DIV~5V / DIV ±3%
	Width of band (-3dB)	DC: 0~10MHz AC: 10Hz~10MHz
	Input impedance	1MΩ ±3% 30pF ±5pF
	Input coupling	DC, GND, AC
	Max. input voltage	400V (DC + ACpeak)
Horizontal system	Trimming ratio	2.5 : 1
	Sweep time	0.1S / DIV ~ 0.1 μ s / DIV ±3%
	Trimming ratio	2.5 : 1
Trigger system	Mode	AUTO, NORM, TV
	Source	INT, LINE, EXT
	Polarity	"+" or "-"
	Trigger sensitivity	INT: 1DIV, EXT: 0.3V, TV: 2 DIV
	External trigger input	Input impedance: 1MΩ ±3% 25pF ±5pF Max. input voltage: 160V (DC+ACpeak)
X-Y operation	Sensitivity	X: 0.5V / DIV Y: 5mV / DIV ~ 5V / DIV
	Width of band (-3dB)	DC: 0-1MHz AC: 10Hz - 1MHz
	Phase difference	≤3° (DC ~ 50kHz)
Calibration	Source	1kHz±2% 0.5Vp-p±2% square wave
Power source		110~127 VAC±10%, 220~240VAC±10% 50Hz±2Hz, 60Hz±2Hz
Dimensions (W × H × D)		225 × 91 × 290mm, 140 × 196 × 290mm
Weight		3kg
Other	Accessories	One operation manual, one fuse, one power cable. one probe

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

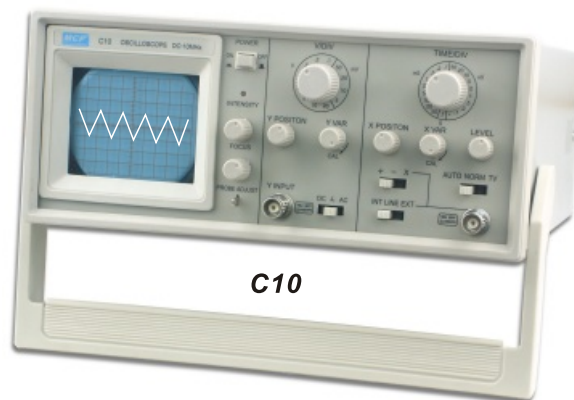
ECONOMIC SINGLE CHANNEL OSCILLOSCOPE

C10



Features

- .10MHz single channel
- .TV synchronizing, X-Y operating
- .Easy to operate
- .High performance, sensitive 5mV/DIV
- .Economical model, low cost



Technical Data

C10

CRT	Type	3" round
	Display area	8 × 10DIV (1DIV=6mm)
	Potential	1.3kV
	Lighting color	Green
Vertical System	Sensitivity	5mV / DIV~20V / DIV ±3%
	Width of band (-3dB)	DC: 0~10MHz AC: 10Hz~10MHz
	Input impedance	1MΩ ±3% 30pF±5pF
	Input coupling	DC, GND, AC
	Max. input voltage	400V (DC + ACpeak)
	Trimming ratio	2.5 : 1
Horizontal system	Sweep time	0.1S / DIV ~ 0.1 μ s / DIV ±3%
	Trimming ratio	2.5 : 1
Trigger system	Mode	AUTO, NORM, TV
	Source	INT, LINE, EXT
	Polarity	"+" or "-"
	Trigger sensitivity	INT: 1DIV, EXT: 0.3V, TV: 2 DIV
	External trigger input	Input impedance: 1MΩ ±3% 25pF ±5pF Max. input voltage: 160V (DC+ACpeak)
X -Y operation	Sensitivity	X: 0.5V / DIV Y: 5mV / DIV ~ 5V / DIV
	Width of band (-3dB)	DC: 0-1MHz AC: 10Hz - 1MHz
	Phase difference	≤3° (DC ~ 50kHz)
Calibration	Source	1kHz±2% 0.5Vp-p±2% square wave
Power source		110~127 VAC±10%, 220~240VAC±10% 50Hz±2Hz, 60Hz±2Hz
Dimensions (W × H × D)		245 × 105 × 298mm
Weight		3kg
Other	Accessories	One operation manual, one fuse, one power cable, one probe

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

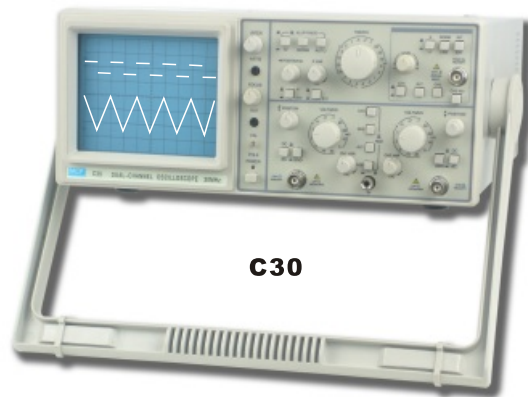
ECONOMIC DUAL CHANNEL OSCILLOSCOPE

C30



Features

- .Economic choice for high quality
- .30MHz dual channel
- .Encoder for selection switch
- .TV synchronization, X-Y mode



C30

Technical Data		C30
CRT	Type	6-inch rectangular with internal graticule 8×10div (1div=1cm)
	Accelerating voltage	2kV
	Illumination	Front panel control
Vertical	Sensitivity	±3%;5mV~20V/div
	Bandwidth	DC (AC 10Hz) ~ 30MHz(-3dB)
	Rise time	≤11.7ns
	Trimming ratio	2.5:1
	Input impedance	1MΩ ±3%/ 30pF±3%
	Max input voltage	400V (DC + ACp-p)
	Input coupling	AC, DC,GND
	Vertical operation mode	CH1, CH2, DUAL (ALT/CHOP) ADD, CH2 INV
Horizontal	Sweep time	0.2 μs~0.5s / div±3%
	Trimming ratio	2.5:1
Trigger	Trigger mode	AUTO,NORM,TV
	Trigger source	INT, LINE, EXT
	Trigger slope	"+" or "-"
	Trigger sensitivity	Int 1 div, Ext 0.3V
	External trigger input	Input impedance: 1MΩ ±3%, 25pF±5pF Max. input voltage: 400V (DC+ACpeak) at 1kHz
X-Y	Sensitivity	0.2V~0.5V/div
	X-axis bandwidth	DC(AC 10Hz) ~1MHz
Calibrator output		1kHz square wave, 0.2Vp-p±2%
Power source		AC 110/220V±10%, 50Hz/ 60Hz, ≈35W
Dimensions		315(W) × 130(H) × 410(D)mm
Weight		Approx. 6.5kg
Accessories		One operation manual, one fuse, one power cable, two probes

POWER SUPPLY

TEST INSTRUMENT

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METER

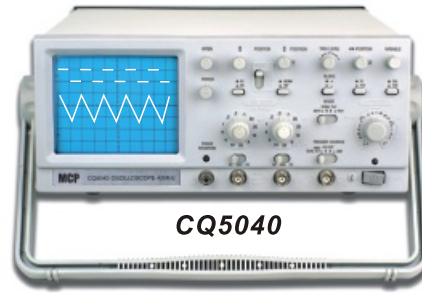
ACCESSORY

CQ50 SERIES DUAL CHANNEL OSCILLOSCOPE

CQ5020 / 5030/5040 

Features

- .High sensitivity 1mV/DIV
- .Wide vertical range 20V/DIV
- .20MHz/30MHz/40MHz dual channel
- .TV synchronization
- .Z axis input
- .Vertical mode triggering
- .CH 1 output



Technical Data

CQ5020 / CQ5030/CQ5040

CRT	Type	6" rectangle, internal graticule, 0%, 10%, 90% and 100% marks				
	Display area	8 × 10DIV (DIV=10mm)				
	Accelerating voltage	1.9kV(CQ5020) 2kV (CQ5030)12kV(CQ5040)				
	Intensity and focusing	Continuously adjustable at front panel				
	Trace rotation	Adjusted at the front panel				
Vertical System	Sensitivity and accuracy	5mV / DIV~20V / DIV ±3% 1mV / DIV ~ 2mV / DIV, ±5% 12 calibration steps in 1-2-5 sequence, x 5 MAG only CH1				
	Trimming ratio	≥2.5:1				
	Width of band (-3dB)	DC(AC 10Hz) ~20MHz (CQ5020)/30MHz (CQ5030)/40MHz (CQ5040)				
	Rise time	≤ 17.5ns (CQ5020) ≤ 12ns (CQ5030) ≤ 8.75ns(CQ5040)				
	Input impedance	Approx. 1MΩ ±3% 30pF ± 5pF				
	Input coupling	DC, GND, AC				
	Max. input voltage	400V (DC + ACpeak) at 1kHz or less				
Horizontal system	Vertical mode	CH1, CH2, DUAL (CHOP, ALT), ADD, CH2 inverse				
	CH1 signal output	25mV / DIV 50Ω 20Hz~10MHz(-3dB)				
	Sweep time	0.2 μs~0.2s / DIV 19 steps in 1-2-5 sequence				
	Sweep accuracy	±3%, ±5% at ×10MAG				
	Trimming ratio	≥2.5:1				
Trigger system	Sweep magnification	×10MAG				
	Max sweep time	20ns/DIV				
	Mode	AUTO, NORM, TV				
	Source	VERT-MODE, CH1, EXT, LINE				
	Coupling	AC				
X-Y operation	Polarity	"+" or "-"				
	Trigger sensitivity	INT	10Hz~10MHz 0.5DIV	10MHz~20MHz 1.5DIV	20MHz~30MHz 1.5DIV	30MHz~40MHz 1.5DIV
	EXT	0.2	0.8	0.2	0.8	
	External trigger input	Input impedance: 1MΩ ±3% 25pF ± 5pF Max. input voltage: 400V				
	Input	X-axis: CH1, Y-axis: CH2				
Axis Z	Sensitivity & accuracy	5mV~20V/DIV, ±3% 1mV/DIV~2mV/DIV, ±5%				
	Width of band (-3dB)	Axis X: CQ5020: DC ~ 500kHz CQ5030: DC ~ 1MHz CQ5040: DC ~ 1MHz				
	Phase difference	≤3° or less from DC to 50kHz				
Other	Sensitivity	5V				
	Polarity	Negative going input increase intensity				
	Input impedance	20kΩ ~30kΩ				
	Usable frequency range	DC-2MHz				
	Max input voltage	30V (DC + AC peak)				
Calibration	Signal	1kHz 0.5Vp-p square wave				
Power source	110~127 VAC ± 10%, 220~240VAC ± 10%, 50Hz ± 2Hz / 60Hz ± 2Hz					
Dimensions (W × H × D)	316mm × 132mm × 410mm					
Weight	7.8kg					
Other	Accessories	One operation manual, one fuse, one power cable, two probes				

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

CQ60 SERIES DUAL CHANNEL OSCILLOSCOPE

CQ620A/CQ620AT/CQ620AG CE

Features

- .Expanded vertical sensitivity to 20V/div
- .Component testing function: resistor, capacitor, inductor(CQ620AT)
- .Built-in 1 MHz function generator(CQ620AG)
- .20MHz dual channel
- .High sensitivity: 1mV/div
- .ALT triggering function
- .Z-Axis input, CH1 output(option)
- .Encoder for sweep
- .10 times sweep magnification
- .Triggering level lock function, automatic synchronize function



CQ620AG

Technical Data		CQ620A/CQ620AT/CQ620AG		
CRT	Type	6-inch rectangular with internal graticule 8×10div (1div=1cm)		
	Z-Axis input	Zin: ≈47kΩ ; Vin: ≥5Vp-p; Bw: DC~2MHz		
	Accelerating voltage	Apporx. 2kV		
Function Generator (CQ620AG only)	Illumination	Front panel control		
	Frequency range	0.1Hz~1MHz (7 ranges)		
	Waveform	Sine, square, triangle		
	Frequency variable range	10:1 or more		
	Output impedance	50Ω ±10%		
	Output amplitude	≥14Vp-p (1MΩ load)		
	DC offset	±6V (1MΩ load)		
	Sine wave distortion	2% (10Hz~100kHz)		
	Square wave symmetry	±3% or less (in 1kHz Max.)		
	Square wave rise/fall time	120ns or less		
Vertical	Sensitivity	×1	±3%; 5mV~20V/div on 1-2-5 sequence 12 rangers	
		×5	±5%; 1mV~4V/div on 1-2-5 sequence 12 rangers	
	Bandwidth	×1	DC (AC 10Hz) ~ 20MHz(-3dB)	
		×5	DC (AC 10Hz) ~ 7MHz (-3dB)	
	Rise time	×1/×5	≤17.5ns/ ≤50ns	
	Input impedance		≈1MΩ ±3%/ 25PF ±5PF	
Max input voltage		400V (DC + ACp-p) at 1kHz		
Input coupling		AC, DC, GND		
Vertical operation mode		CH1, CH2, ALT, CHOP, ADD, CH2 INV		
Horizontal	Sweep time	0.2 μs~0.5s / div ±3%; MAG×10:20ns ~ 50ms /div ±5%		
	Sweep time accuracy	±3%, ±5% at ×10MAG (20ns~50ns/DIV uncalibrated)		
	Sweep magnification	10 times		
	Max sweep time	20ns/DIV		
	Linear	±5%, ±10% at ×10MAG		
Trigger	Trigger mode	AUTO(TV-V), NORM, TV-H, LEVER LOCK		
	Trigger source	CH1, CH2, ALT, LINE, EXT, VERT		
	Trigger coupling	AC		
	Trigger slope	"+" or "-"		
	Trigger sensitivity	CH1, CH2	5Hz~10MHz	10MHz~20MHz
			1DIV	1.5DIV
ALT		2.0DIV	3.0DIV	
		EXT	200mV	300mV
		TV sync pulse >2DIV or 0.5V (EXT)		
External trigger input	Input impedance: 1MΩ ±3%, 25pF ±5pF Max. input voltage: 400V (DC+ACpeak) at 1kHz			
X-Y	Sensitivity	5mV~5V/div, ±4%		
	X-axis bandwidth	DC ~500kHz		
	Phase error	≤3° DC ~ 50kHz		
Output signal	CH1 signal output	√		
	Calibrator output	1kHz square wave, 2Vp-p ±2%		
Power source	AC 110/220V ±10%, 50Hz/ 60Hz, ≈40W			
Dimensions	310(W) × 145(H) × 440(D)mm			
Weight	Approx. 8kg			
Accessories	One operation manual, one fuse, one power cable. two probes			

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

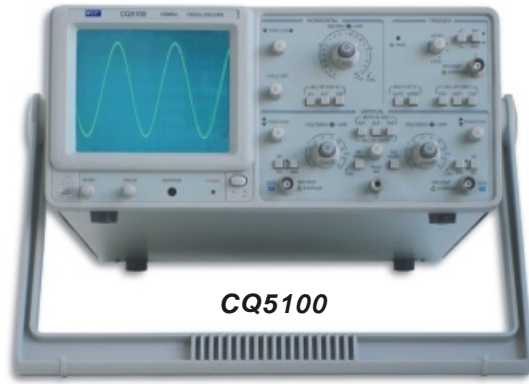
ACCESSORY

100MHz DUAL CHANNEL OSCILLOSCOPE

CQ5100 

Features

- . 100MHz dual channel
- . ALT MAG function ($\times 10$)
- . Hold off function
- . TV synchronization
- . CH1 output
- . Triggering level lock
- . ALT triggering function
- . Z axis input



Technical Data		CQ5100	
CRT	Type	6" rectangle, internal graticule, 0%, 10%, 90% and 100% marks	
	Display area	8 \times 10 DIV (DIV=10mm)	
	Accelerating voltage	1.7kV	
	Intensity and focusing	Continuously adjustable at front panel	
	Trace rotation	Adjusted at the front panel	
Vertical system	Sensitivity and accuracy	5mV / DIV ~ 5V / DIV $\pm 5\%$ 10 calibration steps in 1-2-5 sequence	
	Trimming Ratio	$\geq 2.5:1$	
	Width of band (-3dB)	DC (AC 10Hz) ~ 100MHz	
	Rise time	≤ 3.5 ns	
	Input impedance	Approx 1M Ω / 25pF	
Horizontal system	Input coupling	DC, GND, AC	
	Max. input voltage	400V (DC + AC peak) at 1kHz or less	
	Vertical mode	CH1, CH2, DUAL (CHOP, ALT), ADD	
	Sweep time	50ns ~ 0.2s / DIV 20 steps in 1-2-5 sequence	
	Sweep accuracy	$\pm 3\%$, $\pm 10\%$ at $\times 10$ MAG	
	Trimming Ratio	$\geq 2.5:1$	
	Sweep magnification	$\times 10$ MAG	
	Max sweep time	5ns/DIV	
	Linear	$\pm 5\%$, $\pm 10\%$ at $\times 10$ MAG	
	ALT-MAG Function	Available	
Trigger system	ALT separation	Available	
	Mode	AUTO, NORM, TV, LEVEL LOCK	
	Source	ALT, CH1, CH2, EXT, LINE	
	Polarity	"+" or "-"	
	Trigger sensitivity	INT	1.5 DIV
	EXT	0.2 DIV	(AUTO or NORM)
			TV sync pulse 2DIV or 0.5V (EXT)
X -Y operation	External trigger input	Input impedance: 1M Ω / 22pF Max. input voltage: 400V (DC+AC peak) at 1kHz	
	Sensitivity and Accuracy	5mV ~ 5V/DIV, $\pm 5\%$ 10 calibration steps 1-2-5 sequence	
	Width of band (-3dB)	DC (AC 10Hz) ~ 1MHz	
Axis Z	Phase difference	$\leq 3^\circ$ (DC ~ 50kHz)	
	Sensitivity	5Vp-p	
	Polarity	Negative going input increase intensity	
	Input impedance	10k Ω	
	Usable frequency range	DC ~ 1MHz	
Calibration	Max. input voltage		50V (DC+AC peak) at 1kHz
Power source	Voltage: 2Vp-p $\pm 2\%$, Frequency: 1kHz $\pm 2\%$, Square wave		
Dimensions (W \times H \times D)	110 ~ 127 VAC $\pm 10\%$, 220 ~ 240 VAC $\pm 10\%$, 50Hz ± 2 Hz / 60Hz ± 2 Hz		
Weight	310mm \times 140mm \times 400mm		
Accessories	8kg		
	One operation manual, one fuse, one power cable, two probes		

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

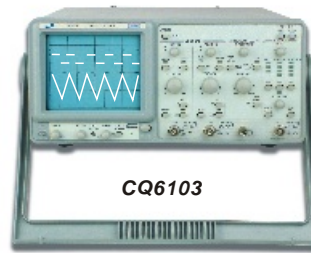
100MHz DUAL CHANNEL OSCILLOSCOPE

CQ6103



Features

- .100MHz bandwidth, dual channel, delayed sweep
- .10 sets memory for front panel setting save&recall
- .Cursor readout with 7 measurements
- .Panel setup lock of digital-control functions
- .Buzzer alarm
- .Trigger signal output
- .Z-Axis modulation input
- .SMD technology, high stability and reliability



CQ6103

Specifications		CQ6103				
CRT	Type	6" rectangle, internal graticule, 0%, 10%, 90% and 100% marks				
	Display area	8 × 10 DIV (DIV=10mm)				
	Accelerating potential	16kV approx				
	Illumination	Continuously adjustable at front panel				
	Coupling	DC				
Vertical system	Z-axis input	Sensitivity: 5V or more				
		Maximum input voltage: 30V(DC+AC peak) at 1kHz or less				
		Bandwidth: DC~5 MHz				
	Sensitivity	2mV~5V/div, 11 step in 1-2-5 sequence				
	Sensitivity Accuracy	≤3% (5div at the center of display)				
Horizontal system	Vernier Vertical Sensitivity	Continuously variable to 1/2.5 or less of panel-indicate value				
	Bandwidth(-3dB)	DC~100MHz(2mV/div); DC~20MHz				
	Rise Time	3.5ns(2mV/div); 17.5ns				
	Signal Delay	Leading edge can be monitored				
	Max. Input Voltage	400V(DC+AC peak) at 1kHz or less				
	Input Coupling	AC, DC, GND				
	Input Impedance	1MΩ±2% // approx. 25pF				
	Vertical Mode	CH1, CH2, DUAL(CHOP/ALT), ADD, CH2 INV				
	Bandwidth Limited	20MHz				
	Common-Mode Rejection Ratio	50:1 or better at 50kHz				
Trigger	Dynamic Range	8 div at 100MHz				
	Horizontal Modes	MAIN(A), ALT DELAY(B)				
	A(main) Sweep Time	50ns~0.5s/div, continuously variable(UNCAL)				
	B(delay) Sweep Time	50ns~50ms/div				
	Accuracy	±3%(±5% at ×10 MAG)				
	Sweep Magnification	×10(maximum sweep time 5ns/div)				
	Hold Off Time	Variable				
	Delay Time	1μs~5s				
	Delay Jitter	Better than 1:20000				
	Alternate Separation	Variable				
OUTPUT SIGNAL	Trigger Modes	AUTO, NORM, TV				
	Trigger Source	CH1, CH2, LINE, EXT				
	Trigger Coupling	AC, DC, HFR, LFR				
	Trigger Slope	"+" or "-" polarity or TVsync polarity				
	Trigger Sensitivity	Mode	Frequency	INT	EXT	
			AUTO	10Hz~20MHz 20MHz~100MHz	0.35div 1.5div	50mV 150mV
	TV sync	Mode	DC~20MHz 20MHz~100MHz	0.35div 1.5div	50mV 150mV	
			TV	sync signal	1div	200mVpp
	X-Y Operation	TV sync	TV-V, TV-H			
		Max. External Input Voltage	400V(DC+AC peak) at 1kHz			
External Input Impedance		1MΩ±5% // approx. 25pF				
Cursor Readout Function	Mode	X-axis: selectable CH1, CH2, EXT Y-axis: selectable CH1, CH2, CH1 and CH2				
	Sensitivity Accuracy	2mV~5V/div±3%; EXT: 0.1V/div±5%				
	X-axis Bandwidth	DC~500kHz(-3dB)				
Special Function	Phase Error	3° or less from DC~50kHz				
	Trigger Signal Output	Voltage	approx. 25mV/div into 50Ω			
	Calibrator Output	Frequency response	DC~10MHz 1kHz Square wave, 2Vpp±2%			
Accessories	Cursor Measurement Function	ΔV, ΔV%, ΔVdB, ΔT, 1/ΔT, ΔT%, Δε				
	Cursor Resolution	1/100 DIV				
	Effective Cursor Range	Vertical: ±3div; Horizontal: ±4 div				
Power source	Panel Setting Display	Vertical: V/div(CH1, CH2), UNCAL, ALT/CHOP/ADD, INV, probe factor, AC/DC/GND Horizontal: s/div(MTB, DTB), UNCAL, ×10MAG, delay time, HO Trigger: source, coupling, slope, level, TV-V, TV-H Others: X-Y, lock, save/recall MEM0-9				
	TIME/DIV Auto Range	Provided				
	Panel Setting Save & Recall	10 sets				
Dimensions	Panel Setups Lock	Provided				
	Weight	9kg				
	Accessories	One operation manual, one fuse, one power cable, two probes				

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

MIXED SIGNAL OSCILLOSCOPE

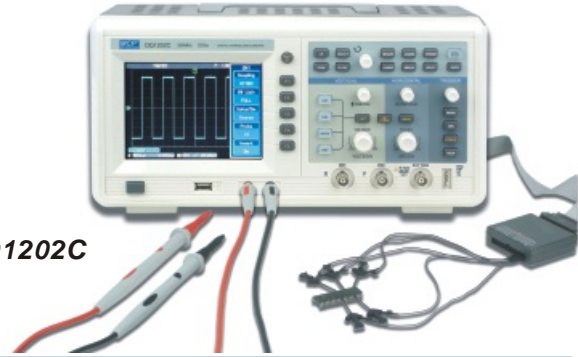
DQ1000C SERIES



Features

- .Support logic analyzer and multimeter
- .2GSa/s sampling rate and 50GSa/s equivalent sampling rate
- .1024k recording length
- .5.7" color LCD display
- .USB-host/device, RS232 and option LAN, GPIB interface

DQ1202C



Technical Data		DQ1042C	DQ1062C	DQ1102C	DQ1152C	DQ1202C
Channels		2 external + logical analyzer + multimeter				
Sampling rate		2GSa/s				
Equivalent sampling rate		50GSa/s				
Display	Type	5.7" rectangle color LCD				
	Backlight intensity	300 ni				
	Display resolution	320 horizontal × 240 vertical pixels				
	Sensitivity and accuracy	1mV/div~10V/div				
Vertical system	Vertical resolution	8 bit				
	Width of band (-3dB)	DC (AC 5Hz) ~ 40MHz	DC (AC 5Hz) ~ 60MHz	DC (AC 5Hz) ~ 100MHz	DC (AC 5Hz) ~ 150MHz	DC (AC 5Hz) ~ 200MHz
	Selectable analog bandwidth limit	20MHz				
	Rise time	≤8.7ns	≤5.8ns	≤3.5ns	≤2.3ns	≤1.8ns
	DC gain Accuracy	±5%(1mV/div) ±4%(2mV/div)		±3%(5mV/div~10V/div)		
	DC measurement accuracy	±(5%+0.1div)(1mV/div)		±(4%+0.1div)(2mV/div)		
Horizontal system	SEC/DIV range	2ns~50s/div(200MHz, 150MHz) 5ns~50s/div(100MHz~40MHz), at 1-2-5 increment				
	Waveform interpolation	Sin(x)/x				
	Recording length	1024k				
	Sampling rate and delay time accuracy	±50ppm (any time interval ≥1ms)				
	Delta time measurement accuracy	Single: ±(1 sampling time interval + 50ppm×rdg. + 0.6ns)>16 Average values: ± (1 sampling time interval + 50ppm×rdg. + 0.4ns)				
Trigger system	Mode	Auto, normal, single				
	Type	Edge, pulse, video, alternate				
	Hold off range	100ns~1.5s				
Math	+, -, ×, ÷					
Acquire input	Input coupling	DC, GND, AC				
	Input impedance	1MΩ ±1.5% 24pF±3pF				
	Probe attenuation	1×, 10×, 100×, 1000×				
	Max. input voltage	400V (DC+AC peak)				
Measurement	Cursor	Voltage difference (ΔV) between cursors Time difference (ΔT) between cursors Reciprocal of ΔT in Hz (1/ΔT)				
	Auto-measure	Vrms, Vavg, Vp-p, Vmax, Vmin, Vtop, Vhigh, Vlow, Vmid, Vamp; Period, Freq, Rise, Fall, +Width, -Width, +Duty, -Duty, Delay				

POWER SUPPLY

TEST INSTRUMENT

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ACCESSORY

MIXED SIGNAL OSCILLOSCOPE

Technical Data		DQ1042C	DQ1062C	DQ1102C	DQ1152C	DQ1202C	
I/O	Standard	USB(D), USB(H)					
	Options	GPIB, LAN					
Calibrator	Output voltage	3V ($\geq 1\text{M}\Omega$ load)					
	Output frequency	1kHz					
Logical analyzer	Input channel	D0~D15					
	Max. sampling rate	200MSa/s					
	Recording length	512k					
	Max. input voltage	$\pm 40\text{V}_{\text{peak}}$					
	Minimum voltage slew	1.2Vpp					
	Trigger mode	Code	D0~D15 Trigger code: H, L, X Clock edge: Rise, Fall				
		Persist	D0~D15 Trigger code: H, L, X Condition: >, <, = Persist setup: 20ns~10s				
Digital multimeter characterizes	DC voltage	Range	400.0mV/4.000V/40.00V/400.0V				
		Accuracy	$\pm (1\%+5\text{digits})$				
	AC voltage (40Hz~400Hz)	Range	400.0mV/4.000V/40.00V/400.0V				
		Accuracy	$\pm (1.2\%+5\text{digits})$				
	Resistance	Range	400 Ω /4k Ω /40k Ω /400k Ω /4M Ω /40M Ω				
		Accuracy	$\pm (1.5\%+5\text{digits})$				
	On/off	<70.0 Ω					
	Diode	Forward voltage drop 0.5~0.8V					
	DC current	Range	4mA/40mA/400mA				
		Accuracy	$\pm (1\%+5\text{digits})$				
Range		4A					
	Accuracy	$\pm (1.5\%+5\text{digits})$					
Power source	100~240VACrms, 45~440Hz; 50VA Max; CAT II						
Dimensions (W×H×D)	320×150×130mm						
Weight	2.5kg						
Accessories	Operation manual, power cord, USB cable, probe×2, software CD-ROM, multimeter pen×2, current-voltage convertor module×2, logic analyzer probe, LAN module(option), GPIB(option)						

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

HAND HOLD DIGITAL STORAGE OSCILLOSCOPE

DQ4000C SERIES



DQ4102C

Features

- .Digital oscilloscope and multimeter, 2 in 1
- .Compact design for easy carrying
- .High performance battery for long time operate
- .5.7 inch LCD display with high resolution

Technical Data		DQ4025C	DQ4042C	DQ4062C	DQ4102C	DQ4202C
Bandwidth		25MHz	40MHz	60MHz	100MHz	200MHz
Sample	Real time	125M Sa/s	250M Sa/s	250M Sa/s	500M Sa/s	1G Sa/s
	Equivalent	25GSa/s				
Acquisition mode		Real time, peak detect, averaging				
Display	Type	5.7" color display				
	Resolution	320×240				
	Backlight intensity	300 nit				
	Display	Adjustable				
Input	Input coupling	DC, AC, GND				
	Input impedance	1MΩ ±2%, 21pF ±3pF				
	Probe attenuation factor	1×, 10×, 100×, 1000×				
	Max. input voltage	400V (DC+AC peak)				
Horizontal system	Time base range	5ns/div~50s/div (100MHz, 60MHz, 40MHz)			2ns/div~50s/div (200MHz)	
		20ns/div~50s/div (25MHz)				
		Persist: 1-2-5				
	Time base accuracy	±50ppm				
	Waveform interpolation	Sin(x)/x				
	Recording length	2×512k				
	Storage depth	24k				
Delta time measurement accuracy	±(1 sampling interval time + 50ppm×rdg + 0.6ns)					
Vertical system	Resolution	8 bits				
	Sensitivity	5mV/div~50V/div				
	Rise time	≤14ns	≤8.7ns	≤5.8ns	≤3.5ns	≤1.8ns
	Low frequency response	10Hz				
	DC gain accuracy	±4%(5mV/div), ±3%(10mV~50V/div)				
	Delta voltage measurement accuracy	±(3%Rdg+0.05div)				
Trigger	Trigger mode	Auto, normal, single				
	Type	Edge, pulse, video, alternate				
	Hold off range	40ns~1.5s				
Math	+, -, ×, ÷					
Measurement	Cursor	Voltage difference (ΔV) between cursors				
		Time difference (ΔT) between cursors				
	Auto-measure	Vrms, Varg, Vp-p, Vmax, Vmin, Vtop, Vhigh, Vlow, Vmid, Vamp, Period, Freq, Rise, Fall, +Width, -Width, +Duty, -Duty, Delay				

POWER SUPPLY

TEST INSTRUMENT

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METER

ACCESSORY

HAND HOLD DIGITAL STORAGE OSCILLOSCOPE

Technical Data	DQ4025C	DQ4042C	DQ4062C	DQ4102C	DQ4202C	
Digital multimeter characterizes	Resistance	600Ω, 6kΩ, 60kΩ, 600kΩ, 6MΩ, 60MΩ				
	Accuracy	±(1.5%+5digits) (600Ω, 6MΩ, 60MΩ) ±(1.2%+5digits) (6kΩ, 60kΩ, 600kΩ)				
	DC voltage	600mV, 6V, 60V, 600V, 1000V				
	Accuracy	±(1.2%+5digits)				
	AC voltage (45Hz~400Hz)	600mV, 6V, 60V, 600V, 1000V				
	Accuracy	±(1.2%+5digits)(45Hz~200Hz) ±(1.5%+5digits)(200Hz~400Hz)				
	DC current	6mA, 60mA, 600mA, 6A				
	Accuracy	±(1.2%+5digits)(6mA, 60mA, 600mA) ±(1.5%+5digits)(6A)				
	AC current	6mA, 60mA, 600mA, 6A				
	Accuracy	±(3%+5digits)(45Hz~200Hz) ±(5%+5digits)(200Hz~400Hz)				
	Capacitance	6nF, 60nF, 600nF, 6μF, 60μF, 600μF, 6mF				
	Accuracy	±(5%+10digits)(6nF, 6mF) ±(4%+5digits)(other ranges)				
	On/off	√				
	Diode	√				
Power source	AC: 100~240VACrms, 45~440Hz, CAT II DC: 4h(DQ4025C), 3h(other)					
Dimensions(W×H×D)	268×168×60mm					
Weight	1.8kg					
Accessories	Operation manual, adapter, probe×2, multimeter pen×2, current-voltage convertor module×2					



Oscilloscope mode



Multimeter mode

POWER SUPPLY

TEST INSTRUMENT

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METER

ACCESSORY

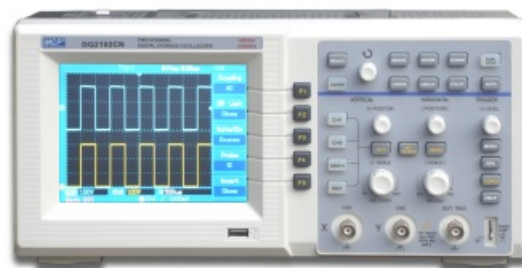
DIGITAL STORAGE OSCILLOSCOPE

DQ2000 SERIES



Features

- 250MSa/s~1GSa/s sampling rate
- 2×512k words per channel record length
- FFT function
- Auto-setting for quick setup and waveform acquisition
- 5.7-inch color LCD display, multi-color interfaces available
- Advanced cursor modes: manual, auto and track
- USB-HOST/DEVICE, RS-232 interface



DQ2102CN

Technical Data		DQ2025CN/2042CN(E)/2062CN(E)	DQ2102CN(E)/2152CN(E)/2202CN(E)		
Display	Type	5.7" rectangle colour LCD			
	Backlight intensity	60cd/m ²			
	Display resolution	320 horizontal×240 vertical pixels			
	Display contrast	Adjustable			
Sensitivity and accuracy	Sensitivity and accuracy	2mV / DIV~5V /div			
	Vertical resolution	8bit			
Vertical system	Width of band (-3dB)	DC(AC 10Hz) ~25MHz (DQ2025)	DC(AC 10Hz) ~40MHz (DQ2040)		
		DC(AC 10Hz) ~60MHz (DQ2060)	DC(AC 10Hz) ~100MHz (DQ2100)		
		DC(AC 10Hz) ~150MHz (DQ2150)	DC(AC 10Hz) ~200MHz (DQ2200)		
	Rise time	≤14ns (DQ2025) ≤8.8ns(DQ2040)≤5.8ns(DQ2060) ≤3.5ns (DQ2100) ≤2.3ns(DQ2150)≤1.8ns(DQ2200)			
	Single-shot band width	25MHz			
	Input coupling	DC , GND, AC			
Horizontal system	DC gain accuracy	±4% (2mV/DIV)	±3% (5mV/DIV~5V/DIV)		
	Delta voltage measurement accuracy	±(3%Rdg+0.05DIV)			
	SEC/DIV range	5ns~50s/DIV			
	Sampling rate range	N Series: 500MSa/s	E Series: 1GSa/s	DQ2025CN: 250MSa/s	
	Waveform interpolation	(Sinx)/x			
	Record length	2×512k			
Trigger system	Sampling rate and delay time accuracy	±100ppm over any ≥1ms time interval			
	Delta time measurement accuracy	±(1 sampling interval time+100ppm×rdg+0.6ns)			
	Mode	Auto, Normal, Single			
Math	Type	Edge, TV, Pulse Width			
	Hold off range	100ns ~ 1.5s			
Acquire Input	Math	+, -, ×, ÷ FFT			
	Acquisition mode	Sampling, peak value sampling and smoothness sampling			
	Input coupling	DC, GND, AC			
	Input impedance	1MΩ ±2% 24pF±3pF			
	Probe attenuation	1×, 10×, 100×, 1000×			
	Max. input voltage	400V (DC+AC peak)			
	Channel CMR	Better than 40:1			
Display	Channel isolation	Better than 40:1			
	Persist time	1s, 2s, 5s			
Storage Recorder	Storage	Waveform, Setup, Bit			
Measurement	Recorder	Record, Replay			
	Cursor	Voltage difference (ΔV) between cursors			
		Time difference (ΔT) between cursors Reciprocal of ΔT in Hz (1/ΔT)			
Auto-measure	Vrms, Vavg, Vp-p, Vmax, Vmin, Vtop, Vhigh, Vlow, Vmid, Vamp; Period, Freq, Rise, Fall, +Width, -Width, +Duty-Duty, Delay				
I/O	Standard	USB(D); USB(H); RS-232C(not for DQ2025BN)			
	Options	LAN			
Calibrator signal	Output voltage	3V (≥1MΩ load)			
	Output frequency	1kHz			
Power source	Power source	100~ 240VACrms, 45Hz~440Hz; 50VAMax; CAT II			
Dimensions	Dimensions	320(W) × 150(H) × 130(D)mm			
Weight	Weight	2.5kg			
Accessories	Accessories	Operation manual, Power cord, USB cable, probe×2, Software CD-ROM			

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

DIGITAL STORAGE OSCILLOSCOPE

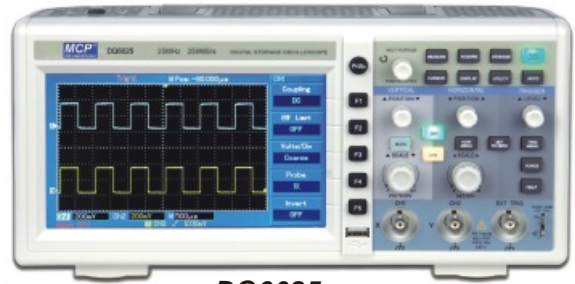
DQ6000 SERIES



NEW

Features

- 500MSa/s~1GSa/s sampling rate
- 7 inch wide rectangle colour LCD
- One key print screen
- 2×512k words per channel record length
- FFT function
- Auto-setting for quick setup and waveform acquisition
- Advanced cursor modes: manual, auto and track



DQ6025

Technical Data		DQ6025	DQ6052	DQ6052E	DQ6102E
Display	Type	7" rectangle cocolourLCD			
	Backlight intensity	300nit (cd/m ²)			
	Display resolution	400 horizontal×240 vertical pixels			
	Display contrast	Adjustable			
Vertical system	Sensitivity and accuracy	1mV / DIV~20V /div			
	Vertical resolution	8bit			
	Width of band (-3dB)	25MHz	50MHz	50MHz	100MHz
	Rise time	≤14ns	≤7ns	≤7ns	≤3.5ns
	Single-shot band width	25MHz	50MHz	50MHz	100MHz
	Input coupling	DC , GND, AC			
	DC gain accuracy	±5% (1mV/DIV~2mV/DIV)	±4% (5mV/DIV)	±3% (10mV/DIV~20mV/DIV)	
	DC measurement accuracy	±(5%Rdg+0.1div+1mV) (1mV/DIV~2mV/DIV) ±(4%Rdg+0.1div+1mV) (5mV/DIV) ±(3%Rdg+0.1div+1mV) (10mV/DIV~20mV/DIV)			
	Delta voltage measurement accuracy	±(3%Rdg+0.05DIV)			
	Horizontal system	SEC/DIV range	10ns~50s/DIV	5ns~50s/DIV	2ns~50s/DIV
Sampling rate range		500MSa/s	500MSa/s	1GSa/s	1GSa/s
Waveform interpolation		(Sinx)/x			
Record length		2×512k			
memory length		25k 12.5k per channel			
Sampling rate and delay time accuracy		±100ppm over any ≥1ms time interval			
Delta time measurement accuracy		Single ±(1 sampling interval time+100ppm×rdg+0.6ns) Average ±(1 sampling interval time+50ppm×rdg+0.4ns)			
Trigger system		Mode	Auto, Normal, Single		
	Type	Edge, Pulse Width, TV (only for DQ6025)			
	Hold off range	80ns ~ 1.5s			
Math		+, -, ×, ÷ FFT			
	Acquire Input	Acquisition mode Sampling, peak value sampling and smoothness sampling Input coupling DC, GND, AC Input impedance 1MΩ ±2% 20pF±3pF Probe attenuation 1×, 10×, 100×, 1000× Max. input voltage 400V (DC+AC peak, 1MΩ) Channel CMR Better than 40: 1 Channel isolation Better than 40: 1			
Display	Persist time	1s, 2s, 5s			
Storage		Waveform, Setup, Bit			
Recorder		Record, Replay			
Measurement	Cursor	Voltage difference (ΔV) between cursors Time difference (ΔT) between cursors Reciprocal of ΔT in Hz (1/ΔT)			
	Auto-measure	Vrms, Vavg, Vp-p, Vmax, Vmin, Vtop, Vhigh, Vlow, Vmid, Vamp; Period, Freq, Rise, Fall, +Width, -Width, +Duty -Duty, Delay			
I/O	Standard	USB OTG			
Calibrator signal	Output voltage	3V (≥1MΩ load)			
	Output frequency	1kHz			
Power source		100~ 240VACrms, 45Hz~440Hz; 50VAMax; CAT II			
Dimensions		306(W) × 147(H) × 122(D)mm			
Weight		2.2kg			
Accessories		Operation manual, Power cord, USB cable, probe×2, Software CD-ROM			

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

FOUR CHANNEL DIGITAL STORAGE OSCILLOSCOPE

DQ8000 SERIES

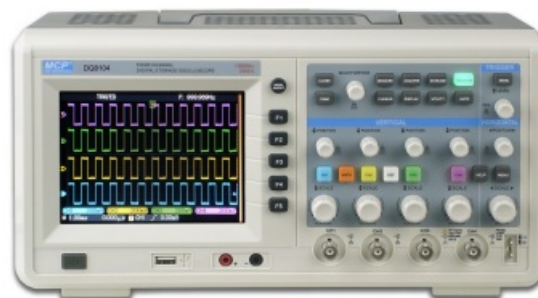


NEW

Features

.4 channel oscilloscope

- .2GSa/s sampling rate and 50GSa/s equivalent sampling rate
- .1024k recording length
- .5.7" color LCD display
- .USB-host/device, RS232 and option LAN, GPIB interface



DQ8104

Technical Data		DQ8104	DQ8204	DQ8304
Channels		4 external + multimeter		
Sampling rate		2GSa/s (4 channels total)		
Equivalent sampling rate		25GSa/s	50GSa/s	50GSa/s
Display	Type	5.7" rectangle color LCD		
	Backlight intensity	300 ni		
	Display resolution	320 horizontal × 240 vertical pixels		
	Sensitivity and accuracy	2mV/div~5V/div		
Vertical system	Vertical resolution	8 bit		
	Width of band (-3dB)	DC (AC 5Hz) 0 ~ 100MHz	DC (AC 5Hz) 0 ~ 200MHz	DC (AC 5Hz) 0 ~ 300MHz
	Selectable analog bandwidth limit	100MHz	100MHz	100MHz
	Rise time	≤3.5ns	≤1.8ns	≤1.2ns
	DC gain Accuracy	±4%(2mV/div)	±3%(5mV/div~5V/div)	
	DC measurement accuracy	±(3%+0.1div)(2mV/div)	±(3%+0.1div)(5mV/div~5V/div)	
	Voltage different (Δt) measurement accuracy	±(3%+0.05div)		
Horizontal system	SEC/DIV range (at 1-2-5 increment)	5ns~50s/div	5ns~50s/div	5ns~50s/div
	Waveform interpolation	Sin(x)/x		
	Recording length	1024k		
	Storage depth	24k (Max.)		
	Equivalent storage depth (Dual time base)	60M		
	Sampling rate and delay time accuracy	±50ppm (any time interval ≥1ms)		
	Delta time measurement accuracy	Single: ±(1 sampling time interval + 50ppm×rdg. + 0.6ns)>16 Average values: ±(1 sampling time interval + 50ppm×rdg. + 0.4ns)		
Trigger system	Mode	Auto, normal, single		
	Type	Edge, pulse, video, alternate		
	Hold off range	96ns~1.5s		
Math		+, -, ×, ÷		
		FFT (Hanning, Hamming, Blackman, Rectangle)		

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

FOUR CHANNEL DIGITAL STORAGE OSCILLOSCOPE

Technical Data		DQ8104	DQ8204	DQ8304
Acquire input	Input coupling	DC, GND, AC		
	Input impedance	1M Ω \pm 2% 16pF \pm 3pF		
	Probe attenuation	1 \times , 10 \times , 100 \times , 1000 \times		
	Max. input voltage	400V (DC+AC peak)		
Measurement	Cursor	Voltage difference (Δ V) between cursors		
		Time difference (Δ T) between cursors		
		Reciprocal of Δ T in Hz (1/ Δ T)		
	Auto-measure	Vrms, Vavg, Vp-p, Vmax, Vmin, Vtop, Vhigh, Vlow, Vmid, Vamp; Period, Freq, Rise, Fall, +Width, -Width, +Duty, -Duty, Delay		
	Saving waveforms	10 groups of waveforms and 10 setups		
I/O	Standard	USB(D), USB(H)		
	Options	GPIB, LAN		
Calibrator	Output voltage	3V (\geq 1M Ω load)		
	Output frequency	1kHz		
Digital multimeter characterizes	DC voltage	Range	400.0mV/4.000V/40.00V/400.0V	
		Accuracy	\pm (1%+5digits)	
	AC voltage (40Hz~400Hz)	Range	400.0mV/4.000V/40.00V/400.0V	
		Accuracy	\pm (1.2%+5digits)	
	Resistance	Range	400 Ω /4k Ω /40k Ω /400k Ω /4M Ω /40M Ω	
		Accuracy	\pm (1.5%+5digits)	
	On/off	<70.0 Ω		
	Diode	Forward voltage drop 0.5~0.8V		
	DC current	Range	4mA/40mA/400mA	
		Accuracy	\pm (1%+5digits)	
Range		4A		
Accuracy		\pm (1.5%+5digits)		
Power source	100~240VACrms, 45~440Hz; 50VA Max; CAT II			
Dimensions (W \times H \times D)	336 \times 117 \times 174mm			
Weight	3.8kg			
Accessories	Operation manual, power cord, USB cable, probe \times 2, software CD-ROM, multimeter pen \times 2, current-voltage convertor module \times 2, LAN module(option), GPIB(option)			

POWER SUPPLY

TEST INSTRUMENT

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METER

ACCESSORY

HAND HOLD LCR METER

BR2811 

Features

- .Hand-hold and low consumption
- .Data hold function

Technical Data		BR2811
Test parameters		L, C, R
Test frequencies		100Hz, 1kHz
Measurement range/ Accuracy	L	200 μ H/±(1.5%+5d) 2mH/20mH/200mH/±(2%+5d) 2H/±(3%+5d) 20H/±(5%+15d) 200H/±(5%+15d)
	C	200pF/±(1.5%+5d) 2nF/±(1%+5d) 20nF/200nF 2 μ F/20 μ F/200 μ F/±(1%+5d) 1000 μ F/only for reference
	R, Z	20 Ω /±(0.5%+10d) 2k Ω /20k Ω /200k Ω /2M Ω /±(0.2%+1d) 20M Ω /±(0.5%+10d) 200M Ω /±(0.5%-10d)±10d
	Measurement speed	3 times /sec
	Power supply	9V battery
Dimensions(W×H×D)	88mm × 180mm × 45mm	
Weight	460g (with battery)	



BR2811

BR2821/BR2822 

Features

- .Hand-held and low consumption
- .4 bins comparator
- .Primary and secondary parameters dual display
- .0.3% basic accuracy, resolution 0.01%
- .Auto power off function

Technical Data		BR2821	BR2822
Test parameters		L, C, D, R, Z , Q	
Test frequencies		100Hz, 120Hz, 1kHz	100Hz, 120Hz, 1kHz, 10kHz
Test level		0.3Vrms (1±10%)	
Accuracy		0.3%	
Measurement range	L	100 / 120Hz 1kHz 10kHz	1 μ H ~ 9999H 0.1 μ H ~ 999.9H 0.01 μ H ~ 99.99H
	C	100 / 120Hz 1kHz 10kHz	1p ~ 9999 μ F 0.1p ~ 999.9 μ F 0.01p ~ 99.99 μ F
	R, Z	0.0001 Ω ~ 999.9M Ω	
	D / Q	0.0001 ~ 9999	
	Δ %	-9999% ~ 9999%	
	Measurement speed	3 times /sec	
Equivalent circuit	Series / parallel		
Ranging mode	Auto / hold		
Display mode	Direct, Δ ABS, Δ %		
Correction function	Open and short multi-frequency Zeroing		
Measurement terminals	Five terminals		
Power supply	9V battery or 12V/150mA adapter (BR2821) 170mAH rechargeable battery or 12V/150mA adapter (BR2822)		
Dimensions(W×H×D)	95mm × 200mm × 40mm		
Weight	400g (with battery)		



BR2821

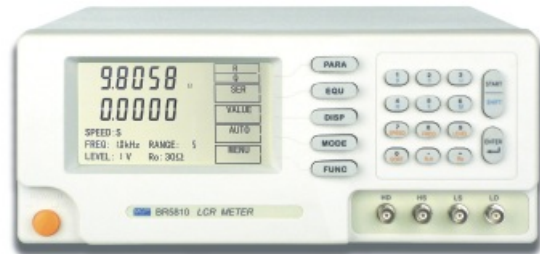
LCR METER

BR5810/BR5812



Features

- .100Hz~10kHz, four typical test frequency points (BR5810)
- .100Hz~100kHz, eight typical test frequency points (BR5812)
- .Special large white backlight LCD display screen
- .0.1V,0.3V,1.0V three typical test level
- .30Ω,100Ω two signal source output impedance,
- .4 bins comparator and bin counter
- .RS232C and HANDLE interfaces



BR5810

Technical Data	BR5810	BR5812
Test parameters	L/Q, C/D, R/Q, Z /θ, C/R, L/R	
Accuracy	0.1%	
Test frequency	100Hz, 120Hz, 1kHz, 10kHz	100Hz, 120Hz, 1kHz, 10kHz, 20kHz, 30kHz, 60kHz, 100kHz
Test level	0.1Vrms, 0.3Vrms and 1 Vrms	
Output impedance	30Ω or 100Ω	
Measurement range	Z , R, X	0.0001Ω~99.999MΩ
	C	0.001pF~99999μF
	L	0.001μH~99999H
	D	0.0001~9.9999
	Q	0.0001~9999.9
	Δ%	-99.99%~99.99%
Measurement speed (times/sec.)	slow: 2 medium: 5 fast: 12	slow: 2 medium: 8 fast: 16
Equivalent circuit	series/parallel	
Ranging mode	auto/hold	
Trigger mode	internal/external, manual	
Correction functions	open/short and sweep corrections	
Display mode	direct, ΔABS, Δ%	
Display digits	Primary and secondary display: 5 digits	
Comparator functions	NG, P1, P2, P3, 4 bins	
Interface	RS232C, HANDLER	
LCD	Special large white backlight LCD display screen	
Power supply	110~127VAC±10%/220~240VAC±10%, 50Hz±2Hz/60Hz±2Hz	
Dimensions (W×H×D)	320×140×360mm	
Weight	3.5kg	

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

LCR METER

BR5816



Features

- .Programmable signal frequency from 50Hz to 200kHz with 12 thousand points
- .Programmable signal voltage level from 10mVrms to 2.0Vrms with 0.01V by step
- .10 test parameters
- .240×128 dot-matrix graphics LCD display with back-light
- .10 bins comparator and bin counter
- .RS232C, HANDLE and optional GPIB interfaces



BR5816

Technical Data	BR5816
Test parameters	L, C, R, Z , D, Q, X, B, G, θ
Accuracy	0.05%
Test frequency	50Hz~200kHz with 12 thousand points
Test level	0.01Vrms~2.00Vrms
Level resolution	0.01V
Output impedance	30 Ω or 100 Ω
Measurement range	Z , R, X 0.00001 Ω ~99.9999M Ω
	C 0.00001pF~999.999mF
	L 0.00001 μ H~9.99999kH
	G,B 0.00001 μ s~999.999s
	D 0.00001~9.99999
	Q 0.00001~99999.9
	θ (DEG) -179.999° ~179.999°
θ (RAD) -3.14159~3.14159	
Δ % -999.999%~999.999%	
Measurement speed	slow: 650ms medium: 90ms fast: 32ms
Equivalent circuit	series/parallel
Ranging mode	auto/hold
Trigger mode	internal/external, manual and bus
Averaging rate	1~255
Correction functions	open/short and load corrections
Measurement terminals	five terminals
Display mode	direct, Δ ABS, Δ %, V/I (V/I monitor), bin number and bin counter
Display digits	primary and secondary display: 6 digits
Comparator functions	BIN1 to BIN9 and BIN out, 10 bins
Interface	RS232C, HANDLER and GPIB (option)
LCD	240×128 lattices liquid crystal display
Power supply	110~127VAC \pm 10%/220~240VAC \pm 10%, 50Hz \pm 2Hz/60Hz \pm 2Hz
Dimensions (W×H×D)	320×140×400mm
Weight	4.5kg

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

LCR METER

BR5818A



Features

- .Programmable signal frequency from 20Hz to 300kHz with 0.01Hz by step
- .Programmable signal voltage level from 10mVrms to 2.0Vrms with 0.01V by step
- .10 test parameters
- .240×128 dot-matrix graphics LCD display with back-light
- .10 bins comparator and bin counter
- .RS232C and HANDLE interfaces



BR5818A

Technical Data	BR5818A
Test parameters	L, C, R, Z , D, Q, X, B, G, θ
Accuracy	0.05%
Test frequency	20Hz~300kHz
Frequency resolution	0.01Hz
Test level	0.01Vrms~2.00Vrms
Level resolution	0.01V
Output impedance	30 Ω or 100 Ω
Measurement range	Z , R, X 0.00001 Ω ~99.9999M Ω
	C 0.00001pF~999.999mF
	L 0.00001 μ H~9.99999kH
	G,B 0.00001 μ s~999.999s
	D 0.00001~9.99999
	Q 0.00001~99999.9
	θ (DEG) -179.999° ~179.999°
	θ (RAD) -3.14159~3.14159
Δ % -999.999%~999.999%	
Measurement speed	slow: 650ms medium: 90ms fast: 32ms
Equivalent circuit	series/parallel
Ranging mode	auto/hold
Trigger mode	internal/external, manual and bus
Averaging rate	1~255
Correction functions	open/short and load corrections
Measurement terminals	five terminals
Display mode	direct, Δ ABS, Δ %, V/I (V/I monitor), bin number and bin counter
Display digits	primary and secondary display: 6 digits
Comparator functions	BIN1 to BIN9 and BIN out, 10 bins
Interface	RS232C, HANDLER
LCD	240×128 lattices liquid crystal display
Power supply	110~127VAC \pm 10%/220~240VAC \pm 10%, 50Hz \pm 2Hz/60Hz \pm 2Hz
Dimensions (W×H×D)	320×140×400mm
Weight	4.5kg

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

LCR METER

BR3810



Features

- .High performance and low cost
- .3-line VFD display.
- .10 files and 4 bins comparator function
- .Easy operation
- .RS232C, HANDLER and USB (option) interface
- .Key lock function and data hold function



BR3810

Technical Data	BR3810	
Test parameters	L, C, R, Z , D, Q, θ	
Accuracy	0.1% \pm 2digits	
Test frequency	100Hz, 120Hz, 1kHz, 10kHz	
Test level	0.1Vrms, 0.3Vrms, 1Vrms	
Output impedance	30 Ω or 100 Ω	
Measurement range	Z , R	0.0001 Ω ~99.99M Ω
	C	0.01pF~9999 μ F
	L	0.01 μ H~9.999H
	G, B	0.00001 μ s~999.999s
	D, Q	0.0001~9999
	θ (DEG)	-90.00° ~90.00°
	θ (RAD)	-3.1416~3.1416
Δ %	-9999%~9999%	
Measurement speed (times/sec.)	slow: 2 medium: 5 fast: 15	
Equivalent circuit	series/parallel	
Ranging mode	auto/hold	
Trigger mode	Internal/external, manual and long-distance	
Correction functions	open/short	
Measurement terminals	five terminals	
Display mode	direct, Δ %, Δ ABS, bin number and bin counter	
Display digits	primary display: 5 digits, secondary display : 6 digits	
Comparator functions	20 files, NG, P1, P2, P3	
Interface	RS232C, HANDLER and USB (option)	
Display	4 colours VFD	
Power supply	110~127VAC \pm 10%/220~240VAC \pm 10%, 50Hz \pm 2Hz/60Hz \pm 2Hz	
Dimensions (W×H×D)	264×107×350mm	
Weight	5kg	

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

LCR METER

BR3817



Features

- .Programmable signal frequency from 50Hz to 100kHz with 10 points
- .3.5" TFT LCD
- .High performance and low cost.
- .10 files and 5 bins comparator function
- .Easy operation
- .RS232C, HANDLER and USB (option) interface
- .Key lock function and data hold function



BR3817

Technical Data	BR3817
Test parameters	L-Q, C-D, R-Q, Z -Q, θ
Accuracy	0.05% \pm 5digits
Test frequency	50Hz, 60Hz, 100Hz, 120Hz, 1kHz, 10kHz, 20kHz, 40kHz, 50kHz, 100kHz
Test level	0.1Vrms, 0.3Vrms, 1.0Vrms
Output impedance	30 Ω , 50 Ω or 100 Ω
Measurement range	Z , R 0.0001 Ω ~99.999M Ω
	C 0.0001pF~99999 μ F
	L 0.0001 μ H~99999H
	D, Q 0.00001~999999
	$\theta_{(DEG)}$ -179.999 $^{\circ}$ ~179.999 $^{\circ}$
	$\theta_{(RAD)}$ -3.1416~3.1416
Δ % -99999%~99999%	
Measurement speed (times/sec.)	slow: 3 medium: 8 fast: 20
Equivalent circuit	series/parallel
Ranging mode	auto/hold
Trigger mode	internal/external, manual and long-distance
Averaging rate	1~99
Correction functions	open/short and sweep corrections
Measurement terminals	five terminals
Display mode	direct, Δ ABS, Δ %, D, Q, Z , θ , bin number and bin counter
Display digits	5 digits
Comparator functions	10 files and 5 bins, P1~P3, AUX, NG
Interface	RS232C, HANDLER and USB (option)
LCD	3.5" TFT LCD
Power supply	85~250VAC \pm 10%, 45~65Hz
Dimensions (W×H×D)	264×107×350mm
Weight	5kg

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

LCR METER

BR3816A



Features

- .Programmable signal frequency from 20Hz to 200kHz with 24000 points
- .Programmable signal voltage level from 10mVrms to 2.0Vrms with 0.01 V by step
- .3.5" TFT LCD
- .High performance and low cost.
- .10 files and 14 bins comparator function
- .Easy operation
- .RS232C, HANDLER and USB (option) interface
- .Key lock function and data hold function



BR3816A

Technical Data	BR3816A
Test parameters	L-Q, L-R, C-D, C-R, R-Q, Z - θ
Accuracy	0.05% \pm 5digits
Test frequency	20Hz~200kHz (24000 points)
Test level	0.01Vrms~2Vrms
Test resolution	0.01Vrms
Output impedance	30 Ω , 50 Ω or 100 Ω
Measurement range	Z , R 0.00001 Ω ~99.9999M Ω
	C 0.00001pF~999999 μ F
	L 0.00001 μ H~999999H
	D, Q 0.00001~999999
	θ (DEG) -179.999 $^{\circ}$ ~179.999 $^{\circ}$
	θ (RAD) -3.14159~3.14159
Δ % -999999%~999999%	
Measurement speed (times/sec.)	slow: 4 medium: 9 fast: 25
Equivalent circuit	series/parallel
Ranging mode	auto/hold
Trigger mode	internal/external, manual and long-distance
Averaging rate	1~99
Correction functions	open/short and sweep corrections
Measurement terminals	five terminals
Display mode	direct, Δ ABS, Δ %, D, Q, Z , Vm, Im, θ , bin number and bin counter
Display digits	primary and secondary display: 6 digits
Comparator functions	10 files and 14 bins, P1~P9, AUX, NG, PHI, PIN, PLO
Interface	RS232C, HANDLER and USB (option)
Display	3.5" TFT LCD
Power supply	85~250VAC \pm 10%, 45~65Hz
Dimensions (W×H×D)	264×107×350mm
Weight	5kg

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

AUDIO GENERATOR

LG1809A/LG1809D/LG1809AW/LG1809DV

Features

- .Wide frequency ranges 10Hz~1MHz
- .6 steps output attenuator
- .EXT SYNC function
- .Both sine and square wave
- .Easy operation
- .Build in 7 digits frequency counter (LG1809D)
- .5W power output (LG1809AW)



LG1809A

Technical Data		L1809A	L1809AW	L1809D	L1809DV
Sine Wave	Frequency range	10Hz~1MHz, 5 ranges; 10Hz~10kHz (square wave)			
	Frequency indicator	Dial scale	Dial scale	7 digits LED	5 digits LED
	Frequency accuracy	$\pm(3\%+1\text{Hz})$	$\pm(3\%+1\text{Hz})$	$\pm 0.1\%$	$\pm 0.1\%$
	Output voltage	10Vp-p(600 Ω load)			
	Frequency response	10Hz~1MHz, $\pm 1.5\text{dB}$ (600 Ω load, 1kHz reference frequency)			
	Distortion factor		$\leq 0.1\%$	$\leq 0.2\%$	$\leq 0.1\%$
Square Wave	Output voltage	30Vp-p			
	Rise & fall time	$\leq 200\text{ns}$			
	Duty ratio	50% $\pm 5\%$ at 1kHz			
External synchronization	Synchronization range	$\pm 1\%/V_{\text{rms}}$			
	Max. input voltage	15V _{rms}			
	Input impedance	150k Ω			
Output characteristic	Impedance	600 Ω			
	Output attenuator	0dB, -10dB, -20dB, -30dB, -40dB, -50dB 6 ranges (accuracy $\pm 1\text{dB}$ at 600 Ω load)			
Voltage display				3 digits LED	
Accuracy				$\pm(10\%+2\text{digits})$	
Frequency counter				1Hz~100MHz	
Power output		5W			
Power source		110~127VAC $\pm 10\%$ /220~240VAC $\pm 10\%$, 50Hz $\pm 2\text{Hz}$ /60Hz $\pm 2\text{Hz}$			
Dimensions(W \times H \times D)		130 \times 200 \times 280mm			
Weight		2.5kg			



LG1809AW



LG1809D



LG1809DV

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

FUNCTION GENERATOR

SG1634N & SG1638N



Features

- .Multi waveforms: Sine, Triangle, Square, Ramp, Pulse and etc.
- .Separate TTL, 50Hz Sine and singel output
- .DC offset and symmetry continuously adjustable
- .VCF input
- .Built-in 6 digits counter up to 15MHz equal accuracy(SG1638N)
- .Economical type, low cost



SG1634N



SG1638N

Technical Data		SG1634N	SG1638N
Main output	Output frequency	0.2Hz ~ 2MHz	
	Output waveforms	Sine, Square, Triangle, Ramp, Pulse and etc.	
	Output impedance	50 Ω ±10%	
	Output amplitude	≥20Vp - p (1MΩ Load); ≥10Vp - p (50Ω Load)	
	Output attenuation	0dB / 20dB / 40dB / 60dB	
	DC offset	0~±10V (1MΩ Load); 0~±5V (50Ω Load)	
	Symmetry	10% ~ 90%	
Sine wave	Distortion factor	20Hz ~ 20kHz ≤ 1%	
	Frequency response	2Hz ~ 2MHz ≤ ±1dB	
Square wave	Rise or fall time	≤30ns	
TTL output	Rise or fall time	≤50ns	
	Low level	≤0.4V	
	High level	≥3.5V	
	Impedance	100 Ω	
VCF	Input voltage	-5~0V	
	Input impedance	10kΩ ±10%	
50Hz output		2Vp-p, mains synchrony	
Counter	Display		6 digits
	Frequency range		0.5Hz ~ 15MHz
	Input impedance		10kΩ ±10%
	Sensitivity		200mVrms
	Resolution		0.1Hz/1Hz
	Accuracy		≤0.1%±1 digit
	Max. input voltage		50Vp-p
Power supply		110~127 VAC±10%, 220~240VAC±10%, 50Hz±2Hz / 60Hz±2Hz	
Dimensions		250(W) × 105(H) × 280(D)mm	
Weight		2.5 kg	

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

DDS FUNCTION GENERATOR

SG1000 SERIES 

Features

DDS technology design, ultra-low power consumption

- .Frequency range: 0.1Hz~3MHz(SG1003)
- 0.1Hz~5MHz(SG1005)
- 0.1Hz~8MHz(SG1008)
- .High frequency accuracy: $\pm 1 \times 10^{-6}$
- .High frequency stability: $\pm 1 \times 10^{-6}$
- .Max. frequency resolution: 100mHz
- .Low distortion sine wave: <0.3%
- .Through the keyboard input frequency set value
- .Voltage display



SG1003

Technical Data		SG1003/SG1005/SG1008
Main output	Output frequency	0.1Hz~3MHz(SG1003) 0.1Hz~5MHz(SG1005) 0.1Hz~8MHz(SG1008)
	Output wave form	Sine, square, traingle
	Frequency accuracy	$\pm 5 \times 10^{-6}$
	Frequency resolution	100mHz
	Frequency stability	$\pm 1 \times 10^{-6}$
	Output amplitude	0.2~20Vp-p
	Amplitude accuracy	$\pm 10\%$ (1kHz, 20Vp-p)
	Impedance	50 Ω $\pm 10\%$
	Attenuator	-40dB, 0dB
	DC offset	$\pm 10V$
Sine wave	Distortion factor	$\leq 0.3\%$ (20Hz~20kHz)
	Triangle wave	Linear
Square wave	Duty cycle	10%~90%
	Rise or fall time	$\leq 25ns$
TTL/COMS output	TTL level	$\geq 3Vp-p$
	Output capability	20TTL load
Power supply	CMOS level	3~13.5Vp-p
		110~127VAC $\pm 10\%$ /220~240VAC $\pm 10\%$, 50Hz $\pm 2Hz$ /60Hz $\pm 2Hz$
Dimensions		300(W) \times 110(H) \times 265(D)mm
Weight		1.5kg

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

DDS FUNCTION GENERATOR

SG2100 SERIES



Features

DDS technology and FPGA chip design, ultra-low power consumption

- Sine wave in main output frequency: 1 μ Hz~40MHz
- Square, pulse and another wave in main output frequency: 1 μ Hz~1MHz
- Sine wave, square wave, triangle wave in sub wave signal output frequency: 10mHz~200kHz
- Accurate weak signal output with automatic precise attenuation circuit
- High frequency resolution: 10mHz
- With the functions of linear and log sweep, FSK, PSK, ASK, AM and FM modulations
- With frequency-measuring, cycle-measuring, pulse width measuring and counting functions



SG2120

Technical Data

SG2110/SG2120/SG2130/SG2140

Main output	Output frequency	1 μ Hz ~ 10MHz (SG2110) 1 μ Hz ~ 20MHz (SG2120)	1 μ Hz ~ 30MHz (SG2130) 1 μ Hz ~ 40MHz (SG2140)
	Impedance	50 Ω \pm 10%	
	Output amplitude	10mVp-p~20Vp-p	
	Output wave form	Sine, square, pulse, triangle, ramp, TTL and arbitrary	
	Output modulation	Single frequency, sweep frequency, AM, FM, PM, FSK, ASK, PSK	
	Wave length	6~4096 points	
	Wave accuracy	10 bits	
	Sampling rate	150MSa/s	
	Frequency accuracy	$\leq \pm 5 \times 10^{-6}$	
	Frequency resolution	1 μ Hz	
	Amplitude accuracy	$\leq \pm (1\%+2mV)$ (1kHz, 20Vp-p)	
	Amplitude flatness	$\pm 3\%$ (SG2110) $\pm 5\%$ (SG2120, SG2130, SG2140)	
	Amplitude resolution	10mV	
	Offset range	-5V~+5V	
	Offset resolution	10mV	
AM modulation depth	0% ~ 120% (0~200kHz int., 1Hz~100kHz ext.)		
FM modulation deviation	100% (0~200kHz int., 1Hz~100kHz ext.)		
PM modulation range	0 ~ 360.0° (0~200kHz int., 1Hz~100kHz ext.)		
Phase resolution	1°		
Sub output	Output frequency	0~200kHz	
	Impedance	50 Ω \pm 10%	
	Output amplitude	100mVp-p~20Vp-p	
	Output waveform	Sine, square, triangle	
	Frequency resolution	10mHz	
	Frequency accuracy	$\leq \pm 5 \times 10^{-6}$	
Sine wave	Amplitude resolution	100mV	
	Amplitude accuracy	$\pm (1\%+2mV)$ (1kHz, 20Vp-p)	
Square wave	Distortion factor	$\leq 0.3\%$ (20Hz~20kHz)	
	Rise time	$\leq 20ns$	
SYMM.	1% ~ 99.9%		
	Sweep frequency	Sweep frequency range	1 μ Hz ~ 10MHz (SG2110) 1 μ Hz ~ 20MHz (SG2120)
Sweep time		10ms~50s	
Frequency range		1 μ Hz ~ 1MHz	
Arbitrary	Wave length	6 ~ 1024 points	
	Accuracy	10 bits	
	Frequency range	1Hz ~ 100MHz	
Counter	Counting capacity	10bits	
	Input voltage range	100mV~20V	
Time base	Frequency	50MHz	
	Stability	$\pm 1 \times 10^{-6}/d$	
Power supply	110 ~ 127VAC \pm 10%/220 ~ 240VAC \pm 10%, 50Hz \pm 2Hz/60Hz \pm 2Hz		
Dimensions(W \times H \times D)	255 \times 100 \times 370mm		
Weight	2.5 kg		

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

DDS FUNCTION GENERATOR

MPF2010/2020/2040/2060



Features

- .Using Direct Digital Synthesis(DDS) technology
- .1mV Output Amplitude for Small Signal
- .40 μ Hz~60MHz frequency range for main waveforms
- .100MHz equal-accuracy frequency counter(option)
- .32 kinds of output waveform
- .Blue-White LCD display
- .Pulse duty cycle resolution up to 1%
- .Burst mode with a continuous phase adjustment function
- .1%~120% amplitude modulation
- .RS232 interface (option), USB interface (option)



MPF2010

Technical Data

MPF2010/2020/2040/2060

Main output	Output frequency	40 μ Hz ~ 10MHz(MPF2010) 40 μ Hz~20MHz (MPF2020) 40 μ Hz ~ 40MHz(MPF2040) 40 μ Hz~60MHz (MPF2060)
	Output amplitude	2mVp-p~20Vp-p
	Output wave	sine, square, pulse, DC
	Output modulation	single frequency, sweep frequency, AM, FM, FSK, PSK, Brust
	Wave length	4~16000 points
	Wave accuracy	10bits
	Sampling rate	180Msa/s
	Frequency resolution	40 μ Hz(40 μ Hz~1kHz) 40mHz(>1kHz)
	Frequency accuracy	$\leq \pm 0.005\%$
	Amplitude resolution	20mVp-p(>2V); 2mVp-p(<2V)
	Amplitude accuracy	$\leq \pm (1\%+2mV)$
	Amplitude flatness	$\pm 5\%$ (f<1MHz); $\pm 10\%$ (f>1MHz)
	Offset range	$\pm 10V$
	Offset resolution	20mV
	Offset error	$< \pm (1\%+20mV)$
	AM modulation depth	1% ~ 120% adjustable
	FM modulation deviation	Max.20%
	PM modulation range	0~ 360.0°
	Phase resolution	11.25°
Sine wave	Harmonic distortion	-50dBC(<1MHz) -40dBC(1MHz~20MHz) -30dBC(20MHz~40MHz)
	Distortion factor	$\leq 0.5\%$
Square wave	Rise time	$\leq 20ns$
	SYMM.	0.1% ~ 99.9% adjustable
TTL output	Rise or fall time	$\leq 20ns$
	Low level	$< 0.3V$
Sweep	Sweep mode	$> 4V$
	Sweep mode	Lin./log. Up and down
	Sweep time	10ms~60s
CHB output	Output frequency	10mHz~1MHz
	Impedance	50 $\Omega \pm 10\%$
	Output amplitude	50mVp-p~20Vp-p
	Output waveform	sine, square, triangle, ramp, ladder and etc.32 waveforms
	Frequency resolution	10mHz
	Frequency accuracy	$\leq \pm (0.001\%+10mHz)$
	Amplitude resolution	20mV
Counter	Wave length	1024 points
	Wave accuracy	8bits
	Frequency range	1Hz ~ 100MHz
Power supply	Input amplitude	100mVp-p~20Vp-p
Dimensions(W × H × D)		110 ~ 127VAC $\pm 10\%$ /220 ~ 240VAC $\pm 10\%$, 50Hz $\pm 2Hz$ /60Hz $\pm 2Hz$
Weight		226 × 98 × 365mm
		3 kg

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

DDS FUNCTION GENERATOR

MPF3010/3020/3040/3060



Features

- Using Direct Digital Synthesis(DDS) technology
- 1mV Output Amplitude for Small Signal
- 40 μ Hz~60MHz frequency range for main waveforms
- 100MHz equal-accuracy frequency counter(option)
- 32 kinds of output waveform
- 3.5" TFT colour LCD display
- Pulse duty cycle resolution up to 1%
- Burst mode with a continuous phase adjustment function
- 1%~120% amplitude modulation
- RS232 interface (option), USB interface (option)



MPF3060

Technical Data

MPF3010/3020/3040/3060

Main output	Output frequency	40 μ Hz ~ 10MHz(MPF3010) 40 μ Hz~20MHz (MPF3020) 40 μ Hz ~ 40MHz(MPF3040) 40 μ Hz~60MHz (MPF3060)
	Output amplitude	2mVp-p~20Vp-p
	Output wave	sine, square, pulse, DC
	Output modulation	single frequency, sweep frequency, AM, FM, FSK, PSK, Brust
	Wave length	4~16000 points
	Wave accuracy	10bits
	Sampling rate	180Msa/s
	Frequency resolution	40 μ Hz(40 μ Hz~1kHz) 40mHz(>1kHz)
	Frequency accuracy	$\leq \pm 0.005\%$
	Amplitude resolution	20mVp-p(>2V); 2mVp-p(<2V)
	Amplitude accuracy	$\leq \pm (1\%+2mV)$
	Amplitude flatness	$\pm 5\%$ (f<1MHz); $\pm 10\%$ (f>1MHz)
	Offset range	$\pm 10V$
	Offset resolution	20mV
	Offset error	$< \pm (1\%+20mV)$
	AM modulation depth	1% ~ 120% adjustable
	FM modulation deviation	Max.20%
PM modulation range	0~ 360.0°	
Phase resolution	11.25°	
Sine wave	Harmonic distortion	-50dBC(<1MHz) -40dBC(1MHz~20MHz) -30dBC(20MHz~40MHz)
	Distortion factor	$\leq 0.5\%$
Square wave	Rise time	$\leq 20ns$
	SYMM.	0.1% ~ 99.9% adjustable
TTL output	Rise or fall time	$\leq 20ns$
	Low level	$< 0.3V$
Sweep	Sweep mode	Lin./log. Up and down
	Sweep time	10ms~60s
CHB output	Output frequency	10mHz~1MHz
	Impedance	50 $\Omega \pm 10\%$
	Output amplitude	50mVp-p~20Vp-p
	Output waveform	sine, square, triangle, ramp, ladder and etc.32waveforms
	Frequency resolution	10mHz
	Frequency accuracy	$\leq \pm (0.001\%+10mHz)$
	Amplitude resolution	20mV
Counter	Wave length	1024 points
	Wave accuracy	8bits
Power supply	Frequency range	1Hz ~ 100MHz
	Input amplitude	100mVp-p~20Vp-p
Dimensions(W \times H \times D)	110 ~ 127VAC $\pm 10\%$ /220 ~ 240VAC $\pm 10\%$, 50Hz $\pm 2Hz$ /60Hz $\pm 2Hz$	
Weight	226 \times 98 \times 365mm	
	3 kg	

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

DDS FUNCTION(ARBITRARY) GENERATOR

SPF05/10/20/40/80/120 

Features

- .Using Direct Digital Synthesis(DDS) technology
- .0.2mV Output Amplitude for Small Signal
- .100 μ Hz~120MHz frequency range for main waveforms
- .100MHz equal-accuracy frequency counter
- .Store/recall 10 wavespanel setting
- .Arbitrary setting of start and stop for frequency sweep output
- .More than 30 kinds of output waveform(arbitrary is optional)
- .13-character highly visible VFD
- .RS232 interface, GP-IB interface option



SPF40

Technical Data		SPF05 / 10 / 20 / 40/80 / 120
Main output	Output frequency	100 μ Hz ~ 5MHz(SPF05) 100 μ Hz~10MHz (SPF10) 100 μ Hz ~ 20MHz(SPF20) 100 μ Hz~40MHz (SPF40) 100 μ Hz ~ 80MHz(SPF80) 100 μ Hz ~ 120MHz(SPF120) Sine: 100 μ Hz~5/10/20/40/80/120MHz Square and TTL: 100uHz~5/10/20/40MHz Other and stored waveform:100 μ Hz~100kHz
	Output amplitude	1mVp - p~10Vp-p (50 Ω load) (f \leq 40MHz) 100 μ Vp-p ~ 3Vp-p (50 Ω load) (f > 40MHz) 2mVp - p~20Vp-p (1M Ω load) (f \leq 40MHz) 200 μ Vp-p ~ 6Vp-p (1M Ω load) (f > 40MHz)
	Output wave	sine, square,pulse, triangle, ramp, ladder and etc. more than 30 waveforms
	Output modulation	single frequency, sweep frequency, AM, FM, FSK, PSK
	Wave length	8~16000 points
	Wave accuracy	12bits
	Sampling rate	300Msa/s
	Frequency resolution	1 μ Hz
	Frequency accuracy	$\leq \pm 0.0005\%$
	Amplitude resolution	1 μ Vp-p
	Amplitude accuracy	$\leq \pm 1\%+0.2mV$
	Amplitude flatness	$\pm 3\%$
	Offset range	$\pm 10V$
	Offset resolution	1 μ V
	Offset error	$< \pm(1\%+10mV)$
	AM modulation depth	1% ~ 120%
	FM modulation deviation	Max.50%
	PM modulation range	0.1 ~ 360.0°
	Phase resolution	0.1°
	Sine wave	Harmonic distortion
Distortion factor		$\leq 0.1\%$
Square wave	Rise time	$\leq 15ns$
	SYMM.	0.1% ~ 99.9% adjustable
40MHz ~ 120MHz	Output amplitude	13dBm
	Amplitude flatness	$\pm 1dB$
	Attenuation	0 ~ -76dB
	Resolution	-0.1dB
Arbitrary wave module (Option)	Frequency range	100 μ Hz ~ 100kHz
	Wave length	8 ~ 16000 points
	Resolution	10 bits
Counter	Frequency range	1Hz ~ 100MHz
	Counting capacity	$\leq 4.29 \times 10^9$
Time base	Frequency	10MHz
	Stability	$\pm 1 \times 10^{-6}/d$
Power supply	110 ~ 127VAC $\pm 10\%$ /220 ~ 240VAC $\pm 10\%$, 50Hz $\pm 2Hz$ /60Hz $\pm 2Hz$	
Dimensions(W \times H \times D)	255 \times 100 \times 370mm	
Weight	2.5 kg	

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

HF SIGNAL GENERATOR

HG2461 SERIES



Features

- .Signal frequency up to 300MHz
- .DDS Technology provides for a superior signal with low distortion and high stability
- .Both RF output and function output
- .3.5" QVGA color LCD and soft keys
- .Produced by SMT, smart metal case
- .1 μ Hz frequency resolution
- .RS 232 interface and USB, GPIB optional
- .Versatile modulation
 - AM, FM, PM, FSK, PSK, Sweep, Burst
- .Variety of waveforms
 - Sine, square, pulse, triangle, ramp



HG2461 I

Technical Data		HG2461 I/II/III/IV/V	
RF output (output A)			
Frequency range		100 μ Hz~80MHz	HG2461 I
		100 μ Hz~110MHz	HG2461 II
		100 μ Hz~150MHz	HG2461 III
		100 μ Hz~200MHz	HG2461 IV
		100 μ Hz~300MHz	HG2461 V
Frequency resolution		1 μ Hz	\leq 80MHz
		1Hz	$>$ 80MHz
Frequency stability		$\leq 5 \times 10^{-6}$	
RF output level		-127dBm~+13dBm	
RF output resolution		0.1dB	
Attenuator accuracy		± 2 dB	
Output impedance		50 Ω , VSWR $<$ 1.5	
Spectral purity	Harmonic	$<$ -30dBc	(output level \leq +4dBm)
	Non harmonic	$<$ -40dBc	(output level \leq +4dBm, deviation $>$ 5kHz)
	Sub harmonic	$<$ -40dBc	(output level \leq +4dBm)
	Residual FM	$<$ 100Hz	
AM Modulation	Frequency	int. 100mHz~10kHz	
		ext. 20Hz~10kHz	
	Depth	0~120%	(fc \leq 80MHz, level \leq +4dBm)
		0~80%	(fc $>$ 80MHz, level \leq +4dBm)
Resolution		0.1%	
FM Modulation	Frequency	int. 100 μ Hz~10kHz	(fc \leq 80MHz)
		int. 100 μ Hz~1kHz	(fc $>$ 80MHz)
	Deviation	fc/2	(fc \leq 80MHz)
		1 μ Hz~100kHz	(fc $>$ 80MHz)
Resolution		100Hz	
Pulse Modulation (option)	Carrier frequency	\geq 9kHz	
	Frequency	ext. DC~10MHz (TTL level)	
	Rise and fall	$<$ 15nS	
	On/Off	$>$ 65dB	
FSK Modulation	F1, F2 range	100 μ Hz~80MHz	(FSK rate $<$ 10kHz)
		80.000001MHz~120MHz	(FSK rate $<$ 2kHz)
		120.000001MHz~200MHz	(FSK rate $<$ 2kHz)
		200.000001MHz~300MHz	(FSK rate $<$ 2kHz)
Control mode		internal and external (TTL level, low-F1, high-F2)	

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

HF SIGNAL GENERATOR

Technical Data		HG2461 I/II/III/IV/V	
PSK Modulation	Carrier frequency	<80MHz	
	P1, P2 range	0~360°	
	Resolution	0.1°	
	Alternation	0.1mS~800S	
	Control mode	internal and external (TTL level, high-P2, low-P1)	
Burst Modulation	Carrier frequency	<80MHz	
	Burst count	1~10000 cycle ($\leq 800 \cdot f_c$)	
	Alternation	0.1mS~800S	
	Control mode	internal	
		single	
Sweep	Sweep rate	1mS~800S (lin., $f_c \leq 80\text{MHz}$)	
		100mS~800S (log., $f_c \leq 80\text{MHz}$)	
	Stepping time	10mS~800S ($f_c > 80\text{MHz}$)	
	Frequency range	100 μ Hz~80MHz	
		80.000001MHz~120MHz	
		120.000001MHz~200MHz	
		200.000001MHz~300MHz	
	Sweep mode	lin. and log. ($f_c \leq 80\text{MHz}$)	
Stepping ($f_c > 80\text{MHz}$)			
MOD Signal output	Frequency	100mHz~10kHz	
	Waveform	sine	
	Amplitude	5Vp-p $\pm 2\%$	
	Impedance	620 Ω	
Function output (output B)			
Frequency range	100 μ Hz~2MHz		
Resolution	100 μ Hz		
Accuracy	$\pm 5 \times 10^{-6}$		
Amplitude (sine)	100mVp-p~6Vp-p (high impedance)		
	50mVp-p~3Vp-p (50 Ω)		
Resolution	$\pm 0.1\text{mVp-p}$		
Accuracy	$\leq 5\% \pm 5\text{mVp-p}$ ($f \leq 100\text{kHz}$)		
Distortion	1% (2Vp-p, 1kHz)		
Impedance	50 Ω		
Waveform	Sine, square, triangle, ramp, pulse (rise and fall time $\leq 500\text{nS}$)		
A/B sine phase range	0.0~360.0°		
Power supply	110~127 VAC $\pm 10\%$, 220~240VAC $\pm 10\%$ 50Hz $\pm 2\text{Hz}$, 60Hz $\pm 2\text{Hz}$		
Dimensions(W×H×D)	255×170×370mm		
Weight	4kg		

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

HF SIGNAL GENERATOR

HG1461 SERIES



Feature

- DDS technology
- Programmable component CPLD modulation technology
- Many kinds of interfaces and functions of storage
- SMT technology, high reliability
- FM, AM, FSK, Sweep, Store/recall, Stereo FM(option)
- RS-232, GP-IB(option)



HG1461B

Technical Data	HG1461A/B/C/D/E/F		
RF signal generator	Frequency	100kHz ~ 65MHz(HG1461A) 100kHz~110MHz(HG1461B) 100kHz~150MHz(HG1461C) 100kHz~200MHz(HG1461D) 100kHz~300MHz(HG1461E) 100kHz~400MHz(HG1461F)	
	Resolving capability	1Hz	
	Frequency accuracy	±25ppm	
	Frequency stability	±5ppm/day	
	Level	-117dBm~+13 dBm(≤300MHz) +10dBm(>300MHz)	
	Resolving capability	0.1dB	
	Output impedance	50Ω	
	SWR	<1.5	
	Level smothness	±1dB (output level=+4dBm;frequency<400kHz)	
	Attenuation precision	±2dB (output level<-105dBm)	
	Harmonic	<-30dBc (≤100MHz) or -15dBc(>110MHz)	
	FM	Deviation	0~100kHz
		Resolution	100Hz
		Accurary	5%±50Hz
Modulation frequency		internal 1kHz or 400Hz	
AM	Depth	0~70%(120%MAX)	
	Accurary	±(1.5%+7% set value)	
	Modulation frequency	internal 1kHz or 400Hz;external:20Hz to 10kHz	
Modulation source	Distortion	<5%	
	Impedance	600Ω (BNC)	
Modulation signal generator (option)	Internal modulation source output	frequency: 1kHz or 400Hz; amplitude:1Vpk	
	External modulation source input	amplitude:0~1Vpk	
	Frequency range	1Hz~1MHz	
	Output wave	Sine, Square, Pulse, Triangle	
	Output amplitude	0.1~6.0Vp-p (600Ω Load)	
	Phase	0.1~360°	
Power source	Phase resolution	0.1°	
		110~127VAC±10%; 50Hz±2Hz 220~240VAC±10%; 60Hz±2Hz	
Dimensions(W×H×D)	240×90×363mm		
Weight	3kg		

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

MULTI-FUNCTION COUNTER

FC1000



Features

- .8 digits LED display
- .Measure range up to 1000MHz (channel B)
- .Low pass filter for low frequency measuring
- .Two channels input



FC1000

Technical Data	FC1000
Function	measure frequency, period
Frequency range	1Hz~100Hz (channel A) 100MHz~1000MHz (channel B)
Period range	10ns~1s (channel A)
Sensitivity	35mV (1~20Hz) 20mV (20Hz~1000MHz)
Max input voltage	250V (channel A), 1/20 attenuation 3V (channel B)
Input impedance	50 Ω
Measure error	$\pm(10^{-7} + \text{time base accuracy})$
Gate time	0.01s, 0.1s, 1s
Dimensions (W×H×D)	207 × 85 × 255mm
Weight	2 kg

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

MULTI-FUNCTION COUNTER

SP10B / SP100B 

Features

- Under the control of MCU
- Equal accuracy measure
- Measure speed: 20 times/s
- High performance, low Price, high reliability
- Special apply to crystal with PPMFM
- PPM measure F, preset able
- Channel A has LP filter and $\times 20$ attenuator function
- 10 LED display (8 data, 2 exponent)



SP10B

Technical Data	SP10B / SP100B
Function	Measure frequency, period, totalize, self-calibrate, PPM
Frequency range	1Hz ~ 10MHz (SP10B) 1Hz ~100MHz (SP100B)
Period range	100ns ~ 1s (SP10B) 10ns ~1s (SP100B)
Totalize capacity	$10^8 - 1$
Sensitivity	40mVrms (1Hz ~10Hz) 20mVrms (10Hz - 10MHz/ 100MHz)
Input impedance	$1M\Omega / 40pF$
Couple mode	AC
Measure error	\pm Time Base accuracy \pm Trigger error \times Measured frequency (or Period) \pm digits
Time base stability	$\pm 5 \times 10^{-6} / d$
Power source	110 ~ 127VAC $\pm 10\%$ /220 ~ 240VAC $\pm 10\%$, 50Hz ± 2 Hz/60Hz ± 2 Hz
Dimensions (W \times H \times D)	210 \times 80 \times 230mm
Weight	1.8kg

SP1500B / 2500B / 3000B 



SP1500B

Technical Data	SP1500B / 2500B /3000B
Function	Measure frequency, period, totalize self-calibrate
Frequency range	1Hz ~ 1.5GHz(SP1500B), 1Hz~2.5GHz (SP2500B), 1Hz~3GHz(SP3000B)
Period range	10ns ~ 1s
Totalize capability	$10^8 - 1$
Sensitivity	40mVrms (1Hz ~10Hz) 20mVrms (10Hz ~ 100MHz) 30mVrms (100MHz ~ 3GHz)
Input impedance	$1M\Omega / 40pF$ (ChannelA) 50Ω (Channel B)
Input voltage	20mVrms ~ 250Vp-p (ChannelA) 30mVrms ~ 1Vrms (Channel B)
Couple mode	AC
Measure error	\pm Time base accuracy \pm Trigger error \times Measured frequency (or Period) \pm LSD
Time base stability	$\pm 5 \times 10^{-6} / d$
Power source	110 ~ 127VAC $\pm 10\%$ /220 ~ 240VAC $\pm 10\%$, 50Hz ± 2 Hz/60Hz ± 2 Hz
Dimensions (W \times H \times D)	210 \times 80 \times 230mm
Weight	1.8kg

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

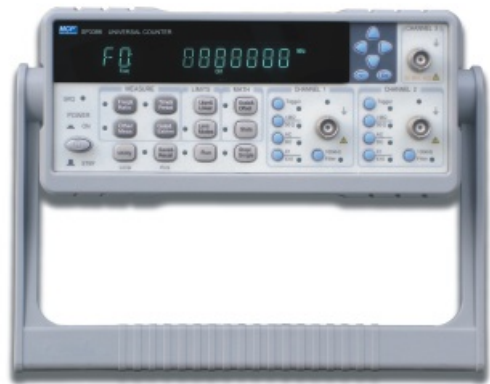
ACCESSORY

MULTI-FUNCTION COUNTER

SP3386 

Features

- .High performance 150MHz clock, frequency resolution 9 digits/s, time interval resolution 7ns
- .Apply high performance AVR CPU, LSI and CPLD device, high reliability
- .Channel C: 9GHz maximum
- .Automatic limit testing for frequency measurement
- .Math testing for frequency measurement
- .Statistics (include mean, maximum, minimum, delta, rel, PPM, stand deviance, allan variance) for frequency measurement
- .Save and store 9 different measurement state setups
- .RS232C and Centronics printer interface



SP3386

Technical Data	SP3386
Function	Measure frequency, time interval (average), period, frequency ratio, totalize, PW (average), duty cycle (average), phase (average), self-calibrate and etc.
Measure frequency range	0.14MHz~150MHz(Channel A& Channel B)
Extend frequency	100MHz~1.5GHz(Channel B for SP3386V)
Channel C	100MHz~500MHz(SP3386 I) 100MHz~1.5GHz(SP3386 II) 100MHz~2.5GHz(SP3386 III) 100MHz~3GHz (SP3386 IV) 1.5GHz ~ 9GHz (SP3386 V)
Input voltage	30mVrms ~ 1.5Vrms(100MHz below) 50mVrms ~ 1.5Vrms(100MHz ~ 1.5GHz) 30mVrms ~ 1Vrms (1.5GHz ~ 9GHz)
Period range	7ns ~ 7000s
Time interval range	20ns ~ 7000s
Phase range	0 ~ 360°
PW range	≥20ns,(cycle<100s)
Duty cycle range	1 ~ 99%,(cycle<100s)
Measure accuracy	±7 × 10 ⁻⁹ /Gate time (s)
Frequency resolution	9 digits/Gate time (s)
Couple mode	Channel A, B: AC / DC Channel C: AC
Input impedance	1MΩ / 45pF or 50Ω
Totalize capacity	0 ~ 1 × 10 ¹²
Time base stability	≤ ±1 × 10 ⁻⁸ /d
Power supply	110 ~ 127VAC±10%/220 ~ 240VAC±10%, 50Hz±2Hz/60Hz±2Hz
Dimensions (W×H×D)	255 × 100 × 370mm
Weight	2 kg

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

MICROWAVE FREQUENCY COUNTER

SP3382 SERIES



Features

- .Measure frequency up to 26.5GHz
- .Dynamic and wide measure range
- .High accuracy and high performance
- .Advanced design, compact and plastic die-casting
- .Reliability MTBF>8000h
- .3.5" QVGA color LCD and soft keys
- .Automatic and manual frequency measurement
- .USB interface and GPIB optional



SP3382

Technical Data		SP3382 I/II/III/IV	
CH A			
1M Ω impedance			
Measure frequency range		10Hz~80MHz	
Resolution		1Hz, 10Hz, 100Hz, 1kHz, 10kHz, selectable and 9 digits/s	
Input sensitivity		25mVram (-20dBm)	
Max. input level		1Vrms (+13dBm)	
Damage level		3Vram(+23dBm)	
50 Ω impedance			
Measure frequency range		60MHz~3GHz	
Resolution		1Hz, 10Hz, 100Hz, 1kHz, 10kHz	
Input sensitivity		25mVram (-20dBm) \leq 3GHz	
		40mVram (-15dBm) >3GHz	
Max. input level		1Vrms (+13dBm)	
Damage level		3Vram(+23dBm)	
CH B			
Measure frequency range		2GHz~9GHz	SP3382 I
		2GHz~12.4GHz	SP3382 II
		2GHz~20GHz	SP3382 III
		2GHz~26.5GHz	SP3382 IV
Input sensitivity		\leq -25dBm	2GHz~12.4GHz
		\leq -20dBm	2GHz~20GHz
		\leq -15dBm	2GHz~26.5GHz
Max. input level		+7dBm	
Damage level		+20dBm	
Input SWR		\leq 3	
Time base		10MHz	
Frequency stability		1×10^{-8} /day	
Power supply		110~127 VAC \pm 10%, 220~240VAC \pm 10% 50Hz \pm 2Hz, 60Hz \pm 2Hz	
Dimensions(W \times H \times D)		255 \times 170 \times 370mm	
Weight		3kg	

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

PROGRAMMABLE DC ELECTRONIC LOAD

ELD13710/ELD13711 SERIES



Features

- .Over-voltage, over-current, over-power, over-heat and reverse connection of polarities protection
- .LCD backlight, digital keyboard and knob
- .High resolution
- .8 groups setting memory with 32 steps each
- .Data logging keyboard when power breaks
- .Remote controlled by computer
- .Parallel using independent unit
- .Battery capacity testing



ELD 13710

Technical Data	ELD13710	ELD13711
Working mode	CC, CV, CR, CW	
Input voltage	0~360VDC	
Input current	0~30A	
Input power	0~150VA	0~300VA
Voltage Accuracy	0.00~35.99V, $\pm(0.2\%+30mV)$ 36.0~300.0V, $\pm(0.2\%+300mV)$	
Current Accuracy	0.000~2.999A, $\pm(0.2\%+3mA)$ 3.00~30.00A, $\pm(0.2\%+30mA)$	
Resolution	10mV, 1mA	
Lowest conductive resistance	<0.08 Ω	
Ripple	<10mVp-p	
Program memory	8 groups, 32 steps each group	
Battery testing	0.01mAH~4000AH	
Interface	RS232, RS485, USB(option)	
Protection	Over-voltage, over-current, over-power, over-heat and reverse connection of polarities protection	
Software	Electronic load software, VB, VC++, DELPHI, LABVIEW	
Standard accessories	User's manual, AC cable, handle bars, software CD	
Option accessories	RS232 adapter, RS485 adapter, USB adapter, Mounting rack	
Power source	115V/230VAC $\pm 15\%$, 47~63Hz	
Dimensions(W × H × D)	225×105×340mm	
Weight	5kg	

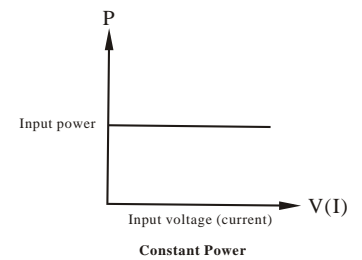
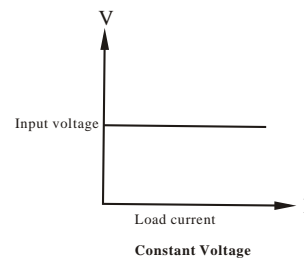
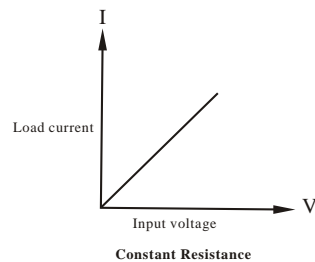
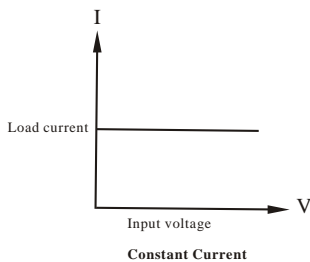
POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY



DISTORTION METER

DTM4120/DTM4121 SERIES



Features

- .Auto range and distortion measurement
- .Build in extremely low distortion oscillator (DTM4120)
- .100%~0.01% Distortion range
- .10Hz~109kHz (imbalance) Frequency range
- .400Hz, 1kHz, 10kHz 3spot frequency



DTM4120

Technical Data		DTM4120/DTM4121	
Distortion measurement	Distortion range	20Hz~20kHz:	100%~0.01%
		10kHz~109kHz:	100%~0.03%
	Accuracy	300Hz~5kHz:	±7% full scale
		20Hz~20kHz:	±10% full scale
		10Hz~109kHz:	±15% full scale
Residual distortion	300Hz~5kHz:	0.015%	
	20Hz~20kHz:	0.025%	
	10Hz~109kHz:	0.035%	
Input level	50mV~100V(DTM4120)		
	50mV~300V(DTM4121)		
Voltage range	300 μ V~300V (DTM4120 needs an attenuator for > 100V)		
	Accuracy ±5% full scale		
AC voltage measurement	Residual noise	≤0.5dB	
		5Hz~300kHz:	≤1dB
		20Hz~20kHz:	≤0.5dB
	at 300V:	10Hz~100kHz:	≤1dB
		Frequency range	5Hz~300kHz
Residual noise	50 μ V		
Max. S/N	120dB		
Input impedance	100kΩ//100pF		
Oscillator (DTM4120)	Distortion	300Hz~5kHz	0.005%
		20Hz~20kHz	0.015%
		10Hz~109kHz	0.07%
Output voltage	3Vrms (1MΩ load)		
Output impedance	600Ω		
Power supply	110~127VAC±10%/220~240VAC±10%, 50Hz±2Hz/60Hz±2Hz		
Dimension (W×H×D)	350×120×340mm		
Weight	5kg		

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

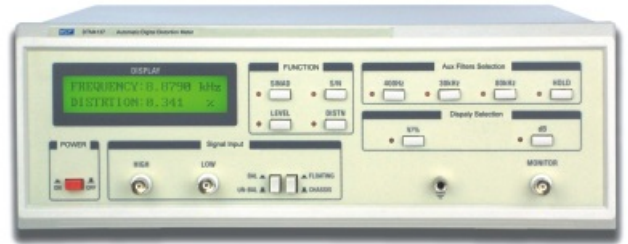
DISTORTION METER

DTM4137 SERIES



Features

- .Auto range and LED display
- .100%~0.005% Distortion range
- .10Hz~150kHz (imbalance), 10Hz~100kHz (balance)
- .Frequency range
- .400Hz, 1kHz, 10kHz 3spot frequency
- .Measurement function: distortion, S/N, SINAD, voltage_(RMS), frequency



DTM4137

Technical Data		DTM4137	
	Fundamental frequency range	Imbalance:	10Hz~150kHz
		Balance:	10Hz~100kHz
	Input level	50mV~300V	
Distortion measurement	Distortion range	300mV~300V, 10Hz~110kHz:	100%~0.01%
		300mV~300V, 110kHz~150kHz:	100%~0.03%
		50mV~300mV, 10Hz~150kHz:	100%~0.03%
		20Hz~20kHz:	±0.5dB
Accuracy	Accuracy	10kHz~150kHz:	±1dB
		Distortion less than 0.03%:	±2dB
		Input impedance	100kΩ//100pF
Remains distortion and noise (input level ≥1Vrms)	Remains distortion and noise (input level ≥1Vrms)	20Hz~20kHz:	≤0.0058%
		20kHz~50kHz:	≤0.0088%
		50kHz~110kHz:	≤0.0098%
		110kHz~150kHz:	≤0.013%
Display accuracy (%)	Display accuracy (%)	10%~100%:	0.01%
		1%~9.99%:	0.001%
		≤1%:	0.0001%
	Display accuracy (dB)	0.01dB	
AC voltage measurement	Voltage range	300 μV~300V	
	Frequency range	10Hz~750kHz (imbalance), 10Hz~300kHz (balance)	
S/N measurement	S/N measurement range	0~99.99dB	
	Frequency range	10Hz~750kHz	
SINAD measurement	SINAD measurement range	0dB~80dB	
	Frequency range	10Hz~150kHz (imbalance), 10Hz~100kHz (balance)	
Power supply	110~127VAC±10%/220~240VAC±10%, 50Hz±2Hz/60Hz±2Hz		
Dimension (W×H×D)	350×120×340mm		
Weight	5kg		

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

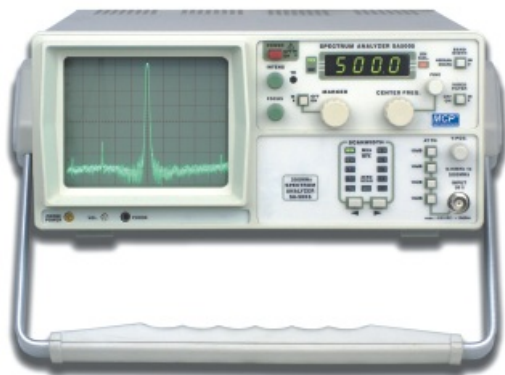
SPECTRUM ANALYZER

SA5005/SA5006T/SA5010/SA5011T



Feature

- Frequency range: **0.15 ~ 500MHz (SA5005/SA5006T)**
0.15~1050MHz (SA5010/SA5011T)
- Amplitude range: -100~+13dBm
- Tracking generator (SA5006T/SA5011T)
- Output level range: -50~+1dBm (in 10dB steps and var.)



SA5005



SA5010

Technical data	SA5005/SA5006T/SA5010/SA5011T
Frequency range	0.15 ~ 500MHz (SA5005/SA5006T) 0.15 ~1050MHz (SA5010/SA5011T)
Center frequency display accuracy	±100kHz
Marker accuracy	(0.1% span +100kHz)
Resolution of frequency display	100kHz (4.5 digit LED)
Frequency scanwidth accuracy	±10%
Frequency stability	better than 150 kHz/ hour
IF bandwidth (-3dB)	400 kHz and 20 kHz
Video-filter (ON)	4 kHz
Sweep rate	43Hz
Amplitude range	-100dBm to +13 dBm
Screen display range	80 dB (10dB/div.)
Reference level	-27dBm to +13 dBm (in 10dB steps)
Reference level accuracy	±2dB
Average noise level	-90dBm (20 kHz bandwidth)
Distortion	< -55 dBc of 2nd and 3rd harmonic
Third order intermod	-70dBc (two signals > 3MHz apart)
Sensitivity	<5dB above average noise level
Log scale fidelity	±2dB (without attn.) 500MHz
Input attenuator	0 to 40dB (4×10dB steps)
Input attenuator accuracy	±1dB/10dB
Max. input level	+10dBm, ±25V DC (0dB attn.) +20dBm (40dB attn.)
Frequency scanwidth	100kHz/div. to 100MHz/div., in 1-2-5 steps and 0Hz/div.(Zero Scan)
Dimensions (W × H × D)	380 × 125 × 285mm
Weight	Approx. 7kg

Tracking Generator (SA5006T/SA5011T):

Output Frequency	0.15MHz to 1050MHz
Output attenuator accuracy	±20dB
Output attenuator	0 to 40dB (4×10dB steps)
Frequency response	±1.5dB
Output impedance	50 Ω (BNC)
Radio Frequency Interference(RFI)	<20dBc
Output level range	-50dBm to +1dBm (in 10dB steps and var.)
Options	SA-RTB-1 reflection test bridge

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

SPECTRUM ANALYZER

SA6010/SA6011T SERIES



Features

- .Frequency range: 0.15~1050MHz
- .Amplitude range: -100~+13dBm
- .Tracking generator (SA6011T)
- .Output level range: -50~+1dBm (in 10dB steps and var.)



Technical Data	SA6010/SA6011T
Frequency range	0.15~1050MHz
CF adjust range	0~1050MHz
Resolution of frequency display	10kHz
RBW	400kHz and 20kHz
Video filter bandwidth	4kHz
Average noise level	-90dBm (20kHz bandwidth)
Amplitude range	-100dBm to +13dBm
Sweep rate	40Hz
Reference level	-27dBm to +13dBm
Frequency generator	TCXO DDS
Input attenuator accuracy	±2dB/10dB
Signal input connector	N type
Stability	±10ppm/year
Aging	±2ppm/year
Accuracy	±10kHz
Display	CRT 8×10Div
Third order intermod	-90dBc (two signals>3MHz apart)
Scan width	100kHz/div~100MHz/div, 1-2-5 steps and 0 step
Log scale fidelity	±2dB (CF: 500MHz 10dBm attn zero scan RBW: 400kHz) 500Hz
Power supply	110~127VAC±10%/220~240VAC±10%, 50Hz±2Hz/60Hz±2Hz
Dimensions(W×H×D)	285×125×380mm
Weigh	12kg (SA 6010), 12kg (SA6011T)

Tracking generator (SA6011T)	
Output frequency	0.15~1050MHz
Output attenuator accuracy	±2dB
Output attenuator	0~40dB (4×10dB steps)
Output impedance	50Ω (BNC)
Radio frequency interference (RFI)	<20dB
Output level range	-50dBm to +1dBm (in 10dB steps and var.)
Options	SA-RTB-1 reflection bridge

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

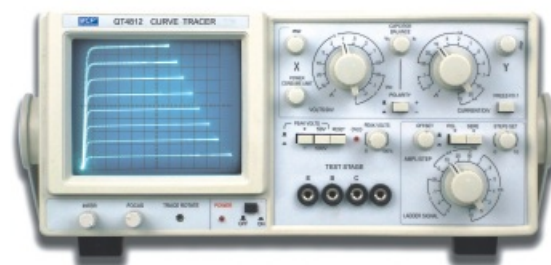
ACCESSORY

TRANSISTOR CURVE TRACER

QT4812A

Features

- .Display all kinds of curves character semiconductor
- .Static parameter measurement
- .Ultimate parameter measure without damaging components



QT4812A

Technical data		QT4812A
Deflection coefficient of vertical axis	Scope of collector current	10 μ A/div~0.2A/div (mag. \times 10), 14 steps, error \pm 5%
	Scope drain per current of diode	5 μ A/div~10mA/div, 11steps, error \pm 5%
	Base voltage	0.05V~0.5V, 4steps, error \pm 5%
Deflection coefficient of horizontal axis	Scope of collector voltage	0.05V/div~50V/div, 10 steps, error \pm 5%
	Scope drain voltage of diode	0.05V~0.5V, 4steps, error \pm 5%
	Base voltage	0.05V~0.5V, 4steps, error \pm 5%
Step signal	Stage number per cluster	0~10 class continuous to be adjustable
	Peak voltage	0~50V, 0~500V
Collector sweep supply	Max.current of sweep supply each grade	0~50V/2A 0~500V/500mA
	Dissipation resistance	0, 10k Ω , error \pm 10%
	Power consumption limiting resistance	about 0~100k Ω continuous to be adjustable
	Capacitive current	less than 5 μ A as 500V
Power source	220VAC \pm 10%, 50Hz \pm 2Hz	
Dimensions(W \times H \times D)	430 \times 320 \times 150mm	
Weight	9.5kg	

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

TRANSISTOR CURVE TRACER

QT4810 SERIES

Features

.Clear feature curves

- .Double cluster display circuit for multiple current amplification
- .Max. step potential source output is up to 2V/STAGE
- .Conjugation function for the parallel FET



QT4810A

Technical data	QT4810A	QT4810B	
Deflection coefficient of vertical axis	Scope of collector current(I_C)	20 μ A/DIV~1A/DIV, divided into 15 grades, error is not more than $\pm 3\%$	
	Reversal drain current of diode(I_R)	0.2 μ A/DIV~1A/DIV, divided into 6 grades	
		2 μ A/DIV~10 μ A/DIV, error is not more than $\pm 3\%$	
Deflection coefficient of horizontal axis	Base current or base voltage	0.2 μ A/DIV~1 μ A/DIV, error is not more than $\pm 10\%$	
	Scope of collector voltage	0.2 μ A/DIV, interfere ≤ 0.5 V/DIV	
	Scope of drain current voltage of diode	20mV/DIV, error $\leq \pm 3\%$, deflection multiplying factor $\times 0.5$, error $\leq \pm 10\%$	
	Scope of base voltage	0.05V/DIV~500V/DIV divided into 10 grades, error $\leq \pm 3\%$	
Step signal	Base current or base source voltage	100V/DIV~500V/DIV divided into 3 grades, error $\leq \pm 5\%$ (for matching 5kV test floor)	
	Scope of step current	0.05V/DIV~2V/DIV, divided into 6 grades, error $\leq \pm 3\%$	
	Scope of step voltage	0.1V/DIV, error $\leq \pm 3\%$	
	Stage number per cluster	1 μ A/STAGE~0.1A/STAGE, divided into 16 grades, error $\leq \pm 5\%$	
	Step zeroing	0.05V/STAGE~2V/STAGE, divided into 6 grades, error $\leq \pm 5\%$	
	Step number per second	4~10 stages continuously adjustable	
	Step polarity	Not less than ± 1 DIV	
Collector sweep supply	Step number per second	200(commercial frequency:50Hz)	
	Max. current or power of sweep supply each grade	Step polarity	Positive or negative
		0~5V grade:10A	0~0.04W
		0~20V grade:2.5A	0~0.4W
Dissipation resistance	0~100V grade:0.5A	0~4W	
	0~500V grade:0.1A	0~20W	
	0~500k Ω , divided into 11 ranges	2.5~100k Ω , divided into 6 ranges	
Power source	10 Ω ~500k Ω , error $\leq \pm 10\%$		
Dimensions(W×H×D)	0.5 Ω ~2.5 Ω , error $\leq \pm 20\%$		
Weight	220VAC $\pm 10\%$, 50Hz ± 2 Hz		
	240×330×480mm		
	13.5kg		

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

UNIVERSAL MEASURING CENTER

UMC4110



Features

.Four different unit in one casing

- .10MHz function generator
- .0~30V/0~3A power supply
- .1~2.7GHz frequency counter
- .11 functions digital multimeter



UMC4110

Function generator unit

Output waveforms	Sine, square, triangle, ramp, pulse, TTL and etc	
Output frequency	1Hz~10MHz in 7 ranges	
Output impedance	50Ω ±10%/600Ω ±10%	
VCF input voltage	0~10VDC	
Output attenuation	-20dB	
Output amplitude	200mVp-p~20Vp-p (1MΩ), 100mVp-p~10Vp-p (50Ω)	
DC offset	-10V~+10V	
Sine wave distortion factor	<0.5% (at 1kHz)	
Square wave rise or fall time	<25ns (5Vp-p, 1MHz)	<30ns (5Vp-p, 1MHz)
Symmetry	20%~80%	
Triangle wave	≤100kHz: <0.1%	
TTL output rise or fall time	<30ns (1kHz)	
TTL output level	>3V	
Sweep time	10ms~100s	
Sweep mode	Lin. /Log.	

Power supply unit

CH1

Output voltage	Fixed 5V
Output current	2A
Ripple & Noise	<2mVrms
Load regulation	0.1%±70mV
Line regulation	0.1%±30mV
Max. output current	2.2A

CH2

Output voltage	Fixed ±15V
Output current	1A
Ripple & Noise	<2mVrms
Load regulation	0.1%±50mV
Line regulation	0.1%±30mV
Max. output current	1.2A

CH3

Output voltage	0~30V
Output current	0~3A
Ripple & Noise	<1mVrms
Load regulation	0.1%±5mV
Line regulation	0.1%±5mV
Max. output current	3.3A

Display accuracy

Voltmeter: ±(1%+2digits)
Ampmeter: ±(2%+2digits)

Frequency counter unit

	CH-A	CH-B
Frequency range	1Hz~80MHz	80MHz~2.7GHz
Output sensitivity	40mVrms (sine wave) or 100mVp-p	40mVrms (sine wave) or 100mVp-p
Max. input voltage	35Vp-p	3Vp-p
Input impedance	1MΩ	50Ω
Display accuracy	0.1Hz (10s)	10Hz (10s)
	1Hz (1s)	100Hz (1s)
	10Hz (0.1s) (at 1kHz~80MHz)	1kHz (0.1s)

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

UNIVERSAL MEASURING CENTER

Digital multimeter unit	Range	Sensitivity	Accuracy
DC voltage	80mV	1 μ V	$\pm(0.3\%+10\text{digits})$
	800mV	10 μ V	
	8V	0.1mV	$\pm(0.05\%+10\text{digits})$
	80V	1mV	
	800V	10mV	$\pm(0.08\%+10\text{digits})$
	1000V	0.1V	
AC voltage (AC or AC+DC true rms)	80mV	1 μ V	$\pm(0.8\%+50\text{digits})(50\text{Hz}\sim 20\text{kHz})$ $\pm(6.0\%+50\text{digits})(20\text{kHz}\sim 50\text{kHz})$
	800mV	10 μ V	$\pm(0.8\%+50\text{digits})(50\text{Hz}\sim 20\text{kHz})$
	8V	0.1mV	$\pm(5\%+50\text{digits})(20\text{kHz}\sim 50\text{kHz})$
	80V	1mV	
	750V	10mV	$\pm(0.8\%+50\text{digits})(50\text{Hz}\sim 20\text{kHz})$
DC current	80mA	1 μ A	$\pm(0.2\%+10\text{digits})$
	800mA	10 μ A	
	8A	0.1mA	$\pm(0.8\%+10\text{digits})$
	20A	1mA	$\pm(1.5\%+10\text{digits})$
AC current	80mA	1 μ A	$\pm(0.8\%+20\text{digits})$
	800mA	10 μ A	
	8A	0.1mA	$\pm(1.5\%+20\text{digits})$
	20A	1mA	$\pm(2.0\%+20\text{digits})$
Resistance	800 Ω	0.01 Ω	$\pm(0.2\%+10\text{digits})$
	8k Ω	0.1 Ω	
	80k Ω	1 Ω	$\pm(0.2\%+5\text{digits})$
	800k Ω	10 Ω	
	8M Ω	100 Ω	$\pm(0.3\%+10\text{digits})$
			$\pm(1.5\%+10\text{digits})(0\sim 40\text{M}\Omega)$ $\pm(3.0\%+10\text{digits})(40\text{M}\Omega\sim 80\text{M}\Omega)$
	80M Ω	1k Ω	$\pm(5.0\%+50\text{digits})(0\sim 4000\text{M}\Omega)$ $\pm(10\%+50\text{digits})(4000\text{M}\Omega\sim 8000\text{M}\Omega)$
Frequency	999.99Hz	0.01Hz	
	9.9999kHz	0.1Hz	
	99.999kHz	1Hz	$\pm(0.05\%+5\text{digits})$
	999.99kHz	10Hz	
	8.0000MHz	100Hz	
	10.0MHz	1kHz	
	100.0MHz	10kHz	$\pm(0.1\%+5\text{digits})$
1000.0MHz	100kHz		
Capacitance	1nF	1pF	$\pm(5.0\%+50\text{digits})$
	10nF	10pF	
	100nF	100pF	
	1 μ F	1nF	$\pm(2.5\%+50\text{digits})$
	10 μ F	10nF	
	100 μ F	100nF	
Diode test	3.0000V	0.0001V	$\pm(3.0\%+5\text{digits})$
Square wave output	Amplitude	3V	
	Frequency	0.5Hz~5kHz	
	Symmetry	1%~99%	
dBm	-80.00dBm~+80.00dBm	0.01dBm	$\pm 1.0\%$
Temperature	-50 $^{\circ}$ C~1372 $^{\circ}$ C	0.1 $^{\circ}$ C	$<0^{\circ}\text{C}$ or 32°F : $\pm(10\%+5\text{digits})$
			$\geq 0^{\circ}\text{C}$ or 32°F & $\leq 1000^{\circ}\text{C}$ or 1832°F : $\pm(2.0\%+2\text{digits})$
	-58 $^{\circ}$ F~2502 $^{\circ}$ F	0.1 $^{\circ}$ F	$>1000^{\circ}\text{C}$ or 1832°F : $\pm(3.0\%+20\text{digits})$
Input impedance		1000M Ω (80mV~800mV), 10M Ω (8V~1000V)	
Voltage drop		$\leq 800\text{mV}$	
Overload protection		1000M Ω (80mV~800mV), 10M Ω (8V~1000V)	

Power supply: 110~127VAC $\pm 10\%$ /220~240VAC $\pm 10\%$, 50Hz $\pm 2\text{Hz}$ /60Hz $\pm 2\text{Hz}$
 Dimensions(W \times H \times D): 370 \times 165 \times 360(mm)
 Weight: 12.5kg

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

TRANSISTOR TESTER

TST294 

Features

- .Various semiconductor DC parameters transistor, diode, triac, FET
- .Capacitor withstand voltage
- .Varistor protection voltage
- .Electrical appliance insulation
- .78 & 79 series voltage regulator
- .Neon bulb and lamp starting voltage
- .AC voltage test



TST294

Parameter	Measuring range	Display	Resolution	Operating condition
$V_{(BR)}$ Breakdown voltage	1000V	0~1000	1V	Breakdown current less than 1mA
	200V	0~199.9	0.1V	
$V_{CE(sat)}$ Collector-emitter saturation voltage drop	2A(I_c)	0~6.00	0.01	I_c approx.2000mA I_b approx.200mA
	800mA(I_c)			I_c approx.800mA I_b approx.80mA
	100mA(I_c)			I_c approx.100mA I_b approx.10mA
	10mA(I_c)			I_c approx.10mA I_b approx.1mA
hFE DC current gain	10mA(I_b)	0~199.9	0.1	I_c approx.10mA
	1mA(I_b)	0~1999	1	I_b approx.1mA
	10uA(I_b)			I_b approx.0.01mA
I_{CEO} Reverse leakage current	2000 μ A	0~1999	1 μ A	Testing voltage approx.27V
78 & 79 voltage regulation	78XX/79XX	0~24.0	0.1V	
Power source	1.5V alkaline battery(AA)x4 or 6VDC/2A power supply			
Dimensions (W×H×D)	150×70×100mm			
Weight	670g			

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

DIGITAL EARTH TESTER & INSULATION RESISTANCE TESTER

DET4000 SERIES DIGITAL EARTH TESTER



Features

- .Conductor resistance measurement (DET4300)
- .Soil resistivity measurement (DET4300)
- .LCD background light
- .Data hold
- .Working LED indicator
- .Low battery warning
- .Function symbol display



DET4200



DET4300

Technical Data		DET4200	DET4300
Earth Resistance Test	Range	0~20Ω, 0~200Ω, 0~2000Ω	0~1500Ω
	Best Accuracy	±(5% Rdg+2digits)	±(2% Rdg+3digits)
Resolution		0.01Ω	
Earth Voltage Test	Range	0~30VAC(50/60Hz)	
	Best Accuracy	±(2% Rdg +5digits)	
Power Source		1.5V alkaline battery(AA)x8	1.5V alkaline battery(AA)x4
Dimensions (W×H×D)		190×75×155mm	
Weight		900g	
Accessories		one set standard earth test leads, one set simple earth test leads, one carry case	

DIT5000 SERIES DIGITAL INSULATION RESISTANCE TESTER



Features

- .Multi Test Voltage
- .Auto range (insulation only)
- .LCD background light
- .Data hold
- .Working LED indicator
- .Low battery warning
- .Function symbol display
- .AC Voltage Test



DIT5104



DIT5105

Technical Data		DIT5104	DIT5105
Test Voltage		250/500/1000/2500V	100/250/500/1000V
Insulation Resistance		0.1MΩ~20GΩ	
Accuracy		±(3% Rdg +5digits)	
Resolution		0.01M Ω	
AC Voltage Test	Range	600VAC	
	Accuracy	±(2% Rdg +5digits)	
Power Source		1.5V alkaline battery(AA)x8	
Dimensions (W×H×D)		190×75×155mm	
Weight		900g	
Accessories		one set standard insulation test leads, one carry case	

POWER SUPPLY

TEST INSTRUMENT

EDU. INSTRUMENT

METER

ACCESSORY

INSULATION & EARTH RESISTANCE METER

ZCB SERIES INSULATION RESISTANCE METER



Features
.High reliability



ZCB-4

Technical Data	ZCB-1	ZCB-2	ZCB-3	ZCB-4
Measuring range	0~100MΩ	0~250MΩ	0~500MΩ	0~1000MΩ
Accuracy		10%		
Scale length		65mm		
Measuring voltage range	100V	250V	500V	1000V
Dimensions(W×H×D)		205×120×145mm		
Weight		2kg		

ZCD SERIES INSULATION RESISTANCE METER



Features
.High reliability



ZCD-5

Technical Data	ZCD-5	ZCD-10
Measuring range	0~10000MΩ	0~2500MΩ
Accuracy	20%	
Scale length	80mm	
Measuring voltage range	2500V	2500V
Dimensions(W×H×D)	215×135×130mm	
Weight	2.5kg	

ZCE SERIES EARTH RESISTANCE METER



Features
.High reliability



ZCE-2

Technical Data	ZCE-1	ZCE-2
Measuring range	0~10Ω/0~100Ω/0~1000Ω	0~1Ω/0~10Ω/0~100Ω
Min. Division	0.1Ω/1Ω/10Ω	0.01Ω/0.1Ω/1Ω
Resistance of the Auxtest probes	1000/2000/5000	500/1000/2000
Accuracy	5%	
Dimensions(W×H×D)	170×116×135mm	
Weight	2.5kg	

