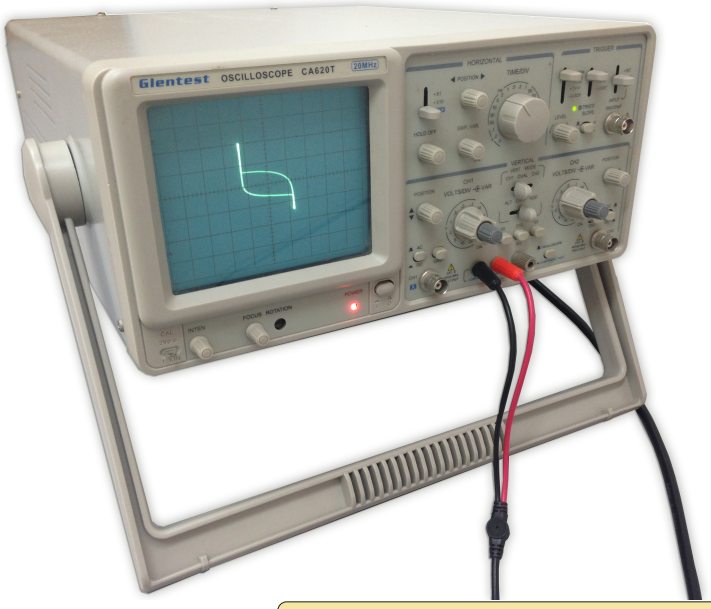
Glentest



COMPONENT TEST FUNCTION CA620T/CA630T
BUILT-IN DDS FUNCTION GENERATOR CA620FG/CA630FG

CA620FG

CA620/CA630(T/FG) SERIES DUAL CHANNEL OSCILLOSCOPE

Features:

- 20MHz/30MHz dual channel series
- High luminance, internal graticule CRT
- X10 sweep magnification
- ALT triggering function
- Electronic rotary encoder for sweep switch
- Trigger hold off adjusting (CA620T/CA630T only)
- Component test function(CA620T/CA630T only)
- Built-in DDS function generator (CA620FG/CA630FG only)
- TV synchronizing, X-Y mode operation
- Wide input level range up to 20V/DIV
- 1mV/DIV high sensitivity (X5 MAG)
- Triggering level lock function, automatic synchronizing function
- Z-Axis input
- CH1 output
- Ideal for educational purpose

Specifications

		CA620/CA620T/CA620FG	CA630/CA630T/CA630FG
CRT	Type	6" rectangle, internal graticule, 0%, 10% 90% and 100% marks	
	Display Area	8 x 10DIV (1DIV=10mm)	
	Accelerating Voltage	2kV	
	Intensity and Focusing	Continuously adjustable at front panel	
	Trace Rotation	Adjustable at front panel	
VERTICAL SYSTEM	Sensitivity and Accuracy	5mV/DIV ~ 20V/DIV +/-3% (X5MAG: 1mV/DIV~4V/DIV +/-5%), 12 calibrated steps in 1-2-5 sequence	
	Vernier Vertical Sensitivity	Continuously variable to 1/2.5 or less than panel indicate value	
	Band Width(-3dB)	DC ~ 20MHz	DC ~ 30MHz
	Rise Time	Approx. 17.5ns	
	Input Impedance	Approx. 1MOhm /25pF	Approx.12ns
	Vertical Operation Mode	CH1/ CH2 / DUAL (ALT/CHOP)/ ADD/ CH2 Inverse	
	Input Coupling	AC/GND/DC	
	Max. Input Voltage	400Vpeak at 1kHz or less	
HORIZONTAL SYSTEM	Sweep Time	0.2 µs - 0.5s/DIV 20 steps in 1-2-5 sequence	
	Sweep Accuracy	+/-3%, +/-5% at X10 MAG	
	Trimming Ratio	≤ 1/2.5 of panel indicated value	
	Sweep Magnification	X 10 MAG	
TRIGGER SYSTEM	Mode	AUTO/NORM/TV-V/TV-H	
	Trigger Level Lock	Yes	
	Source	CH1/CH2/VERT/EXT/LINE	
	Trigger Slope	"+" or "-"	
	Trigger Sensitivity	INT 5MHz ~ 10MHz: 1DIV / 10MHz ~ 20MHz: 1.5DIV	5MHz ~ 10MHz: 1DIV / 10MHz ~ 30MHz: 2DIV
		EXT 5MHz ~ 10MHz: 0.2V / 10MHz ~ 20MHz: 0.3V	5MHz ~ 10MHz: 0.2V / 10MHz ~ 30MHz: 0.4V
		TV SYNC pulse > 2DIV (EXT: 0.5V)	
	External Trigger Input	Input impedance: Approx. 1MOhm / 25pF	
		Max. input voltage: 400V (DC + ACpeak); AC frequency < 1kHz	
X-Y MODE OPERATION	Input	X-axis: CH1, Y-axis: CH2	
	Sensitivity	Same as vertical axis	
	Band Width(-3dB)	Axis X: DC ~ 500kHz	
	Phase Difference	≤ 3° from DC to 50kHz	
Z-AXIS INPUT	Sensitivity	5Vpp (Positive-going signal decreases intensity)	
	Frequency Bandwidth	DC ~ 2MHz	
	Input Resistance	Approx. 10kOhm	
	Max. Input Voltage	30V (DC+ACpeak, AC frequency ≤1kHz)	
OUTPUT SIGNAL	CH1 Output	At least 20mV/DIV into a 50 Ohm termination, 50Hz ~ 5MHz	
COMPONENT TEST		Only for CA620T/CA630T	
DDS SIGNAL OUTPUT (only for CA620FG/CA630FG)	Waveforms	Sine, square, triangle	
	Frequency Range	0.1Hz ~ 2MHz (7 ranges)	
	Output Voltage	≥ 20Vpp (open)	
	Output Impedance	50Ohm +/-10%	
	DC Offset	+/- 10V (open)	
	Sine Wave Distortion	< 0.2% (20Hz ~ 20kHz)	
	Square Wave Rise/Fall Time	< 50nS	
CALIBRATION	Signal	Positive going square wave at 1kHz (2Vpp +/-2.0%)	
	Duty Cycle	48:52	
	Output Impedance	Approx. 1kOhm	
POWER SOURCE		AC110V/220 +/-10%, 50/60Hz	

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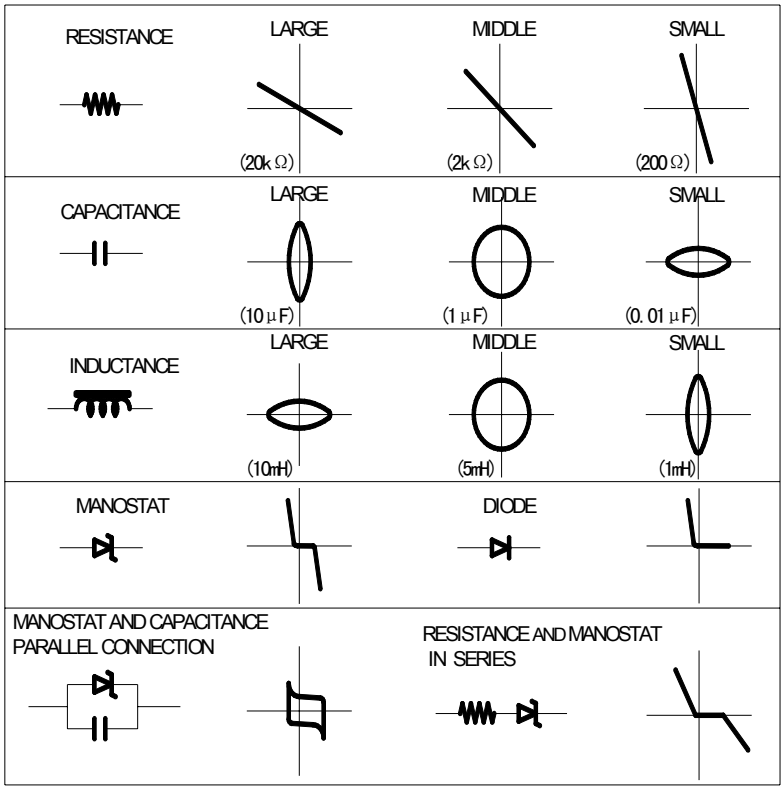

Fig. 4-10

5. Measurement

5.1 Checking & Adjusting before measuring

The following items should be rechecked to keep the correct measurement and high accuracy before measurement.

5.1.1 Trace Rotation

The horizontal trace displayed on the screen would be parallel with the horizontal scale in normal cases. But there would be a slight incline on the horizontal trace because of the earth magnetic field or some other factors. So, you should check and examine the machine as following before using:

(1) Preset the knobs on the panel to get a horizontal sweep line.

(2) Adjust the vertical position to keep the sweep baseline on the horizontal scale on the vertical center.

(3) Check whether the sweep baseline is parallel with the horizontal scale. If not, adjust the “Rotation” potentiometer on the front panel with a screw.

5.1.2 Probe Compensation

The probe compensation is used to compensate the error resulted from the feature difference input from the oscilloscope. The detailed procedures are listed as following:

(1) Set the knobs on the panel (shown as Table 3) to get a sweep baseline.