

## Analog Oscilloscopes

### ME 3020 / 3030 / 3060 - CRO 20 /30 / 60MHz Dual Channel

#### Features :

- DC ~20MHz(ME 3020), 30MHz(ME 3030/ME 3030F), 60MHz (ME 3060)
- Inbuilt 6 Digit seven segment display frequency counter (30MHz)Only in ME 3030F
- CH 1 increment amplification function for clear display (Only in ME 3060)
- Dual channel, X-Y mode
- 6" display cathode ray tube, sensitivity triggering up to 1mV/division
- TV synchronous separation circuit to observe stable TV signal
- Polarity reversal, CH 1 Sync output



#### Technical Specifications :

**CRT** : 6" Rectangular screen with internal graticule, 8 x 10 Div (1Div=1cm)

#### Vertical Deflection

- Vertical Operation Mode : CH1, CH2, ADD, ALT, CHOP (CH1, CH2)
- Sensitivity : 5mV/div to 5V/div  $\pm 3\%$ , 1mV/div to 1V/div  $\pm 5\%$  (x5), 10 steps
- Rise time :  $\leq 17.2$ ns
- Input impedance : 1Mohm
- Max. Input voltage : 250V (DC+AC peak value) at 1kHz (250V, DC+AC)
- Input coupling : AC, DC, GND
- Polarity selection :  $\pm$ (CH2 only)
- Display mode : 1, 10, X-Y

#### Horizontal Deflection

- Sweep time : 0.2micros/div to 0.2s/div
- Sweep expansion : x10
- Accuracy : 3%

#### Trigger System

- Triggering mode : Auto, NORM, TV-V, TV-H
- Trigger source : VERT, CH1, LINE, EXT
- Sensitivity auto : 20Hz~20MHz(VERT) (Model ME 3020)  
: 20Hz~30MHz(VERT) (Model ME 3030/ME 3030F)  
: 20Hz~60MHz(VERT) (Model ME 3060)
- Frequency norm : 0.5div INT, 0.5Vp-p EXT
- TV-H : At least 1div or 1Vp-p
- Input impedance : 1M ohm
- X-Y Phase Difference :  $\leq 3^\circ$  DC-50 $^\circ$ Hz
- Calibration waveform : Frequency: 1kHz 20%, Voltage: 0.5V 1%
- Power requirement : 220 VAC  $\pm 10\%$ , 50 Hz
- Weight : 8.0Kg Approx.
- Dimensions (mm) : 310 (L) x 370 (B) x 130 (H)

#### Standard Accessories :

- Power cable, Probe - 2Nos., Instruction manual

### ME 3020CT - CRO 20MHz Dual Channel with Component Tester

#### Features :

- DC ~20MHz(ME 3020CT)
- With component tester
- Dual channel/Dual tracing, X-Y mode
- 6" display cathode ray tube, sensitivity triggering up to 1mV/division
- TV synchronous separation circuit to observe stable TV signal
- Hold-Off function



#### Technical Specifications :

**CRT** : 6" Rectangular screen with internal graticule, 8 x 10 Div (1Div=1cm)

#### Vertical Deflection

- Vertical Operation Mode : CH1, CH2, ADD, ALT, CHOP, CH2 INV
- Sensitivity : 5mV/div to 20V/div  $\pm 3\%$ , 1mV/div to 4V/div  $\pm 5\%$  (x5), 12 steps
- Rise time :  $\leq 17.5$ ns  $\leq 50$ ns
- Input impedance : 1Mohm  $\pm 3\%$  / 25pF  $\pm 5$ pF
- Max. Input voltage : 400V (DC+AC p-p) at 1kHz
- Input coupling : AC, DC, GND

#### Horizontal Deflection

- Sweep time : 0.2micro s to 0.5s/div  $\pm 3\%$
- Sweep expansion : x10
- Max. Sweep time : 20ns/Div

#### Trigger System

- Triggering mode : Auto, NORM, TV-V, TV-H, Lever lock
- Trigger source : VERT, CH1, CH2, LINE, ALT
- Trigger coupling : AC
- Trigger slop : "+" or "-"
- Trigger sensitivity : 5Hz ~ 10MHz 10MHz ~ 20MHz  
CH1, CH2 - 1Div 1.5Div  
ALT - 2.0Div 3.0Div  
Ext - 200mV 300mV  
TV sync pulse >2Div or 0.5V (Ext)
- External Trigger : Input impedance - 1Mohm  $\pm 3\%$ , 25pF  $\pm 5$ pF  
Max. Input voltage - 400V(DC+AC peak) at 1kHz
- X-Y Phase Difference :  $\leq 3^\circ$  DC-50kHz
- Calibration waveform : 1kHz square wave, 2Vp-p  $\pm 2\%$
- Power requirement : 220 VAC  $\pm 10\%$ , 50 Hz
- Weight : 8.0Kg Approx.
- Dimensions (mm) : 310 (L) x 440 (B) x 145 (H)

#### Standard Accessories :

- Power cable, Probe - 2Nos., Instruction manual