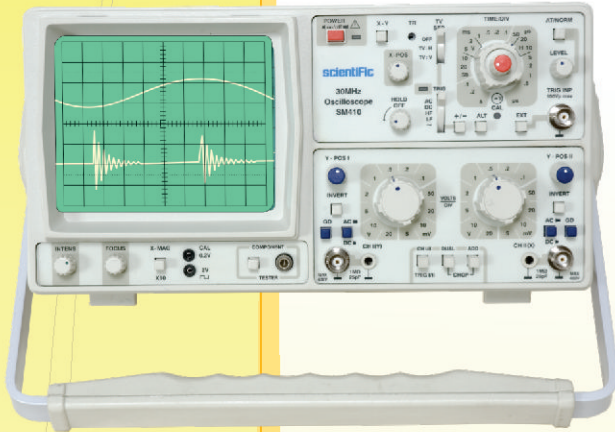
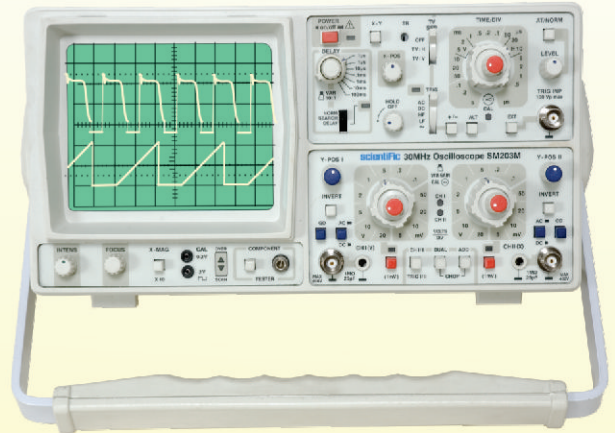


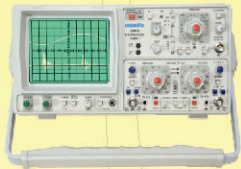
30 MHz Analog Oscilloscopes



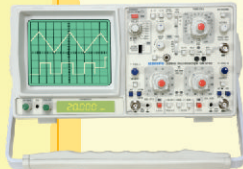
SM410



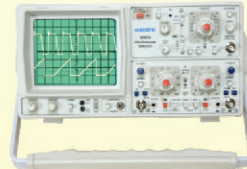
SM203M



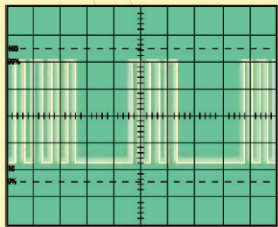
SM511



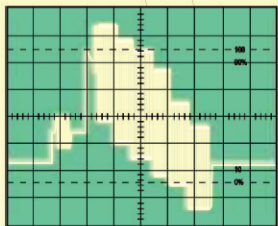
SM511C



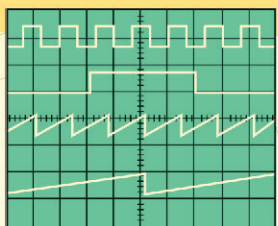
SM203G



Digital Word Triggering using Hold Off 1:10



Active Sync Separator for Video/ TV signals



View 4 Traces x1- x10 simultaneously SM511 & SM511C

Features at Glance

	SM410	SM203G	SM203M	SM511C	SM511
Channels	2	2	2	2 (4 Trace)	2 (4 Trace)
Sensitivity	5mV/cm	1mV/cm	1mV/cm	1mV/cm	1mV/cm
Y-Variables	-	1 : 2.5	1 : 2.5	1 : 2.5	1 : 2.5
Sweep Delay	-	-	✓	✓	-
Over Scan Indication	-	✓	✓	-	✓
Alternate Trigger	✓	✓	✓	✓	✓
Component Tester	✓	✓	✓	✓	✓
Active Sync TV Trigger	✓	✓	✓	✓	✓
Uncal LED Indication	✓	✓	✓	✓	✓
2-Level Cal Output	✓	✓	✓	✓	✓
Hold off 1:10 Trigger	✓	✓	✓	✓	✓
Digital Freq. Readout	-	-	-	✓	-



30 MHz Analog Oscilloscopes

Technical Specifications

Model	SM410	SM203G	SM203M	SM511C	SM511
Bandwidth	30 MHz				
Channels	2 Channels				
Operating Modes	CH I/CH II / CH I & CH II, Alt or Chop (freq 0.5 MHz approx.) Add or Sub \pm CH I \pm CH II (with invert switch for both channels, X-Y mode : Same sensitivity in both directions (CH I as Y, CH II as X) Dual Display : x 1-x 10 (4 trace in DUAL)				
Vertical Deflection (Y)	Both Channels				
Deflection Coefficients	5 mV to 20 V/div 12 calibrated steps in 1-2-5 seq	1 mV to 20 V/div 12 calibrated steps 5 mV/div to 20 V/div in 1-2-5 seq with variable to 2 mV/div			
Y-Mag	-	x 5 to 1 mV/div (DC-10 MHz)	x 5 to 1mV/div (DC-15 MHz)	x 5 to 1mV/div (DC-10 MHz)	
Accuracy	\pm 2%				
Bandwidth	DC-30 MHz (-3 dB) DC coupled, 10 Hz to 30 MHz (-3 dB) AC coupled				
Rise Time	< 11.6 ns (approx)				
Input Impedance	1 M Ω 25 pF				
Input Coupling	DC-AC-GND				
Input Voltage (max.)	400 V(DC + AC pk) (CAT II)		300 Vrms (CAT II)	400 V (DC+AC pk) (CAT II)	
Y Overscan Indication	-	with 2 LEDs	-	with 2 LEDs	
Time Base (T)					
Time Coefficients	18 calibrated steps in 1-2-5 seq 0.5 us/div to 0.2 s/div, with variable to 0.2 us/div, with x10 to 20 ns/div, LED indication when UNCAL				
Accuracy	\pm 2%				
Hold off Time	Variable control to approx. 1:10				
Sawtooth output	5 Vpp (approx)				
Sweep Delay	-	7 decade steps, 0.1 us to 100 ms with variable 10:1 control to 1 s		-	
Modes	-	Normal, Search, Delay (LED Indication)		-	
Trigger System					
	Modes: Auto or variable level with LED indication for stable triggering; Source: CH I, CH II, Alternate, Line, Ext Coupling: AC, DC, HF, LF; Slope: +ve or -ve; TV Sync: Active TV Sync Separator with TV-V & TV-H values marked on Timebase Sensitivity: Auto & Level : 0.5 div 20 Hz - 40 MHz ; 1 div 20 Hz - 50 MHz, Typically : 60 MHz at 1.5 div; Ext.: 0.5 V 20 Hz-40 MHz				
Horizontal Deflection (X)					
	Deflection Coefficient: Same as CH II; Bandwidth: DC-3 MHz (-3 dB) Input Impedance: 1 M Ω 25 pF (approx.); X-Y phase shift: < 3° upto 100 kHz				
Digital Freq. Readout	-	10 Hz to 40 MHz		-	
Display	-	5 digit 7 seg. LED		-	
Component Tester					
Test Parameters	Voltage: max. 8.5 Vrms (open circuit), Current: max 8 mArms (short circuit), Freq.: 50 Hz (line freq)				
Test Connections	2 banana jacks 4mm dia, One test lead is grounded				
Continuity Test	-	Continuous beep when < 100 Ω			
General Information					
Cathode Ray Tube	140 mm rect flat face with internal graticule and Mu metal shielding, Phosphor P31 Display: 8 x10 cm, Accelerating Voltage: 2 kV (approx), Trace Rotation on front panel Max. + 5V (TTL)				
Z-modulation	Square wave 0.2 V & 2 V \pm 1 %, 1 kHz for probe compensation				
Calibrator	220 - 240 V \pm 10%, 50 Hz, 40 VA (approx)				
Power	0 - 40° C, 90% RH				
Operating Conditions	W: 285, H: 145, D: 392 (mm), 8 kg (approx)				
Dimensions & Weight					
Accessories					
Standard	Manual : 1 no., Test Prods : 1 pair, BNC-BNC : 1 no., BNC - Test Lead : 1 no., Line Cord : 1 no.				
Optional	Switchable Probes : x1 - x10, Probes x100, 50 Ω Termination, Differential Probe, Carrying Case				

(Subject to change)

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