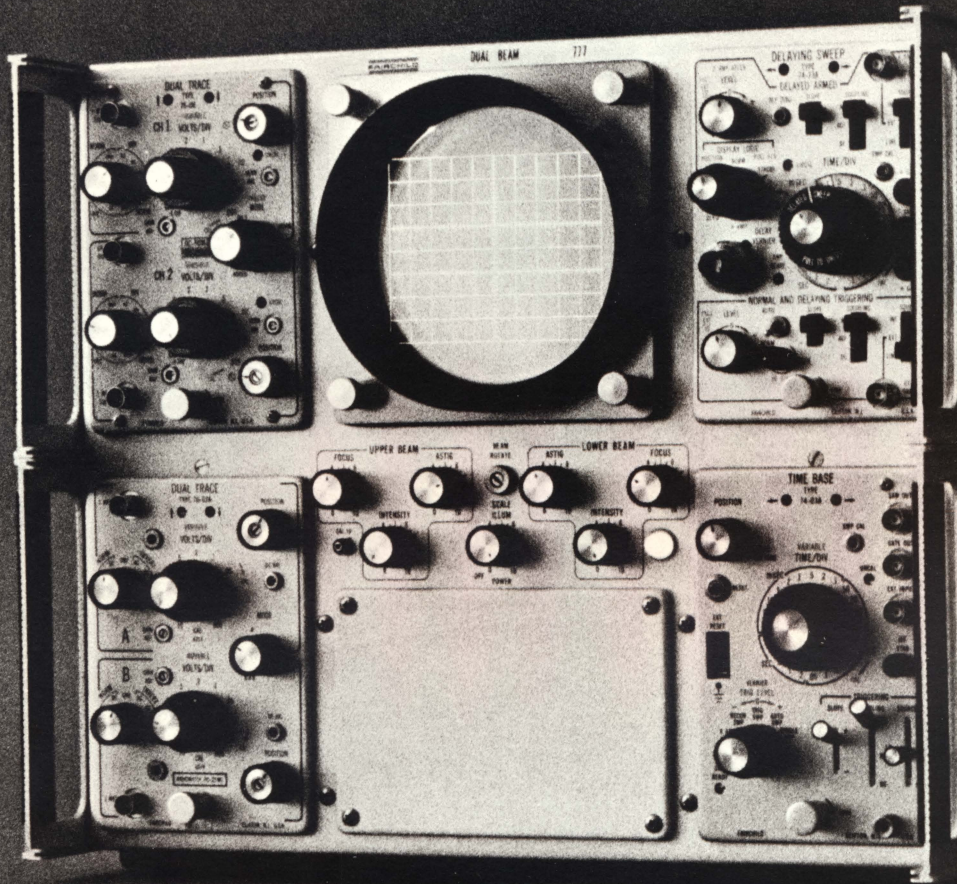


**FAIRCHILD INSTRUMENTATION**  
oscilloscope model 777







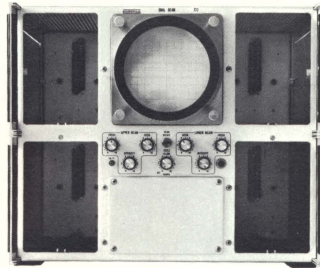
# 777 Scope

## Dual Beam High Frequency Oscilloscope —

Two independent beams, dual gun CRT,  
dc to 100MHz passband capabilities

## The 777 Main Frame

The 777 main frame contains a dual beam cathode ray tube and regulated power supplies. Four cavities on the frame accept a wide variety of plug-in modules providing an almost infinite number of capabilities.

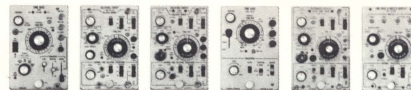


## Main Frame Specifications

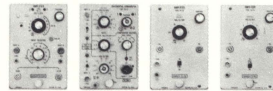
CRT	Dual gun; 13kv accelerating potential
Display Area	6 x 10cm for each beam with 4cm overlap between beams
Z Axis	Each gun can be independently blanked, 20 volts of signal is required to dim trace
Beam Intensifier	A switch provided for each beam enables switching from beam gate blanking to cathode gate blanking for high writing rate
Power Consumption	350 watts
Mounting	Rack mount ears are provided for rack mounting the frame
Weight	Net 44 pounds
Price	\$1,600.00

## The Plug-In Modules

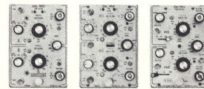
### Time Base Modules (Pages 4 & 5)



### Amplifier & Comparator Modules (Pages 6 & 7)



### Dual Trace Modules (Pages 8 & 9)



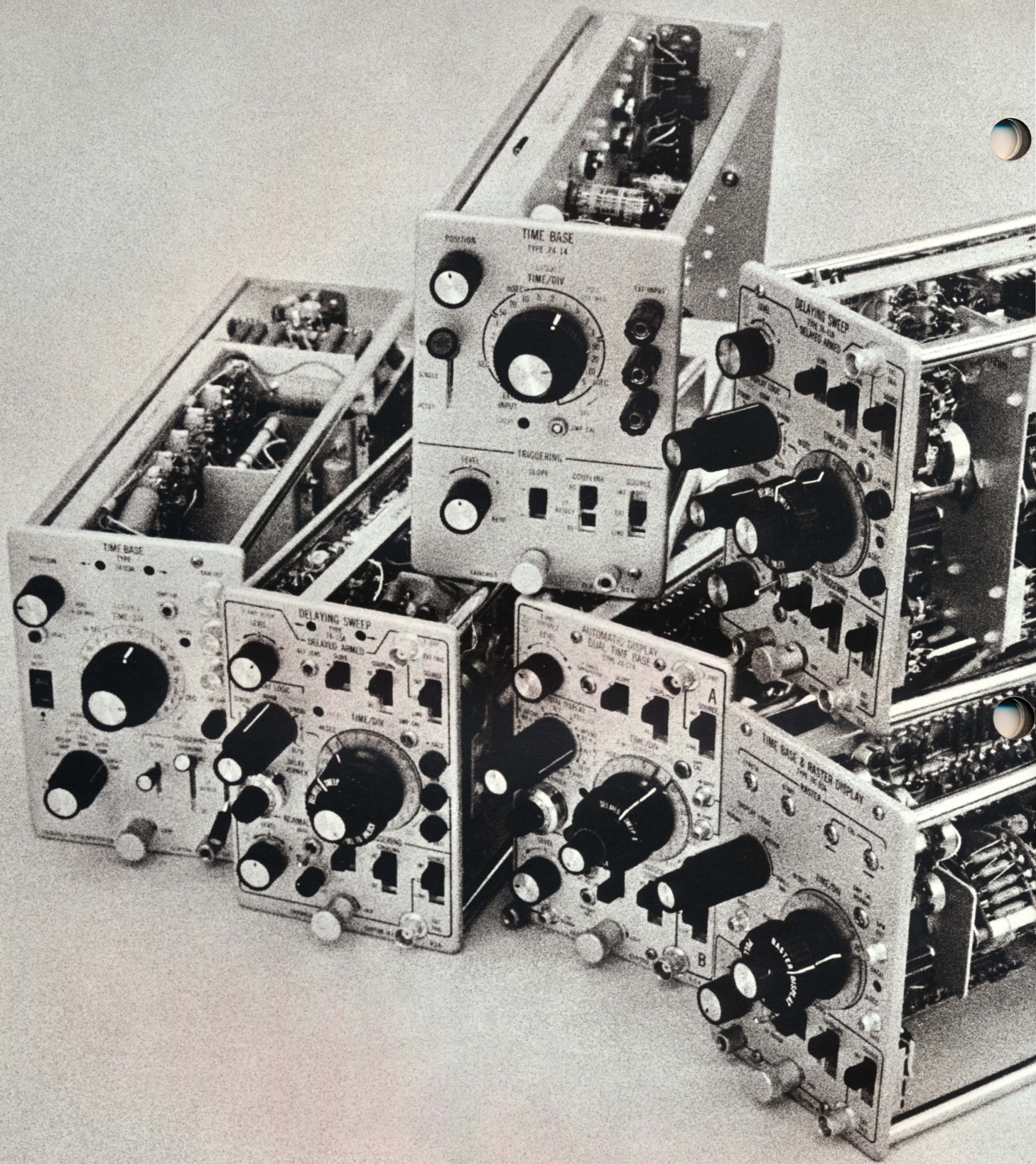
### Spectrum Analyzer Modules (Pages 10 & 11)



### 25MHz & 100MHz Modules 100MHz 4-Trace Module (Pages 12 & 13)









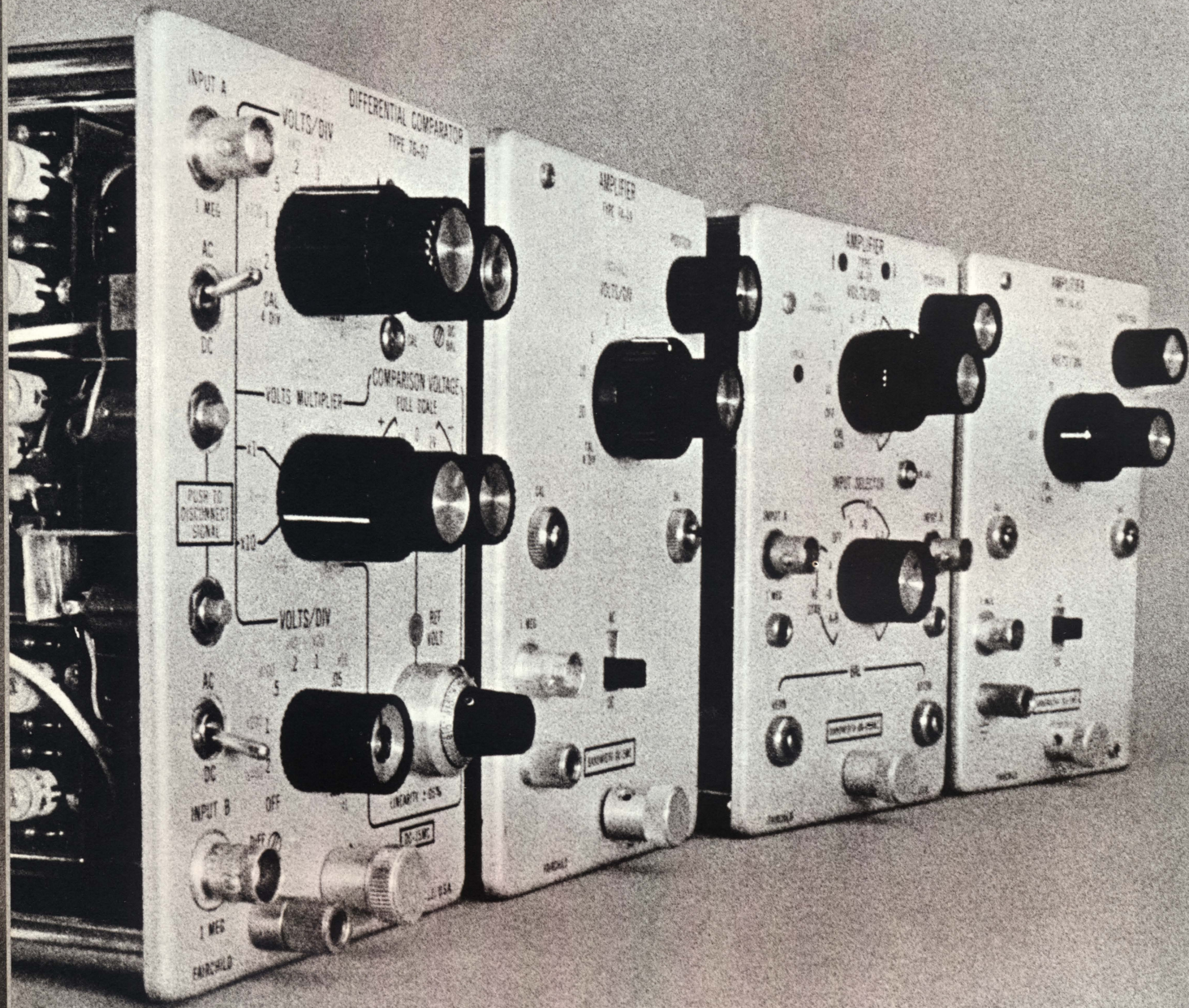
# Time Base Plug-In Modules

- 74-03A** Wide Range Time Base Generator — 5ns/cm, sensitive sync circuitry, 4MHz horizontal amplifier
- 74-11A** Dual Time Base Delaying Sweep — 10ns/cm, fast tunnel diode triggering, X10 expander
- 74-13A** Calibrated Delaying Sweep — 10ns/cm, precision delay interval, single shot operation
- 74-14** General Purpose Time Base Generator — 100ns/cm, single sweep capability
- 74-17A** Automatic Beam Switching and Delaying Sweep—2 independent sweeps, 5ns/cm sweep rate
- 74-20** Time Base and Raster Display Generator — Resolve up to one part in 5000

## Specifications

Features	74-03A	74-11A	74-13A	74-14	74-17A	74-20
<b>Calibrated Sweep Ranges</b>	2sec/cm to .05 $\mu$ sec/cm — 1, 2, 5 sequence in 24 steps	2sec/cm to .1 $\mu$ sec/cm — 1, 2, 5 sequence in 23 steps	2sec/cm to .1 $\mu$ sec/cm — 1, 2, 5 sequence in 23 steps	2sec/cm to 1 $\mu$ sec/cm — 1, 2, 5 sequence in 20 steps	2sec/cm to .05 $\mu$ sec/cm — 1, 2, 5 sequence in 24 steps	2sec/cm to .05 $\mu$ sec/cm — 1, 2, 5 sequence in 24 steps
<b>Sweep Expander</b>	X10 magnifier which makes fast sweep 5ns/cm	X10 magnifier which makes fast sweep 10ns/cm	X10 magnifier which extends to 10ns/cm	X10 magnifier which extends the fast sweep to 0.1 $\mu$ sec/cm	X10 magnifier which extends fast sweep to 5ns/cm	X10 magnifier which extends fast sweep to 5ns/cm
<b>Display Modes</b>	Xamp, recur swp., trig. swp., auto-swp., single swp.	5 modes, norm., dlyd. arm, dlyd. arm strobe, dlyd. trigger, dlyd. trig. strobe.	6 modes, norm., dlyd. arm, dlyd. arm strobe, dlyd. trigger, dlyd. trig. strobe, Xamp	3 modes norm. sweep, single sweep & Xamp	12 modes with display logic switch	4 modes single swp., norm. sweep, raster display, raster single swp.
<b>Trigger Sensitivity</b>	3mm p-p up to 1MHz	3mm p-p up to 100kHz ext. 250mV	3mm to 1MHz ext. 250mV 1MHz	5mm to 350kHz ext. 500mV to 350kHz	5mm to 10MHz ext. 500mV 10MHz	5mm to 10MHz ext. 500mV 10MHz
<b>Sweep Accuracy</b>	Within 3% with center 8cm	Within 3% with center 8cm	Within 3% with center 8cm	Within 3% with center 8cm	Always better than 3% norm. 1%	Within 3%
<b>Trigger Source</b>	Internal External Line freq.	Internal External Line freq.	Internal External Line freq.	Internal External Line freq.	Internal (on A External & B Sweep) Line freq.	Internal External Line freq.
<b>Single Sweep</b>	Can be re-armed by front panel reset button or ext. reset	Armed sweep can be used for single sweep	Armed sweep can be used for single sweep	Spring loaded reset provided	Single swp. with a reset button on front panel	Single swp. norm. single sweep raster
<b>Horizontal Amplifier</b>	4MHz with sens. of 100mV/div	No horiz. ampl. input	2.0MHz with sens. of 100mV/div	350kHz sens. with 1V and 10V/div	3MHz sens. 20mV/div	No horiz. ampl. input
<b>Beam Position Indicator Lights</b>	Yes	No beam posi. lights	Yes	No beam posi. lights	No beam posi. lights	No beam posi. lights
<b>Output on Front Panel</b>	Saw out, gate out	Dlyd. gate, norm. gate	Norm. gate out, norm. saw out, dlyd. gate out	No outputs on front panel	Normal gate out, normal saw out, dlyd. gate out	Gate out, saw out







# Amplifier & Comparator Plug-In Modules

- 74-12 High Gain Differential Amplifier — 850kHz bandwidth, 500 $\mu$ V sensitivity, 40db common mode rejection
- 76-07 Calibrated Differential Comparator — 15MHz bandwidth, 5mV sensitivity, 100 volts common mode operation
- 74-15 1MHz Amplifier — 20mV/div sensitivity to 20V/div in four calibrated steps
- 74-19 5MHz Amplifier — 50mV/div sensitivity to 20V/div in nine calibrated steps. Stability nominally less than 1mV drift per hour.

## Specifications

Features	74-12	76-07	74-15	74-19
Passband	850kHz	15MHz	1MHz	5MHz
Risetime	0.45 $\mu$ sec	23ns	0.35 $\mu$ sec	70ns
Sensitivity	1mV/div to 10V/div	5mV/div to 2V/div	20mV/div to 20V/div	50mV/div to 20V/div
Attenuator	1, 2, 5 sequence with 13 steps	1, 2, 5 sequence with 9 steps with 10:1 att. ext. 2V range to 20V/cm	4 decade steps	1, 2, 5 sequence with 9 calibrated steps
Input Impedance	1 meg shunted by 47pf	1 meg shunted by 47pf	1 meg shunted by 33pf	1 meg shunted by 40pf
Input Selector	AC, DC or AC stability for inputs +A, A-B & -B	A, A-VC, Test, VC-B, -B, A-B	AC or DC	AC or DC
Internal Calibrator	Cal Position on att. switch	Cal Position on att. switch	Cal Position on att. switch	Cal Position on att. switch
Variable Gain	Ext. Range to 25V/div	Ext. Range the basic range to 50V/div	Ext. Range to 200V/div	Ext. Range to 60V/div
Common Mode Rejection	Normally 120 to 1 on 1mV/div to 100mV/div	40,000 to 1 minimum		
Attenuator Accuracy	Within 2%	Within 2%	Within 2%	Within 2%
Delay Line	No	(Op.) (7001) 230ns	No	No
Price	\$169.50	\$695.00	\$105.00	\$175.00



## Dual Trace Plug-In Modules

- 76-02A** Dual Trace — dc — 25MHz passband sensitivity 5mV — 10V/div, 14.5ns risetime
- 76-08** Dual Trace — dc — 50MHz passband sensitivity 50mV — 20V/div, 7.5ns risetime
- 79-02A** Dual Trace — dc — 100MHz passband sensitivity 100mV — 20V/div, 3.5ns risetime

## Specifications

Features	76-02A	76-08	79-02A
Passband	dc — 25MHz	dc — 50MHz	dc — 100MHz
Risetime	14.5ns	7ns	3.5ns
Sensitivity	5mV — 10V/div	50mV — 20V	100mV — 20V 10mV — 2V in X10
Attenuator	11 steps @ 1, 2, 5 sequence	9 steps @ 1, 2, 5 sequence	8 steps @ 1, 2, 5 sequence
Attenuator Accuracy	2%	2%	2%
Input Selector	Norm/invert, ac/dc, gd	Norm/invert, ac/dc, gd	ac/dc or gd
Internal Calibrator	On attn. sw.	On attn. sw.	On attn. sw.
Input Impedance	1m $\Omega$ /40pf	1m $\Omega$ /23pf	1m $\Omega$ /14pf
Variable Gain Extends Range To	25V/div	50V/div	50V/div
Delay Line	Optional 230ns	230ns	230ns
Display Modes	A, B, Alt., Chop, A + B	1, 2, Alt., Chop, Added	1, 2, Alt., Chop, Added
Trace Position Indicators	Yes	Yes	No