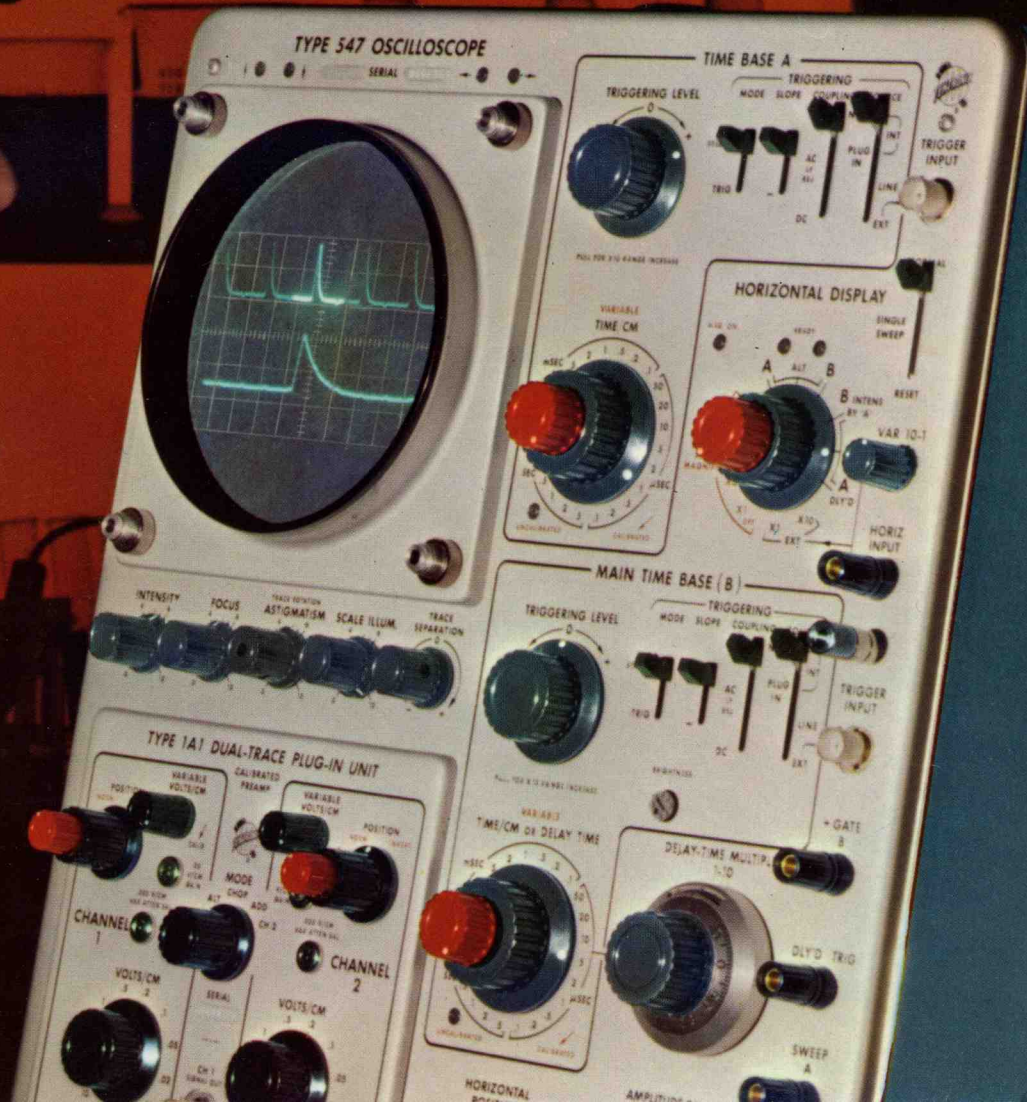


TEKTRONIX[®]

1964 ABRIDGED CATALOG



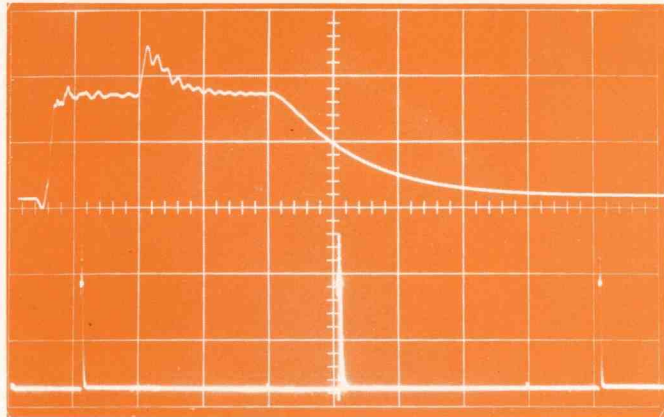
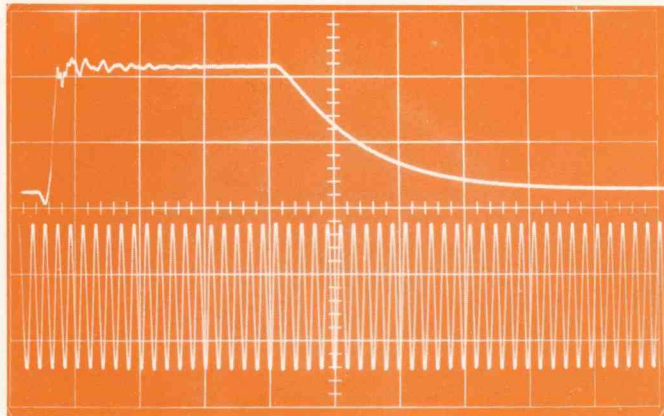
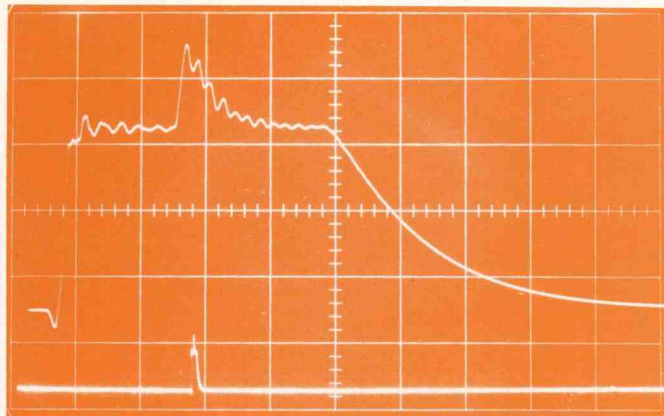
Type

547 DC-to-50MC



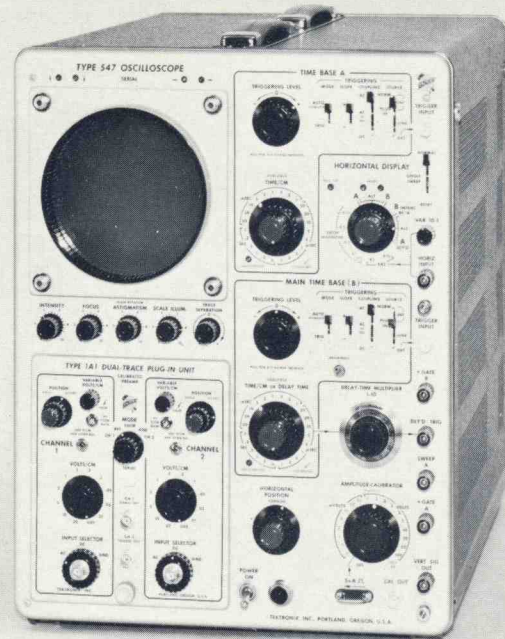
OSCILLOSCOPE

Featuring **AUTOMATIC DISPLAY SWITCHING**



Electronic switching between the 2 wide-range time bases in the Type 547 allows alternate presentation of the same signal at 2 different sweep rates. When a dual-trace plug-in unit is used, such as the new Type 1A1, Channel 1 can be locked to Time Base A and Channel 2 can be locked to Time Base B. In many applications this provides the equivalent of 2 oscilloscopes, at a considerable savings in price.

When the 2 time bases are used for delayed-sweep operation, an easy-to-use, continuously-variable and calibrated delay is available from 0.1 μ sec to 50 sec. Automatic Display Switching, used with the delayed sweep, allows an alternate presentation of a waveform brightened over a selected portion, and the selected portion expanded to fill 10 cm.



OTHER NEW FEATURES

- **DC-to-50 MC PASSBAND** — with new Type 1A1 Dual-Trace Unit, dc-to-28 Mc at 5 mv/cm • **USE WITH PRESENT LETTER-SERIES VERTICAL PLUG-INS** — passband same as Letter-Series Plug-Ins used with Type 545A Oscilloscope, see chart on pages 6-7 • **UNIFORM-FOCUS 6 x 10 CM DISPLAY** — no-parallax internal graticule, variable illumination, small spot size • **IDENTICAL TIME BASES** — 0.1 μ sec/cm to 5 sec/cm • **UP TO 10X SWEEP MAGNIFICATION** — extends calibrated sweep rate to 10 nsec/cm • **SINGLE-SWEEP OPERATION** — lockout-reset circuitry permits single-shot use of calibrated delay features • **TRIGGERING TO 50 MC** — independent controls for each time base, internal trigger can be picked off directly from Channel 1 of the Type 1A1, bright reference trace regardless of sweep rate

OTHER NEW DC-to-50 MC OSCILLOSCOPES

- **TYPE 546 OSCILLOSCOPE** — 2 time bases for calibrated sweep delay, all features of the Type 547 except Automatic Display Switching and associated circuitry •

- **TYPE 544 OSCILLOSCOPE** — same vertical characteristics as the Type 546 and 547, but 1 time base (0.1 μ sec/cm to 5 sec/cm) featuring 2, 5, 10, 20, 50 and 100X sweep magnification •

- **TYPE 1A1 DUAL-TRACE PLUG-IN UNIT** — chopped or alternate switching, algebraic addition, or separate operation • **5 MV/CM SENSITIVITY** — dc-to-50 Mc at 50 mv/cm to 20 v/cm, dc-to-28 Mc at 5 mv/cm (passbands with Type 544, 546, and 547) • **CHANNEL 1 AMPLIFIER** — front-panel 50- Ω output provides dc-to-35 Mc response; when cascaded into Channel 2 provides approximately 500 μ v/cm sensitivity at 2 cps to 15-Mc passband • **USE WITH OTHER SCOPES** — dc-to-33 Mc at 50 mv/cm to 20 v/cm, dc-to-23 Mc at 5 mv/cm (passbands with Type 541A, 543A, 545A, 555, 581A, and 585A) •

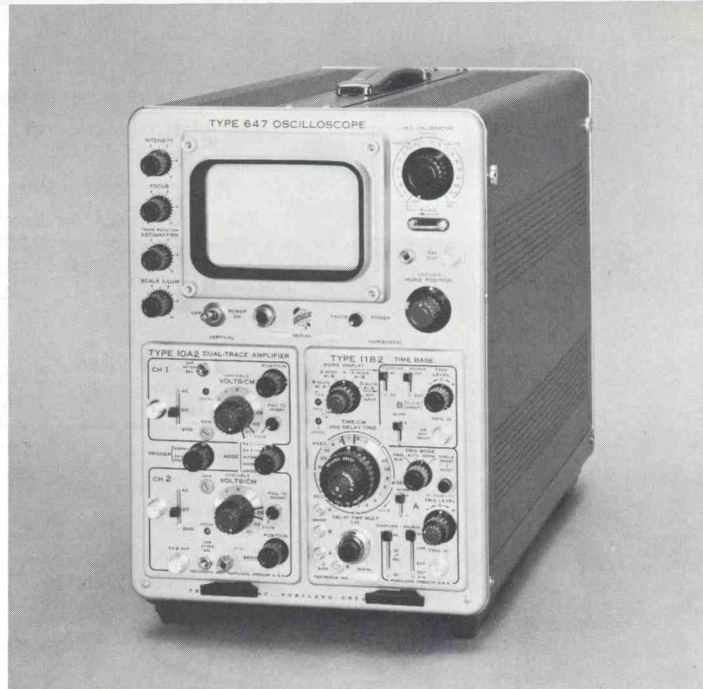
RACK-MOUNTING OSCILLOSCOPES

- **CONVENIENT MOUNTING** — chassis withdraws from cabinet on slide-out tracks, can be tilted and locked in any of 7 positions • **ADVANCED CIRCUITRY** — electrically identical to corresponding cabinet model • Price and delivery information available through your Tektronix Field Office.

Type 647 SOLID-STATE OSCILLOSCOPE

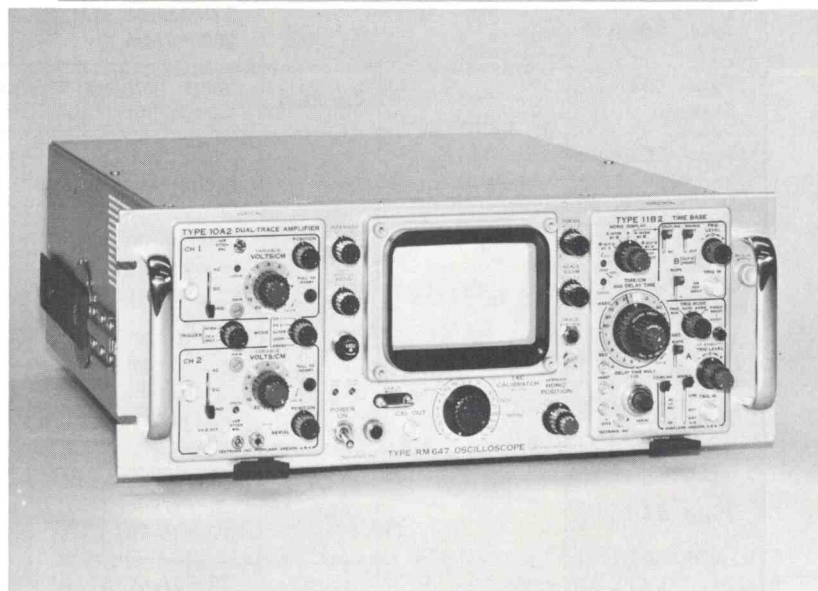


The Type 647 Oscilloscope, with plug-in amplifier and time-base units, is a rugged high-performance dc-to-50 Mc system built to withstand extreme operating and storage conditions. When used in more normal environments (0°C to +40°C), it provides an extra margin of accuracy and reliability over conventional laboratory oscilloscopes. Compact design (14½" high by 10" wide by 23" deep) and one-man portability (52 pounds with plug-ins) allow easy handling. Low power drain (only 185 watts at 117 volts), operation from 50 to 400-cycle line (100 to 130 volts or 200 to 260 volts), plus the environmental capabilities of the 647 make laboratory accuracy attainable in air-borne and other field environments.



TYPE RM647 SOLID-STATE OSCILLOSCOPE

The Type RM647 Oscilloscope provides the electrical and environmental capabilities of the Type 647 in only 7" of rack height. The instrument mounts on slide-out tracks to a standard 19" rack. Depth is 19". Power consumption is approximately 200 watts at 117 volts. The standard model operates from a 50 to 60-cycle line (100 to 130 volts or 200 to 260 volts). A modified version will be available for 400-cycle operation. Price and delivery information available through your Tektronix Field Office.



ENVIRONMENTAL CAPABILITIES

TEMPERATURE	Non-Operating: -55° C to +75° C. Operating: -30° C to +65° C.
VIBRATION	Non-Operating or Operating: 0.025" pk-pk, 10 to 55 to 10 cps in 1-min. sweeps (4G's) 15 min. each axis. 3-min. vibration at resonance or 55 cps (each axis).
ALTITUDE	Non-Operating: 50,000 ft. Operating: 15,000 ft up to 55° C.
SHOCK	Non-Operating: 20 G's, ½ sine, 11 msec duration. 2 shocks each direction along each of 3 major axes, total 12 shocks.
HUMIDITY	Non-Operating: Meets Mil-Std-202B, method 106A (except freezing and vibration) through 5 cycles (120 hours).
TRANSIT	Non-Operating: Meets NSTC test when factory packaged: Vibration for 1 hr at slightly greater than 1 G, 30" drops on corners, edges, and flat surfaces, 10 drops.

FEATURES

- **DUAL-TRACE OPERATION**—identical channels provide either chopped or alternate switching, algebraic addition, or separate operation
- **10 MV/CM SENSITIVITY**—accurate within ±2% from -30° C to +65° C
- **DC-to-50 MC PASSBAND**—less than 7-nsec risetime
- **2 TIME BASES**—0.1 μsec/cm to 5 sec/cm, ±2.5% accuracy from 0.1 μsec/cm to 50 msec/cm at -30° C to +65° C
- **10X SWEEP MAGNIFIER**—extends calibrated sweep rate to 10 nsec/cm
- **SINGLE-SWEEP OPERATION**—lockout-reset circuitry for one-shot recording
- **CALIBRATED SWEEP DELAY**—1 μsec to 50 sec, continuously variable
- **TRIGGERING TO 50 MC**—independent controls for each time base
- **BRIGHT 6 x 10 CM DISPLAY**—no-parallax internal graticule, variable illumination
- **CRYSTAL-CONTROLLED CALIBRATOR**—1-kc square wave, 0.2 mv to 100 v, plus 100 v dc, and 5-ma through loop (for current probe calibration)
- **CONVECTION COOLING**—no fan needed (cabinet model only)



This reference section is designed to give you a quick indication of major features and characteristics of Tektronix Oscilloscopes and companion instruments.

Pictures and other features follow this reference section on pages indicated. For additional information, contact your nearest Tektronix Field Office.

TEKTRONIX OSCILLOSCOPES
(According to Passband Capabilities)

Oscilloscope	Vertical [‡] Passband	Risetime	Calibrated Sensitivity	Vertical Signal Delay	Calibrated Sweep Delay	Calibrated Sweep Range	Magnifier Max. Calib. Sweep Rate	Accel. Potential		Page
Type 661 ^(A)	Equivalent to DC to 3500 MC	0.1 nsec	2 mv/cm to 200 mv/cm	No	through full time base	1 nsec/cm to 100 μ sec/cm	2, 5, 10, 20, 50, 100X 10 psec/cm	3 kv		17
Type 661 ^(B)	Equivalent to DC to 1000 MC	0.35 nsec	2 mv/cm to 200 mv/cm	Yes	through full time base	1 nsec/cm to 100 μ sec/cm	2, 5, 10, 20, 50, 100X 10 psec/cm	3 kv		17
Type 519	DC to 1000 MC	0.35 nsec	less than 10 v/cm	Yes	0 to 35 nsec	2 nsec/cm to 1 μ sec/cm	None	24 kv		14
*Type 561A ^(C)	Equivalent to DC to 875 MC	0.4 nsec	2 mv/cm to 200 mv/cm	Yes	through 100 nsec	0.2 nsec/cm to 10 μ sec/cm	10X 20 psec/cm	3.5 kv		16
*Type 564 ^(C) Storage		0.4 nsec	Same features as Type 561A (above) plus SPLIT-SCREEN STORAGE of signal information.							16
*Type 567 ^(C) Readout		0.4 nsec	Same features as Type 561A (above) plus DIGITAL READOUT of pulse risetime, pulse width, time differences (with Type 6R1 Digital Unit).							16
Type 581A ^(D)	DC to 85 Mc	4 nsec	100 mv/cm to 50 v/cm	Yes	None	50 nsec/cm to 2 sec/cm	5X 10 nsec/cm	10 kv		17
*Type 585A ^(D)		4 nsec	100 mv/cm to 50 v/cm	Yes	2 μ sec to 10 sec	50 nsec/cm to 2 sec/cm	5X 10 nsec/cm	10 kv		17
Type 517A High-Speed		7 nsec	>50 mv/cm at 24 kv	Yes	None	5 nsec/cm to 20 μ sec/cm	None	12 kv or 24 kv		14
*Type 544 ^(E)	DC to 50 MC	7 nsec	50 mv/cm to 20 v/cm	Yes	None	0.1 μ sec/cm to 5 sec/cm	2, 5, 10, 20, 50, 100X 10 nsec/cm	10 kv		2
*Type 546 ^(E)		7 nsec	50 mv/cm to 20 v/cm	Yes	0.1 μ sec to 50 sec	0.1 μ sec/cm to 5 sec/cm	2, 5, 10X 10 nsec/cm	10 kv		2
*Type 547 ^(E) Display-Switching		7 nsec	50 mv/cm to 20 v/cm	Yes	0.1 μ sec to 50 sec	0.1 μ sec/cm to 5 sec/cm	2, 5, 10X 10 nsec/cm	10 kv		2
*Type 647 ^(F) Environmentalized		7 nsec	10 mv/cm to 20 v/cm	Yes	1 μ sec to 50 sec	0.1 μ sec/cm to 5 sec/cm	10X 10 nsec/cm	14 kv		3
*Type 541A ^(G)	DC to 30 MC	12 nsec	50 mv/cm to 20 v/cm	Yes	None	0.1 μ sec/cm to 5 sec/cm	5X 20 nsec/cm	10 kv		15
*Type 543A ^(G)		12 nsec	50 mv/cm to 20 v/cm	Yes	None	0.1 μ sec/cm to 5 sec/cm	2, 5, 10, 20, 50, 100X 20 nsec/cm	10 kv		15
*Type 545A ^(G)		12 nsec	50 mv/cm to 20 v/cm	Yes	2 μ sec to 10 sec	0.1 μ sec/cm to 5 sec/cm	5X 20 nsec/cm	10 kv		15
Type 555 ^(H) Dual-Beam		12 nsec	50 mv/cm to 20 v/cm	Yes	0.1 μ sec to 50 sec	0.1 μ sec/cm to 5 sec/cm	5X 20 nsec/cm	10 kv		15

[‡] Frequency Specifications are at 3-db down.

* Rack-Mount models are available.

(A) When used with Types 4S2 and 5T1A Sampling Plug-In Units.

(B) When used with Types 4S1 and 5T1A Sampling Plug-In Units.

(C) When used with Types 3S76 and 3T77 Sampling Plug-In Units.

(D) When used with Type 82 or 86 Plug-In Units. 10 mv/cm at dc to 80 Mc.

(E) When used with Type 1A1 Plug-In Preamplifier. 5 mv/cm at dc to 28 Mc.

(F) When used with Type 10A2 Amplifier and Type 11B2 Time Base Unit.

(G) When used with Type L Plug-In Preamplifier.

(H) When used with Type L Plug-In Preamplifier. Type 551 and 555 Oscilloscopes are designed for 2 Plug-In Preamplifiers.

TEKTRONIX OSCILLOSCOPES
(According to Passband Capabilities)

Oscilloscope	Vertical ‡ Passband	Risetime	Calibrated Sensitivity	Vertical Signal Delay	Calibrated Sweep Delay	Calibrated Sweep Range	Magnifier Max. Calib. Sweep Rate	Accel. Potential		Page
Type 551 ① Dual-Beam	DC to 25 MC	14 nsec	50 mv/cm to 20 v/cm	Yes	None	0.1 μsec/cm to 5 sec/cm	5X 20 nsec/cm	10 kv		15
*Type 515A		23 nsec	50 mv/cm to 20 v/cm	Yes	None	0.2 μsec/cm to 2 sec/cm	5X 40 nsec/cm	4 kv		14
Type 516 Dual-Trace		23 nsec	50 mv/cm to 20 v/cm	Yes	None	0.2 μsec/cm to 2 sec/cm	5X 40 nsec/cm	4 kv		14
*Type 531A ②	DC to 15 MC	23 nsec	50 mv/cm to 20 v/cm	Yes	None	0.1 μsec/cm to 5 sec/cm	5X 20 nsec/cm	10 kv		15
*Type 533A ②		23 nsec	50 mv/cm to 20 v/cm	Yes	None	0.1 μsec/cm to 5 sec/cm	2, 5, 10, 20, 50, 100 X 20 nsec/cm	10 kv		15
*Type 535A ②		23 nsec	50 mv/cm to 20 v/cm	Yes	2 μsec to 10 sec	0.1 μsec/cm to 5 sec/cm	5X 20 nsec/cm	10 kv		15
Type 536 ① X-Y Curve Tracer	DC to 11 MC	31 nsec	50 mv/div to 20 v/div	No	None	0.2 μsec/div to 2 sec/div	5X 40 nsec/div	4 kv		15
*Type 317 Daylight 3" Portable		35 nsec	10 mv/div to 50 v/div	Yes	None	0.2 μsec/div to 2 sec/div	5X 40 nsec/div	9 kv		13
Type 561A ③		35 nsec	10 mv/cm to 10 v/cm	No	0.5 μsec to 10 sec	0.5 μsec/cm to 1 sec/cm	5X 0.1 μsec/cm	3.5 kv		16
*Type 564 ③ Storage	DC to 10 MC	Same features as Type 561A (above) plus SPLIT-SCREEN STORAGE of signal information.								16
*Type 565 ④ Dual-Beam		35 nsec	10 mv/cm to 10 v/cm	No	1 μsec to 50 sec	1 μsec/cm to 5 sec/cm	10X 0.1 μsec/cm	4 kv		16
Type 321 Transistorized 3" Portable	DC to 5 MC	70 nsec	10 mv/div to 20 v/div	No	None	0.5 μsec/div to 0.5 sec/div	5X 0.1 μsec/div	4 kv		13
Type 310A 3" Portable	DC to 4 MC	0.1 μsec 90 nsec	10 mv/div to 0.1 v/div 0.1 v/div to 50 v/div	No	None	0.5 μsec/div to 0.2 sec/div	5X 0.1 μsec/div	1.8 kv		13
*Type 503 Differential and X-Y	DC to 450 KC	0.75 μsec	1 mv/cm to 20 v/cm	No	None	1 μsec/cm to 5 sec/cm	2, 5, 10, 20, and 50X 0.1 μsec/cm	3 kv		13
*Type 504		0.75 μsec	5 mv/cm to 20 v/cm	No	None	1 μsec/cm to 0.5 sec/cm	None	3 kv		13
*Type 502A Dual-Beam and X-Y	DC to 50 KC increasing to DC to 1 MC		100 μv/cm to 20 v/cm	No	None	1 μsec/cm to 5 sec/cm	2, 5, 10, and 20X 1 μsec/cm	3 kv		13

‡ Frequency Specifications are at 3-db down.

* Rack-Mount models are available.

④ When used with Type L Plug-In Preamplifier.

① When used with Type L Plug-In Preamplifier. Type 551 and 555 Oscilloscopes are designed for 2 Plug-In Preamplifiers.

② When used with Type L Plug-In Preamplifier and Type T Plug-In Time Base.

③ When used with Type 3A1 Plug-In Amplifier and Type 3B3 Plug-In Time Base.

④ When used with Type 3A1 Plug-In Amplifier. Type 565 is designed for 2 Plug-In Amplifiers.

530 Series
540 Series
550 Series
580 Series

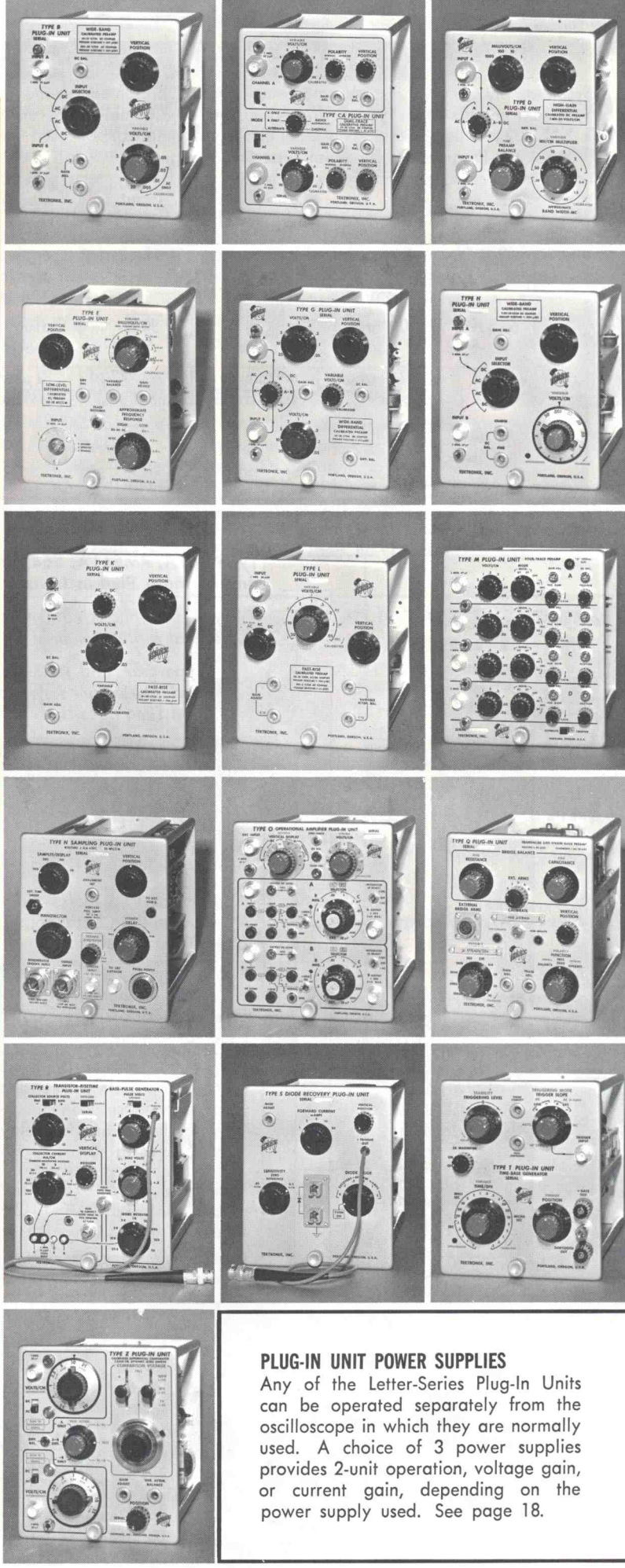
Oscilloscope Characteristics with Letter Series Plug-in Units

OSCILLOSCOPE FEATURES	* Type 531A General Purpose	* Type 533A General Purpose	* Type 535A Sweep Delay	Type 536 X-Y Curve Tracer	* Type 541A Fast-Rise	* Type 543A Fast-Rise
SIGNAL DELAY	Yes			No		
CALIBRATED SWEEP RANGE	0.1 μ sec/cm to 5 sec/cm			See Type T Time-Base Generator		
SWEEP MAGNIFIER	5X	2, 5, 10, 20, 50, 100X	5X		5X	2, 5, 10, 20 50, 100X
SWEEP DELAY	None		2 μ sec to 10 sec	None	None	
ACCELERATING POTENTIAL	10 kv			4 kv		
PAGE NUMBER	15	15	15	15	15	15

PLUG-IN UNIT TYPE	CALIBRATED SENSITIVITY	RISETIME AND PASSBAND OF OSCILLOSCOPE AND PLUG-IN UNIT			
B Wide-Band High-Gain Unit	5 mv/cm to 20 mv/cm	35 nsec 2 cps to 10 Mc	40 nsec 2 cps to 9 Mc	30 nsec 2 cps to 12 Mc	
	50 mv/cm to 20 v/cm	25 nsec dc to 14 Mc	35 nsec dc to 10 Mc	18 nsec dc to 20 Mc	
C-A Dual-Trace DC Unit	50 mv/cm to 20 v/cm	23 nsec dc to 15 Mc	35 nsec dc to 10 Mc	15 nsec dc to 24 Mc	
D High-Gain DC Differential	1 mv/cm to 50 v/cm	0.18 μ sec dc to 300 kc, increasing to 2 Mc			
E Low-Level AC Differential	50 μ v/cm to 10 mv/cm	6 μ sec 0.06 cps to 20 kc, increasing to 60 kc			
G Wide-Band DC Differential	50 mv/cm to 20 v/cm	25 nsec dc to 14 Mc	35 nsec dc to 10 Mc	18 nsec dc to 20 Mc	
H Wide-Band High-Gain DC Unit	5 mv/cm to 20 v/cm	31 nsec dc to 11 Mc	37 nsec dc to 9.5 Mc	23 nsec dc to 15 Mc	
K Fast-Rise DC Unit	50 mv/cm to 20 v/cm	23 nsec dc to 15 Mc	31 nsec dc to 11 Mc	12 nsec dc to 30 Mc	
L Fast-Rise High-Gain Unit	5 mv/cm to 2 v/cm	23 nsec 3 cps to 15 Mc	35 nsec 3 cps to 10 Mc	15 nsec 3 cps to 24 Mc	
	50 mv/cm to 20 v/cm	23 nsec dc to 15 Mc	31 nsec dc to 11 Mc	12 nsec dc to 30 Mc	
M Four-Trace Unit	20 mv/cm to 10 v/cm	25 nsec dc to 14 Mc	35 nsec dc to 10 Mc	17 nsec dc to 20 Mc	
N Sampling Unit	10 mv/cm	0.6 nsec risetime (corresponding to 600 Mc), apparent sweep time to 1 nsec/cm (100 psec/cm with 10X magnifier), samples per display of 50, 100, 200, or 500. No signal delay, requires external trigger in advance of signal.			
O Operational Amplifier Unit	50 mv/cm to 20 v/cm	25 nsec dc to 14 Mc	35 nsec dc to 10 Mc	14 nsec dc to 25 Mc	
		Performs precise operations of integration, differentiation, function generation, and linear or nonlinear amplification.			
Q Strain Gage Unit	10 μ strain/div to 10,000 μ strain/div	60 μ sec risetime, dc to 6 kc. Measures force, displacement, acceleration, strain . . . any mechanical quantity that can be converted to a change in resistance, capacitance, or inductance.			
R Transistor Risetime Unit	0.5 ma/cm to 100 ma/cm	Supplies 5-nsec risetime pulse, 400-ma collector supply, 100-ma bias supply, risetime and passband same as with K Unit.			
S Semiconductor Diode-Recovery Unit	50 mv/cm and 0.5 v/cm	1 to 20 ma forward current, 0 to 2 ma reverse current, risetime and passband same as with K Unit.			
T Time-Base Generator Unit		Generates 22 calibrated sweep rates from 0.2 μ sec/div to 2 sec/div plus 5X magnifier. Triggering facilities include Manual, Automatic, H. F. Sync and Line, either ac or dc coupled.			
Z Differential-Comparator Unit	50 mv/cm to 25 v/cm	35 nsec dc to 10 Mc	40 nsec dc to 9 Mc		
		Vertical "magnification" up to 500 times. Calibrated continuously variable (0 to \pm 100 v) dc comparison voltages. \pm 2000 cm effective scale length. 0.005% maximum resolution. 40,000 to 1 common-mode rejection ratio.			

* Rack-Mount Models are available.

* Type 545A Sweep Delay	Type 551 Dual-Beam	Type 555 Dual-Beam	† Type 581A Fast-Rise	† * Type 585A Sweep Delay
Yes				
0.1 μ sec/cm to 5 sec/cm			50 nsec/cm to 2 sec/cm	
5X				
2 μ sec to 10 sec	None	0.1 μ sec to 50 sec	None	2 μ sec to 10 sec
10 kv				
15	15	15	17	17
RISETIME AND PASSBAND OF OSCILLOSCOPE AND PLUG-IN UNIT				
30 nsec 2 cps to 12 Mc		30 nsec 2 cps to 12 Mc		
20 nsec dc to 18 Mc		18 nsec dc to 20 Mc		
16 nsec dc to 22 Mc		15 nsec dc to 24 Mc		
0.18 μ sec dc to 300 kc, increasing to 2 Mc				
6 μ sec 0.06 cps to 20 kc, increasing to 60 kc				
20 nsec dc to 18 Mc		18 nsec dc to 20 Mc		
25 nsec dc to 14 Mc		23 nsec dc to 15 Mc		
14 nsec dc to 25 Mc		12 nsec dc to 30 Mc		
16 nsec 3 cps to 22 Mc		15 nsec 3 cps to 24 Mc		
14 nsec dc to 25 Mc		12 nsec dc to 30 Mc		
18 nsec dc to 19 Mc		17 nsec dc to 20 Mc		
0.6 nsec risetime (corresponding to 600 Mc), apparent sweep time to 1 nsec/cm (100 psec/cm with 10X magnifier), samples per display of 50, 100, 200, or 500. No signal delay, requires external trigger in advance of signal.				
16 nsec dc to 22 Mc		14 nsec dc to 25 Mc		
Performs precise operations of integration, differentiation, function generation, and linear or nonlinear amplification.				
60 μ sec risetime, dc to 6 kc. Measures force, displacement, acceleration, strain... any mechanical quantity that can be converted to a change in resistance, capacitance, or inductance.				
Supplies 5-nsec risetime pulse, 400-ma collector supply, 100-ma bias supply, risetime and passband same as with K Unit.				
1 to 20 ma forward current, 0 to 2 ma reverse current, risetime and passband same as with K Unit.				
Generates 22 calibrated sweep rates from 0.2 μ sec/div to 2 sec/div plus 5X magnifier. Triggering facilities include Manual, Automatic, H. F. Sync and Line, either ac or dc coupled.				
27 nsec dc to 13 Mc				
Vertical "magnification" up to 500 times. Calibrated continuously variable (0 to ± 100 v) dc comparison voltages. ± 2000 cm effective scale length. 0.005% maximum resolution. 40,000 to 1 common-mode rejection ratio.				
† Uses Letter-Series Plug-In Units with Type 81 Adapter.				



PLUG-IN UNIT POWER SUPPLIES
 Any of the Letter-Series Plug-In Units can be operated separately from the oscilloscope in which they are normally used. A choice of 3 power supplies provides 2-unit operation, voltage gain, or current gain, depending on the power supply used. See page 18.

DIGITAL READOUT SYSTEMS

Digital plus analog displays are simultaneously presented on the Type 567 Oscilloscope and Type 6R1 Digital Unit. A Digital Readout System consists of a Type 567/6R1 and any of 3 combinations of vertical and horizontal Plug-In Units: Type 3S3/3T77, 3S76/3T77, or 3A2/3B2. Other 2-Series and 3-Series Plug-In Units can be used for normal crt display, but do not provide digital readout. See the Type 262 Programmer for these systems on page 16.

X & Y Plug-Ins	Risetime	Calibrated Sensitivity	Input Impedance	Calibrated Sweep Range	Sweep Delay	Digital Resolution	Trigger
3S3/3T77	0.35 nsec	5 mv/cm to 100 mv/cm	100 k, 2 pf	equiv. 0.2 nsec/cm to 10 μ sec/cm	Through approx. 100 nsec	10 or 100 per cm	External
3S76/3T77	0.4 nsec	2 mv/cm to 200 mv/cm	50 Ω	plus 10X magnifier			
3A2/3B2	0.7 μ sec	10 mv/cm to 10 v/cm	1 Meg, 47 pf	2 μ sec/cm to 1 sec/cm	5 μ sec to 10.5 sec	1 μ sec to 10 msec clock rate in decades	Internal or External

Type 561A, RM561A, 564, and RM564 Oscilloscopes use any of these Plug-In Units.

Type 565 and RM565 Oscilloscopes use Plug-In Units for vertical deflection only.

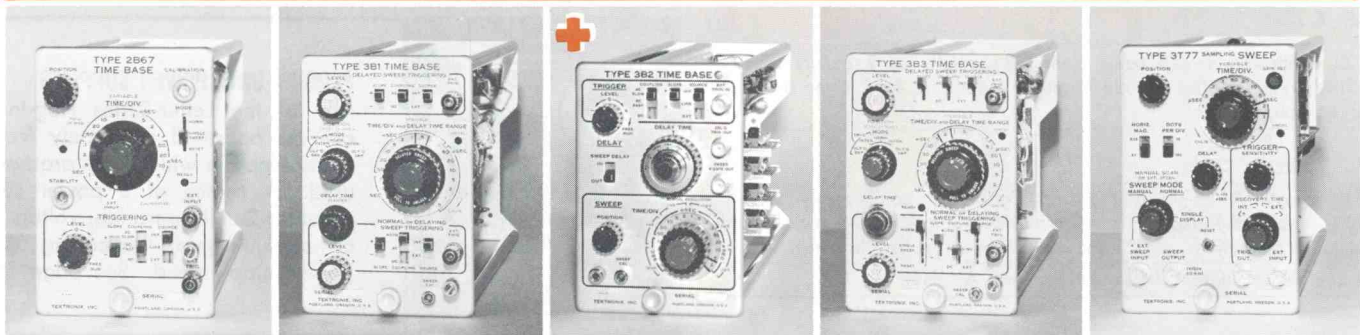
Type 567 and RM567 Readout Oscilloscopes use Digital and these units for digital readout. Other Amplifier and Time Base Units can be used without digital readout.



TIME-BASE UNITS FOR 560-SERIES OSCILLOSCOPES

Plug-In Type	Sweep Rate *	Magnifier	Triggering
2B67 Single Sweep	1 μ sec/cm to 5 sec/cm, 1-2-5 sequence.	5X	Internal, External, Line; amplitude-level selection; ac or dc-coupled; automatic or free run; \pm slope.
3B1 Sweep Delay	0.5 μ sec/cm to 1 sec/cm, 1-2-5 sequence (for both normal and delayed sweeps).	5X	Internal, External; amplitude-level selection; ac or dc-coupled; automatic (normal sweep only) or free-run; \pm slope.
3B2 Calibrated Sweep Delay	2 μ sec/cm to 1 sec/cm, 1-2-5 sequence. Continuously variable calibrated delay from 5 μ sec to 10.5 sec.	No	Internal, External, Line; Amplitude-level selection; ac or dc coupled; \pm slope.
3B3 Calibrated Sweep Delay Single Sweep	0.5 μ sec/cm to 1 sec/cm, 1-2-5 sequence (for both normal and delayed sweeps). Continuously variable calibrated delay from 0.5 μ sec to 10 sec.	5X	Internal, External; amplitude-level selection, ac or dc coupled, \pm slope. Normal sweep has in addition: automatic and line plus single sweep.
3T77 Sampling Sweep (use with 3S3 or 3S76)	Equivalent sweep rates 0.2 nsec/cm to 10 μ sec/cm, 1-2-5 sequence.	10X	Internal or External, \pm slope.

* Variable between steps, uncalibrated.



Type 561A, RM561A, 564, and RM564 Oscilloscopes use any of these Plug-In Units.

Type 565 and RM565 Oscilloscopes use Plug-In Units for vertical deflection only.

Type 567 and RM567 Readout Oscilloscopes use Digital and these units for digital readout. Other Amplifier and Time Base Units can be used without digital readout.



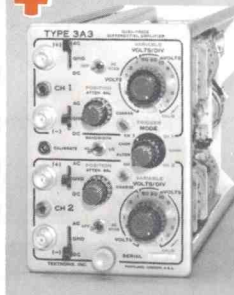
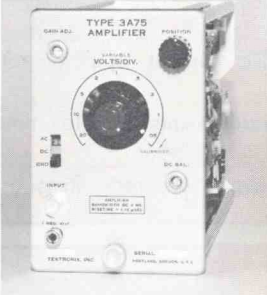
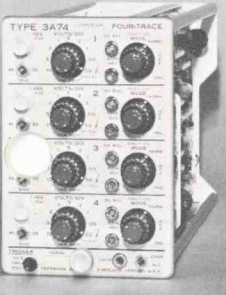
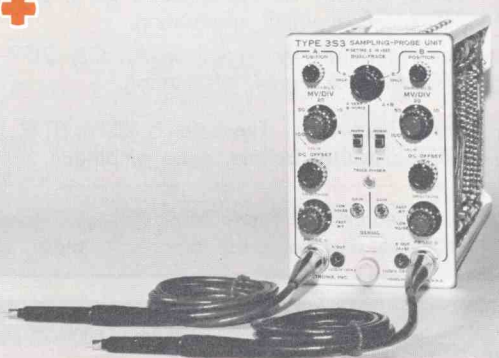
AMPLIFIER UNITS FOR 560-SERIES OSCILLOSCOPES

Plug-In Type	Passband (3-db down)	Calibrated Sensitivity *	Input (ac or dc coupled)
2A60	dc — 1 Mc.	50 mv/cm—50 v/cm in 4 steps.	1 megohm shunted by 47 pf, 600 volts max.
2A61 Low-Level Differential	0.06 cps—300 kc	10 μ v/cm—20 mv/cm, 1-2-5 sequence.	10 meg—50 pf; \pm 5 v (ac-coupled only)
2A63 Differential 50:1 rejection ratio	dc — 300 kc.	1 mv/cm—20 v/cm, 1-2-5 sequence.	
3A1 Dual-Trace (Identical Channels)	dc — 10 Mc.	10 mv/cm—20 v/cm, 1-2-5 sequence.	
3A2 Dual-Trace (Identical Channels)	dc—500 kc	10 mv/cm—10 v/cm, 1-2-5 sequence.	
3A3 Dual-Trace Differential	Selectable dc—5 kc or dc—500 kc	100 μ v/cm—10 v/cm, 1-2-5 sequence.	
3A72 Dual-Trace (Identical Channels)	dc — 650 kc	10 mv/cm—10 v/cm, 1-2-5 sequence.	1 megohm shunted by 47 pf, 600 volts max.
3A74 Four-Trace (Identical Channels)	dc — 2 Mc.	20 mv/cm—10 v/cm, 1-2-5 sequence.	
3A75	dc — 4 Mc.	50 mv/cm—20 v/cm, 1-2-5 sequence.	
3C66 Strain Gage	dc—5 kc	10 μ strain/div—10,000 μ strain/div, 1-2-5 sequence.	
3S3 Dual-Trace Sampling (Use with 3T77)	dc to equivalent 1 Gc. (0.35 nsec rise-time).	5 mv/cm—100 mv/cm, 1-2-5 sequence.	100 k, 2 pf \pm 3 v max
3S76 Dual-Trace Sampling (use with 3T77)	dc to equivalent 875 Mc (0.4 nsec risetime).	2 mv/cm—200 mv/cm, 1-2-5 sequence.	50 Ω 2 volts pk-to-pk. max. dc-coupled

*Variable between steps, uncalibrated.



NEW POWER SUPPLY
2-Series and 3-Series Plug-In Units can be operated separately from the oscilloscope in which they are normally used. See the Type 129 on page 18.



HIGH-VOLTAGE SURGE-TEST OSCILLOSCOPES

Oscilloscope	Risetime	Calibrated Sensitivity	Signal Delay	Sweep Delay	Calibrated Sweep Range	Sweep Magnifier	Accel. Potential		Page
Type 507	10 nsec	Approximately 50 v/cm to 500 v/cm	No	None	20 nsec/cm to 50 μ sec/cm	None	24 kv		13

TELEVISION OSCILLOSCOPES

Instrument	Risetime	Calibrated Sensitivity	Signal Delay	Vertical Response	Calibrated Sweep Range	Sweep Magnifier	Accel. Potential		Page
Type 524AD Oscilloscope	35 nsec	15 mv/cm to 50 v/cm	Yes	Normal, Flat, IRE	0.1 μ sec/cm to 0.01 sec/cm	3 and 10X	4 kv		14
Type 525 Waveform Monitor		15 mv/cm with 1X, 2X, 5X step attenuator	No	Flat, Low-Pass, High-Pass, IRE	Field and Line Rates	5 and 25X	4 kv		14
Type 526 Vectorscope	Dual Channel displays, with either vector or linear-sweep presentation of demodulated chroma signal.						4 kv		14
*Type 527 Waveform Monitor		0.25 v to 1.6 v for 7 cm	No	Flat, IRE	Field and Line Rates	5 and 25X	4 kv		14

SAMPLING SYSTEMS

Instrument	Input Impedance	Risetime	Calibrated Sensitivity	Signal Delay	Sweep Delay	Equivalent Sweep Time	Samples Per Centimeter	Trigger	Page
Type 661 with Types 5T1A and 4S2 Units	50 Ω	0.1 nsec	2-200 mv/cm 1-2-5 sequence	No	through full time base	1 nsec/cm to 100 μ sec/cm plus magnifier	5, 10, 20, 50, 100 or 1000	External	17
Type 661 with Types 5T1A and 4S1 Units	50 Ω	0.35 nsec		Yes				Internal or External	17
Type 661 with Types 5T1A and 4S3 Units	100 k, 2 pf	0.35 nsec		No				External	17
*Type 561A with Types 3S76 and 3T77 Units	50 Ω	0.4 nsec	5-100 mv/cm 1-2-5 sequence	Yes	Through 100 nsec	0.2 nsec/cm to 10 μ sec/cm plus 10X mag.	10 or 100	Internal or External	16
*Types 561A with Types 3S3 and 3T77 Units	100 k, 2 pf	0.35 nsec		No	External			16	
*Type 564 with Types 3S76 and 3T77 Units	50 Ω	0.4 nsec	Same features as Types 561A, 3S76, 3T77 (above) plus SPLIT-SCREEN STORAGE of signal information.						16
*Type 564 with Types 3S3 and 3T77 Units	100 k, 2 pf	0.35 nsec	Same features as Types 561A, 3S3, 3T77 (above) plus SPLIT-SCREEN STORAGE of signal information.						16
*Type 567 with Types 3S76, 3T77, and 6R1 Units	50 Ω	0.4 nsec	Same features as Types 561A, 3S76, 3T77 (above) plus DIGITAL READ-OUT of pulse risetime, pulse amplitude, pulse width, time differences.						16
*Type 567 with Types 3S3, 3T77, and 6R1 Units	100 k, 2 pf	0.35 nsec	Same features as Types 561A, 3S3, 3T77 (above) plus DIGITAL READOUT of pulse risetime, pulse amplitude, pulse width, time differences.						16

SAMPLING SYSTEM ACCESSORIES

Instrument	Description	Page
Type 280 Trigger Countdown	Allows timing systems to be synced up to 5 Gc. Output repetition rate variable from 15 to 45 Mc.	19
Type 290 Transistor Switching-Time Tester	Measures fast transistors, short duty cycle measurements of delay time, risetime, storage time, and fall time.	19
Type 291 Diode Switching-Time Tester	Measures fast-switching diodes, forward and reverse recovery. Response better than 0.35 nsec. Choice of test fixtures.	19

* Rack Mount models are available

CHARACTERISTIC-CURVE TRACERS

Instrument	Vertical Axis	Horizontal Axis	Variable Drive Parameters	Accel. Potential	A-B Comparison Tests	Page
Type 570 presents an accurate graphic analysis of electron-tube characteristics under almost any conceivable operating condition.	20 μ a/div to 50 ma/div 1-2-5 sequence	1 v/div to 50 v/div 1-2-5 sequence	Plate, screen, or grid current vs. plate or grid voltage.	4 kv	Yes	17
Type 575 traces characteristic curves for both PNP and NPN transistors and diodes on the face of a crt.	1 μ a/div to 2 a/div 10 mv/div to 0.5 v/div	10 mv/div to 20 v/div 10 mv/div to 0.5 v/div	Collector current & voltage, Base current & voltage.	4 kv	Yes	17
Instrument	Collector Supply	Base Supply	Calibrated Display	A-B Comparison Tests	Page	
Type 175 adapts the Type 575 to measurement of high power (NPN and PNP) transistors and diodes. Specifications apply ONLY when used with Type 575 Curve Tracer.	0 to 20 v or 0 to 100 v, or 0 to 100 v with 300- Ω series load resistor.	\pm stepping, 4 to 12 steps per family, either repetitive or single family. 10 current positions—1 ma to 1 amp/step 5 voltage positions—0.02 to 0.5 v/step	Vertical Axis—Collector Current Horizontal Axis—Collector Voltage Base Voltage	Yes	17	

INDUCTANCE AND CAPACITANCE METER

Instrument	Ranges	Accuracy	Guard Voltage	Page
Type 130	0 to 3, 10, 30, 100, 300 μ h 0 to 3, 10, 30, 100, 300 μ f	within 3% of full scale	Permits measuring an unknown capacitance while eliminating effects of other capacitances.	18

SQUARE-WAVE GENERATORS

Instrument	Risetime	Frequency Range	Output Voltage	Page
Type 105	13 nsec	25 cps to 1 Mc	10 v to 100 v across the internal 600- Ω load	18
Type 107	3 nsec	400 kc to 1 Mc	0.1 v to 0.5 v with 52- Ω termination	18

AMPLIFIERS

Instrument	Gain	Frequency Response \ddagger	Noise Level	Differential Input	Input Impedance	Output Impedance	Page
*Type 122	100X or 1000X	0.2 cps to 40 kc	1-5 μ v, rms, grounded	Yes	10 megohms paralleled by 50 pf.	1000 ohms	18
Type 123	100X	3 cps to 25 kc	7.5 μ v, rms, or less grounded	No	10 megohms	31 kilohms	18
Type 1121	100X	5 cps to 17 Mc 21-nsec risetime	50 μ v or less pk-to-pk, grounded	No	1 megohm paralleled by 22 pf.	93 ohms	18

\ddagger Frequency Specifications are at 3-db down.

* Rack-Mount models are available.

PULSE GENERATORS

Instrument	Frequency	Main Pulse Width	Risetime	Delay	Output		Trigger Req.	Page
					Amplitude	Impedance		
Type 109	275 to 700 cps	0.5 nsec to 300 nsec	<0.25 nsec	None	0 to 50 v	50 Ω	None	18
Type 110	360 to 720 cps	0.5 nsec to 300 nsec	<0.25 nsec	1 nsec	0 to 50 v	50 Ω	Line	18
Type 111	0 to 100 kc	2 nsec to 0.1 μ sec	0.5 nsec	30 to 250 nsec	± 5 v	50 Ω	+5 v	18
† Type 161	0 to 50 kc	10 μ sec to 0.1 sec	0.5 μ sec	Variable	0 to ± 50 v	1—5 k Ω	+3 v	13
† Type 162	0 to 10 kc	100 μ sec to 10 sec	1 μ sec	None	50 v	1 k Ω	+15 v	13
† Type 163	0 to 500 kc	1 μ sec to 10 msec	0.2 μ sec	Variable	0 to +25 v	100 Ω —3.5 k Ω	+2 v	13

† Type 160A Power Supply provides power for up to 7 Type 161 or 162 Generators, 5 Type 163 Generators, or 5 Type 360 Indicators.

TIME-MARK GENERATORS

Instrument	Time-Mark Interval	Sine-Wave Frequency	Accuracy	Stability††	Page
Type 180A	2 per decade from 1 μ sec to 5 sec, separately or in timing combination.	5 Mc, 10 Mc or 50 Mc	within 0.001%	3 parts per million for 24 hr. period	19
* Type 181	1 per decade from 1 μ sec to 10 msec.	10 Mc	about 0.03%	0.005% per hour	19

* Rack-Mount models are available.

†† All outputs are derived from a 1 Mc crystal-controlled oscillator. Type 180A uses temperature-stabilized oven which is also available as accessory for the Type 181, or as MOD110 installed in the instrument. This provides stability of 3 parts per million.

CONSTANT AMPLITUDE SINE-WAVE GENERATOR

Instrument	Output Frequency	Output Amplitude	Harmonic Content	Output Impedance	Page
Type 190B	Continuously variable from 350 kc to 50 Mc.	Continuously variable from 40 mv to 10 volts, pk-to-pk.	Typically less than 5%.	Nominally 25 Ω	19



TYPE 310A DC-to-4 MC PORTABLE

- COMPACT — only 23 pounds
- ACCURATE — 3% time and amplitude
- VERSATILE — 50 to 800 cps operation
- TRIGGER — internal, external, line . . . ac or dc-coupled and automatic
- VIEWING AREA — 8 by 10 (1/4") divisions
- AMPLITUDE CALIBRATOR
- POWER SUPPLY — electronically regulated

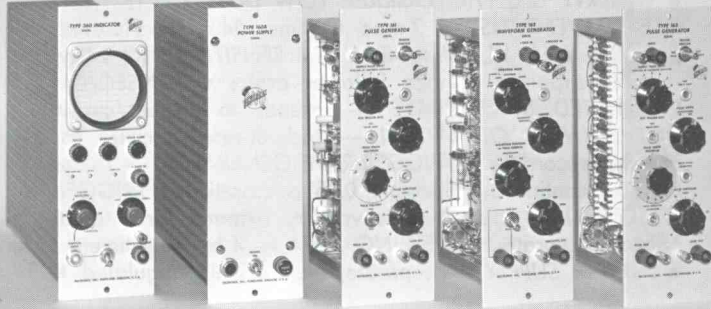
TYPE 317 DC-to-10 MC DAYLIGHT PORTABLE

- BRILLIANT TRACE — 9-kv accelerating potential
- ACCURATE — 3% time and amplitude
- TRIGGER — internal, external, line . . . ac or dc-coupled . . . automatic or high-frequency sync
- VIEWING AREA — 8 by 10 (1/4") divisions
- AMPLITUDE CALIBRATOR
- POWER SUPPLY — electronically regulated
- RACK MODEL — mounts on slide-out tracks to 19" rack

TYPE 321 DC-to-5 MC TRANSISTORIZED PORTABLE

- VERSATILE — ac, dc or battery powered (with internal charger)
- ACCURATE — 3% time and amplitude
- TRIGGER — internal or external . . . ac or dc-coupled and automatic
- VIEWING AREA — 6 by 10 (1/4") divisions
- POWER SUPPLY — electronically regulated from 11.5 to 35 v dc, 105 to 125 or 210 to 250 v rms, 50 to 800 cps
- BATTERY OPERATION — 10 rechargeable NiCd cells provide approx. 4 1/2-hr. operation; order 10 (part no. 146-005)

310A
317
321
360
160A
161
162
163
502A
503
504
507

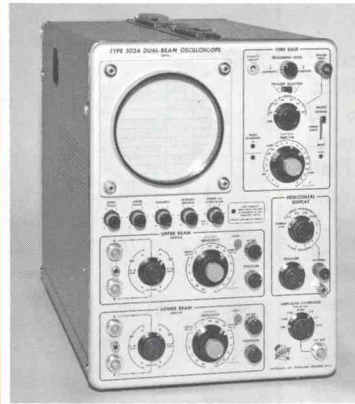


TYPE 360 INDICATOR

- COMPACT — contains horizontal and vertical amplifiers, calibrated vertical attenuator (50 mv/div to 50 v/div), and accelerating-voltage supply
- VIEWING AREA — 8 by 10 (1/4") divisions
- VERTICAL RESPONSE — dc to 500 kc
- HORIZONTAL RESPONSE — dc to 100 kc
- REQUIREMENTS — sweep, unblanking, and Type 160A Power Supply

SEQUENCE CONTROL SYSTEM — 160A, 161, 162, 163

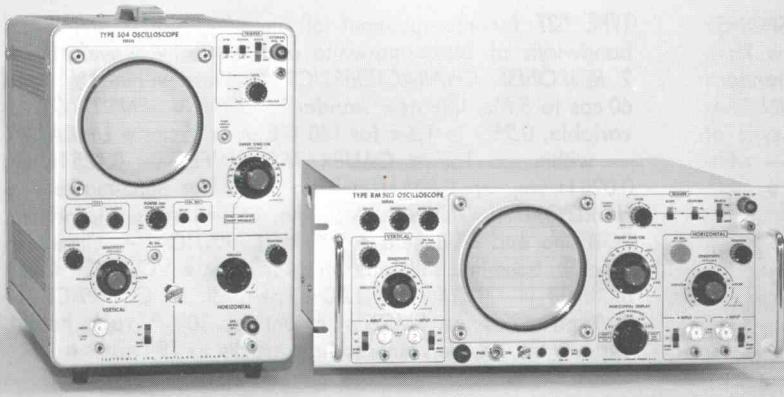
- GENERATES COMPLEX WAVEFORMS — accurate timed pulses of adjustable amplitude, duration, and repetition rate
- APPLICATIONS — nerve stimulation, circuit testing, flaw detection, among others
- See specifications on facing page



TYPE 502A DUAL-BEAM OSCILLOSCOPE

- 100 μ V/CM SENSITIVITY — differential or single-ended input
- COMMON-MODE REJECTION — up to 40,000:1
- X-Y CURVE TRACING — 1 or both beams
- TRIGGER — internal from either amplifier, external, (ac or dc coupled) or line; recurrent or automatic
- VIEWING AREA — 8 by 10 cm per beam, 6-cm overlap
- OTHER FEATURES — single sweep, amplitude calibrator, electronically regulated power supply
- RACK-MOUNT MODEL, TYPE RM502A — mounts on slide-out tracks

to 19" rack



TYPE 503 DC-to-450 KC OSCILLOSCOPE

- DIFFERENTIAL OR SINGLE-ENDED INPUT — at all sensitivities to 1 mv/cm
- X-Y CURVE TRACING — 2 identical amplifiers
- TRIGGER — internal, external, line . . . ac or dc-coupled and automatic
- VIEWING AREA — 8 by 10 cm
- AMPLITUDE CALIBRATOR
- POWER SUPPLY — electronically regulated
- RACK MODEL — bolts to 19" rack

TYPE 504 DC-to-450 KC OSCILLOSCOPE

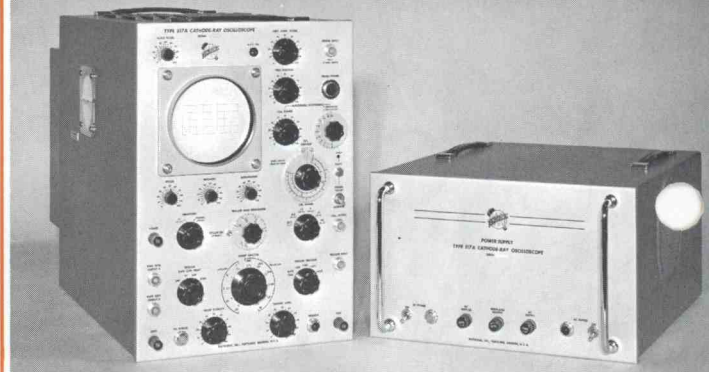
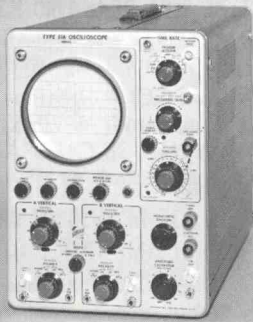
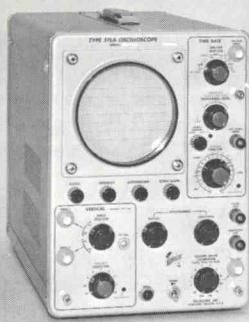
- SINGLE-ENDED INPUT — sensitivity to 5 mv/cm
- TRIGGER — internal, external, line; ac or dc-coupled and automatic
- VIEWING AREA — 8 by 10 cm
- AMPLITUDE CALIBRATOR
- POWER SUPPLY — electronically regulated
- RACK MODEL — bolts to 19" rack



TYPE 507 SURGE-TEST OSCILLOSCOPE

- DESIGN AND TEST — power transformers, high-voltage insulators, lightning arresters . . .
- SINGLE-SWEEP APPLICATIONS — 24-kv accelerating potential
- RISE TIME — 10 nsec
- CALIBRATED VERTICAL POSITIONING — 50 v steps from -150 v to +150 v
- TRIGGER — internal, external, or manual
- VIEWING AREA — 6 x 10 cm
- POWER SUPPLY — separate, electronically regulated

515A
516
517A
519
524AD
525
526
527



TYPE 515A DC-to-15 MC OSCILLOSCOPE

- 50 MV/CM to 20 V/CM CALIBRATED SENSITIVITY — variable between steps
- 40 NSEC/CM CALIBRATED SWEEP SPEED — with 5X magnifier
- TRIGGER VERSATILITY — internal, external, line . . . ac, dc, high-frequency sync, and automatic
- OTHER FEATURES — 6 by 10-cm display, amplitude calibrator, electronically-regulated power supply
- RACK MODEL — mounts on slide-out tracks to 19" rack

TYPE 516 DUAL-TRACE DC-to-15 MC OSCILLOSCOPE

- TWO IDENTICAL VERTICAL INPUT CHANNELS — chopped or alternate switching plus A or B only
- OTHER FEATURES — same as Type 515A plus AC low-frequency reject triggering

TYPE 517A HIGH-SPEED OSCILLOSCOPE

- OBSERVE and PHOTOGRAPH LOW DUTY CYCLE FAST-RISE WAVEFORMS — 7 nsec risetime, 24 kv accelerating potential
- 50 MV/CM to 400 V/CM SENSITIVITY (at 24 kv) — with supplied cathode follower probe
- 5 NSEC/CM CALIBRATED SWEEP RATE — extends to 20 μ sec/cm
- SINGLE-SWEEP OPERATION — lockout-reset circuitry for one-shot recording
- TRIGGER-RATE GENERATOR — 15 cps to 15 kc, continuously variable, 0.15 μ sec risetime
- TRIGGER SELECTION — displayed waveform, external, or internal Trigger Generator
- VIEWING AREA — 4 by 8 centimeters
- POWER SUPPLY — separate, electronically regulated

TELEVISION OSCILLOSCOPES

- TYPE 524AD** for maintenance of transmitter and studio equipment
- 3 RESPONSE CHARACTERISTICS — Normal: dc to 10 Mc from 150 mv/cm to 50 v/cm, 2 cps to 10 Mc from 15 mv/cm to 50 v/cm, Flat: within 1% from 60 cps to 5 Mc, IRE: new standard #23S-1
 - RISETIME — 35 nsec
 - CONTINUOUSLY VARIABLE SWEEP RATE — 0.1 μ sec/cm to 10 msec/cm
 - INTERNAL TIME MARKERS — 50 nsec, 0.1 μ sec, 1.0 μ sec, 40 or 200 pips per line
 - SWEEP DELAY — continuous from 0 to 25 msec
 - AMPLITUDE CALIBRATOR — variable duty cycle, 0 to 50 v



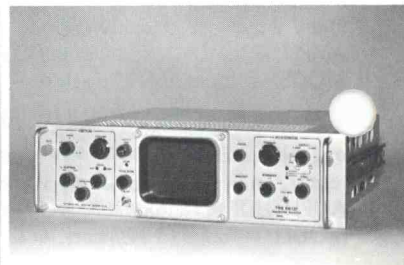
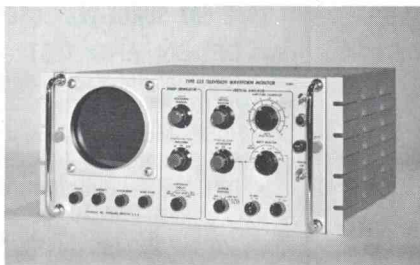
TYPE 519 DC-to-1 GIGACYCLE OSCILLOSCOPE

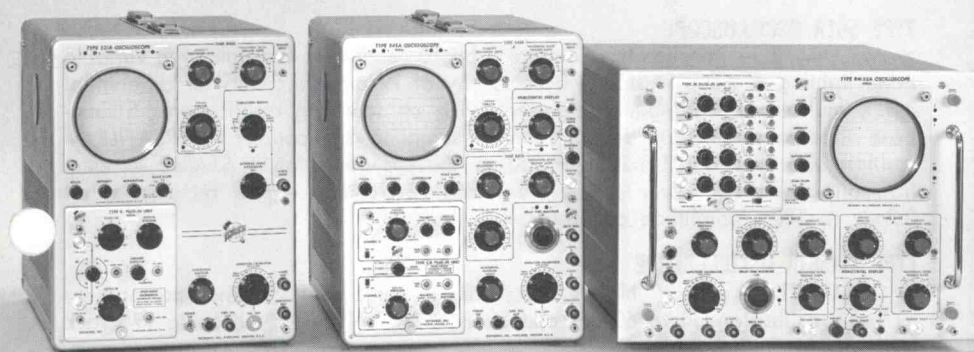
- MEASURE AND RECORD SUB-NANOSECOND RISE-TIMES — less than 0.35-nsec risetime, 24-kv accelerating potential
- VERTICAL SENSITIVITY — less than 10 v/cm
- 2 NSEC/CM CALIBRATED SWEEP RATE — extends to 1 μ sec/cm
- SINGLE-SWEEP OPERATION — lockout-reset circuitry for one-shot recording
- RATE GENERATOR — 3 cps to 30 kc, continuously variable, less than 0.8 nsec risetime
- CALIBRATION-STEP GENERATOR — drives device under test or checks sensitivity of Type 519
- TRIGGER SELECTION — displayed waveform, external waveform, Calibration-Step Generator, Rate Generator . . . high-frequency sync to over 1 gigacycle
- OTHER CHARACTERISTICS — 2 by 6-cm display, electronically-regulated power supply

- TYPE 525** for display of composite video waveforms
- 4 RESPONSE CHARACTERISTICS — Flat: within 1% from 60 cps to 5 Mc, Low Pass: passes stair steps, High Pass: eliminates stair steps, IRE: new standard #23S-1
 - SENSITIVITY — 15 mv/cm, 2 or 5X attenuation
 - GAIN STABILITY — within 1%
 - FIELD and LINE SPEEDS — automatic sync at sweep frequencies of 7875 and 30 cycles
 - RACK MOUNTING — withdraws on slide-out tracks from cabinet that mounts to 19" rack

- TYPE 526** for measurement of phase and amplitude of NTSC color signal
- PHASE & SATURATION MEASUREMENTS — $\pm 1^\circ$ and $\pm 2\%$ on graticule
 - PHASE RESOLUTION — 0.1° at 3.58 Mc
 - DUAL DISPLAYS — electronic switching between channels
 - INTERFIELD SIGNAL KEY — displays test signals during vertical blanking time
 - BURST BRIGHTENING — for positive identification of burst pulse
 - RACK MOUNTING — mounts on slide-out tracks to 19" rack

- TYPE 527** for measurement of linearity, signal level, and bandwidth of black-and-white and color TV waveforms
- 2 RESPONSE CHARACTERISTICS — Flat: within 1% from 60 cps to 5 Mc, IRE: new standard #23S-1
 - SENSITIVITY — variable, 0.25 v to 1.6 v for 140 IRE units (7 cm)
 - LINEARITY — within $\pm 1\%$
 - CALIBRATED SWEEP — 0.125 H/cm, 0.025 H/cm, or 0.005 H/cm; no need for time-markers
 - HORIZONTAL DISPLAY — 2 line, 2 field, VIT, 0.125 H/cm, RGB line and RGB field
 - DC RESTORATION — eliminates dc drift, base-line shift due to color burst
 - VOLTAGE CALIBRATOR — 0.714 v or 1.00 v, pk-to-pk
 - COMPACT — 2 Type 527's or RM527's mount in 10 1/2" rack height, Type RM527 mounts on slide-out tracks to 19" rack





530-SERIES DC-to-15 MC OSCILLOSCOPES

TYPE 535A FEATURES — calibrated sweep delay, 2 μ sec to 10 sec • **USES 17 MULTI-PURPOSE PLUG-IN UNITS** — for differential input, multi-trace, wide-band, operational amplifier, other applications • **SINGLE-SWEEP OPERATION** — lockout-reset circuitry for one-shot recording • **20 NSEC/CM CALIBRATED SWEEP SPEED** — with 5X magnifier • **TRIGGER VERSATILITY** — internal, external, line . . . ac, dc, low-frequency reject, high-frequency sync, and automatic • **OTHER CHARACTERISTICS** — 6 by 10-cm display, amplitude calibrator, electronically-regulated power supply •

• **TYPE 533A FEATURES** — sweep magnification to 100X • **OTHER CHARACTERISTICS** — similar to Type 535A, except no sweep delay •

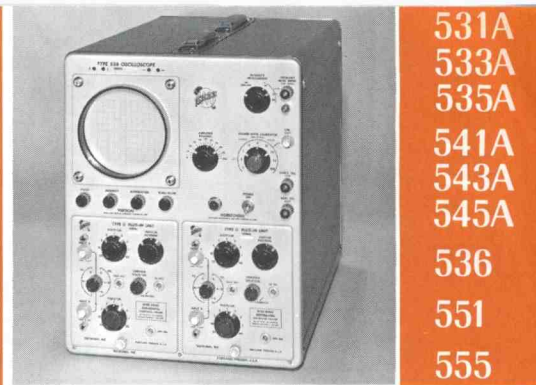
• **TYPE 531A FEATURES** — same characteristics as Type 535A, except no sweep delay or single-sweep •

540-SERIES DC-to-30 MC OSCILLOSCOPES

TYPE 545A FEATURES — calibrated sweep delay, 2 μ sec to 10 sec • **USES 17 MULTI-PURPOSE PLUG-IN UNITS** — for differential input, multi-trace, wide-band, operational amplifier, other applications • **SINGLE-SWEEP OPERATION** — lockout-reset circuitry for one-shot recording • **20 NSEC/CM CALIBRATED SWEEP SPEED** — with 5X magnifier • **TRIGGER VERSATILITY** — internal, external, line . . . ac, dc, low-frequency reject, high-frequency sync, and automatic • **OTHER CHARACTERISTICS** — 4 by 10-cm display, amplitude calibrator, electronically-regulated power supply •

• **TYPE 543A FEATURES** — sweep magnification to 100X • **OTHER CHARACTERISTICS** — similar to Type 545A, except no sweep delay •

• **TYPE 541A FEATURES** — same characteristics as Type 545A, except no sweep delay or single-sweep •



531A
533A
535A
541A
543A
545A
536
551
555

TYPE 536 "X-Y" OSCILLOSCOPE

• **IDENTICAL HORIZONTAL AND VERTICAL DEFLECTION SYSTEMS** — with 2 identical plug-in units • **AMPLIFIER PHASE BALANCE TO OVER 25 MC** — with 2 identical wide-band units • **USES ANY OF 17 PLUG-IN UNITS** — for vertical and horizontal-deflection • **CONVENTIONAL OPERATION** — with Type T Time Base • **OTHER CHARACTERISTICS** — 10 by 10-div display, regulated power supply •

RACK-MOUNTING OSCILLOSCOPES

• **CONVENIENT MOUNTING**—chassis with-draws from cabinet on slideout tracks, can be tilted and locked in any of 7 positions • **PROVEN CIRCUITRY** — electrically identical to corresponding cabinet model.

- TYPE RM31A
- TYPE RM33A
- TYPE RM35A
- TYPE RM41A
- TYPE RM43A
- TYPE RM45A

TYPE 551 DUAL-BEAM OSCILLOSCOPE

• **COMMON X, INDEPENDENT Y DEFLECTION** — upper and lower beam use any of 17 plug-in units for differential input, multi-trace, wide-band, operational amplifier, other applications • **DC-to-25 MC** — with Type L Plug-In Unit • **SINGLE-SWEEP OPERATION** — lockout-reset circuitry for one-shot recording • **20 NSEC/CM CALIBRATED SWEEP SPEED** — with 5X magnifier • **TRIGGER VERSATILITY** — internal from lower or upper beam, external, line . . . ac, dc, low-frequency reject, high-frequency sync, and automatic • **OTHER CHARACTERISTICS** — 4 by 10-cm display with 2-cm vertical overlap (each beam), 6-cm total vertical scan, amplitude calibrator, separate electronically-regulated power supply

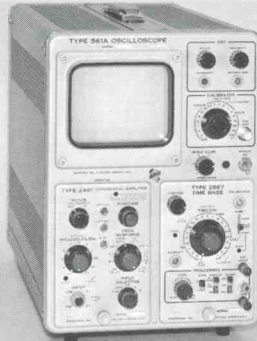


TYPE 555 DUAL-BEAM SWEEP DELAY OSCILLOSCOPE

• **2 INDEPENDENT VERTICAL DEFLECTION SYSTEMS** — upper and lower beams use any of 17 plug-in units for differential input, multi-trace, wide-band, operational amplifier, other applications • **DC-to-30 MC** — with Type L Plug-In Unit • **2 INDEPENDENT PLUG-IN TIME BASES** — deflect either or both beams with either time base • **CALIBRATED SWEEP DELAY** — 0.1 μ sec to 50 sec • **SINGLE-SWEEP OPERATION** — lockout-reset circuitry for one-shot recording • **20 NSEC/CM CALIBRATED SWEEP SPEED** — with 5X magnifier • **TRIGGER VERSATILITY** — internal from lower or upper beam, external, line . . . ac or dc coupled and automatic • **OTHER CHARACTERISTICS** — 4 by 10-cm display with 2-cm overlap (each beam), 6-cm total vertical scan, amplitude calibrator, separate electronically-regulated power supply •



561A
564
565
567
262



TYPE 561A OSCILLOSCOPE

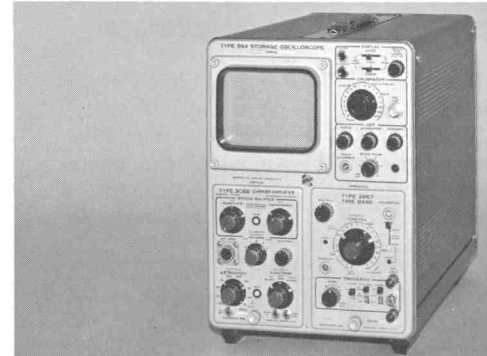
- **ACCURATE** — parallax-free internal 8 by 10 centimeter graticule with variable edge lighting
- **ADAPTABLE** — accepts any of 12 amplifier units for differential input, multi-trace, wide-band, high-sensitivity, or sampling applications; 5 time-base units for single shot, delaying sweep, sampling applications
- **VERSATILE** — multiple X-Y displays, Z-axis input, 50 to 400 cps operation
- **STABLE** — electronically-regulated power supply
- **OTHER FEATURES** — new rectangular crt 0.2 mv to 100 v amplitude calibrator •

TYPE RM561A OSCILLOSCOPE

- **COMPACT** — only 7" high
- **FEATURES** — same as Type 561A except 1 mv to 100 v calibrator; 50 to 60 cps operation
- **MOUNTING** — bolts to 19" rack (slide-out tracks available) •

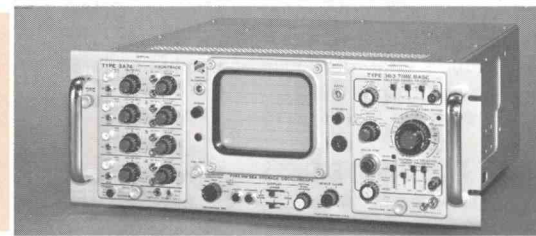
TYPE 564 GENERAL-PURPOSE STORAGE OSCILLOSCOPE

- **SPLIT-SCREEN DISPLAYS** — non-storage or bi-stable storage on either or both halves of crt, selective erase
- **SIMPLE OPERATION** — separate controls for upper and lower halves of crt, monitor vertical positioning without storing
- **ENHANCED WRITING FEATURE** — 25 cm/msec single-shot writing speed (10X faster with full-screen enhancement)
- **OTHER STORAGE FEATURES** — fast 250-msec erase, up to 1-hour storage
- **SPECIAL CRT** — Mod 08 incorporates a special crt (lower brightness) with single-shot writing speed of 100 cm/msec (5X faster with full-screen enhancement)
- **VERSATILITY** — electrical performance identical to Type 561A (except crt), uses any of seventeen 2-Series and 3-Series Plug-In Units •

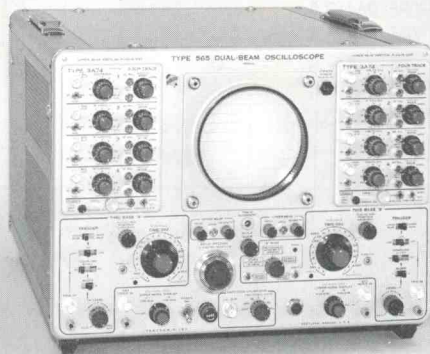


TYPE RM564 GENERAL-PURPOSE STORAGE OSCILLOSCOPE

- **REMOTE ERASE** — jack at rear for erase of upper and lower halves of crt
- **OTHER FEATURES** — writing enhancement and other characteristics identical to the Type 564, except 1 mv to 100 v calibrator, 50 to 60 cps operation
- **COMPACT** — requires only 7" panel height, bolts to 19" rack (slide-out tracks available) •



NEW

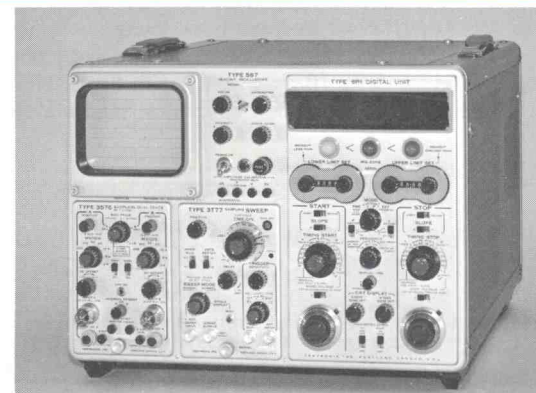


TYPE 565 DUAL-BEAM OSCILLOSCOPE

- **2 INDEPENDENT BEAMS**
- **2 IDENTICAL INDEPENDENT SWEEP SYSTEMS**
- **USES 2 PLUG-IN VERTICAL AMPLIFIERS**—choose from 10 units for differential input, multi-trace, and wide-band applications
- **CALIBRATED SWEEP DELAY** — 1 μ sec to 50 sec
- **SINGLE SWEEP OPERATION** — for one-shot recording
- **TRIGGERING** — internal, external, line; ac fast, or dc-coupled; automatic triggering
- **3% ACCURACY** — time and amplitude
- **VIEWING AREA** — 10 by 10 cm, 6-cm vertical overlap
- **OUTPUTS** — vertical, horizontal, + gate, delayed trigger
- **AMPLITUDE CALIBRATOR**
- **POWER SUPPLY** — electronically regulated
- **RACK MODEL** — mounts on slide-out tracks to 19" rack •

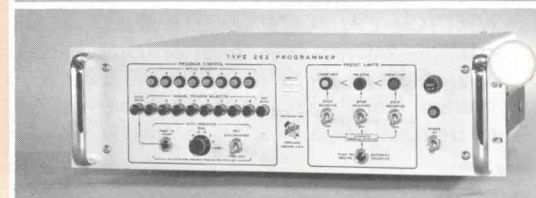
TYPE 567 READOUT OSCILLOSCOPE/6R1 DIGITAL UNIT

- **DIGITAL READOUT PLUS ANALOG DISPLAYS** — direct readout on the 6R1 Unit of pulse risetimes, amplitudes, time differences
- **LIMIT COMPARATORS** — front-panel indicators for readings above, below, or within selected limits
- **ACCURATE READOUT** — direct reading with up to 4-digit resolution minimizes operator error, speeds up measuring time
- **LOW & MEDIUM-FREQUENCY APPLICATIONS** — 3A2/3B2 for time difference from 20 μ sec to 10 sec, 1- μ sec resolution, 10 mv amplitude
- **HIGH-FREQUENCY APPLICATIONS** — 3S76/3T77 for time differences from 20 psec to 100 μ sec, 0.4-nsec risetime, pulse amplitudes as small as 2 mv, pk-pk
- **LOW-NOISE APPLICATIONS** — 3S3/3T77 for direct sampling at probe, 100 k/2 pf input, selectable risetime from 0.35 nsec to 1 nsec
- **DIGITAL OUTPUTS** — for printers, summary punches, etc.
- **RACK MODEL** — mounts to 19" rack on slide-out tracks •



TYPE 262 PROGRAMMER

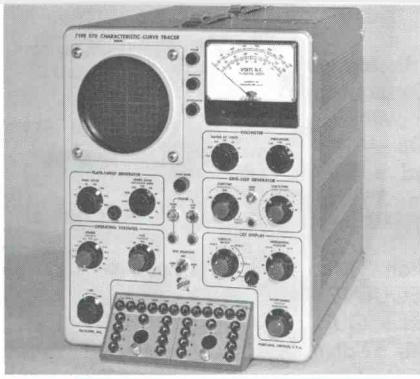
- **EXTERNAL PROGRAMMING** — any measurement possible with the Type 567/6R1 can be sequenced manually (automatically with option) from the 262 or remotely
- **PROGRAM FLEXIBILITY** — up to 8 different measurement programs (with adjustable readout limits) with each Type 262, 24 with 3 Type 262s
- **CONTROL EXTERNAL EQUIPMENT** — program power supplies, generators, etc. concurrently with test programs •



NEW

TYPE 570 ELECTRON-TUBE CURVE-TRACER

- **PLOTS TUBE CHARACTERISTICS** — simulates operating conditions
- **CALIBRATED VERTICAL DISPLAYS** — plate, screen, or grid current; 20 μ a/div to 50 ma/div in 11 steps
- **CALIBRATED HORIZONTAL DISPLAYS** — plate or grid voltage; 0.1 v/div to 50 v/div in 9 steps
- **OTHER VARIABLES** — 11 series load resistors from 300 Ω to 1 megohm, 7 grid-step values from 0.1 v/step to 10 v/step
- **VOLTMETER** — monitors all dc voltages and ac heater supply
- **DISPLAYS FAMILY OF CURVES**—4 to 12 characteristic curves per family



TYPE 575 TRANSISTOR-CURVE TRACER

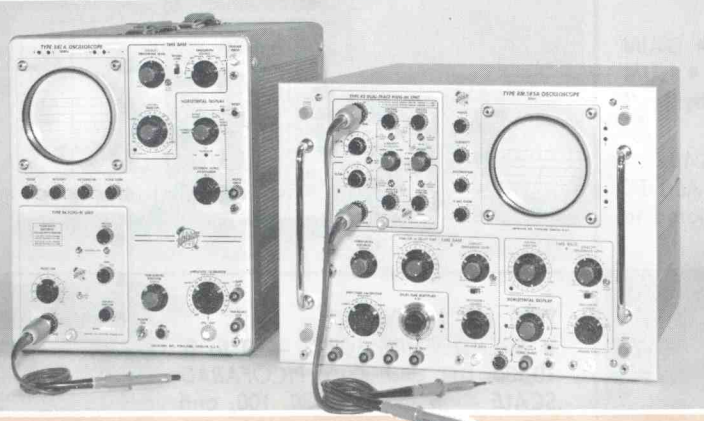
- **PLOTS PNP, NPN, AND DIODE CURVES** — simulates operating conditions
- **CALIBRATED VERTICAL DISPLAYS** — collector or base current, base or base source voltage
- **CALIBRATED HORIZONTAL DISPLAYS** — base current, collector, base or base source voltage
- **20-AMPERE COLLECTOR DISPLAYS** — \pm collector sweep, 0 to 20 v, 10 amp; 0 to 200 v, 1 amp
- **\pm BASE STEPPING** — 4 to 12 steps/family, repetitive or single family display, 2.4-ampere base supply

TYPE 175 HIGH-CURRENT ADAPTER (For use with TYPE 575 only)

- **200-AMPERE COLLECTOR DISPLAY** — 12-ampere base supply
- **\pm COLLECTOR SWEEP** — 0 to 20 v, 0 to 100 v, or 0 to 100 v with 300- Ω series load resistor
- **\pm BASE STEPPING** — 4 to 12 steps/family, repetitive or single family display
- **CALIBRATED DISPLAYS** — collector current (vertical), collector or base voltage (horizontal)



570
575
175
581A
585A
80
81
82
86
661
4S1
4S2
4S3
5T1A



580A SERIES FAST-RISE OSCILLOSCOPES

- **TYPE 585A FEATURES** — tunnel diode triggering to beyond 150 Mc, synchronization to 250 Mc
- **CALIBRATED SWEEP DELAY** — continuously variable from 2 μ sec to 10 sec
- **10 NSEC/CM SWEEP RATE** — for recording fast transients
- **SINGLE-SWEEP OPERATION** — lockout-reset circuitry for one-shot recording
- **HIGH RESOLUTION** — small spot size, P31 phosphor
- **VERSATILITY** — 3 fast-rise vertical plug-ins, 17 other multi-purpose plug-ins (with Type 81 Adapter)
- **RACK MODEL** — withdraws on slide-out tracks from cabinet that mounts in 19" rack

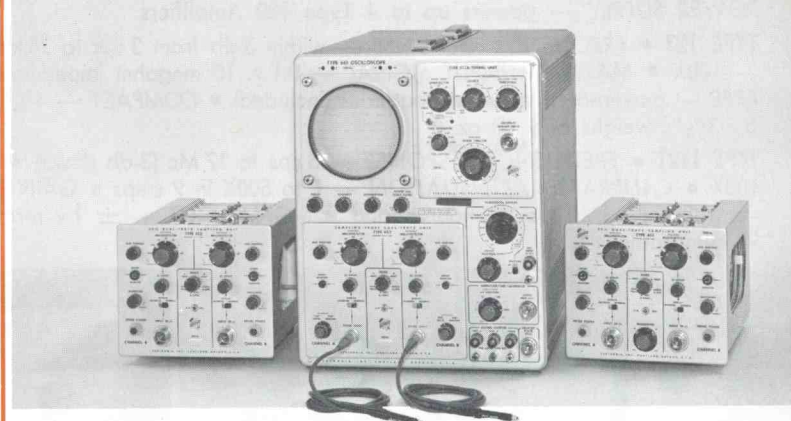
- **TYPE 581A FEATURES** — as above, but without delayed-sweep

- **TYPE 82 DUAL-TRACE PLUG-IN UNIT** — approx. 4-nsec rise-time at 100 mv/cm; approx. 4.3 nsec at 10 mv/cm
- **CALIBRATED STEP ATTENUATION** — 10 mv/cm to 50 v/cm; variable to 100 v/cm
- **CHOPPED OR ALTERNATE SWITCHING** — plus A or B only
- **10X PASSIVE PROBES** — small size, 4.5-nsec total rise-time at 100 mv/cm

- **TYPE 86 PLUG-IN UNIT** — same as Type 82, except single channel

- **TYPE 81 ADAPTER** — use with Letter-Series Plug-Ins

- **TYPE 80 PLUG-IN UNIT/P80 PROBE** — 0.1 v/cm basic sensitivity, dc to approx. 95 Mc



TYPE 661 SAMPLING OSCILLOSCOPE

- **PLUG-IN VERSATILITY** — uses 4-Series and 5-Series Sampling Units
- **FAST or SLOW MANUAL SCAN** — drives external recorders
- **AMPLITUDE/TIME CALIBRATOR**—checks vertical and sweep calibration
- **OUTPUTS** — delayed pulse, A and B vertical, and horizontal
- **HIGH RESOLUTION** — 8 by 10-cm viewing area

- **DUAL-TRACE SAMPLING UNITS** • **5 DISPLAY MODES** — A only, B only, Dual-Trace, Added Algeb. and (for X-Y displays) A vertical, B horizontal
- **2 MV/CM to 200 MV/CM SENSITIVITY** — variable between steps
- **DC OFFSET VOLTAGE** — for displaying portions of signals having off-screen amplitudes

- **TYPE 4S1 FEATURES** — 0.35 nsec risetime • **SEPARATE INTERNAL DELAY LINES** — trigger on either A or B input signals or externally
- **2 VOLTS DYNAMIC RANGE**

- **TYPE 4S2 FEATURES** — 0.1 nsec risetime • **EXTERNAL TRIGGER** — with Type 5T1A
- **\pm 1 VOLT DYNAMIC RANGE**

- **TYPE 4S3 FEATURES** — miniature direct sampling probes with 100 k, 2 pf input impedance
- **LOW NOISE** — less than 300 μ v (smoothed)
- **RISETIME/NOISE SELECTION** — 0.35-nsec risetime with 1 mv noise, 0.5-nsec risetime with 0.5 mv noise
- **\pm 2-VOLTS DYNAMIC RANGE**
- **EXTERNAL TRIGGER**

- **TYPE 5T1A TIMING UNIT** • **HIGH RESOLUTION** — up to 1000 dots/cm
- **TIME EXPANSION** — 2X to 100X with constant dots/cm
- **TIME POSITION** — delay through full time base
- **SWEEP MODE** — repetitive or single displays, plus timed scan (5 sec/cm) for driving external recorders

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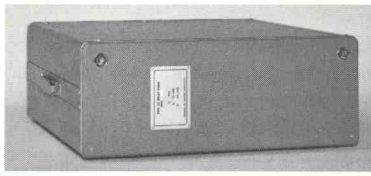
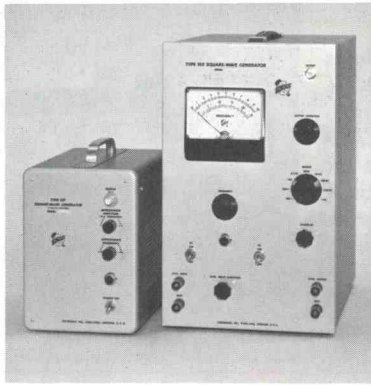
SQUARE WAVE GENERATORS

TYPE 105 FEATURES — 25 cps to 1 Mc range, continuously variable • **RISETIME** — 13 nsec with 52-ohm termination; less than 20 nsec with 93-ohm termination • **OUTPUT AMPLITUDE** — 10 v to 100 v across internal 600-ohm load • **FREQUENCY METER** — accurate within 3% of full scale •

TYPE 107 FEATURES — risetime less than 3 nsec into terminated 52-ohm cable • **FREQUENCY RANGE** — 400 kc to 1 Mc, uncalibrated • **OUTPUT AMPLITUDE** — 0.1 v to 0.5 v, with 52-ohm termination •

TYPE 113 DELAY CABLE

• **TIME DELAY** — 60 nsec • **RISETIME** — 0.1 nsec • **LOSS** — 1.5 db per 100 feet at 1000 Mc • **TYPE 113** — for sampling applications using Type 4S2 or Type N Plug-In Units



50 OHM PULSE GENERATORS

TYPE 109 • **RISETIME** — < 0.25 nsec • **PULSE WIDTH** — 0.5 nsec to 40 nsec at full rep rate, 300 nsec at $1/2$ rep rate • **VARIABLE CALIBRATED AMPLITUDE** — -0 to ± 50 v • **2 CHARGE LINES** — for equal or unequal alternate pulse durations •

TYPE 110 • **FEATURES** — similar to Type 109 plus Trigger Takeoff and Regenerator • **TRIGGER TAKEOFF** — signal patched into a 50-ohm "loop through" arrangement; about 98% of input voltage appearing at output • **REGENERATED TRIGGER** — ± 6 to ± 10 v, 220 to 280-nsec duration •

TYPE 111 • **OUTPUT PULSE RISETIME** — 0.5 nsec for positive, slightly longer for negative pulse • **REPETITION RATE** — continuously adjustable from 10 pps to 100 kc • **DURATION** — 2 nsec minimum, 100 nsec maximum • **AMPLITUDE** — over ± 5 v • **PRE-TRIGGER PULSE** — 10 v, 250-nsec duration, 4-nsec risetime ($1/2$ amplitude) • **TIME DIFFERENCE** — 30 to 250 nsec between Pretrigger and Output pulses •

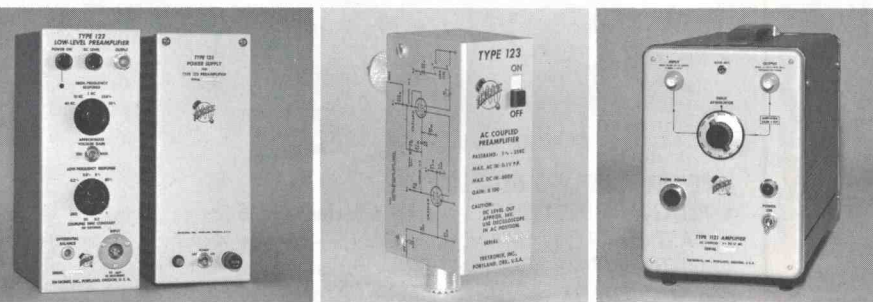
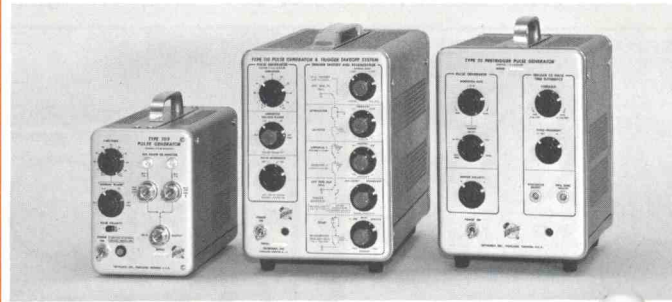
AMPLIFIERS

TYPE 122 • **FREQUENCY RESPONSE** — variable from 0.2 cps to 40 kc • **5 UPPER 3-DB POINTS** — 50 cps to 40 kc • **4 LOWER 3-DB POINTS** — 0.2 to 80 cps • **GAIN** — 100 or 1000X • **REJECTION RATIO** — 80 to 100 db • **SIGNAL OUT** — 20 v, pk-to-pk maximum, 1000- Ω impedance • **POWER SOURCE** — external batteries or TYPE 125 Power Supply (below) • **TYPE 122 POWER SUPPLY** — powers up to 4 Type 122 Amplifiers

TYPE 123 • **FREQUENCY RESPONSE** — within 3 db from 3 cps to 25 kc • **GAIN** — 100X • **MAXIMUM INPUT SIGNAL** — 0.1 v, 10 megohm impedance • **HUM FREE** — powered by miniature batteries (included) • **COMPACT** — $4\frac{1}{4}$ " by $1\frac{1}{2}$ " by $3\frac{7}{8}$ ", weighs only 10 oz •

TYPE 1121 • **FREQUENCY RESPONSE** — 5 cps to 17 Mc (3-db down) • **GAIN** — 100X • **CALIBRATED ATTENUATION** — 1 to 500X in 9 steps • **GAIN STABILITY** — within $\pm 1\%$ over 24-hour period • **SIGNAL OUT** — ± 1 v terminated in 93-ohm cable •

100 nsec maximum • **AMPLITUDE** — over ± 5 v • **PRE-TRIGGER PULSE** — 10 v, 250-nsec duration, 4-nsec risetime ($1/2$ amplitude) • **TIME DIFFERENCE** — 30 to 250 nsec between Pretrigger and Output pulses •



TYPE 130 L-C METER

• **MICROHENRY SCALE** — 0 to 3, 10, 30, 100, and 300 • **PICOFARAD SCALE** — 0 to 3, 10, 30, 100, and 300 • **ACCURACY** — within 3% • **GUARD VOLTAGE** — for measuring an unknown capacitance, eliminates effects of other capacitances



POWER SUPPLY FOR 2 and 3-SERIES PLUG-IN UNITS

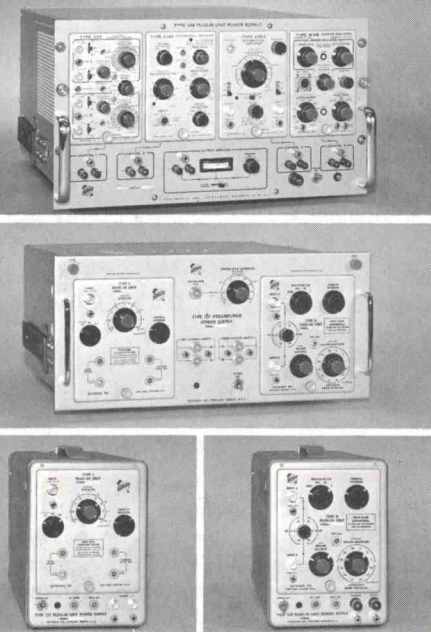
TYPE 129 • **POWER** — for up to four Units • **OUTPUTS** — via cathode-follower (dc to approx. 1 Mc) or passive plug-in boards (dc to approx. 100 kc) • **GAIN** — 2×10^5 (push-pull) or 10^5 (single-ended) using CF output board and Type 2A61 ac-coupled plug-in; 2×10^4 (push-pull) or 10^4 (single-ended) using CF output board and Type 3A3 dc-coupled plug-in • **OUTPUT MONITOR** — front-panel meter for balance or level indication • **RACK MODEL** — mounts on slide-out tracks to 19" rack • **CF OUTPUT BOARD**, Part No. 018-001 • **PASSIVE OUTPUT BOARD**, Part No. 018-002 •

POWER SUPPLIES FOR LETTER-SERIES PLUG-IN UNITS

TYPE 127 • **POWER** — for combinations of 2 Plug-In Units • **FREQUENCY RESPONSE** — dc to 19 Mc with Type L Unit • **GAIN** — unity (push-pull) or $1/2$ (single-ended) • **OUTPUT** — ± 0.3 v into 170-ohm termination • **AMPLITUDE CALIBRATOR** — 0.2 mv to 100 v • **RACK MODEL** — mounts on slide-out tracks to 19" rack •

TYPE 132 • **SYSTEM GAIN** — 10X or greater (93- Ω termination); up to 20,000X gain with Type G Unit (no termination) • **PASSBAND** — (with Type L Unit) dc-to-500 kc (no termination), dc-to-14 Mc (93- Ω termination), dc-to-16 Mc (double 93- Ω termination) • **OUTPUT** — ± 100 v push-pull or ± 50 v single-ended with high-Z load; ± 1 v with 93- Ω load •

TYPE 133 • **SOURCE IMPEDANCE** — 2- Ω (for driving recorders, speakers, etc.) • **FREQUENCY RESPON.** — dc to 100 kc • **SYSTEM GAIN** — 10X or greater single-ended • **OUTPUT** — ± 5 v (high-Z load), 1.5 amp (short circuit) • **MONITOR** — drive recorder and oscilloscope simultaneously •





TIME-MARK GENERATORS
TYPE 180A • **ACCURACY**—within 0.001%, stability of 3 parts per million over a 24-hour period • **14 TIME-MARK INTERVALS** — 2 per decade from 1 μ sec to 5 sec, separately or in combination • **3 SINE-WAVE FREQUENCIES** — 5, 10, and 50 Mc • **6 TRIGGER-RATE FREQUENCIES** — 1, 10 or 100 cps, 1, 10 or 100 kc •

TYPE 181 • **5 TIME-MARK INTERVALS** — 1 to 10,000 μ sec in decade steps, plus 10-Mc sine wave • **RACK MODEL** — bolts to 19" rack

TYPE 190B CONSTANT AMPLITUDE SINE-WAVE GENERATOR
 • **OUTPUT FREQUENCY** — 350 kc to 50 Mc, continuously variable, plus 50 kc variable over a narrow band • **AMPLITUDE VARIATION** — less than $\pm 2\%$ from 50 kc to 30 Mc; less than $\pm 5\%$ from 30 Mc to 50 Mc • **OUTPUT AMPLITUDE** — 40 mv to 10 v pk-to-pk, continuously variable • **OUTPUT IMPEDANCE** — nominally 25 ohms



180A
181
190B
280
290
291

Cameras
Scope-
mobiles



TRACE-RECORDING CAMERAS

• **FUNCTIONAL DESIGN** — one-hand portability, lift-on mounting, swing-away hinging, comfortable viewing with or without glasses, 9 positive-lock detents for multiple exposures, locking focus control • **STANDARD CAMERA ASSEMBLIES** — C-12 and C-13 for general-purpose-trace recording; C-19 for high-speed pulse recording • **SPECIAL COMBINATIONS** — Camera Frames, optional Lenses, and Film Backs as individual components, or assembled as a complete unit . . . consult your Tektronix Field Office (or Distributor) •

C-12 CAMERA — on-axis binocular viewing with beam-splitting mirror, f/1.9 lens with 1:0.9 object-to-image ratio, focus plate and Polaroid* Land 3 $\frac{1}{4}$ x 4 $\frac{1}{4}$ ROLL-FILM or PACK-FILM BACK •

C-13 CAMERA — hinged viewing aperture, maximum light transmission from crt to film, f/4.5 lens with 1:0.7 object-to-image ratio, focus plate, and Polaroid* Land 3 $\frac{1}{4}$ x 4 $\frac{1}{4}$ ROLL-FILM or PACK-FILM BACK •

C-19 CAMERA — low-angle binocular viewing, maximum light transmission from crt to film, f/1.9 lens with 1:0.5 object-to-image ratio, focus plate, and Polaroid* Land 3 $\frac{1}{4}$ x 4 $\frac{1}{4}$ ROLL-FILM or PACK-FILM BACK •

Camera Mounting Bezels are available separately.

35-MM ATTACHMENT FOR ALL TEKTRONIX CAMERAS

• **AUTOMATIC ADVANCE** — spring-wound motor • **SIMPLE MOUNTING** — easily attached to C-12, C-13, or C-19 Camera Frame • **SHUTTER/LENS** — integral with back, f/1.9 lens with 1:0.2 object-to-image ratio • **FILM ECONOMY** — 30 or 55 exposures per roll, 23.2 x 23.6 mm frame size •

* Registered by Polaroid Corporation

SAMPLING ACCESSORIES

TYPE 280 TRIGGER COUNTDOWN UNIT — synchronizes on 30 Mc to 5 gigacycles, output continuously variable from 15 to 45 Mc • **2 OUTPUTS** — 150 mv at <0.4-nsec risetime, and 1.5 v at <4-nsec risetime • **INPUT SENSITIVITY** — 50 mv to 4 v, pk-to-pk • **INPUT IMPEDANCE** — approx. 50 Ω •

TYPE 290 TRANSISTOR SWITCHING-TIME TESTER — measures fast transistors, short duty cycle measurements of delay time, risetime, storage time, and fall time (with Fast-Rise Pulser and Sampling Oscilloscope) • **MONITOR** — input or collector output separately or (with dual-trace system) simultaneously • **HIGH-LOW COLLECTOR VOLTAGES** — continuously variable from 0 to 30 v and 0 to 100 v (2 transistor sockets) • **CONTINUOUSLY VARIABLE BASE SUPPLY** — 0 to ± 10 v through 10 kilohms • **50- Ω OUTPUTS** — allow remote location •

TYPE 291 DIODE SWITCHING-TIME TESTER — measures fast-switching diodes, forward and reverse recovery (with Fast-Rise Pulser and Sampling Oscilloscope) • **CONSTANT CURRENT SUPPLY** — 1 to 100 ma in 7 steps, variable between steps • **0.35-NSEC RISETIME** — with either Test Fixture •

TEST FIXTURES — separate from the Type 291 for remote operation • **EASY OPERATION** — diodes magnetically held in test fixture • **TEST JIG**, V-shaped contacts, part no. 013-080 • **ADAPTER**, for above test jig, part no. 017-075 • **TEST FIXTURE**, strip-line environment, part no. 017-072

SCOPE-MOBILE® CARTS — mobile support for oscilloscopes and other instruments. Each cart has 5" wheels, front-wheel brakes, and a storage drawer.

TYPE	FITS THESE INSTRUMENTS	TRAY	PLUG-IN CARRIER
201-1	503, 504, 515A, 516	Tilting tray locks in nine 4 $\frac{1}{2}$ ° steps	No
201-2	561A, 564, 647		For 2 and 3-Series or 10 & 11-Series
202-1	502A (w/adaptor), 507,	Fixed 20°	No
202-2	517A, 524, 530/40/50/70/80 - Series, 661		For Letter - Series or 80-Series
35-1	565, 567, all RMs		No
500A	Accepts instruments up to 13" in width		No
500/53A			For Letter - Series or 80-Series

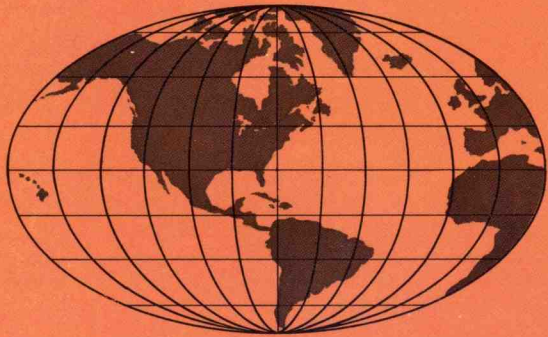
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OUR CONTINUING CREED IS THAT OF SERVING TEKTRONIX CUSTOMERS WITH PRODUCTS AND POLICIES THAT ARE UNEXCELLED IN THE ELECTRONICS INDUSTRY AND LIMITED ONLY BY THE CURRENT STATE OF THE ART.

UNITED STATES AND CANADA FIELD ENGINEERING OFFICES



TEKTRONIX, INC.

Tektronix, Inc., an Oregon Corporation, Home Office & Factory, P. O. Box 500, Beaverton, Oregon 97005
Telephone: (503) Mitchell 4-0161 TWX—503-291-6805 Telex: 036-691 Cable: TEKTRONIX

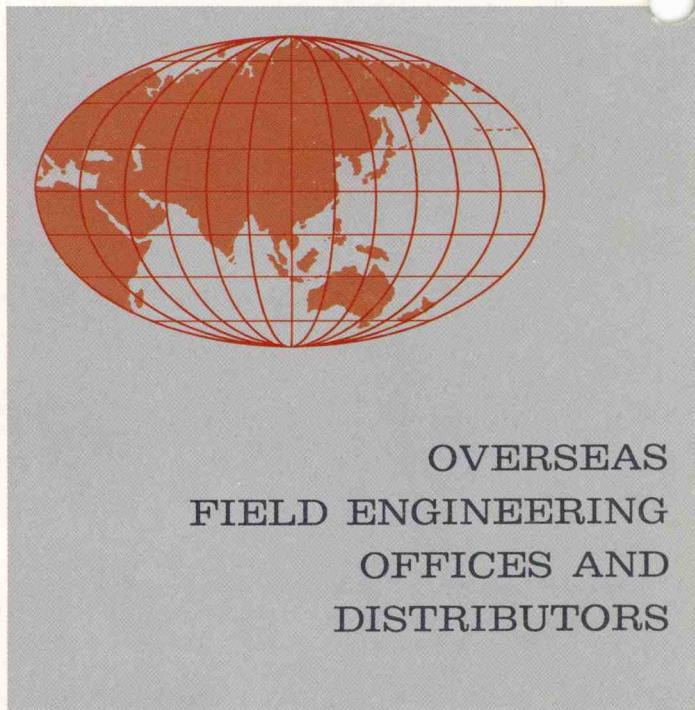
FIELD ENGINEERING OFFICES

- ALABAMA** Huntsville... 3322 South Memorial Parkway, Suite 111, Huntsville... Telex 05-9422... Telephone: (205) 881-2912
- ARIZONA** Phoenix... 7000 E. Camelback Road, Scottsdale... Telex 031-701... Telephone: (602) 946-4273
- CALIFORNIA** San Diego... 3045 Rosecrans Street, San Diego 10... Telex 039-825... Telephone: (714) 222-0384
- Los Angeles Area* Orange... 1722 E. Rose Avenue, Orange... Telex 06-78812... Telephone: (714) 633-3450
- Pasadena*... 1194 East Walnut Street, Pasadena... TWX: 213-449-1151... Telex 06-74397... Telephone: (213) 449-2164
- Van Nuys*... 16930 Sherman Way, Van Nuys... Telex 06-74396... Telephone: (213) 787-0121
- From Los Angeles telephones:* 873-6868
- Island of Oahu, Hawaii Area: ENterprise 5-700*
- Walnut Creek*... 1709 Mt. Diablo Blvd., Walnut Creek... Telex 033-644... Telephone: (415) 935-6101
- From Oakland, Berkeley, Richmond, Albany and San Leandro:* 254-3353
- Palo Alto*... 3944 Fabian Way, Palo Alto... Telex 033-911... Telephone: (415) 326-8500
- COLORADO** Denver... 2120 South Ash Street, Denver 22... Telex 045-662... Telephone: (303) 757-1249
- Salt Lake Area: Zenith 381*
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