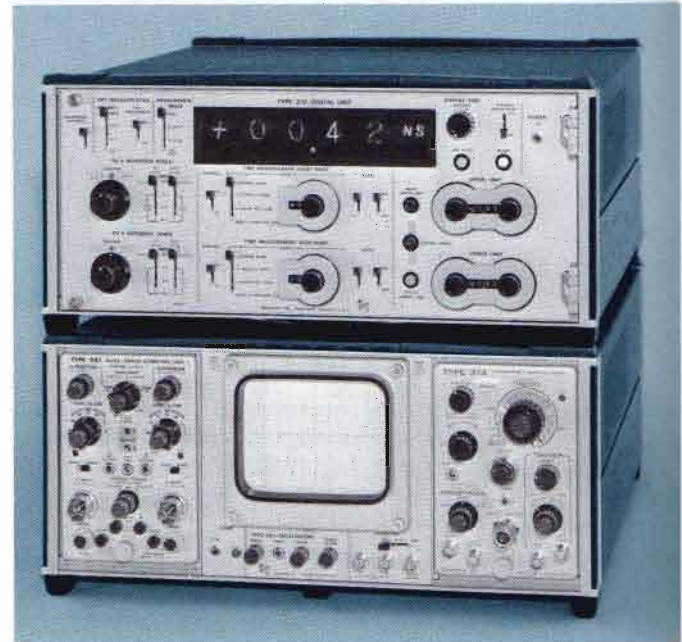
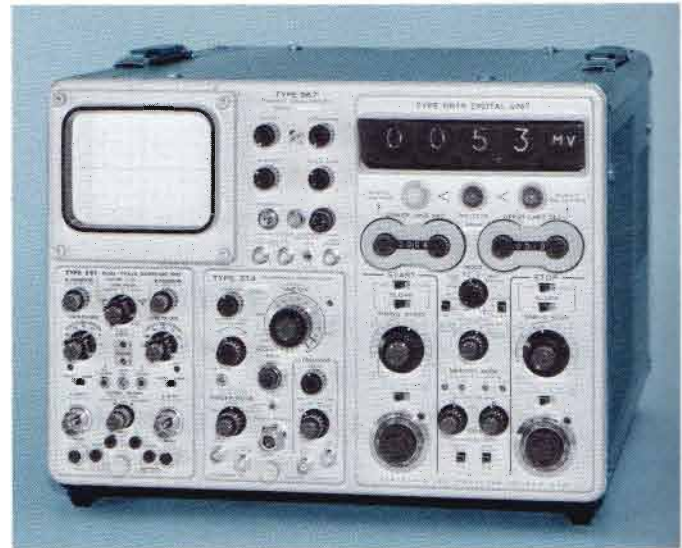


Digital Readout Introduction

- **ANALOG DISPLAYS**
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DIGITAL READOUT PLUS ANALOG DISPLAYS

The Type 568/230 and Type 567/6R1A Digital Readout Oscilloscope systems provide digital readout of measurements that are displayed in analog form on the CRT. They enable the engineer, technician, or production worker to make dynamic switching-time measurements with greater speed, repeatability, and convenience than has been possible by making measurements directly from a cathode-ray oscilloscope display.

The Type 230 and Type 6R1A Digital Units have the ability to make a wide variety of repetitive-pulse measurements digitally without operator interpretation or error. These test measurements include pulse voltages, risetime, delay time, storage time, pulse width and many other specific measurements. The measurements are read out directly in four-digit resolution. The decimal point and unit of measure (ns, μ s, ms, s, mV, V) are automatically presented when time/div, amplitude/div or measurement program is changed. Measurement limits may be selected to provide Go/No-Go indications.

Front panel controls can be set up manually or they can be set, or changed, by external programming when rapid automatic test measurements are desired. Output connectors are provided on the rear panel to permit recording of the displayed measurement digital information. This allows permanent collection of data on a printer, card punch or similar device.

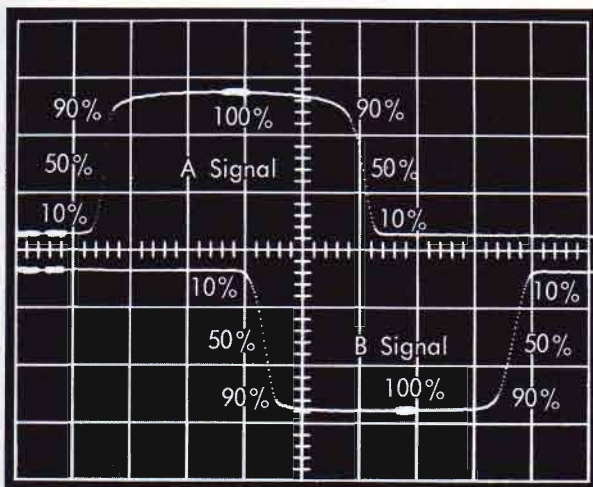
Digital Readout Introduction

The Type 567 Readout Oscilloscope and Type 6R1A Digital Unit can make up to 8 measurements per second with increased convenience and repeatability over conventional oscilloscopes. With Type 262 Programmers, the Type 6R1A Digital Unit can be externally programmed to provide up to 24 different measurement functions and measurement limits. Programs are selected by a front-panel switch on the Type 262 or automatically with the addition of automatic sequence cards. Output connectors provide the digital readout information in parallel form. The Type 567/6R1A Digital Readout Oscilloscope offers digital measurement capabilities and it can provide automatic measurement capabilities with the Type 262 Programmer. See pages 196 through 201 for more complete information.

The Type 568 Oscilloscope and Type 230 Digital Unit comprise a new high-speed solid-state digital oscilloscope system that provides maximum measurement flexibility. It is a step ahead in measurement capabilities with increased measurement speed, increased programming ease, BCD data outputs and solid-state reliability with extensive use of integrated circuits. The Type 568/230 can make up to 50 measurements per second and all of its measurement functions are easily programmed by grounding or opening its program lines. With proper programming techniques, the measurement speed can be increased to more than 100 measurements per second. The Type 568/230 has automatic polarity indication and increased measurement resolution. The data output is in BCD code and includes polarity, numbers, units, multiplier and limits. The Type 568/230 Digital Oscilloscope system offers maximum measurement flexibility and programming ease. See pages 202 through 206 for more complete information.

TYPICAL MEASUREMENT CAPABILITIES

| DUAL-TRACE DISPLAY SHOWING TYPICAL MEASUREMENTS | | |
|--|--------------|-------|
| MEASUREMENT | 6R1A PROGRAM | |
| | Start | Stop |
| Risetime A | +10%A | +90%A |
| Falltime A | -90%A | -10%A |
| Risetime B | -10%B | -90%B |
| Falltime B | +90%B | +10%B |
| Delay A to B | +10%A | -10%B |
| Storage A to B | -90%A | +90%B |
| Turn on A to B | +10%A | -90%B |
| Turn off A to B | -90%A | +10%B |
| Width A | +50%A | -50%A |
| Width B | -50%B | +50%B |



1. **TIME MEASUREMENTS** can be made between 2 points on the same waveform, or between separate points on Channel A and Channel B. Points are determined (1) as a percentage of signal amplitude, (2) as a particular voltage level referenced to the signal, or (3) at a desired interval during the sweep. With the horizontal plug-ins presently available, time differences from 20 ps and up to 10 s can be displayed and read out digitally.
2. **VOLTAGE MEASUREMENTS** can be made between any 2 points on the waveform or to either the positive or negative peak signal within the positionable reference zones.
3. **PERMANENT RECORDS** of each test can be made with external equipment. The Digital Units provide digital and go/no-go outputs for use with a card punch, tape perforator, and numerical printers. The Type 6R1A provides parallel 10-line data output and the Type 230 provides parallel BCD (1 2 4 8) data output.
4. **EXTERNAL PROGRAMMING** permits rapid sequencing of measurements and test limits without changes of the front-panel controls.
5. **LIMIT SELECTION** presets digital comparators for automatic readings in three categories: (1) less than lower limit, (2) greater than upper limit, and (3) mid-zone—between upper and lower limits.