SAMPLE COPY 5/5/61'
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Advertising Dept.

HANK CROMBIE
BOSTON

DUAL TRACE

WIDE BAND

BANDPASS FILTERS

KEYED CLAMP

SYNC CHANNEL

TEKTRONIX®

Type V

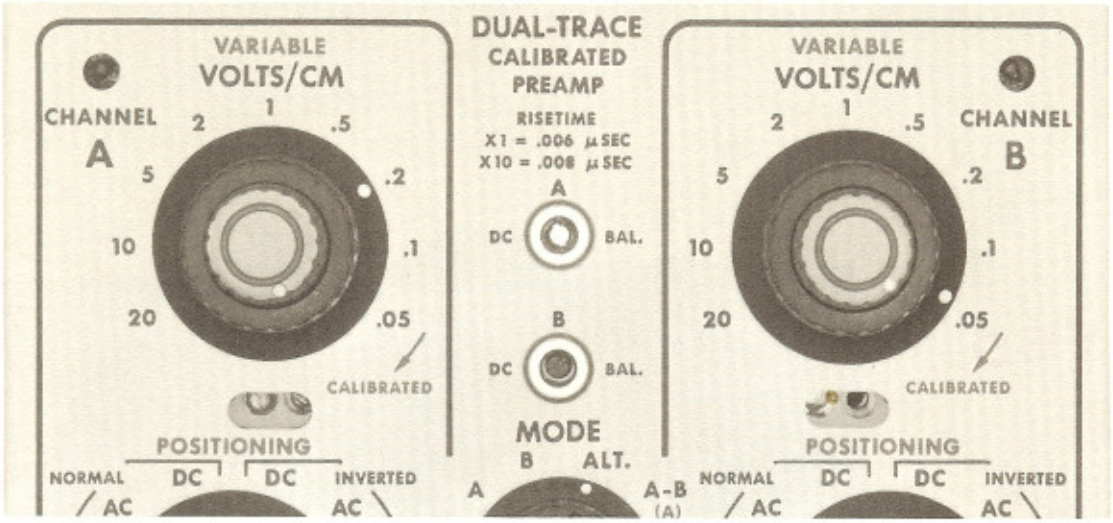
VIDEO PLUG-IN UNIT

TYPE V VIDEO PLUG-IN

The Type V Video Plug-In Unit adapts Tektronix Type 530, 540, and 550-Series Oscilloscopes to meet the particular needs of the TV engineer.

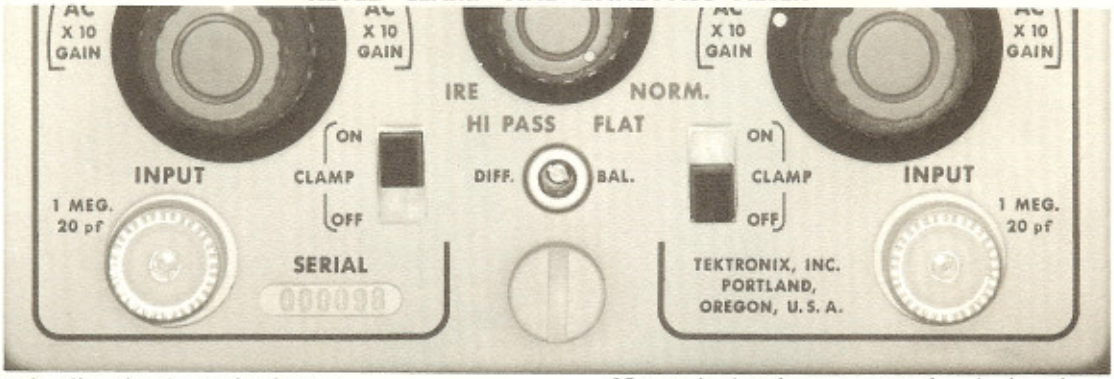
Containing two input channels, plus a sync channel, the Type V permits quick and precise measurements of video signals.

DUAL TRACE — WIDE BAND



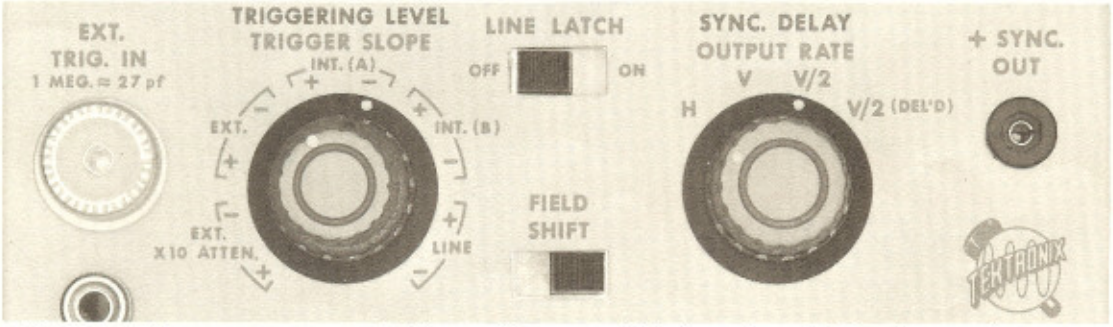
Single channel presentation (A or B).
Alternate trace (A and B).
Differential (A minus B).
6 nsec risetime (Type V Unit only) in AC or DC position.
8 nsec risetime (Type V Unit only) in AC X10 position.
Sine wave frequency response flat within 1% to 10 mc.
Input impedance of 1 megohm paralleled by 20 pf.

KEYED CLAMP AND BANDPASS FILTER



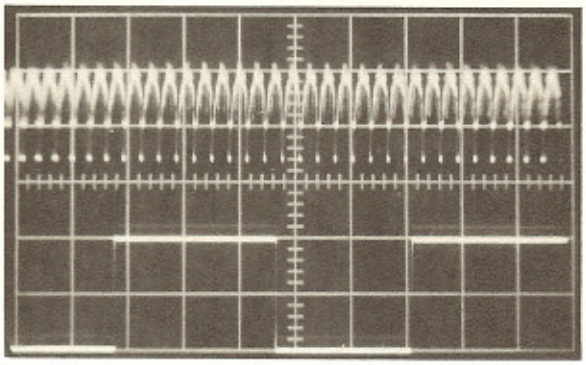
Keyed line-by-line backporch clamp.
Switch-selected filters for IRE, Hi-Pass, Flat, or Normal (optimum transient) bandpass characteristics.

SYNC CHANNEL



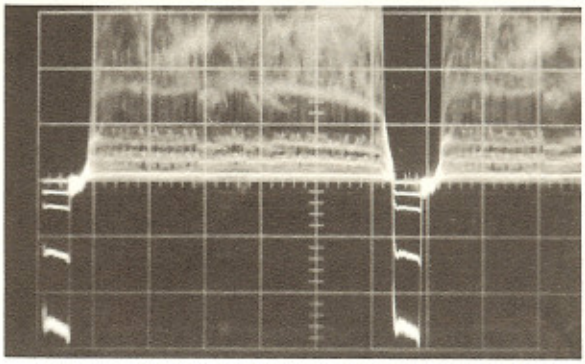
Sync for triggering the sweep separated from 50 mv of composite video signal.
Sync available from Channel ±A, Channel ±B, ±External or ±Line (power).
Output rates of H, V, V/2, or V/2 (delayed).

Typical video waveform displays showing the capabilities of the Type V Video Plug-In Unit in a Tektronix Type 533 Oscilloscope. Photographs were taken with a Tektronix Type C-12 Camera. Film was Polaroid* 44.
***Registered trademark of the Polaroid Corp.**



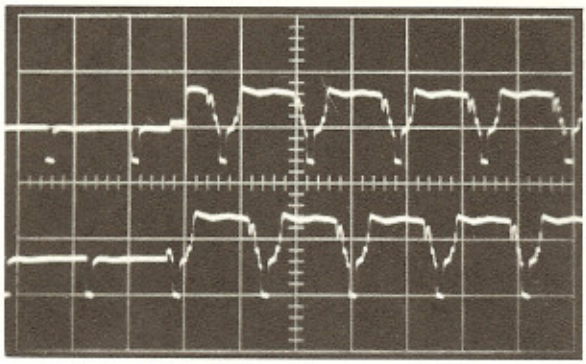
Top: Video signal. Bottom: 1 v calibrator signal.
Sweep speed 200 μsec/cm.

Display shows dual-trace capabilities of the Type V unit. Both channels have a bandwidth of 15 mc (3 db) in the Normal filter position. In the Flat position the response is flat within 1% to 10 mc.



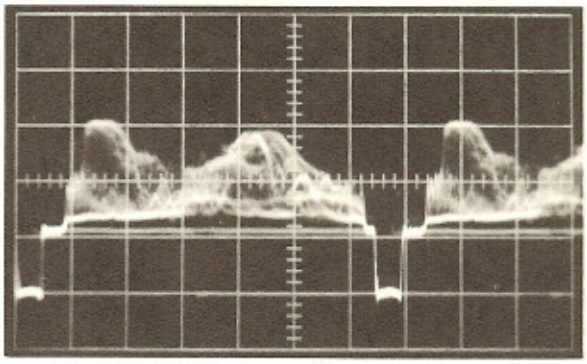
Sweep speed 50 μsec/cm. Vertical sensitivity 0.5 v/cm.

Keyed line-by-line clamp. Video signals of 3 volts to 50 mv are shown clamped to the backporch level. This feature allows easy set-up measurements. (multiple exposure)



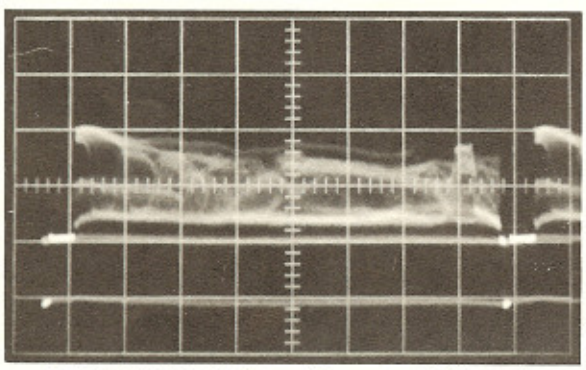
Vertical sensitivity 1 v/cm. Sweep speed 500 μsec/cm.

Alternate mode display shows portion of two interlaced fields. Sweep triggered by "V" triggers. X10 horizontal magnifier was used.



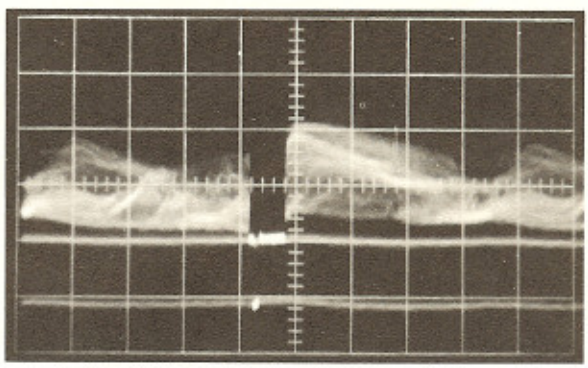
Vertical sensitivity 0.5 v/cm. Sweep speed 20 msec/cm.

Single channel display shows the solid triggering of the Tektronix Type 533 Oscilloscope with the Type V unit trigger pulses. Output Rate switch set at H position.



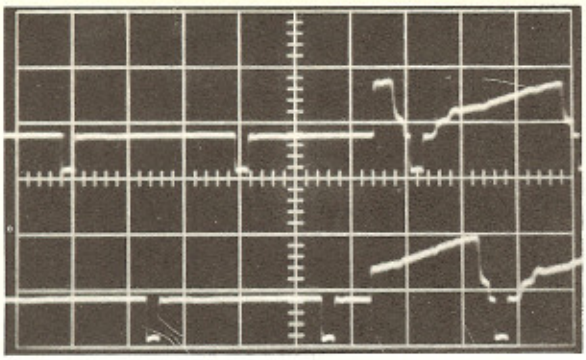
Vertical sensitivity 1 v/cm. Sweep speed 500 μsec/cm.

Field-rate triggers allow display of one complete vertical field. Output Rate switch at V position.



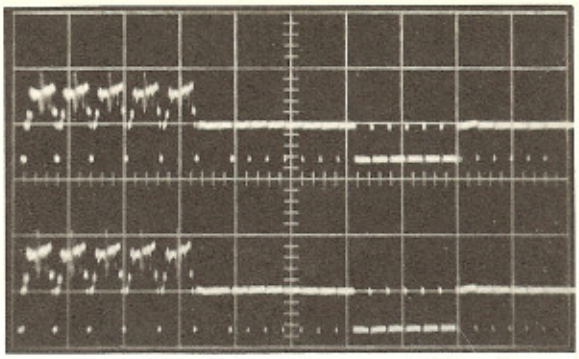
Vertical sensitivity 0.5 v/cm. Sweep speed 20 msec/cm.

Illustrates the sync delay capabilities of the Type V unit. V/2 triggers initiate the oscilloscope sweep at a time, after the vertical group, which is determined by the position of the Sync Delay control.



Vertical sensitivity 0.5 v/cm. Sweep speed 20 μsec/cm.

The top waveform shows field #2. The bottom waveform was taken after the Field Shift switch was pushed once. It shows field #1. Taken with approximately 170 msec delay. (double exposure)



Vertical sensitivity 1 v/cm. Sweep speed 100 μsec/cm.

The V/2 position allows viewing of the same field on both channels when using the Alternate mode of operation. Photo taken with approximately 160 ms of delay and a sweep speed of 100 μsec/cm.

TENTATIVE SPECIFICATIONS

CHANNELS A AND B

Calibrated sensitivity — 0.05 v/cm to 20 v/cm in nine calibrated steps. Continuously variable (uncalibrated) to 50 v/cm. AC X10 position increases sensitivity to 5 mv/cm.

Risetime — 6 nsec (Type V Unit only) in AC or DC position.
8 nsec (Type V Unit only) in AC X10 position.

Frequency Response — DC to 15 mc in Tektronix Type 533 Oscilloscope.

Filters — Switch allows selection of one of four filters:
IRE — bandpass conforms to IRE Standard.
Hi-Pass — passes 3.58 mc color subcarrier.
Flat — sine wave response flat to 10 mc ±1%.
Normal — optimum transient response.

Operating Modes — Channel A only.
Channel B only.
Alternate (A and B, dual-trace).
A−B (differential).

Input Impedance — 1 megohm paralleled by 20 pf.

Input Coupling — AC or DC, AC X10. Signal can be displayed either sync negative or sync positive.

SYNC CHANNEL

Keyed Clamp — Line-by-line backporch clamp.

Trigger Slope — Switch permits choice of the following trigger sources: Ext. X10 Atten., Ext., Int. Ch A, Int. Ch B, or Line.
The triggering point can be on either the rising or falling slope of the triggering waveform.

Trigger Level — Selects the level at which incoming waveform will trigger sweep. 50 mv of composite video signal required for reliable operation.

Output Rate — A four-position switch allows selection of the following:
H — horizontal line rate.
V — field rate.
V/2 — frame rate.
V/2 (del'd) — frame rate with time of occurrence dependent upon Sync Delay setting.

Sync Delay — Determines time of occurrence of output trigger; allows observation of any part of a given field.

±Sync Out — A positive pulse, generated by a blocking oscillator, used for triggering the sweep.

Line Latch — In this position the sweep is triggered by the first horizontal sync pulse after the delay set by the sync Delay control.

Field Shift — Selects other field.

Ext. Trigger Input — 1 megohm paralleled by 27 pf. Has ground post for double GR plug.

MECHANICAL SPECIFICATIONS

Construction — Aluminum-alloy chassis.

Finish — Photo-etched anodized panel.

Please check with your Field Engineer for price and availability.

Tektronix, Inc. P. O. Box 500 • Beaverton, Oregon • Phone Mitchell 4-0161 • TWX—BEAV 311 • Cable: TEKTRONIX

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TEKTRONIX ENGINEERING REPRESENTATIVES: Hawthorne Electronics, Portland, Oregon • Seattle, Washington. Tektronix is represented in twenty overseas countries by qualified engineering organizations.

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