

Test/measuring instruments for video equipment

201 Envelope Delay Measuring Set



The envelope delay of video transmission equipment for color TV broadcasting is regulated in the CCIR report. A phase compensator is required in order to satisfy this standard. This measuring instrument is designed to perform adjustments speedily to such phase equalizer.

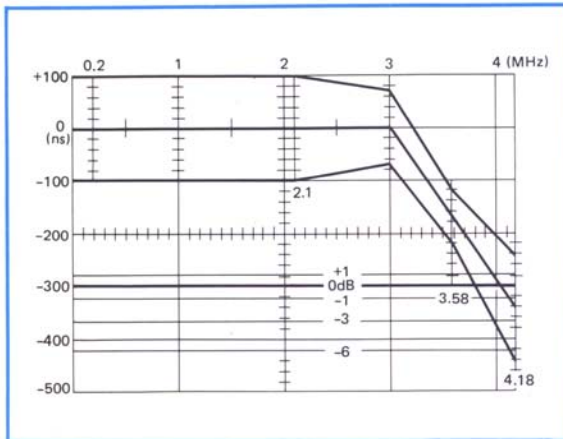
Furthermore, the envelope delay and frequency response can be measured across a broad video frequency range and so the instrument can be used in a variety of applications such as the adjustments of filters.

- A large picture tube display (7-inch square) is featured and so the envelope delay can easily be read out on the scale.
- The built-in sweep signal generator (100kHz – 10MHz) enables envelope delays to be measured up to 200kHz – 10MHz. CW can also be selected for measurements according to the point-to-point method.
- Dual-trace display is also possible whereby the envelope delay and the frequency-versus-amplitude response can be displayed simultaneously.

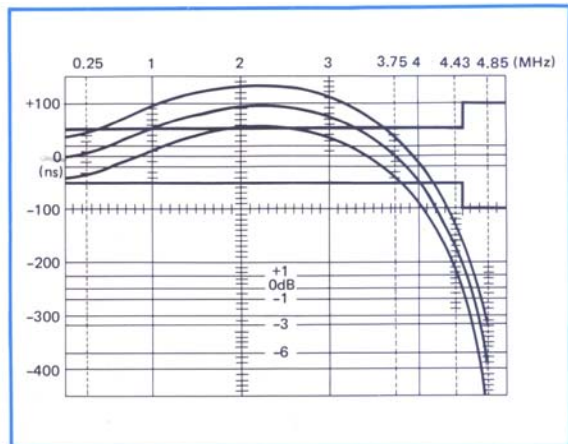
- The built-in sync and blanking circuit enable the measurement of transmission systems which contain clamping circuits. (DC measurement)
- The sweep rate can be varied by means of the sweep speed control on the front panel. This makes it possible to measure circuits where the phase undergoes rapid change with the minimal error.
- Fixed frequency markers are also featured. There is also an external marker input terminal and so points other than those fixed can be measured accurately in combination with a signal generator.

TELEVISION SYSTEMS

- 201/1 System-M, Color-NTSC
- 201/2 System-B.G.I, Color-PAL
- 201/3 System-B.L, Color-SECAM



FCC scale (NTSC)



PAL-B, G scale

The typical scales are listed above. However, alternative scale can be provided depending on the requirements of our customers.

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Specifications

Model	201/1	201/2	201/3
Measuring signal generator section Frequency range : SWEEP : C W Flatness C W accuracy Internal marker frequency	100 kHz to 10 MHz 100 kHz to 10 MHz ± 1 dB at 100 kHz to 10 MHz ± 3% 0.2/1/2.1/3/3.58/4.18/5/10 MHz	100 kHz to 10 MHz 100 kHz to 10 MHz ± 1 dB at 100 kHz to 10 MHz ± 3% 0.25/1/2/3/3.75/4.43/4.8/10 MHz	100 kHz to 10 MHz 100 kHz to 10 MHz ± 1 dB at 100 kHz to 10 MHz ± 3% 0.25/1/2/3/3.75/4.43/4.8/10 MHz
External marker : Input impedance : Input level : Frequency Sweep rate Output impedance	50 Ω unbalanced Approx. 0.5 Vp-p 1 MHz to 10 MHz 1 to 10 Hz continuous variable 75 Ω ± 10% unbalanced	50 Ω unbalanced Approx. 0.5 Vp-p 1 MHz to 10 MHz 1 to 10 Hz continuous variable 75 Ω ± 10% unbalanced	50 Ω unbalanced Approx. 0.5 Vp-p 1 MHz to 10 MHz 1 to 10 Hz continuous variable 75 Ω ± 10% unbalanced
Measuring signal output level Sync off	0.1 Vp-p to 1.0 Vp-p variable	0.1 Vp-p to 1.0 Vp-p variable	0.1 Vp-p to 1.0 Vp-p variable
Sync on : Video : Set-up : Sync	0.1 Vp-p to 1.0 Vp-p 10% of video level 0.1 Vp-p to 0.5 Vp-p	0.1 Vp-p to 1.0 Vp-p 10% of video level 0.1 Vp-p to 0.5 Vp-p	0.1 Vp-p to 1.0 Vp-p 10% of video level 0.1 Vp-p to 0.5 Vp-p
Sync : Frequency : Accuracy	15.734 kHz 5 × 10 ⁻⁴	15.625 kHz 5 × 10 ⁻⁴	15.625 kHz 5 × 10 ⁻⁴
Split : Frequency : Accuracy	20 kHz 5 × 10 ⁻⁴	20 kHz 5 × 10 ⁻⁴	20 kHz 5 × 10 ⁻⁴
C W output : Level : Impedance	≥ 0.5 Vp-p 75 Ω ± 10% unbalanced	≥ 0.5 Vp-p 75 Ω ± 10% unbalanced	≥ 0.5 Vp-p 75 Ω ± 10% unbalanced
Envelope delay measuring section Measuring frequency range : SWEEP : C W	200 kHz to 10 MHz 200 kHz to 10 MHz	200 kHz to 10 MHz 200 kHz to 10 MHz	200 kHz to 10 MHz 200 kHz to 10 MHz
Measuring range : x 1 : x 2	+100 n sec to -500 n sec + 50 n sec to -250 n sec	+150 n sec to -450 n sec + 75 n sec to -225 n sec	+150 n sec to -450 n sec + 75 n sec to -225 n sec
Measuring accuracy Measuring input level	± 10 n sec (when input deviation is less than 0 ~ -6 dB) 0.1 to 1.1 Vp-p	± 10 n sec (when input deviation is less than 0 ~ -6 dB) 0.1 to 1.1 Vp-p	± 10 n sec (when input deviation is less than 0 ~ -6 dB) 0.1 to 1.1 Vp-p
Input impedance Noise Delay time calibration signal	75 Ω ± 10% unbalanced ± 10 n sec at sync off 100 n sec	75 Ω ± 10% unbalanced ± 10 n sec at sync off 100 n sec	75 Ω ± 10% unbalanced ± 10 n sec at sync off 100 n sec
Display section Display Sensitivity : x 1 : x 2 Usable screen size C. R. T.	Dual-trace by chopper method 100 nsec/div. (1 div.=14mm) 50 n sec/div. 118 x 84 mm 7 inches square tube, persistence (B-7)	Dual-trace by chopper method 100 nsec/div. (1 div.= 14 mm) 50 n sec/div. 118 x 84 mm 7 inches square tube, persistence (B-7)	Dual-trace by chopper method 100 nsec/div.(1 div.= 14 mm) 50 n sec/div. 118 x 84 mm 7 inches square tube, persistence (B-7)

Power supply AC 100/115/200/230 V ± 10%,
50/60 Hz, approx. 80 VA
Dimensions & weight 426(W) x 149(H) x 350(D) mm,
approx. 13kg

Accessories Supplied Coaxial cables (BNC, 3C2V) 2
Extender board 1
Optional Rack mounting adaptor

Remarks: Model 201 ; for overseas market
Model 763H ; for domestic in Japan
Both models are as same specification.