

RT35A/RT45A

TELEVISION INSTRUMENTS

TV CHANNEL SIGNAL GENERATOR



General

The RT35A and RT45A are designed to transmit any designated TV channel wave to NTSC, PAL, SECAM, or other television broadcasting system. Video sound signals, which are modulated by an intermediate frequency, are converted to the designated channel frequency in the RF section. Thanks to their compact size and reasonable price, these units are widely applicable for testing TV receiver sets and VCRs during the manufacturing process and other areas.

CHANNELS

- RT35A 1 VHF channel
- RT45A 1 UHF channel

Specifications

- Input signals
- Video section
 - Input impedance High (bridge connection)
 - Input level 0.5 to 1.1 Vp-p
 - Connector type BNC-R, 75 Ω
 - Polarity Positive (Sync signal: Negative)
- Sound section
 - Input impedance High (10 kΩ)
 - Input level 0 dBs (0.775 Vrms) ±6 dB
 - Frequency range 40 Hz to 100 kHz (pre-emphasis OFF)
 - 40 Hz to 15 kHz (pre-emphasis ON)
 - Connector type BNC-R, 10 kΩ
- Output signals
- Output impedance 50 Ω
- VSWR < 1.3
- Frequency stability ±3 × 10⁻⁵ (within operating temperature of 0°C to 40°C)
- Video section
 - Output level 137 dB μV (1 W)
 - Deviation 87.5% reference modulation against input signal of 1.0 Vp-p (10-step signal)
 - Frequency response ±0.5 dB in the operating band (Ref: fV + 1.5 MHz)

DG/DP characteristics

±1%/±1° with standard output (with DG/DP compensation circuits) (Fig. 1)

Sync compression rate

≤ 5% with standard output (with sync expansion circuit)

Spurious

≤ -60 dB, in band
≤ -55 dB, out band

Waveform distortion

SIN² wave Kp ≤ 1.0
Sag ≤ 3% (60 Hz)
Smear ≤ 5%
Overshoot ≤ 8% (250 kHz)
Undershoot ≤ 8% (250 kHz)
Rise time ≤ 0.15 μs

Group delay response

±25 ns for each designated curve (Fig. 2)

• Sound section

Sound level Depending on PS ratio of designated TV system
-7 dB (System I)
-10 dB (USA channel of system M; B/G, D/K, L systems)

Modulation method

FM: (System M, B/G, D/K, I)
AM: (System L)

Frequency range 40 Hz to 100 kHz (Pre-emphasis OFF)
40 Hz to 15 kHz (Pre-emphasis ON)

Frequency response

Pre-emphasis OFF ±0.5 dB in range of 40 Hz to 100 kHz (Systems M, B/G, D/K, I)
±0.5 dB in range of 40 Hz to 15 kHz (System L)

Pre-emphasis ON

13 dB ±1 dB at 15 kHz (T = 50 μs)
17 dB ±1 dB at 15 kHz (T = 75 μs)

Pre-emphasis T = 50 ± 5 μs (Systems B/G, D/K, I)
T = 75 ± 5 μs (System M)

Modulation distortion

< 1% (Systems M, B/G, D/K, I)
< 3% (System L)

Modulation factor ±25 kHz (System M)

±50 kHz (Systems B/G, D/K, I)
60% (System L)

Specifications

● Other specifications

- Channel character output
Channel nation name (3 characters or less) and channel numerics (1 or 2 characters) can be superimposed in the output signal as standard.

- Sound MPX
2-carrier system Sound MPX signals conforming to systems of Germany, Korea can be generated when used with the TA03C TV sound MPX signal generator.

- PSK system Sound MPX signals conforming to UK, china and scandinavian systems can be generated when used with the TA05C (UK stereo encoder), TA05CU (UK stereo adaptor), RC25B (Sound IF converter) and other equipment.

- CW 38.9-MHz output (option)
100 dB μ V, 50 Ω , BNC-R
- Monitor connector Video RF output level, video modulation factor, sound RF output level, detection level of sound modulation factor are output at DC level, enabling monitor output levels of video and sound signals.

● General specifications

- Power supply AC 90 to 132, 180 to 250 V, 50/60 Hz
- Power consumption Approx. 220 VA
- Operating temperature range 0°C to 40°C
- Relative humidity 25% to 90%RH (non-dewing)
- Dimensions 426(W) x 99(H) x 460(D) mm
- Weight Approx. 10 kg

Fig. 1: DG/DP performance

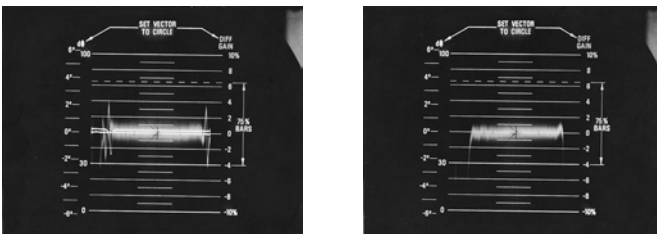


Fig. 2: Group delay response

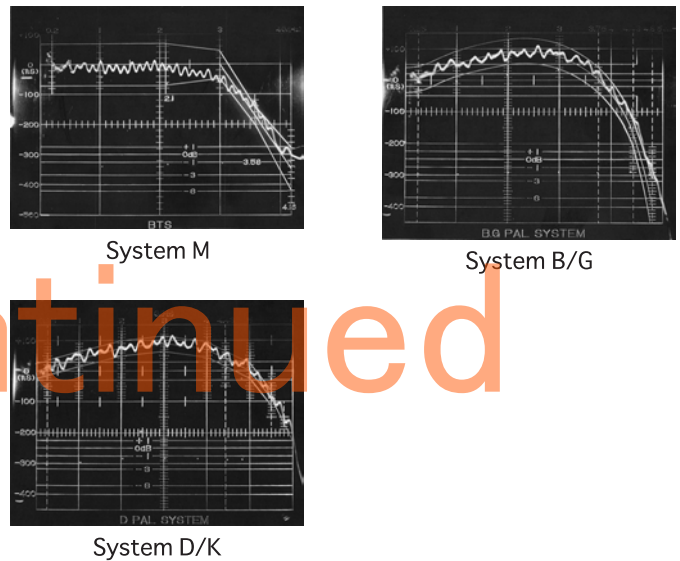


Fig. 2: Group delay response

