

# RT83B

## TELEVISION INSTRUMENTS

### MULTICHANNEL SIGNAL GENERATOR



#### General

The RT83B is a multichannel signal generator in which user-defined frequencies from 30 MHz to 2.4 GHz can be preset in 10 kHz increments. The AM section consists of a VHF, UHF, and CATV standard TV signal generator, and the optional FM section of a BS (Broadcast Satellite) and CS (Communications Satellite) signal generator. The AM section incorporates seven types of SAW filters; the FM section features original advanced high-frequency technologies such as energy dispersion, pre-emphasis, and LPF characteristics. The versatile RT83B is useful in the development, manufacture, and maintenance of VCRs, televisions, BS/CS tuners and other high-frequency equipment.

#### Features

- 30 MHz to 2.4 GHz AM/FM(optional) modulated signal is available.
- The combined use of on-screen menu displays and the rotary encoder enables easy setting of standard and non-standard signals.
- Country name, channel numbers, and other information can be displayed.
- A GP-IB interface is included as standard equipment.
- Optional FM modulation unit (RT83B0001) and 1 GHz LPF adaptor (RT83B0003) are available.

#### Specifications

- Output signals
  - Output impedance 50 Ω, N-R
  - Max. output level AM: 0 dBm (Video modulation: 87.5%)  
FM: 0 dBm
  - Output frequency 30 to 2400 MHz  
(Min. resolution: in 10 kHz increments)
  - Frequency response (at output level of 0 dBm)
    - AM: 30 to 1,000.99 MHz ±1.5 dB
    - FM: 1001.00 to 1800 MHz ±2 dB  
1800.01 to 2400 MHz ±3 dB

- Frequency accuracy
  - ±50 PPM (25°C ±5°C)
- Output level accuracy
  - ±1.5 dB, 0 to -29 dBm
  - ±2.0 dB, -30 to -59 dBm
  - ±5.0 dB, -60 to -107 dBm
- Video characteristics
  - Input impedance High (bridge connection)
  - Input level (75 Ω) 1 Vp-p, VBS (BNC-R)
  - Differential gain < 2% (AM), < 5% (FM)
  - Differential phase < 2° (AM), < 5° (FM)
  - S/N ratio ≤ -50 dBrms (AM), ≤ -50 dBrms (FM)
  - Modulation polarity (AM)
    - M, B/G, D/K, I: Negative
    - L : Positive
- Frequency deviation
  - AM Standard modulation: 87.5% (±3%)  
0% to 100% modulation  
(in 0.5% increments)
  - FM 0 to 30 MHz (in 0.1 MHz increments)  
Rated: 17 MHzp-p
- Dispersal frequency deviation
  - FM Rated: 600 kHz, 0 to 5.0 MHzp-p  
(in 10 kHz increments)
- Clamp mode AC or DC
- AFC (FM) Mean value AFC
- Filter characteristics
  - AM: VSB filter
  - FM: LPF filter
- Frequency response
  - AM section Designated by each television system  
(M, B/G, D/K, I, and L)
  - FM section NTSC: 4.5 MHz; LPF: standard equip.  
PAL: 5.5 MHz; LPF: standard equip.
- Pre-emphasis (FM) NTSC, PAL, OFF

Specifications

- Sound characteristics
  - Input level AM: 0 dBs (0.775 Vrms) ,  
10 k $\Omega$ , BNC-R (unbalanced)  
FM: 0 dBm, 75  $\Omega$ , BNC-R (unbalanced)
  - Frequency response AM:  $\pm 1$  dB, 40 Hz to 100 kHz  
(pre-emphasis OFF)
  - Distortion NTSC / PAL / General-purpose SG mode  
< 1.5%  
( $\pm 50$  kHz FM; pre-emphasis OFF)  
SECAM < 3% (60% AM; pre-emphasis OFF)
  - Frequency deviation FM: 0 to 99 kHz for M, B/G, D/K, I  
(in 1 kHz increments)  
FM: 0 to 12.7 MHz for BS/CS  
(in 100 kHz increments)
  - Modulation degree AM: 0% to 99% for system L  
(in 1% increments)
  - S/N ratio  $\geq 58$  dB  
(75  $\mu$ sec, 400 Hz, FM; pre-emphasis ON)
- Options
  - RT83B0001 FM modulation unit (BS/CS)
  - RT83B0003 1 GHz LPF adaptor
- General specifications
  - Memory backup By key operation  
(500 hours or longer after power-off)
  - Operating temperature range 0 to 40 degrees C
  - Relative humidity 15% to 85%RH (non-dewing)
  - Power supply AC 90 to 250 V, 50/60 Hz
  - Power consumption Approx. 170 VA
  - Dimensions 426 (W) x 99 (H) x 510 (D) mm
  - Weight Approx. 12 kg

Discontinued



RT83B.2.01.YO