SECTION II
SPECIFICATIONS

2-1 RF FREQUENCY

Range: 100 kHz to 135 MHz

Display

Normal display : 0.0800 to 136.0000 MHz

ΔF display : 0 to ±0.9999 MHz

Resolution : 100 Hz

Accuracy : $\pm(5 \times 10^{-6} + 2$ counts) (RF < 0.3 MHz)

$\pm(5 \times 10^{-6} + 1$ count) (RF ≥ 0.3 MHz)

Stability

Aging rate: $\pm 1 \times 10^{-6}$/week (After 48 hours warm-up)

Temperature characteristics: Within $\pm 3 \times 10^{-6}$ (10°C to 35°C)

2-2 RF OUTPUT

Range

dBm: -130.9 dBm to 13 dBm with up to 80% AM; up to 19 dBm with no AM
(0 dBm : 1mW into 50Ω)

dB EMF: -17.9 dB to 126 dB with up to 80% AM ; up to 132 dB with no AM
(0 dB = 1 μV)

Normal display range

dBm: -130.9 to 19.0 dBm

dB EMF: -17.9 to 132.0 dB

ΔLEVEL display range: 0 to ±(value within whole usable range) dB

Resolution: 0.1 dB

Reference level: 13 dBm (126 dB EMF)

Accuracy: ±1 dB

Attenuator accuracy:

±1.0 dB (Output ≥ -113 dBm)

±1.5 dB (Output < -113 dBm)

Output impedance: 50Ω

VSWR: ≤ 1.2

Spurious output (Output ≤ 13 dBm)

Harmonics: ≤ -30 dBc

Non-harmonically related:

(1) 30 MHz ≤ RF ≤ 135 MHz

None

(2) 100 kHz ≤ RF < 30 MHz

-40 dBc

-50 dBc (measured in the frequency range below 30 MHz)

Residual modulation (S/N)

FM component: As S/N relative to 75 kHz deviation,with post-detection BW of 50 Hz to 15 kHz and with 50 μs de-emphasis

≥ 80 dB

AM component: As S/N relative to 30% AM, with post-detection BW of 50 Hz to 15 kHz

≥ 60 dB (exclude beat components close to RF 16, 20 and 26.7 MHz)

2-3 MODULATION

Internal modulation frequency: 400 Hz, 1 kHz within ±3%

External modulation input impedance: Approx. 10 kΩ

External modulation input level required: Approx. 3 V peak

FM

Frequency deviation: (1) 0 to 300 kHz (RF ≥ 3 MHz)

(2) 0 to 99.5 kHz (0.3 MHz ≤ RF < 3 MHz)

(3) 0 to 30.0 kHz (RF < 0.3 MHz)

Display: 0.0 to 300 kHz

Resolution: (1) 0.5 kHz (FM 0 to 100 kHz)

(2) 1 kHz (FM 100 to 240 kHz)

(3) 5 kHz (FM 240 to 300 kHz)

Accuracy: ±(8% of reading + 0.5 kHz)

Distortion: At 75 kHz deviation, with post-detection BW of 50 Hz to 15 kHz and with 50μs de-emphasis

(1) ≤ 0.1% (1 kHz rate)

(2) ≤ 0.05% (1 kHz rate, RF 10.7±1 MHz and 76 to 108 MHz)

Frequency response: 20 Hz to 120 kHz

(1) Within ±1 dB (with reference to 1 kHz)

(2) Within ±0.3 dB (with reference to 1 kHz, RF 10.7±1 MHz and 76 to 108 MHz)

Separation for MPX stereo signal:

≥ 60 dB (1 kHz rate, 75 kHz deviation, RF 76 to 108 MHz)

Incidental AM on FM:

≤ 0.5% (75 kHz deviation, 1 kHz rate, RF 10.7±1 MHz and 76 to 108 MHz)

AM (RF ≥ 0.15 MHz, Output ≤ 13 dBm)

Modulation depth: 0 to 80%

Display: 0.0 to 99.5%

Resolution: 0.5%

Accuracy: ±(5% of reading +2%)

Distortion: At 30% AM, with 1 kHz rate and with post-detection BW of 50 Hz to 15 kHz

(1) ≤ 0.5% (exclude beat components close to RF 16, 20 and 26.7 MHz)

(2) ≤ 0.3% (RF 0.4 to 1.7 MHz)

Frequency response: 20 Hz to 10 kHz*(RF 0.3 to 135 MHz)

Within ±1 dB (with reference to 1 kHz)

* The allowable max modulation rate depends on the carrier frequency and the depth of modulation as follows.

For 30% AM: Up to 2% of carrier frequency

Incidental FM on AM: ≤ 200 Hz (30% AM, 1 kHz rate, RF 10.7±1 MHz and 76 to 108 MHz)

FM-AM mixed modulation

(1) FM EXT + AM INT

(2) FM INT + AM EXT

2-4 PRESET

(1) F-L-M Assorted Preset

Carrier frequency (F), output level (L) and modulation setups (M) are assorted together and can be stored or recalled.

100 assorted data can be preset.

(2) Independent Output Level Preset

4 output levels can be stored and recalled independently of carrier frequency and modulation setups.

(3) Independent Modulation Setup Preset

4 modulation setups can be stored and recalled independently of carrier frequency and output level.

2-5 GP-IB CONTROL

As stated in Section VI

2-6 MEMORY CONTROL

(1) Recall operation of 100 assorted setups

(2) Frequency increment control

(3) Output level increment control

2-7 MISCELLANEOUS

Leakage: Will not interfere with measurement of 1 μV

Power requirements

Mains voltages

100V : 90V to 112V

120V : 106V to 132V

220V : 196V to 244V

240V : 214V to 250V

Mains frequency: 50/60 Hz

power consumption: 45VA or less

Ambient temperature and humidity (R.H.)

Limit range of guaranteed performance: 10°C to 35°C, up to 85%

Limit range of operation: 0°C to 40°C, up to 90%

Storage and transportation: -20°C to 70°C, up to 90%

Dimensions: 426 mm(W), 99 mm(H), 350mm(D) excluding legs, knobs, etc.

Mass: Approx. 10.5 kg

2-8 ACCESSORIES FURNISHED

1 Output cable, VQ-027C

1 Power Cable

1 Fuse 0.63A for mains voltage 100V or 120V, 0.315A for 220V or 240V

1 Instruction manual