Service Manual

Receiver
SA-190
SA-190L

Color
(K)...Black Type

* This photo is SA-190.

SPECIFICATIONS
(DIN 45 500)

- AMPLIFIER SECTION

1 kHz continuous power output
both channels driven
2 × 35W (8Ω)

Total harmonic distortion
half power at 1 kHz
0.07% (8Ω)

Intermodulation distortion
rated power at 60 Hz: 7 kHz=4:1, SMPTE, 8Ω
0.5%

Power bandwidth
both channels driven, −3 dB
10 Hz~40 kHz (8Ω)

Damping factor
20 (8Ω)

Input sensitivity and impedance
PHONO
2.5 mV/47kΩ

CD/AUX, TAPE/EXT
150 mV/20kΩ

PHONO maximum input voltage (1 kHz, RMS)
150 mV

S/N
rated power (8Ω)

PHONO
70 dB (IHF: A: 72 dB)

CD/AUX, TAPE/EXT
88 dB (IHF: A: 95 dB)

Frequency response
PHONO
RIAA standard curve

±0.8 dB (30 Hz~15 kHz)
10 Hz~70 kHz (−3 dB)

CD/AUX, TAPE/EXT

Tone controls
BASS
50 Hz, +10 dB~−10 dB

TREBLE
20 kHz, +10 dB~−10 dB

Loudness control (volume at −30 dB)
50 Hz, +9 dB

Output voltage
REC OUT
150 mV

- FM TUNER SECTION

Channel balance, 250 Hz~6,300 Hz
±1 dB

Channel separation, 1 kHz
55 dB

Headphones output level and impedance
390 mV/330Ω

Load impedance
MAIN or REMOTE
8Ω~16Ω

MAIN and REMOTE
8Ω~16Ω

Frequency range
87.50~108.00 MHz

Sensitivity
S/N 30 dB
1.5 μV (75Ω)

S/N 25 dB
1.3 μV (75Ω)

S/N 20 dB
1.2 μV (75Ω)

IHF usable sensitivity
1.5 μV (IHF '58, 75Ω)

IHF 46 dB stereo quieting sensitivity
22 μV/75Ω

Total harmonic distortion
MONO
0.15%

STEREO
0.3%

S/N
MONO
60 dB (75 dB, IHF)

STEREO
58 dB (71 dB, IHF)

Frequency response
20 Hz~15 kHz, +1 dB~−2 dB

Alternate channel selectivity
±400 kHz, 65 dB

Capture ratio
1.0 dB

Image rejection at 98 MHz
40 dB

IF rejection at 98 MHz
70 dB

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan
SCHEMATIC DIAGRAM

(This schematic diagram may be modified at any time with the development of new technology.)

Caution!

- IC and LSI are sensitive to static electricity.
- Secondary trouble can be prevented by taking care during repair.
- Cover the parts boxes made of plastics with aluminum foil.
- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the legs of IC or LSI with the fingers directly.

SA-190 [XA] area

- **AC 220V (100Hz), (200Hz)**
- **AC 240V, Continental Europe - (50Hz)**

- **POWER SWITCH CIRCUIT**

- **VOLTAGE SELECTOR CIRCUIT**