

Service Manual

Receiver

SA-190

SA-190L

QUARTZ Synthesizer
AM/FM Stereo Receiver

QUARTZ Synthesizer
LW/MW/FM Stereo Receiver

MATSUSHITA ELECTRIC CO., LTD.

Color

(K)...Black Type



* This photo is SA-190.

Color	Areas
(K)	[EX]...Continental Europe. (SA-190)
(K)	[EH]...Holland. (SA-190)
(K)	[XL]...Australia. (SA-190)
(K)	[XA]...Asia, Latin America, Africa, Middle Near East and Oceania. (SA-190)
(K)	[EF]...France. (SA-190L)
(K)	[EB]...Belgium. (SA-190L)
(K)	[EK]...United Kingdom. (SA-190L)
(K)	[EW]...Switzerland. (SA-190L)

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/22kΩ
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)
CD/AUX, TAPE/EXT	10 Hz~70 kHz (-3 dB)
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

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

■ FM TUNER SECTION

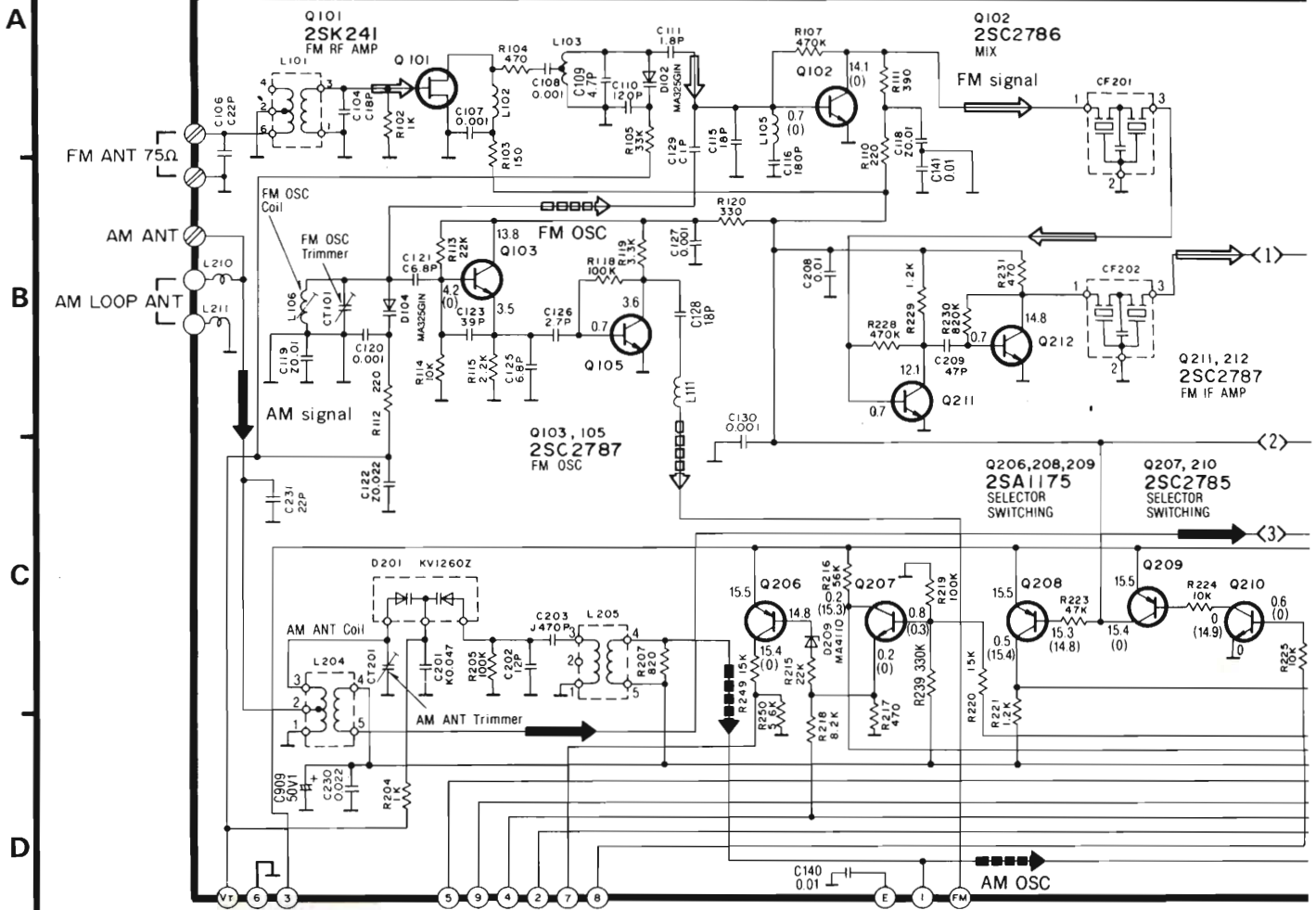
Frequency range	87.50~108.00 MHz
Sensitivity	
S/N 30 dB	1.5 μV (75Ω)
S/N 26 dB	1.3 μV (75Ω)
S/N 20 dB	1.2 μV (75Ω)
IHF usable sensitivity	1.5 μV (IHF '58, 75Ω)
IHF 46 dB stereo quieting sensitivity	22 μV/75Ω
Total harmonic distortion	
MONO	0.15%
STEREO	0.3%
S/N	
MONO	60 dB (75 dB, IHF)
STEREO	58 dB (71 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

Technics

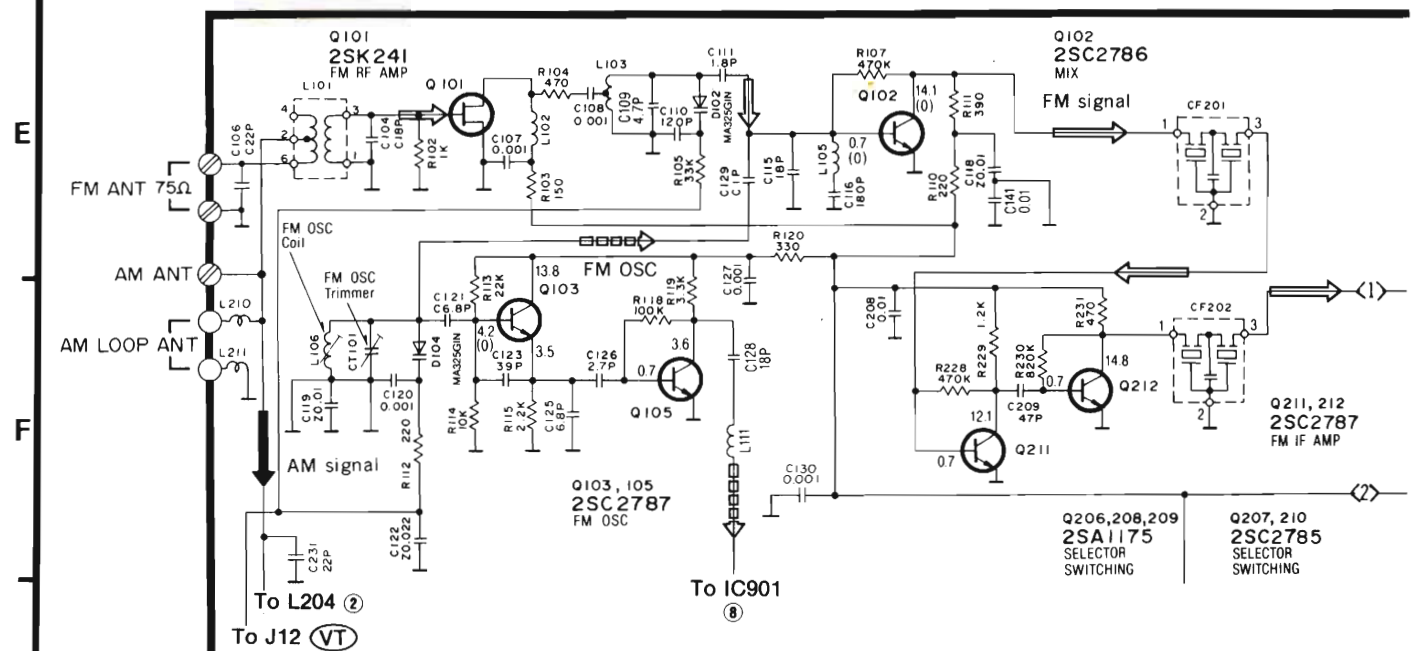
Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

SCHEMATIC DIAGRAM (SA-190 TUNER CIRCUIT SECTION)

[EH, EX] areas only



SA-190 [XA, XL] areas only



(SA-190L TUNER CIRCUIT SECTION)

A

B

C

D

E

F

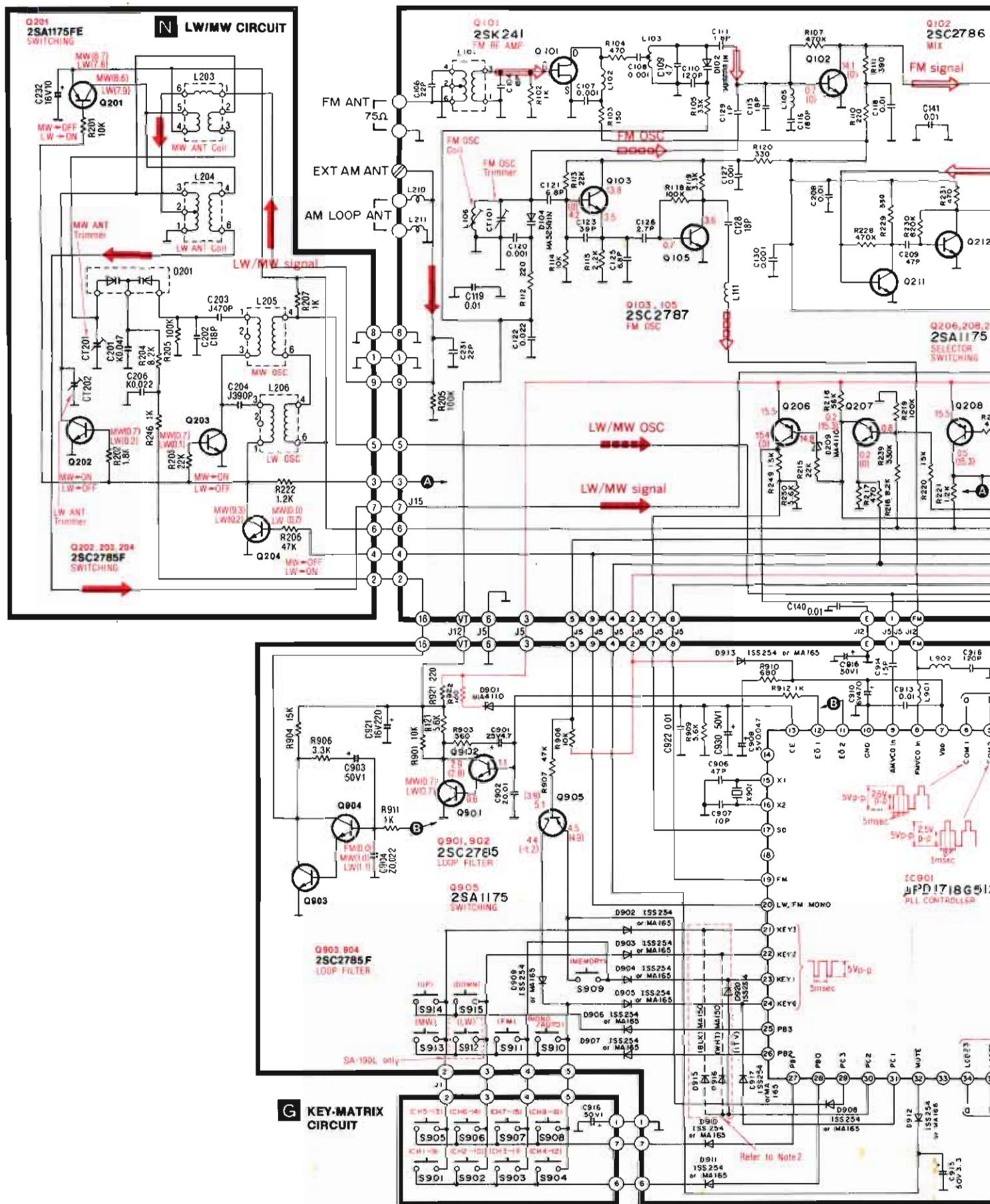
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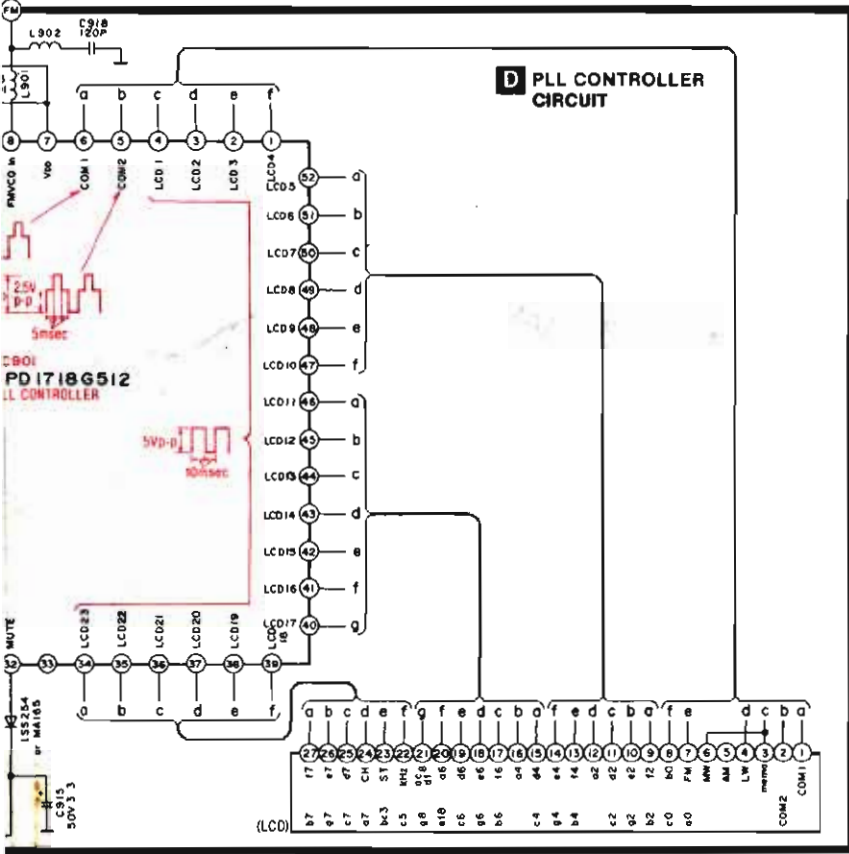
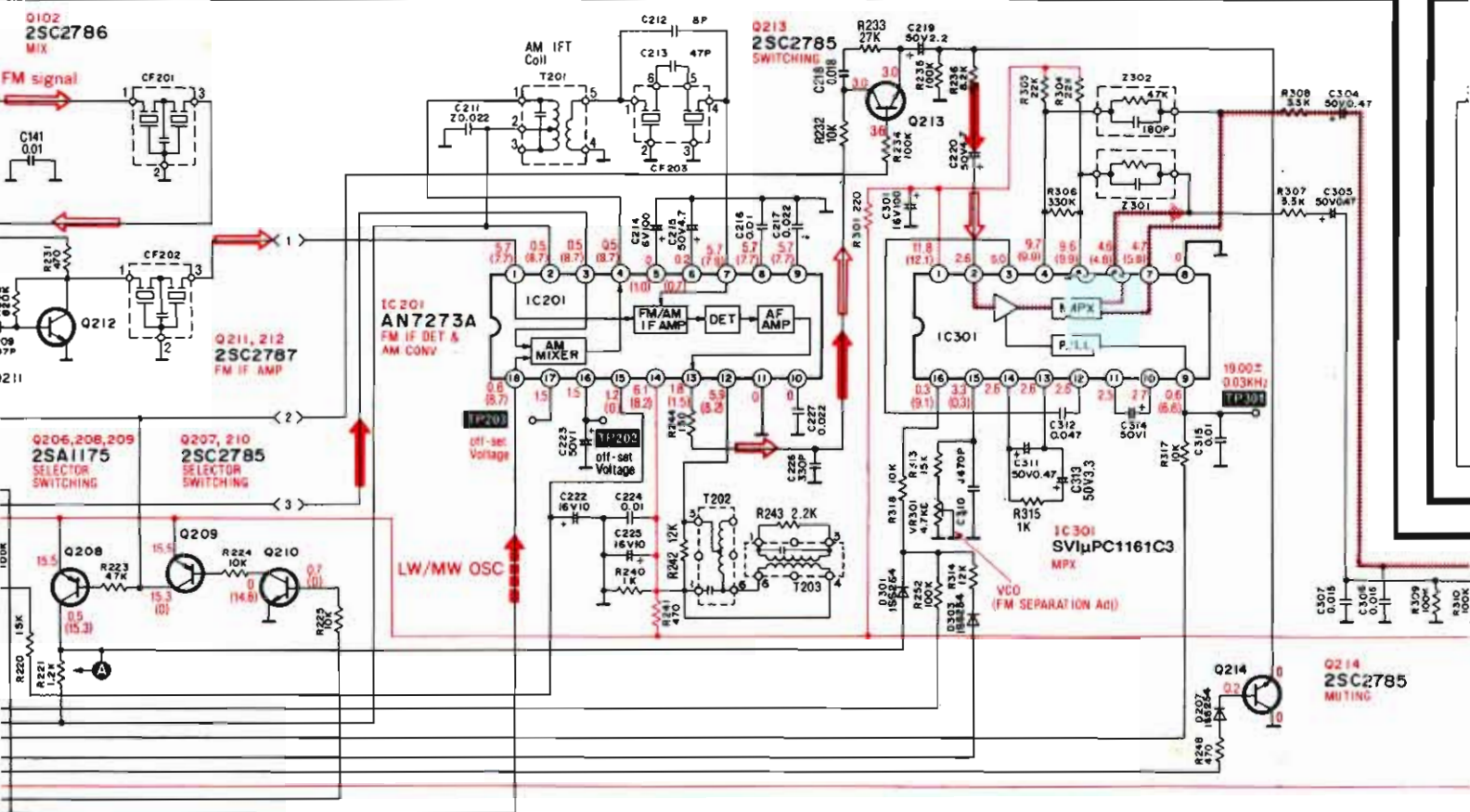
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3

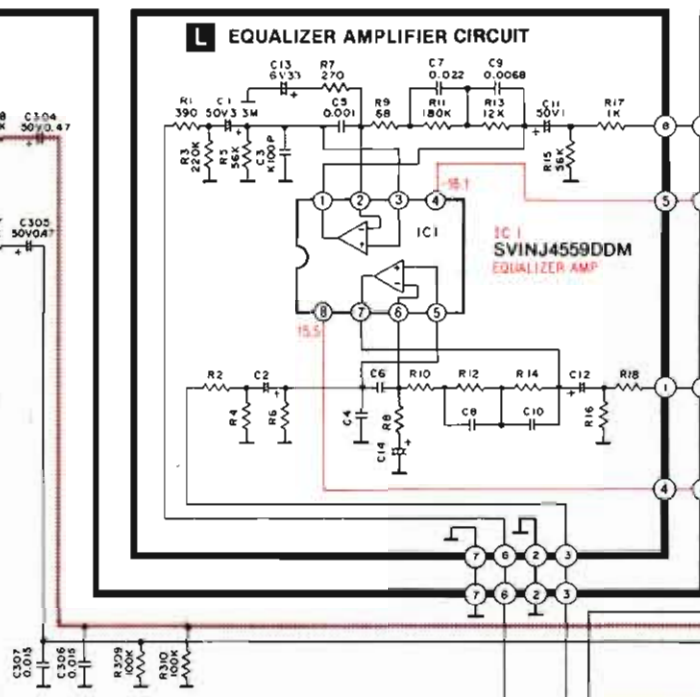
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5





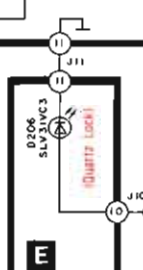
L EQUALIZER AMPLIFIER CIRCUIT



IC1
SVINJ4559DDM
EQUALIZER AMP

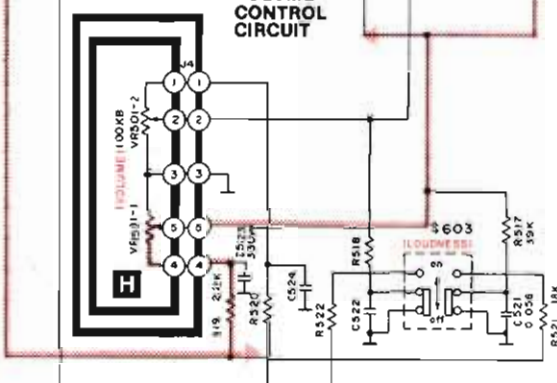
Q214
25C2785
MUTING

E QUARTZ LOCK LED CIRCUIT (L ch)



- PHONO
- CD/AUX
- REC OUT
- TAPE/EXT
- PLAYBACK
- (R ch)
- PHONO
- CD/AUX
- REC OUT
- TAPE/EXT
- PLAYBACK
- GND

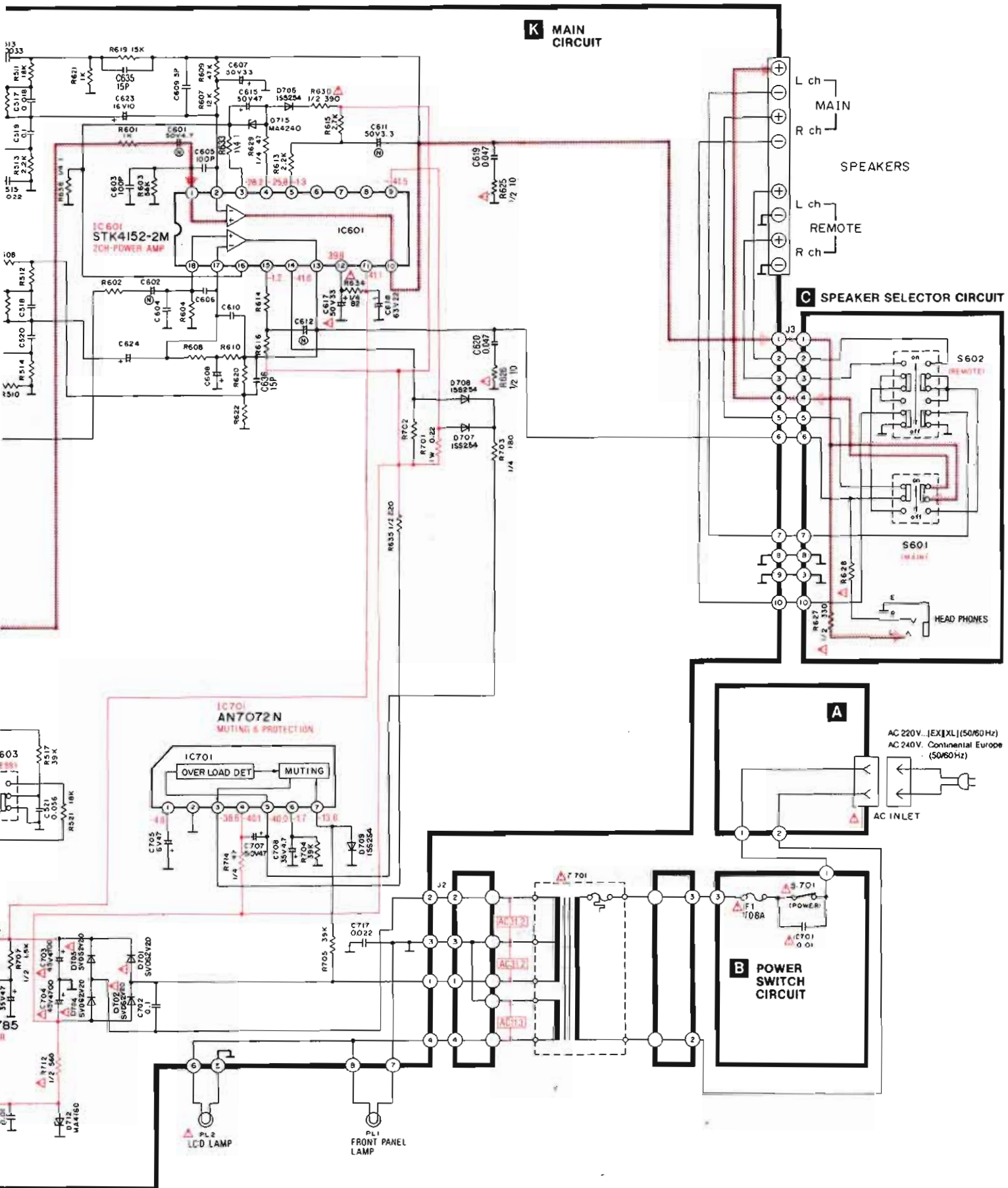
F VOLUME CONTROL CIRCUIT



Q701
25D1265
REGULATOR

Q702
25C2785
REGULATOR

Q703
25C1685
REGULATOR



K MAIN CIRCUIT

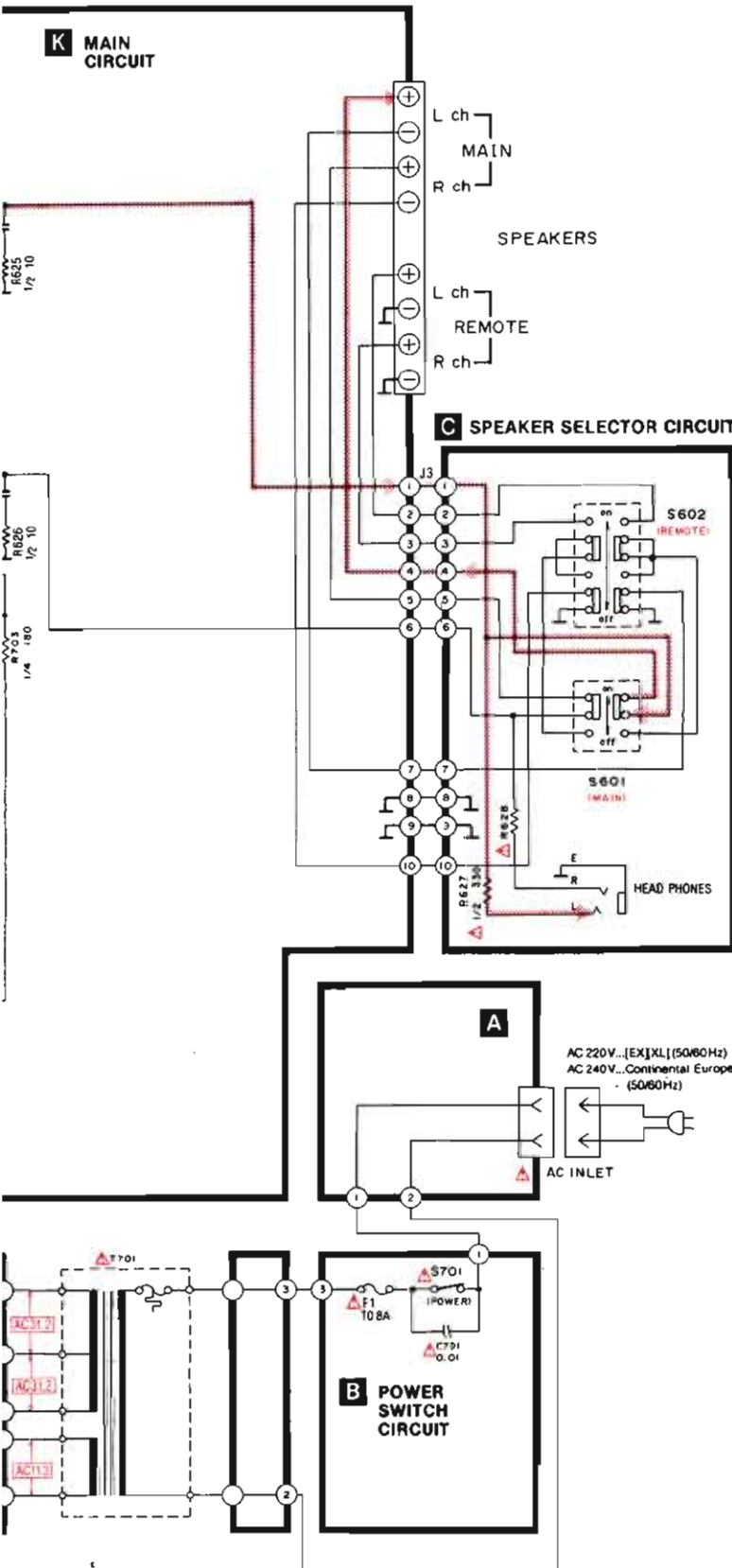
C SPEAKER SELECTOR CIRCUIT

A AC INLET

B POWER SWITCH CIRCUIT

■ 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

