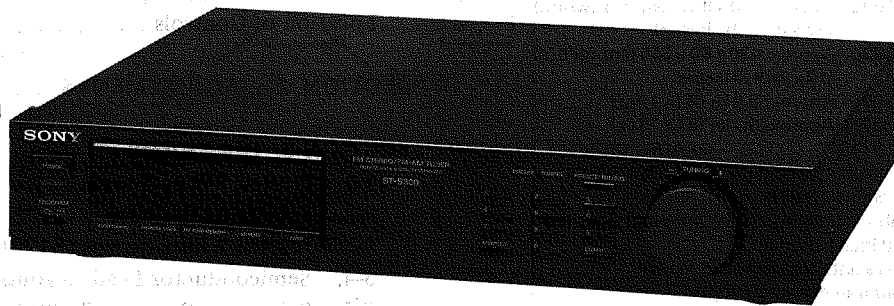


ST-S100L/S300L

SERVICE MANUAL

AEP Model
UK Model

~~6CSBA~~ 12



SPECIFICATIONS

Tuner

Circuit system FM stereo, FM/AM superheterodyne tuner
Quartz-locked PLL digital synthesizer system

FM tuner

Frequency range 87.5 – 108 MHz
Antenna terminals 75 ohms unbalanced
300 ohms balanced
West Germany and Italian model: 75 ohms unbalanced
Intermediate frequency 10.7 MHz
Sensitivity (at 46 dB quieting)
16.8 dBf, 3.6 μ V (mono)
37.9 dBf, 43 μ V (stereo)
West Germany and Italian model:
16.8 dBf, 1.8 μ V (mono)
37.9 dBf, 21.5 μ V (Stereo)
Signal-to-noise ratio (at 40 kHz deviation)
74 dB (mono)
69 dB (stereo)

Harmonic distortion

ST-S100L: 0.15% (mono), 0.3% (stereo) at 1 kHz
ST-S300L: 0.08% (mono), 0.15% (stereo) at 1 kHz

IM distortion

ST-S100L: 0.15% (mono), 0.3% (stereo)
ST-S300L: 0.08% (mono), 0.15% (stereo)

Separation 50 dB (at 1 kHz)

Frequency response 40 Hz – 12.5 kHz $\pm$ 0.5 dB

Selectivity 70 dB (at 300 kHz)

Capture ratio 1.0 dB

AM suppression ratio
65 dB

Image response ratio
70 dB

IF response ratio 70 dB

Spurious response ratio
80 dB

Muting threshold 30 dBf

Automatic tuning threshold
30 dBf

Output 410 mV, 4.7 k Ω (at 40 kHz deviation)

AM tuner

Frequency range Except Italian model:

MW: 531 – 1,602 kHz

LW: 153 – 281 kHz

Italian model:

MW: 522 – 1,611 kHz

LW: 144 – 288 kHz

Antenna Layout-free AM antenna

External antenna terminal

Intermediate frequency

450 kHz

Usable sensitivity (when layout-free AM antenna is used)

500 μ V/m (999 kHz)

700 μ V/m (230 kHz)

Signal-to-noise ratio

54 dB (50 mV/m) (999 kHz)

50 dB (50 mV/m) (230 kHz)

Harmonic distortion

0.3% (50 mV/m, 400 Hz)

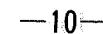
Selectivity 32 dB

— Continued on page 2 —

FM STEREO/FM-AM TUNER
SONY®



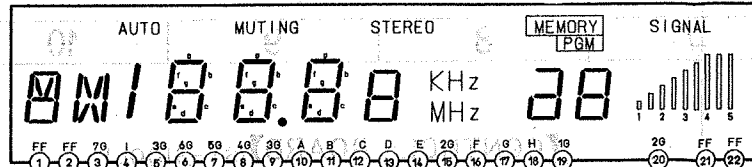
ST-S100L/S300L ST-S100L/S300L



[CONTROL BOARD]

(ST-S300L)
ST-S100L:Next pageIC701
METER CONTROL

FL701 FLUORESCENT INDICATOR TUBE



[SWITCH BOARD]

S720
TUNINGS701 - S718
PUSH SWITCH

Note:

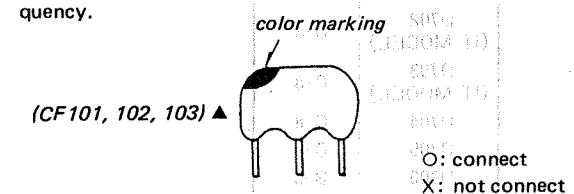
- All capacitors are in μF unless otherwise noted. pF: μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- Δ : internal component.
- $\square$: nonflammable resistor.
- B+: B+ Line
- B-: B- Line
- $\square$: adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM
- (): LW
- < >: MW
- []: MW/LW
- Voltages are taken with a VOM (50 k Ω /V). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path.
- $\Rightarrow$: FM
- Switches:

Ref. No.	Switch	Position
PC501	POWER	OFF
S701 - S718	KEY BOARD SWITCH	OFF
ST-S300L ONLY		
S719	PROGRAM	ON
S720	TUNING	-

Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Note on Ceramic Filter (CF101, 102, 103) Δ Replacement Diode D704, 705 Connection.

This set employs two ceramic filters (CF101, 102, 103) Δ should have the same color marking to identify their center frequency. Therefore FM IF offset adjustment by diodes (D704, 705) connection is necessary to match the center frequency of the ceramic filters used with FM intermediate frequency.



Ceramic filter		D704, 705 connection		FM intermediate frequency (MHz)
Color mark	Center frequency (MHz)	*A (D704)	*B (D705)	
White	10.750	O	X	10.750
Red	10.700	X	X	10.700
Black	10.650	X	O	10.650

FM intermediate frequency is determined by the three types as shown above. Ceramic filters of same center frequency, i.e., of same color coding should be used for CF101, CF102 and CF103.

When replacing the ceramic filters, perform the FM Discriminator Adjustment.

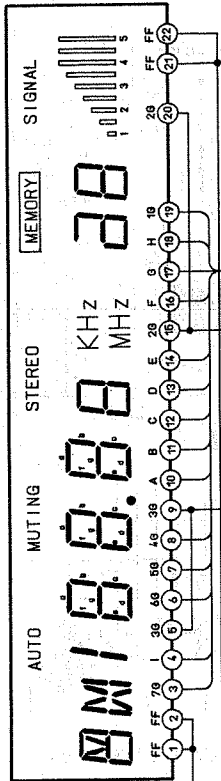
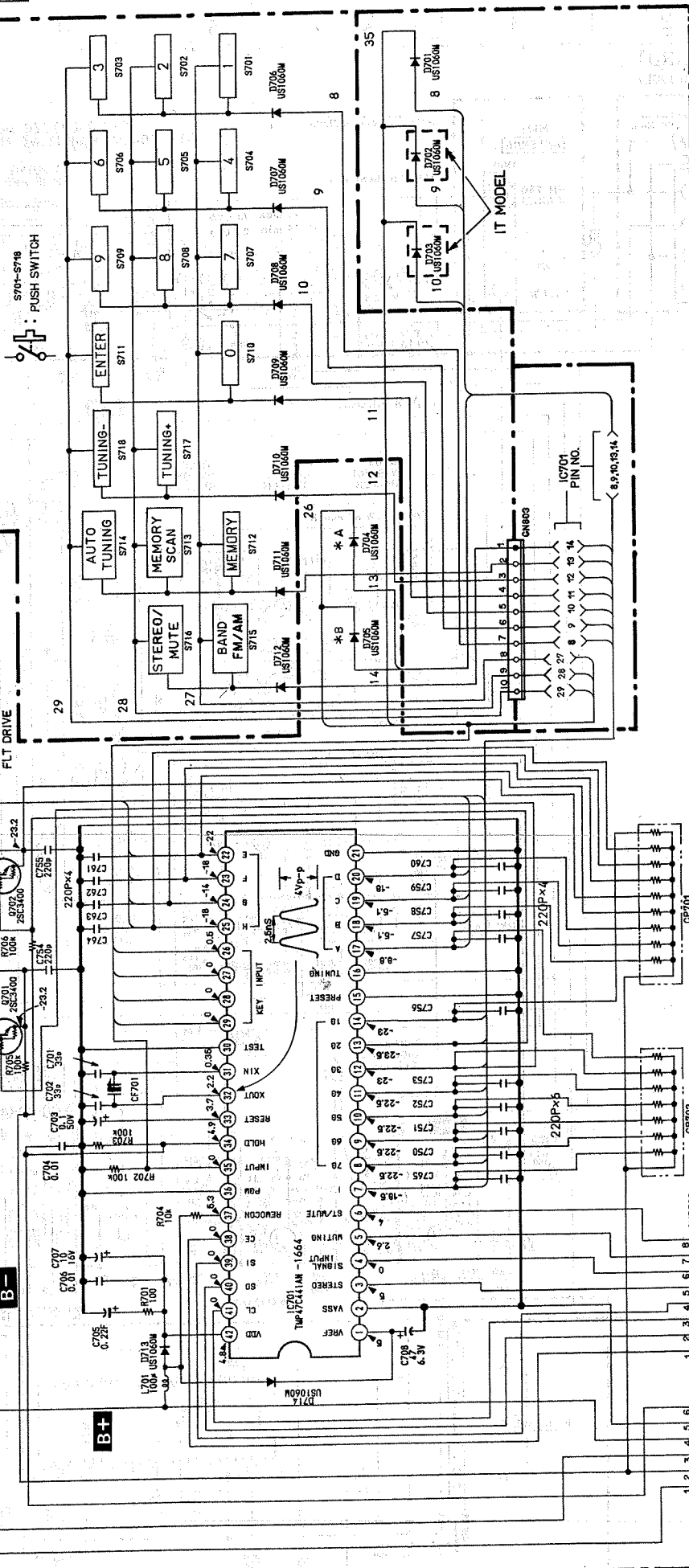
Δ : S100L (AEP, UK)—CF101, 102

【 SWITCH BOARD 】 (ST-S100L)

FLUORESCENT INDICATOR TUBE

FL701

【 CONTROL BOARD 】 (ST-S100L)

S701-S718
PUSH SWITCHQ701Q702
FLT DRIVEQ701Q702
FLT DRIVEQ701Q702
FLT DRIVEQ701Q702
FLT DRIVEQ701Q702
FLT DRIVEQ701Q702
FLT DRIVEQ701Q702
FLT DRIVEQ701Q702
FLT DRIVEQ701Q702
FLT DRIVEQ701Q702
FLT DRIVE

ST/MUTE
MUTING
SIGNAL
STEREO
SOP(ILL)
SIP(ILL)
CEP(ILL)

(HOLD)
GND
5V
1VFL
30V
VFL

TO TUNER BOARD