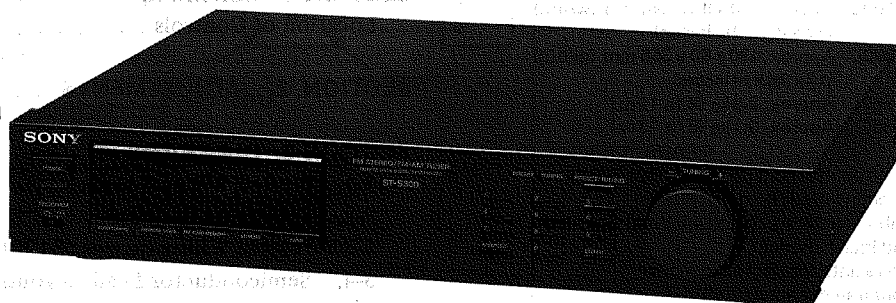


# ST-S100L/S300L

## 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  $\mu$ V (mono)  
37.9 dBf, 43  $\mu$ V (stereo)  
West Germany and Italian model:  
16.8 dBf, 1.8  $\mu$ V (mono)  
37.9 dBf, 21.5  $\mu$ 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 $\Omega$  (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  $\mu$ V/m (999 kHz)

700  $\mu$ 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

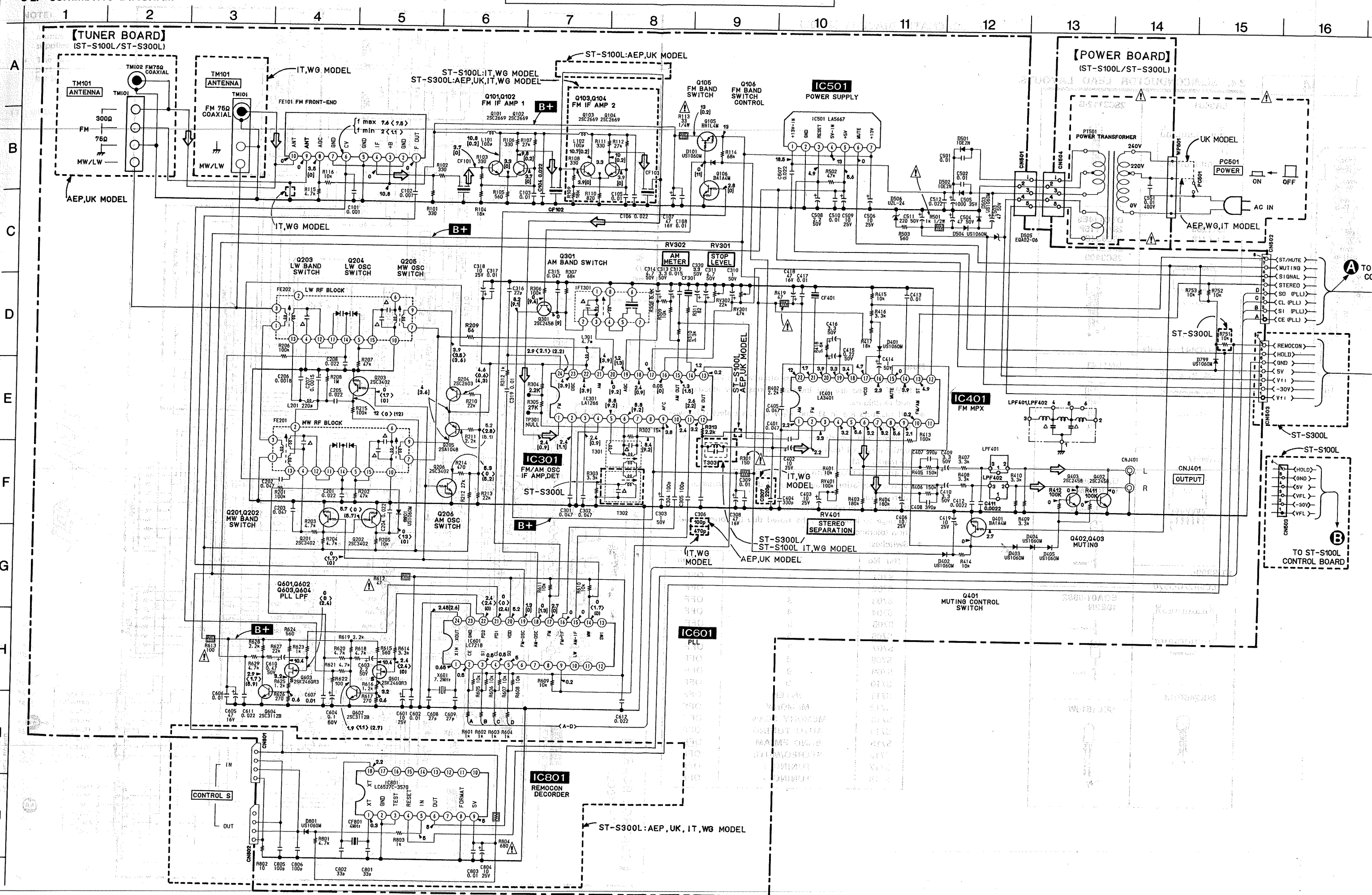
— Continued on page 2 —

FM STEREO/FM-AM TUNER  
**SONY**®



## 3-2. SCHEMATIC DIAGRAM

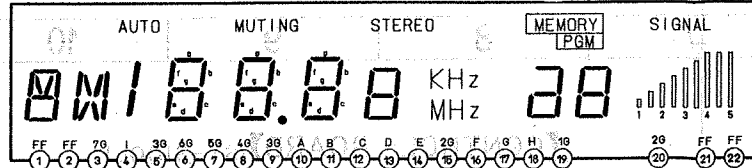
## ST-S100L/S300L ST-S100L/S300L



## [CONTROL BOARD]

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

FL701 FLUORESCENT INDICATOR TUBE



## [SWITCH BOARD]

S720  
TUNINGS701 - S718  
PUSH SWITCH

## Note:

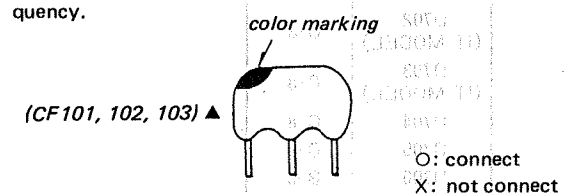
- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}\text{W}$  or less unless otherwise specified.
- $\Delta$ : internal component.
- $\square$ : nonflammable 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 $\Omega$ /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  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

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

This set employs two ceramic filters (CF101, 102, 103)  $\Delta$  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.



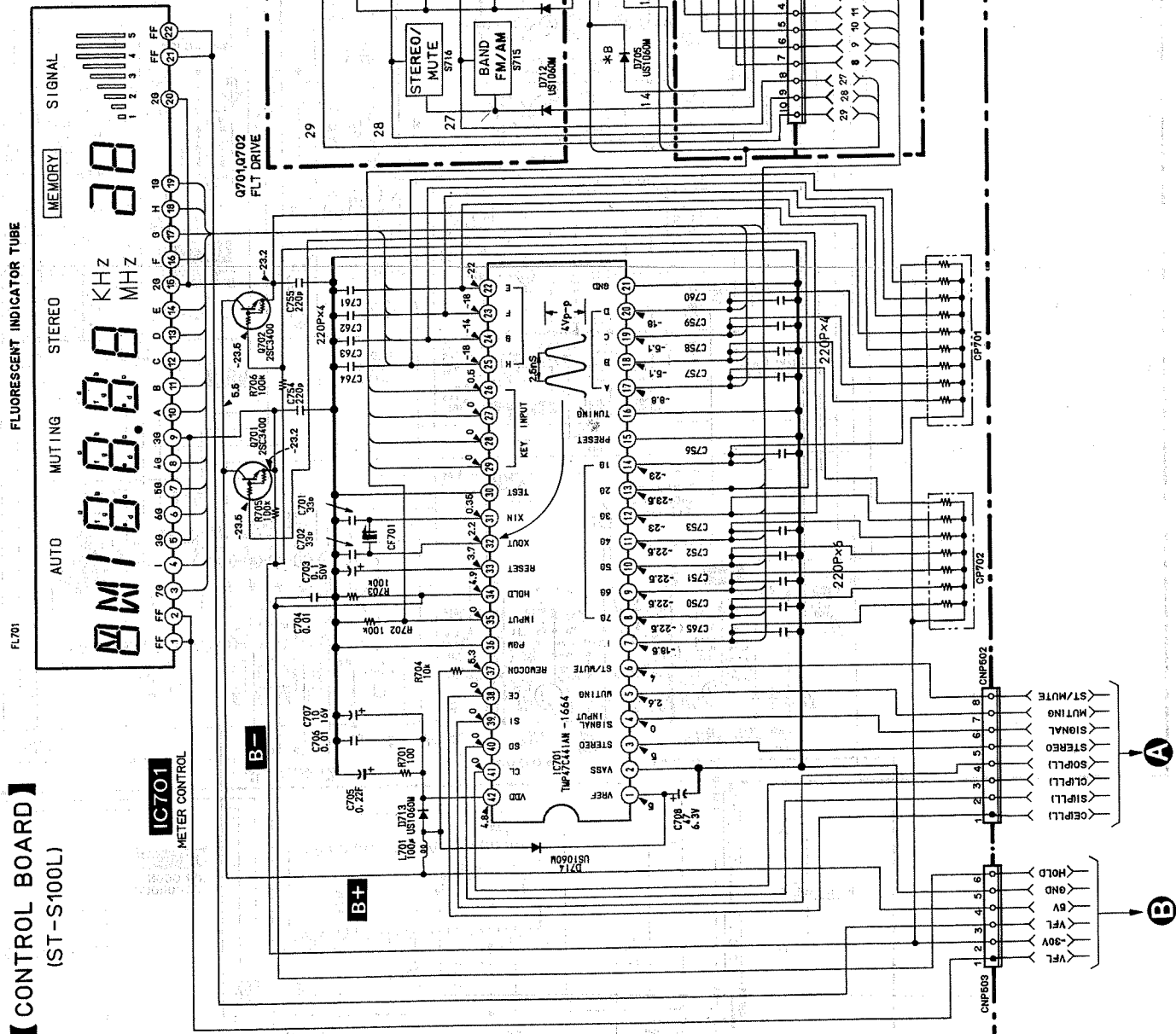
| Ceramic filter |                        | D704, 705 connection |           | FM intermediate frequency (MHz) |
|----------------|------------------------|----------------------|-----------|---------------------------------|
| Color mark     | Center frequency (MHz) | *A (D704)            | *B (D705) |                                 |
| 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.

$\Delta$ : S100L (AEP, UK)—CF101, 102

**【CONTROL BOARD】**  
(ST-S100L)



TO TUNER BOARD