

ST-D905

SERVICE MANUAL

AEP Model
UK Model



This set is FM stereo/FM-AM.
Tuner section in LBT-D905CD.

SPECIFICATIONS

System	FM stereo FM/AM superheterodyne tuner
FM tuner section	
Tuning range	87.5 to 108 MHz
Antenna	75 ohms unbalanced
Intermediate frequency	10.7 MHz
MW/LW tuner section	
Tuning range	MW: 531 to 1,602 kHz LW: 153 to 279 kHz
Antenna	AM loop antenna External antenna terminal
Intermediate frequency	450 kHz
Power requirements	240 V AC, 50/60 Hz (UK model) 220-230V AC, 50/60Hz (other model)
Power consumption	10 W
AC outlet	2 switched, total 450 W max.
Weight	Approx. 2.6 kg
Dimensions	Approx. 355 × 82.5 × 325 mm (w/h/d, including projections)

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

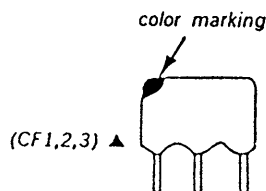
FM STEREO/FM-AM TUNER
SONY®

SECTION 1

SERVICING NOTES

Note on Ceramic Filter (CF1,2,3) ▲ Replacement.

This set employs three ceramic filters (CF1,2,3) ▲ which should have the same color marking to identify their center frequency. Therefore FM IF offset adjustment by *D609, 610 is necessary to match the center frequency of the ceramic filters used with FM intermediate frequency.



○ : Mounted
× : not Mounted

Ceramic filter		Mount		FM intermediate frequency (MHz)
Color mark	Center frequency (MHz)	* D609	* D610	
White	10,750	○	×	10,750
Red	10,700	×	×	10,700
Black	10,650	×	○	10,650

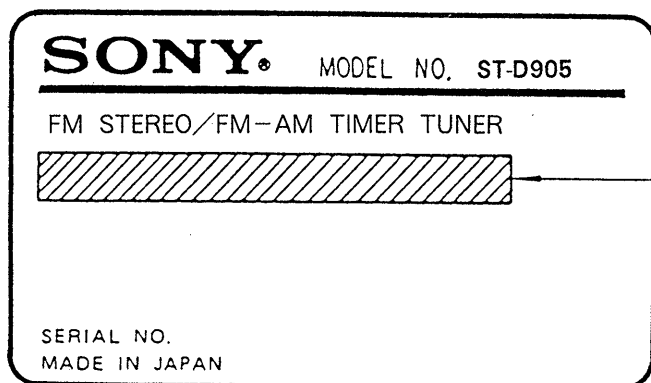
FM intermediate frequency is determined by the three types as shown above, Ceramic filters of same center frequency, i.e., of same color coding should be used for CF1, CF2, and CF3.

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

▲ : AEP, UK Model : CF1, 2
G, IT Model : CF1, 2, 3

MODEL IDENTIFICATION

—Specification Label—

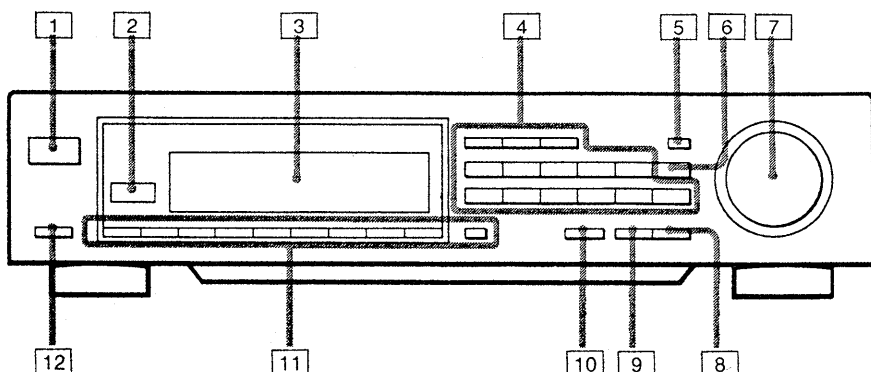


AEP, Germany.

Italian Model : AC : 220-230V~50/60Hz

UK Model : AC : 240V~50/60Hz

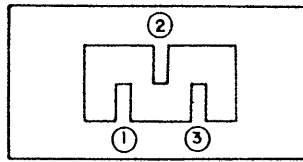
LOCATION OF CONTROLS



- 1 SYSTEM POWER switch
- 2 Remote sensor
- 3 Display window
- 4 Buttons for storing station frequencies
- 5 BAND selector
- 6 SCAN button
- 7 TUNING control
- 8 DIMMER button
- 9 FREQUENCY/TIME button
- 10 AUTO TUNING button
- 11 Buttons for setting the clock and timer
- 12 SLEEP button

Signal of System Control Connector

CNJ702
AU BUS



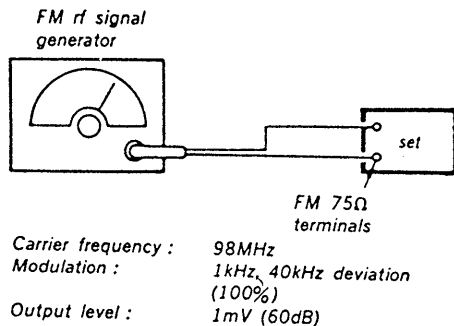
1	AUB
2	GND
3	

SECTION 2 ELECTRICAL ADJUSTMENTS

FM SECTION

FM DISCRIMINATOR ADJUSTMENT

Setting:



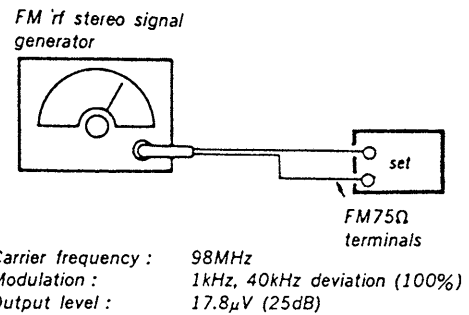
Procedure :

1. Tune the set to 98MHz.
2. Adjust T21 for 0V reading on the VOM.

Note : FM tuning level adjustment should be made after FM discriminator alignment.

FM TUNING LEVEL ADJUSTMENT

Setting :

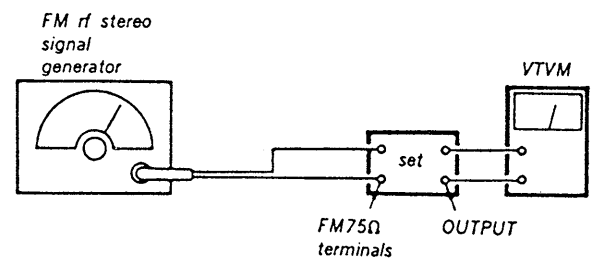


Procedure :

1. Tune the set to 98MHz.
2. Adjust RV24 so that the TUNED LED goes on.

FM STEREO SEPARATION ADJUSTMENT

Procedure :



FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ [Ⓐ] Adjust RV21 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ [Ⓒ] Adjust RV21 for minimum reading.

L-CH Stereo separation : Ⓐ-Ⓑ

R-CH Stereo separation : Ⓒ-Ⓓ

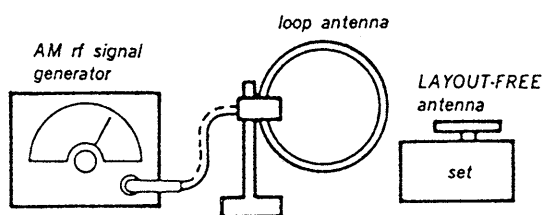
The separations of both channels should be equal.

MW/LW SECTION

AM TUNING LEVEL ADJUSTMENT

BAND select switch : LW

Setting :



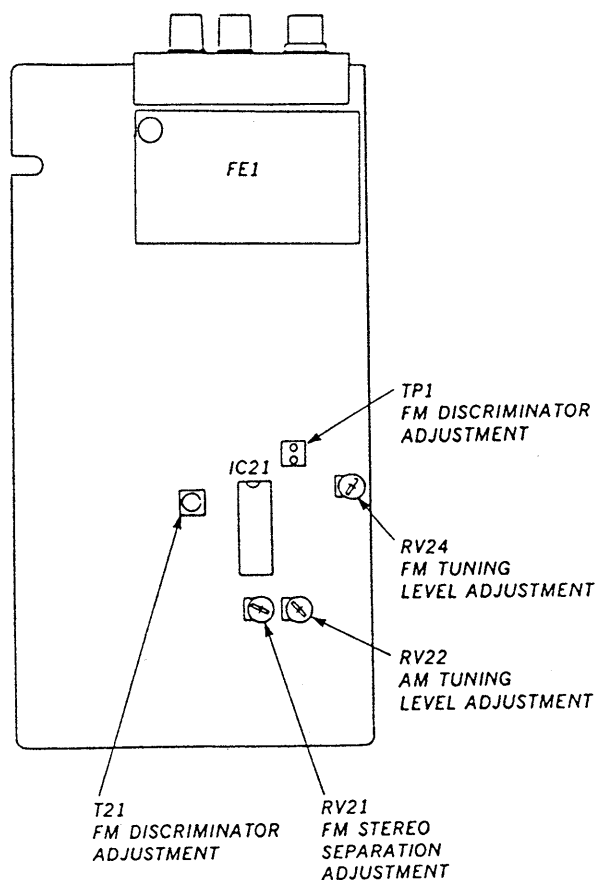
Carrier frequency : 216kHz
Modulation : 400Hz, 30% modulation

Procedure :

1. Set loop antenna so that the LAYOUT-FREE antenna input level becomes 2.5mV/m (68dB).
2. Tune the set to 216kHz.
3. Adjust the RV22 so that the TUNED LED goes on.

Adjustment Location :

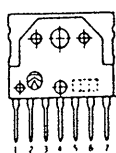
—tuner board—



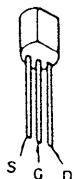
SECTION 3 DIAGRAMS

3-1. SEMICONDUCTOR LEAD LAYOUTS

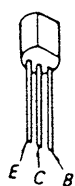
LA5667



2SK246-GR3



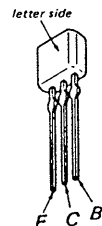
2SB1116A-L



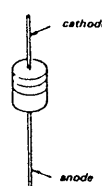
DTA144ES
DTC114ES
2SA1317-STU
2SC2603-EF
2SC2669-OY
2SC3113-A
2SC3330-STU
2SC3402



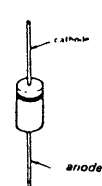
2SC2785-HFE



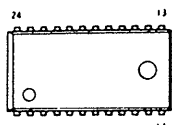
HZS6C3L
1SS120



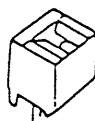
UZP-5.6B
10E2N



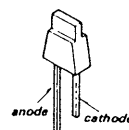
LC7218



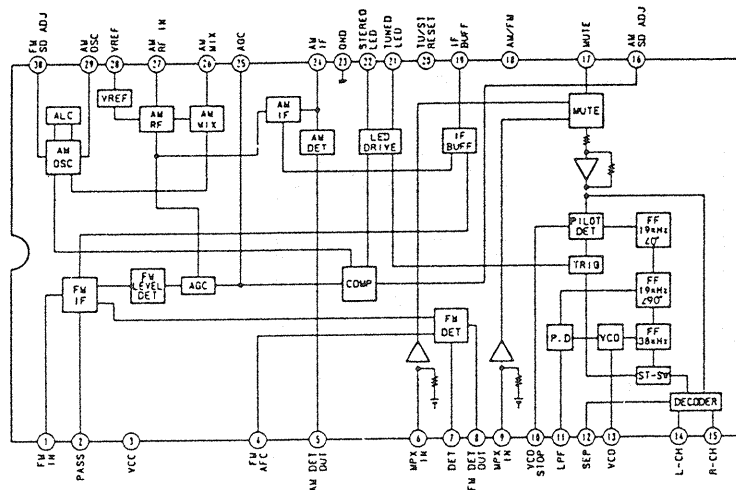
SBX1610-59



HZS30-2L

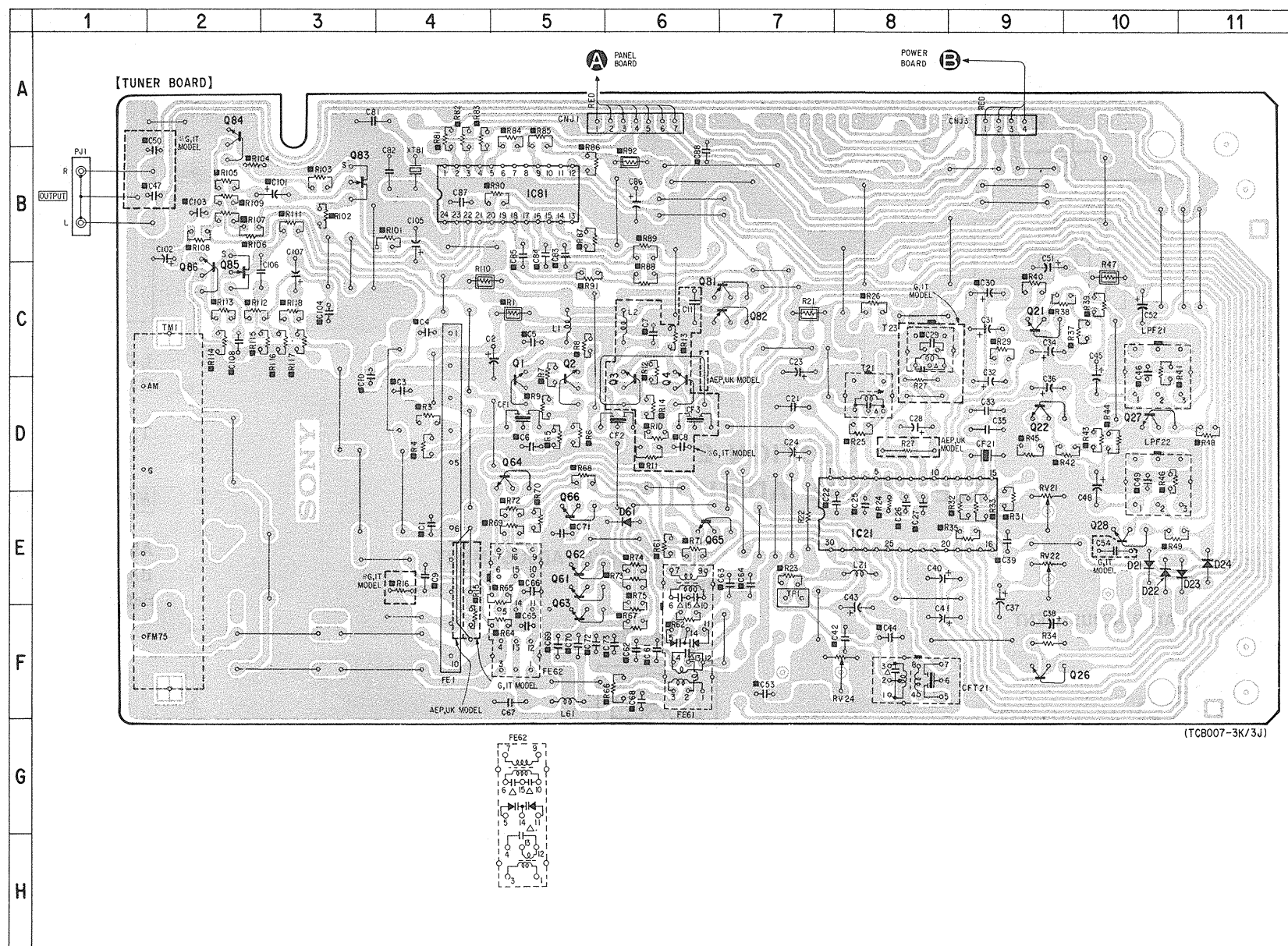


IC21 LA1851N



- SEMICONDUCTOR LOCATION

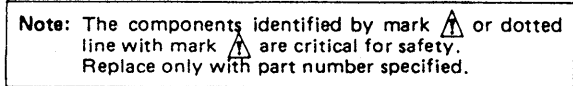
Ref. No.	Location
IC21	E-8
IC81	B-5
Q1	C-5
Q2	C-5
Q3	C-6
Q4	C-6
Q21	C-9
Q22	D-9
Q26	F-9
Q27	D-10
Q28	E-10
Q61	E-5
Q62	E-5
Q63	F-5
Q64	D-5
Q65	E-6
Q66	E-5
Q81	C-7
Q82	C-7
Q83	B-3
Q84	A-2
Q85	C-2
Q86	C-2
D21	E-10
D22	E-10
D23	E-11
D24	E-11
D61	E-6



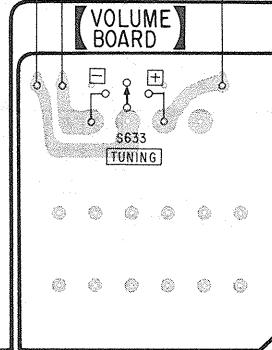
- Note on Schematic Diagram
- *D609, D610 : See page 2 for Note on Ceramic Filter (CF1, 2, 3) ▲ Replacement.
- All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}W$ or less unless otherwise specified.
- $\triangle$: internal component.
-  : nonflammable resistor.
- **B+** : B+ Line
- **B-** : B- Line

-  : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
() : AM
< > : LW
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Signal path.
⇒ : FM
- G : Germany model
- IT : Italian model

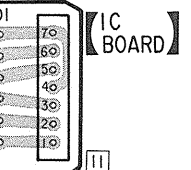
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
--	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----



A
B
C
D
E
F
G
H
I
J

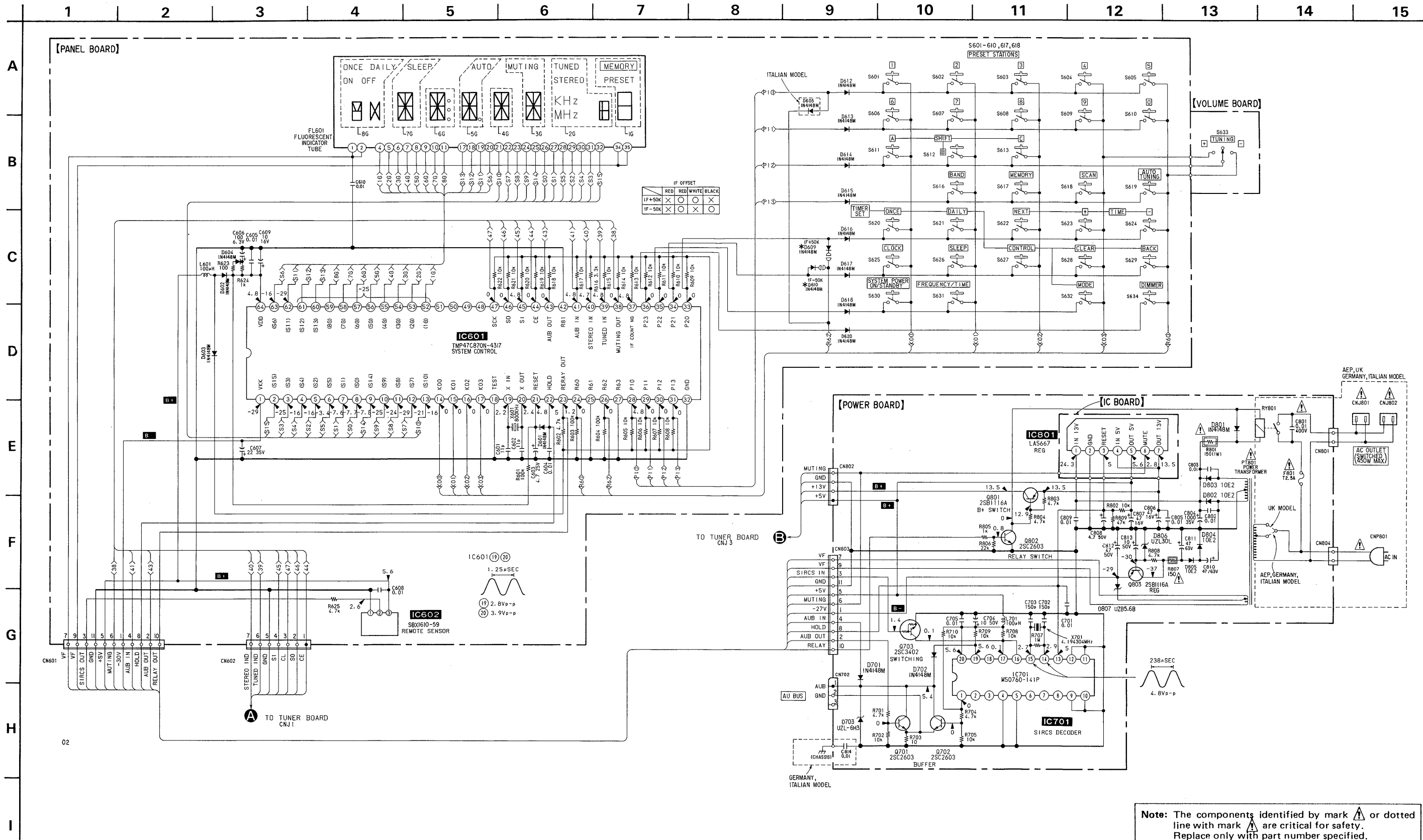


Ref. No.	Location	Ref. No.	Location
IC601	B-6	D615	A-10
IC602	B-3	D616	A-8
IC701	I-13	D617	C-8
IC801	G-14	D618	C-8
		D620	C-8
Q701	I-14	D701	F-11
Q702	I-13	D702	I-14
Q703	H-13	D703	I-14
Q801	E-14	D801	G-12
Q802	F-12	D802	F-12
Q803	E-9		
		D803	F-12
		D804	F-9
D601	B-4	D805	E-9
D602	C-3	D806	E-9
D603	B-2	D807	F-9
D604	C-3		
D605	B-8		
D609	B-8		
D610	C-8		
D612	B-10		
D613	B-11		
D614	B-10		



- 9 —

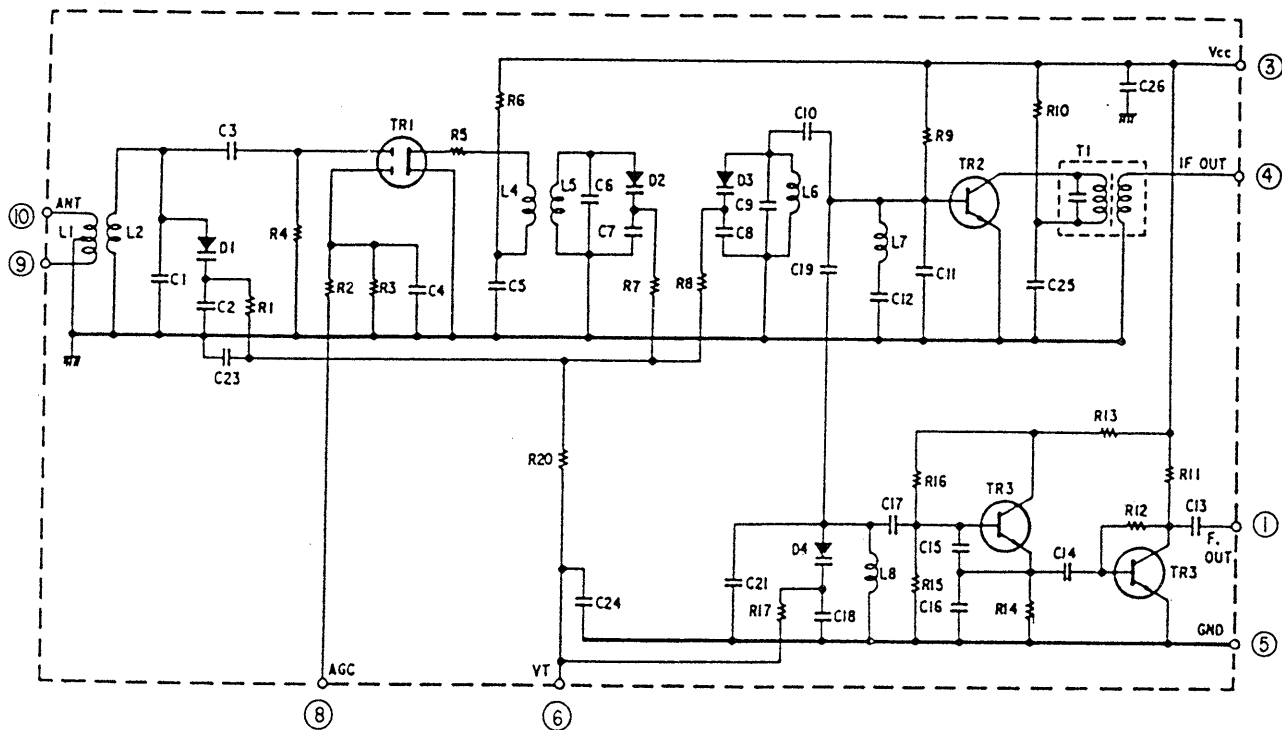
3-6. CONTROL AND POWER SUPPLY SECTION SCHEMATIC DIAGRAM • See page 6 for Notes.



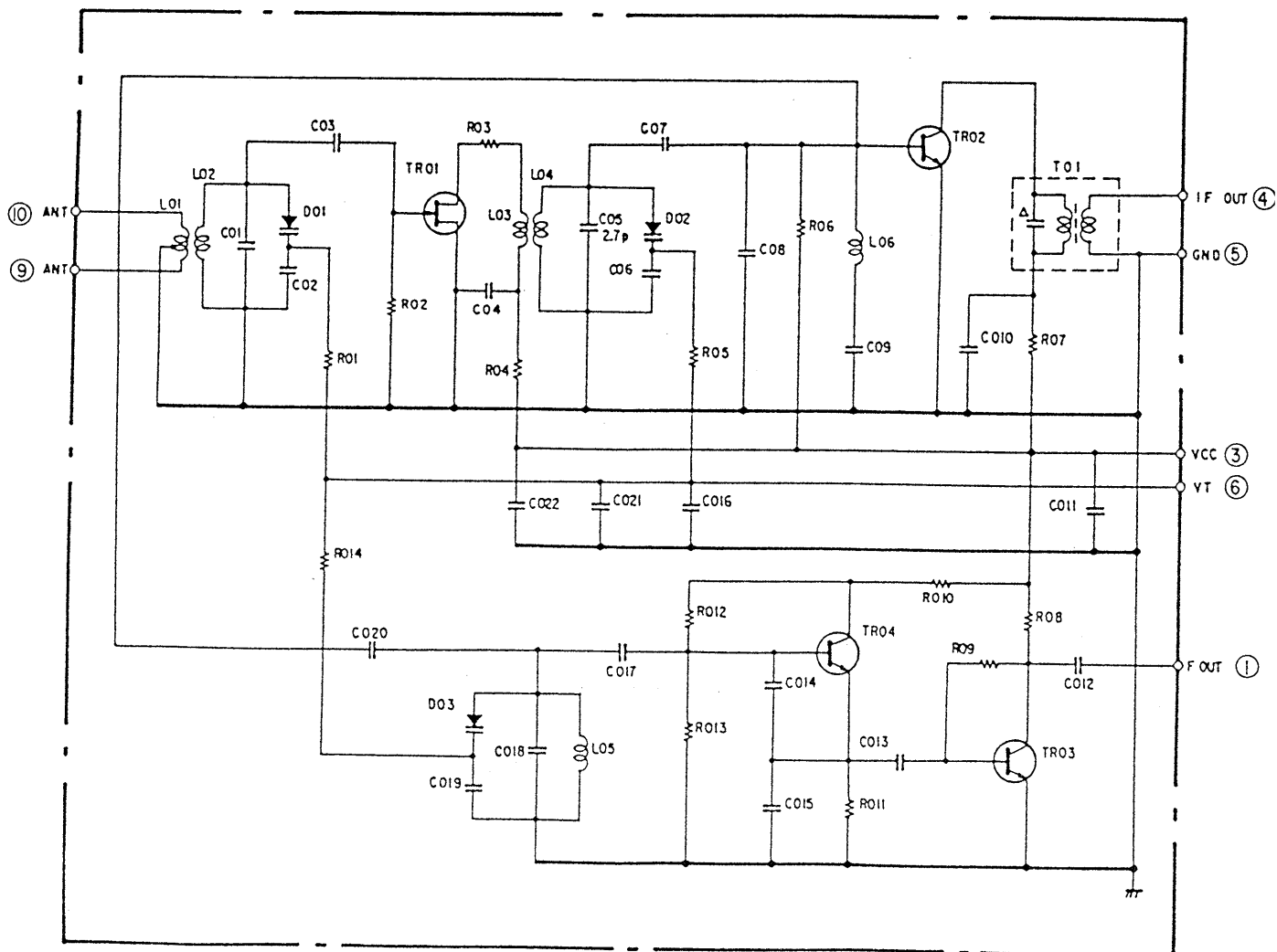
Note: The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.

3-7. FM FRONT-END (FE1) SCHEMATIC DIAGRAMS

(Germany, Italian Model)



(AEP, UK Model)



SECTION 4 EXPLODED VIEW

NOTE:

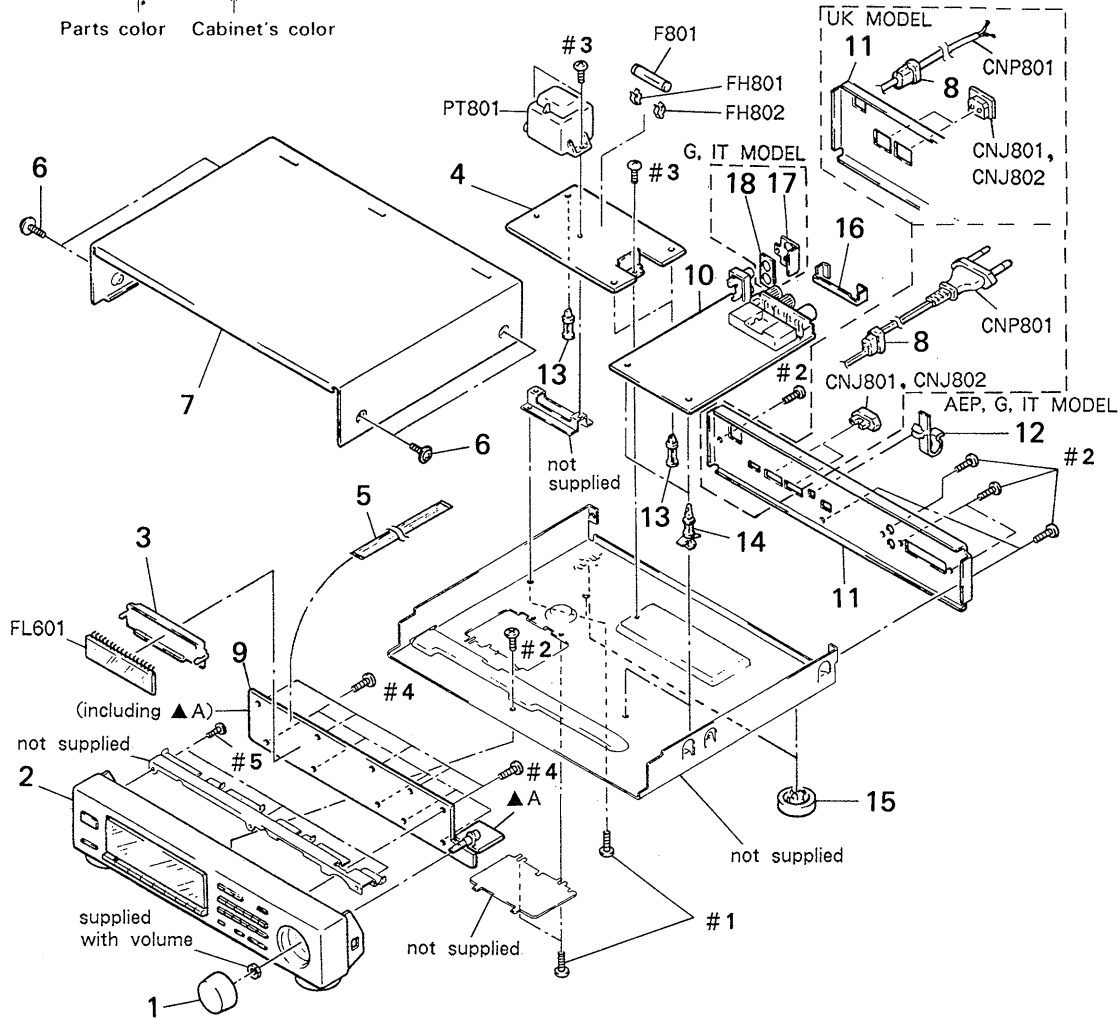
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color indication of Appearance Parts
Example:
KNOB, BALANCE (WHITE)....(RED)

↑ ↑
Parts color Cabinet's color

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (#mark) list is given in the last of this parts list.

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

- G : Germany model
- IT : Italian model



Ref. No.	Part No.	Description	Remark
1	4-930-861-01	KNOB	
2	X-4941-494-1	PANEL ASSY, FRONT	
3	* 4-923-103-01	HOLDER, FL TUBE	
4	* A-4345-240-A	POWER BOARD, COMPLETE (AEP)	
4	* A-4345-241-A	POWER BOARD, COMPLETE (Germany, Italian)	
4	* A-4345-244-A	POWER BOARD, COMPLETE (UK)	
5	1-575-666-11	WIRE, FLAT TYPE (11 CORE)	
6	3-363-099-01	SCREW (CASE +3X8 TP2)	
7	* 4-919-389-01	CASE	
8	* 3-703-244-00	BUSHING (2104), CORD	
9	* A-4345-237-A	PANEL BOARD, COMPLETE (AEP)	
9	* A-4345-238-A	PANEL BOARD, COMPLETE (Germany)	
9	* A-4345-239-A	PANEL BOARD, COMPLETE (Italian)	
9	* A-4345-242-A	PANEL BOARD, COMPLETE (UK)	
10	1-589-204-11	PC BOARD, MOUNTED (AEP, UK)	
11	* 4-944-325-11	PANEL, BACK (AEP)	
11	* 4-944-325-21	PANEL, BACK (UK)	
11	* 4-944-325-31	PANEL, BACK (Germany)	
11	* 4-944-325-41	PANEL, BACK (Italian)	

Ref. No.	Part No.	Description	Remark
12	* 2-379-614-01	HOOK	
13	* 3-349-025-31	HOLDER, PC BOARD	
14	* 4-924-098-01	HOLDER, PC BOARD	
15	4-934-884-01	FOOT	
16	* 4-924-988-11	PLATE (ST), GROUND	
17	* 4-923-470-01	PLATE, SHIELD (Germany, Italian)	
18	* 4-930-855-01	SHEET (2P) (Germany, Italian)	
	CNJ801	1-526-751-00 OUTLET, AC (UK)	
	CNJ801	1-526-794-11 OUTLET, AC (AEP, Germany, Italian)	
	CNJ802	1-526-751-00 OUTLET, AC (UK)	
	CNJ802	1-526-794-11 OUTLET, AC (AEP, Germany, Italian)	
	CNP801	1-575-651-11 CORD, POWER (AEP, Germany, Italian)	
	CNP801	1-575-652-11 CORD, POWER (UK)	
	F801	1-532-286-00 FUSE, TIME-LAG (2.5A)	
	FH801	* 1-533-213-31 HOLDER, FUSE	
	FH802	* 1-533-213-31 HOLDER, FUSE	
	FL601	1-519-595-11 INDICATOR TUBE, FLUORESCENT	
	PT801	1-449-979-11 TRANSFORMER, POWER	

SECTION 5

ELECTRICAL PARTS LIST

TUNER

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: μ , for example:
uA....: μ A...., uPA....: μ PA....
uPB....: μ PB...., uPC....: μ PC....
uPD....: μ PD....
- CAPACITORS
uF: μ F
- COILS
uH: μ H

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

When indicating parts by reference number, please include the board name.

- G : Germany model
- IT : Italian model

TUNER SECTION

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description			
C1	1-162-294-31	CERAMIC CHIP	0.001MF	20%	25V	C67	1-102-120-00	CERAMIC	0.0018MF	10%	50V
C2	1-124-477-11	ELECT	47MF	20%	16V	C68	1-163-111-11	CERAMIC CHIP	0.0015MF	20%	25V
C3	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V	C69	1-163-063-00	CERAMIC MELF	0.022MF		25V
C4	1-162-294-31	CERAMIC CHIP	0.001MF	20%	25V	C70	1-163-063-00	CERAMIC MELF	0.022MF		25V
C5	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V	C71	1-163-063-00	CERAMIC MELF	0.022MF		25V
C6	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V	C72	1-163-063-00	CERAMIC MELF	0.022MF		25V
C7	1-163-059-00	(G,IT)...CERAMIC MELF	0.01MF	20%	16V	C73	1-163-063-00	CERAMIC MELF	0.022MF		25V
C8	1-163-059-00	(G,IT)...CERAMIC MELF	0.01MF	20%	16V	C81	1-102-961-00	CERAMIC	27PF	5%	50V
C9	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V	C82	1-102-961-00	CERAMIC	27PF	5%	50V
C11	1-101-005-00	(G,IT)...CERAMIC	0.022MF		50V	C83	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V
C21	1-101-006-00	CERAMIC	0.047MF		50V	C84	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V
C22	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V	C85	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V
C23	1-124-119-00	ELECT	330MF	20%	16V	C86	1-124-477-11	ELECT	47MF	20%	16V
C24	1-123-382-00	ELECT	3.3MF	20%	50V	C87	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V
C25	1-163-063-00	CERAMIC MELF	0.022MF		25V	C88	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V
C26	1-163-019-00	CERAMIC CHIP	0.0068MF	20%	16V	C101	1-124-925-11	ELECT	2.2MF	20%	50V
C27	1-162-516-11	(AEP,UK)...CERAMIC CHIP	100PF	10%	50V	C102	1-124-463-00	ELECT	0.1MF	20%	50V
C27	1-163-007-11	(G,IT)...CERAMIC CHIP	680PF	20%	50V	C103	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V
C28	1-124-903-11	ELECT	1.0MF	20%	50V	C104	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V
C29	1-162-516-11	(G,IT)...CERAMIC CHIP	100PF	10%	50V	C105	1-124-477-11	ELECT	47MF	20%	16V
C30	1-124-903-11	ELECT	1.0MF	20%	50V	C106	1-136-173-00	MYLAR	0.47MF	5%	50V
C31	1-124-902-00	ELECT	0.47MF	20%	50V	C107	1-124-463-00	ELECT	0.1MF	20%	50V
C32	1-124-463-00	ELECT	0.1MF	20%	50V	C108	1-163-063-00	(G,IT)...CERAMIC MELF	0.022MF		25V
C33	1-130-481-00	FILM	0.0068MF	5%	50V	CF1	1-567-389-11	FILTER, CERAMIC			
C34	1-123-382-00	ELECT	3.3MF	20%	50V	CF2	1-567-389-11	FILTER, CERAMIC			
C35	1-130-481-00	FILM	0.0068MF	5%	50V	CF3	1-567-389-11	(G,IT)...FILTER, CERAMIC			
C36	1-123-382-00	ELECT	3.3MF	20%	50V	CF21	1-577-075-11	OSCILLATOR, CERAMIC (19kHz)			
C37	1-124-907-11	ELECT	10MF	20%	50V	CFT21	1-404-853-11	TRANSFORMER, IF (CERAMIC FILTER)			
C38	1-124-907-11	ELECT	10MF	20%	50V	CNJ1	*1-568-273-11	SOCKET, CONNECTOR 7P			
C39	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V	CNJ3	*1-568-308-11	SOCKET, CONNECTOR 4P			
C40	1-124-463-00	ELECT	0.1MF	20%	50V	D21	8-719-912-20	DIODE 1SS120			
C41	1-124-927-11	ELECT	4.7MF	20%	50V	D22	8-719-912-20	DIODE 1SS120			
C42	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V	D23	8-719-912-20	DIODE 1SS120			
C43	1-126-176-11	ELECT	220MF	20%	10V	D24	8-719-912-20	DIODE 1SS120			
C44	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V	D61	8-719-912-20	DIODE 1SS120			
C45	1-123-382-00	ELECT	3.3MF	20%	50V	FE1	1-463-857-11	(G,IT)...FRONT END (FM)			
C46	1-161-375-00	CERAMIC CHIP	0.0022MF	20%	25V	FE1	1-463-862-21	(AEP,UK)...FRONT END (FM)			
C47	1-163-170-00	(G,IT)...CERAMIC CHIP	0.0047MF	20%	25V	FE61	1-236-462-11	ENCAPSULATED COMPONENT (MW RF BLOCK)			
C48	1-123-382-00	ELECT	3.3MF	20%	50V	FE62	1-236-463-11	ENCAPSULATED COMPONENT (LW RF BLOCK)			
C49	1-161-375-00	CERAMIC CHIP	0.0022MF	20%	25V	IC21	8-759-821-45	IC LA1851N			
C50	1-163-170-00	(G,IT)...CERAMIC CHIP	0.0047MF	20%	25V	IC81	8-759-820-91	IC LC7218			
C51	1-124-477-11	ELECT	47MF	20%	16V	L1	1-410-645-31	MICRO INDUCTOR 100UH			
C52	1-124-252-00	ELECT	0.33MF	20%	50V	L2	1-410-645-31	(G,IT)...MICRO INDUCTOR 100UH			
C53	1-163-105-00	CERAMIC CHIP	33PF	5%	50V	L21	1-407-500-00	MICRO INDUCTOR 4.7UH			
C54	1-101-005-00	(G,IT)...CERAMIC	0.022MF		50V	L61	1-410-525-11	MICRO INDUCTOR 220UH			
C61	1-163-063-00	CERAMIC MELF	0.022MF		25V	LPF21	1-235-164-00	FILTER, LOW PASS			
C62	1-163-063-00	CERAMIC MELF	0.022MF		25V	LPF22	1-235-164-00	FILTER, LOW PASS			
C63	1-163-063-00	CERAMIC MELF	0.022MF		25V	PJ1	1-565-352-11	(G, IT)...JACK, PIN 2P(OUTPUT)			
C64	1-163-063-00	CERAMIC MELF	0.022MF		25V	PJ1	1-565-352-21	(AEP, UK)...JACK, PIN 2P(OUTPUT)			
C65	1-163-063-00	CERAMIC MELF	0.022MF		25V						
C66	1-163-063-00	CERAMIC MELF	0.022MF		25V						

TUNER

Ref.No.	Part No.	Description
Q1	8-729-230-99	TRANSISTOR 2SC2669-OY
Q2	8-729-230-99	TRANSISTOR 2SC2669-OY
Q3	8-729-230-99	(G,IT)...TRANSISTOR 2SC2669-OY
Q4	8-729-230-99	(G,IT)...TRANSISTOR 2SC2669-OY
Q21	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q22	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q26	8-729-900-80	TRANSISTOR DTC114ES
Q27	8-729-620-05	TRANSISTOR 2SC2603-EF
Q28	8-729-620-05	TRANSISTOR 2SC2603-EF
Q61	8-729-900-80	TRANSISTOR DTC114ES
Q62	8-729-900-80	TRANSISTOR DTC114ES
Q63	8-729-900-80	TRANSISTOR DTC114ES
Q64	8-729-620-05	TRANSISTOR 2SC2603-EF
Q65	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q66	8-729-900-80	TRANSISTOR DTC114ES
Q81	8-729-900-61	TRANSISTOR DTA114ES
Q82	8-729-900-80	TRANSISTOR DTC114ES
Q83	8-729-202-67	TRANSISTOR 2SK246-GR3
Q84	8-729-230-93	TRANSISTOR 2SC3113AB
Q85	8-729-202-67	TRANSISTOR 2SK246-GR3
Q86	8-729-230-93	TRANSISTOR 2SC3113AB
R1	△.1-249-397-11	(G,IT)....CARBON (SMALL)22 5% 1/4W F
R1	△.1-249-401-11	(AEP,UK)...CARBON (SMALL)47 5% 1/4W F
R3	1-249-329-11	CARBON MELF 330 5% 1/8W
R4	1-249-329-11	CARBON MELF 330 5% 1/8W
R5	1-249-329-11	CARBON MELF 330 5% 1/8W
R6	1-249-350-11	CARBON MELF 18K 5% 1/8W
R7	1-249-329-11	CARBON MELF 330 5% 1/8W
R8	1-249-332-11	CARBON MELF 560 5% 1/8W
R9	1-249-352-11	CARBON MELF 27K 5% 1/8W
R10	1-249-329-11	(G,IT)...CARBON MELF 330 5% 1/8W
R11	1-249-350-11	(G,IT)...CARBON MELF 18K 5% 1/8W
R12	1-249-329-11	(G,IT)...CARBON MELF 330 5% 1/8W
R13	1-249-334-11	(G,IT)...CARBON MELF 820 5% 1/8W
R14	1-249-352-11	(G,IT)...CARBON MELF 27K 5% 1/8W
R15	1-249-347-11	(G,IT)...CARBON MELF 10K 5% 1/8W
R16	1-249-343-11	(G,IT)...CARBON MELF 4.7K 5% 1/8W
R21	△.1-249-404-00	CARBON (SMALL)82 5% 1/4W F
R22	△.1-249-430-11	CARBON (SMALL)12K 5% 1/4W F
R23	1-249-335-11	CARBON MELF 1K 5% 1/8W
R24	1-249-353-11	CARBON MELF 33K 5% 1/8W
R25	1-249-346-11	CARBON MELF 8.2K 5% 1/8W
R26	1-249-340-11	(G,IT)...CARBON MELF 2.7K 5% 1/8W
R27	△.1-249-432-11	CARBON (SMALL)18K 5% 1/4W F
R29	1-249-347-11	CARBON MELF 10K 5% 1/8W
R31	1-249-331-11	CARBON MELF 470 5% 1/8W
R32	1-249-347-11	CARBON MELF 10K 5% 1/8W
R33	1-249-347-11	CARBON MELF 10K 5% 1/8W
R34	1-249-425-11	CARBON (SMALL)4.7K 5% 1/4W
R35	1-249-355-11	CARBON MELF 47K 5% 1/8W
R37	1-249-359-11	CARBON MELF 100K 5% 1/8W
R38	1-249-363-11	CARBON MELF 220K 5% 1/8W
R39	1-249-339-11	CARBON MELF 2.2K 5% 1/8W
R40	1-249-338-11	CARBON MELF 1.8K 5% 1/8W
R41	1-249-344-11	CARBON MELF 5.6K 5% 1/8W
R42	1-249-359-11	CARBON MELF 100K 5% 1/8W
R43	1-249-363-11	CARBON MELF 220K 5% 1/8W
R44	1-249-339-11	CARBON MELF 2.2K 5% 1/8W

Ref.No.	Part No.	Description
R45	1-249-338-11	CARBON MELF 1.8K 5% 1/8W
R46	1-249-344-11	CARBON MELF 5.6K 5% 1/8W
R47	△.1-249-409-11	CARBON (SMALL)220 5% 1/4W F
R48	1-249-359-11	CARBON MELF 100K 5% 1/8W
R49	1-249-359-11	CARBON MELF 100K 5% 1/8W
R61	1-249-359-11	CARBON MELF 100K 5% 1/8W
R62	1-249-355-11	CARBON MELF 47K 5% 1/8W
R64	1-249-351-11	CARBON MELF 22K 5% 1/8W
R65	1-249-355-11	CARBON MELF 47K 5% 1/8W
R66	1-215-493-00	CARBON MELF 1M 5% 1/5W
R67	1-249-359-11	CARBON MELF 100K 5% 1/8W
R68	1-249-352-11	CARBON MELF 27K 5% 1/8W
R69	1-249-351-11	CARBON MELF 22K 5% 1/8W
R70	1-249-331-11	CARBON MELF 470 5% 1/8W
R71	1-249-339-11	CARBON MELF 2.2K 5% 1/8W
R72	1-249-351-11	CARBON MELF 22K 5% 1/8W
R73	1-249-347-11	CARBON MELF 10K 5% 1/8W
R74	1-249-347-11	CARBON MELF 10K 5% 1/8W
R75	1-249-343-11	CARBON MELF 4.7K 5% 1/8W
R81	1-249-335-11	CARBON MELF 1K 5% 1/8W
R82	1-249-335-11	CARBON MELF 1K 5% 1/8W
R83	1-249-335-11	CARBON MELF 1K 5% 1/8W
R84	1-249-335-11	CARBON MELF 1K 5% 1/8W
R85	1-249-347-11	CARBON MELF 10K 5% 1/8W
R86	1-249-335-11	CARBON MELF 1K 5% 1/8W
R87	1-249-347-11	CARBON MELF 10K 5% 1/8W
R88	1-249-343-11	CARBON MELF 4.7K 5% 1/8W
R89	1-249-335-11	CARBON MELF 1K 5% 1/8W
R90	1-249-343-11	CARBON MELF 4.7K 5% 1/8W
R91	1-249-335-11	CARBON MELF 1K 5% 1/8W
R92	△.1-249-401-11	CARBON (SMALL)47 5% 1/4W F
R101	1-249-341-11	CARBON MELF 3.3K 5% 1/8W
R102	1-249-332-11	CARBON MELF 560 5% 1/8W
R103	1-249-335-11	CARBON MELF 1K 5% 1/8W
R104	1-249-328-11	CARBON MELF 270 5% 1/8W
R105	1-249-343-11	CARBON MELF 4.7K 5% 1/8W
R106	1-249-339-11	CARBON MELF 2.2K 5% 1/8W
R107	1-249-343-11	CARBON MELF 4.7K 5% 1/8W
R108	1-249-323-11	CARBON MELF 100 5% 1/8W
R109	1-249-343-11	CARBON MELF 4.7K 5% 1/8W
R110	△.1-249-405-11	CARBON (SMALL)100 5% 1/4W F
R111	1-249-341-11	CARBON MELF 3.3K 5% 1/8W
R112	1-249-332-11	CARBON MELF 560 5% 1/8W
R113	1-249-335-11	CARBON MELF 1K 5% 1/8W
R114	1-249-328-11	CARBON MELF 270 5% 1/8W
R115	1-249-351-11	CARBON MELF 22K 5% 1/8W
R116	1-249-339-11	CARBON MELF 2.2K 5% 1/8W
R117	1-249-343-11	CARBON MELF 4.7K 5% 1/8W
R118	1-249-323-11	CARBON MELF 100 5% 1/8W
RV21	1-238-013-11	(AEP,UK)...RES, ADJ, CARBON 2.2K
RV21	1-238-015-11	(G,IT).....RES, ADJ, CARBON 4.7K
RV22	1-238-017-11	RES, ADJ, CARBON 22K
RV24	1-238-017-11	(AEP,UK)...RES, ADJ, CARBON 22K
RV24	1-238-019-11	(G,IT).....RES, ADJ, CARBON 47K
T21	1-404-807-11	TRANSFORMER, DISCRIMINATOR
T23	1-236-465-11	(G,IT)...ENCAPSULATED COMPONENT
TM1	*1-537-138-31	TERMINAL BOARD (ANT)(ANTENNA)
TP1	*1-560-060-00	PIN, CONNECTOR 2P
XT81	1-577-126-11	VIBRATOR, CRYSTAL (7.2MHz)

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

• EXCEPT TUNER SECTION

PANEL

POWER

Ref. No.	Part No.	Description	Remark
	* A-4345-237-A	PANEL BOARD, COMPLETE (AEP) *****	
	* A-4345-238-A	PANEL BOARD, COMPLETE (Germany) *****	
	* A-4345-239-A	PANEL BOARD, COMPLETE (Italian) *****	
	* A-4345-240-A	POWER BOARD, COMPLETE (AEP) *****	
	* A-4345-241-A	POWER BOARD, COMPLETE (Germany, Italian) *****	
	* A-4345-242-A	PANEL BOARD, COMPLETE (UK) *****	
	* A-4345-244-A	POWER BOARD, COMPLETE (UK) *****	
	* 4-923-103-01	HOLDER, FL TUBE	
		< CAPACITOR >	
C601	1-162-200-31	CERAMIC 11PF 5%	50V
C602	1-162-200-31	CERAMIC 11PF 5%	50V
C603	1-126-163-11	ELECT 4.7uF 20%	50V
C604	1-161-379-00	CERAMIC 0.01uF 20%	25V
C605	1-161-379-00	CERAMIC 0.01uF 20%	25V
C606	1-126-177-11	ELECT 100uF 20%	10V
C607	1-123-357-00	ELECT 22uF 20%	35V
C608	1-161-379-00	CERAMIC 0.01uF 20%	25V
C609	1-126-157-11	ELECT 10uF 20%	16V
C610	1-101-004-00	CERAMIC 0.01uF	50V
C701	1-161-379-00	CERAMIC 0.01uF 20%	25V
C702	1-162-284-31	CERAMIC 150PF 10%	50V
C703	1-162-284-31	CERAMIC 150PF 10%	50V
C704	1-124-907-11	ELECT 10uF 20%	50V
C705	1-161-379-00	CERAMIC 0.01uF 20%	25V
C801	△ 1-161-744-00	CERAMIC 0.01uF	400V
C802	1-101-004-00	CERAMIC 0.01uF	50V
C803	1-101-004-00	CERAMIC 0.01uF	50V

Ref. No.	Part No.	Description	Remark
C804	1-126-105-11	ELECT 1000uF 20%	35V
C805	1-161-379-00	CERAMIC 0.01uF 20%	25V
C806	1-124-477-11	ELECT 47uF 20%	25V
C807	1-124-477-11	ELECT 47uF 20%	25V
C808	1-126-163-11	ELECT 4.7uF 20%	50V
C809	1-161-379-00	CERAMIC 0.01uF 20%	25V
C810	1-124-918-11	ELECT 47uF 20%	63V
C811	1-124-918-11	ELECT 47uF 20%	63V
C812	1-124-910-11	ELECT 47uF 20%	50V
C813	1-124-907-11	ELECT 10uF 20%	50V
C814	1-101-004-00	CERAMIC 0.01uF	50V (Germany, Italian)

< CONNECTOR >

CN601	* 1-568-854-11	SOCKET, CONNECTOR 11P
CN602	* 1-568-273-11	SOCKET, CONNECTOR 7P
CN702	* 1-565-561-11	PIN, CONNECTOR 3P
CN801	1-535-139-00	BASE POST 22MM (10MM PITCH) 2P
CN802	* 1-568-308-11	SOCKET, CONNECTOR 4P
CN803	* 1-568-830-11	SOCKET, CONNECTOR 11P
CN804	* 1-564-321-00	PIN, CONNECTOR 2P

< DIODE >

D601	8-719-912-20	DIODE 1SS120
D602	8-719-912-20	DIODE 1SS120
D603	8-719-912-20	DIODE 1SS120
D604	8-719-912-20	DIODE 1SS120
D605	8-719-912-20	DIODE 1SS120 (Italian)
D609	8-719-912-20	DIODE 1SS120
D612	8-719-912-20	DIODE 1SS120
D613	8-719-912-20	DIODE 1SS120
D614	8-719-912-20	DIODE 1SS120
D615	8-719-912-20	DIODE 1SS120

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

PANEL

POWER

Ref. No.	Part No.	Description	Remark
D616	8-719-912-20	DIODE 1SS120	
D617	8-719-912-20	DIODE 1SS120	
D618	8-719-912-20	DIODE 1SS120	
D620	8-719-912-20	DIODE 1SS120	
D701	8-719-912-20	DIODE 1SS120	
D702	8-719-912-20	DIODE 1SS120	
D703	8-719-933-41	DIODE HZS6C3L	
D801	8-719-912-20	DIODE 1SS120	
D802	8-719-200-77	DIODE 10E2N	
D803	8-719-200-77	DIODE 10E2N	
D804	8-719-200-77	DIODE 10E2N	
D805	8-719-200-77	DIODE 10E2N	
D806	8-719-934-22	DIODE HZS30-2L	
D807	8-719-014-66	DIODE UZP-5. 6B	
< FUSE >			
F801	Δ 1-532-286-00	FUSE, TIME-LAG 2. 5A	
< HOLDER FUSE >			
FH801	* 1-533-213-31	HOLDER, FUSE	
FH802	* 1-533-213-31	HOLDER, FUSE	
< FLUORESCENT >			
FL601	1-519-595-11	INDICATOR TUBE, FLUORESCENT	
< IC >			
IC601	8-759-246-20	IC TMP47C870N-4317	
IC602	8-741-100-48	IC SBX1610-59	
IC701	8-759-634-73	IC M50760-141P	
IC801	8-759-820-09	IC LA5667	
< COIL >			
L601	1-410-521-11	INDUCTOR 100uH	
L701	1-410-521-11	INDUCTOR 100uH	
< TRANSFORMER >			
PT801	Δ 1-449-979-11	TRANSFORMER, POWER	
< TRANSISTOR >			
Q701	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q702	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q703	8-729-900-80	TRANSISTOR DTC114ES	
Q801	8-729-140-04	TRANSISTOR 2SB1116A-L	
Q802	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q803	8-729-140-04	TRANSISTOR 2SB1116A-L	

Ref. No.	Part No.	Description	Remark
< RESISTOR >			
R601	1-249-441-11	CARBON 100K 5%	1/4W
R602	1-249-425-11	CARBON 4. 7K 5%	1/4W
R603	1-249-441-11	CARBON 100K 5%	1/4W
R604	1-249-441-11	CARBON 100K 5%	1/4W
R605	1-249-429-11	CARBON 10K 5%	1/4W
R606	1-249-429-11	CARBON 10K 5%	1/4W
R607	1-249-429-11	CARBON 10K 5%	1/4W
R608	1-249-429-11	CARBON 10K 5%	1/4W
R609	1-249-429-11	CARBON 10K 5%	1/4W
R610	1-249-429-11	CARBON 10K 5%	1/4W
R611	1-249-429-11	CARBON 10K 5%	1/4W
R612	1-249-429-11	CARBON 10K 5%	1/4W
R613	1-249-429-11	CARBON 10K 5%	1/4W
R614	1-249-429-11	CARBON 10K 5%	1/4W
R615	1-249-429-11	CARBON 10K 5%	1/4W
R616	1-249-423-11	CARBON 3. 3K 5%	1/4W
R617	1-249-429-11	CARBON 10K 5%	1/4W
R618	1-249-429-11	CARBON 10K 5%	1/4W
R619	1-249-429-11	CARBON 10K 5%	1/4W
R620	1-249-429-11	CARBON 10K 5%	1/4W
R621	1-249-429-11	CARBON 10K 5%	1/4W
R622	1-249-429-11	CARBON 10K 5%	1/4W
R623	1-249-405-11	CARBON 100 5%	1/4W
R624	1-249-417-11	CARBON 1K 5%	1/4W
R625	1-249-425-11	CARBON 4. 7K 5%	1/4W
R701	1-249-425-11	CARBON 4. 7K 5%	1/4W
R702	1-249-429-11	CARBON 10K 5%	1/4W
R703	1-249-393-11	CARBON 10 5%	1/4W
R704	1-249-425-11	CARBON 4. 7K 5%	1/4W
R705	1-249-429-11	CARBON 10K 5%	1/4W
R707	1-247-903-00	CARBON 1M 5%	1/4W
R708	1-249-429-11	CARBON 10K 5%	1/4W
R709	1-249-429-11	CARBON 10K 5%	1/4W
R710	1-249-429-11	CARBON 10K 5%	1/4W
R801	Δ 1-215-864-00	METAL OXIDE 150 5%	1W F
R802	1-249-429-11	CARBON 10K 5%	1/4W
R803	1-249-425-11	CARBON 4. 7K 5%	1/4W
R804	1-249-425-11	CARBON 4. 7K 5%	1/4W
R805	1-249-417-11	CARBON 1K 5%	1/4W
R806	1-249-433-11	CARBON 22K 5%	1/4W
R807	Δ 1-247-702-11	CARBON 150 5%	1/4W F
R808	1-249-425-11	CARBON 4. 7K 5%	1/4W
R809	1-249-437-11	CARBON 47K 5%	1/4W
< RELAY >			
RY801	1-515-617-11	RELAY	

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

PANEL**POWER**

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S601	1-554-303-21	SWITCH, TACTILE (1)	
S602	1-554-303-21	SWITCH, TACTILE (2)	
S603	1-554-303-21	SWITCH, TACTILE (3)	
S604	1-554-303-21	SWITCH, TACTILE (4)	
S605	1-554-303-21	SWITCH, TACTILE (5)	
S606	1-554-303-21	SWITCH, TACTILE (6)	
S607	1-554-303-21	SWITCH, TACTILE (7)	
S608	1-554-303-21	SWITCH, TACTILE (8)	
S609	1-554-303-21	SWITCH, TACTILE (9)	
S610	1-554-303-21	SWITCH, TACTILE (0)	
S611	1-554-303-21	SWITCH, TACTILE (A-SHIFT)	
S612	1-554-303-21	SWITCH, TACTILE (B-SHIFT)	
S613	1-554-303-21	SWITCH, TACTILE (C-SHIFT)	
S616	1-554-303-21	SWITCH, TACTILE (BAND)	
S617	1-554-303-21	SWITCH, TACTILE (MEMORY)	
S618	1-554-303-21	SWITCH, TACTILE (SCAN)	
S619	1-554-303-21	SWITCH, TACTILE (AUTO)	
S620	1-554-303-21	SWITCH, TACTILE (ONCE)	
S621	1-554-303-21	SWITCH, TACTILE (DAILY)	
S622	1-554-303-21	SWITCH, TACTILE (NEXT)	
S623	1-554-303-21	SWITCH, TACTILE (TIME +)	
S624	1-554-303-21	SWITCH, TACTILE (TIME -)	
S625	1-554-303-21	SWITCH, TACTILE (CLOCK)	
S626	1-554-303-21	SWITCH, TACTILE (SLEEP)	
S627	1-554-303-21	SWITCH, TACTILE (CONTROL)	
S628	1-554-303-21	SWITCH, TACTILE (CLEAR)	
S629	1-554-303-21	SWITCH, TACTILE (BACK)	
S630	1-554-303-21	SWITCH, TACTILE (SYSTEM POWER)	
S631	1-554-303-21	SWITCH, TACTILE (FREQUENCY/TIME)	
S632	1-554-303-21	SWITCH, TACTILE (MODE)	
S633	1-571-955-11	SWITCH, ROTARY (TUNING +/-)	
S634	1-554-303-21	SWITCH, TACTILE (DIMMER)	
		< CRYSTAL >	
X601	1-567-821-21	VIBRATOR, CRYSTAL (800kHz)	
X701	1-578-699-11	OSCILLATOR, CERAMIC (4.194304MHz)	

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS *****	
5	1-575-666-11	WIRE, FLAT TYPE (11 CORE)	
10	1-589-204-11	PC BOARD, MOUNTED (AEP, UK)	
CNJ801	1-526-751-00	OUTLET, AC (UK)	
CNJ801	1-526-794-11	OUTLET, AC (AEP, Germany, Italian)	
CNJ802	1-526-751-00	OUTLET, AC (UK)	
CNJ802	1-526-794-11	OUTLET, AC (AEP, Germany, Italian)	
CNP801 Δ	1-575-651-11	CORD, POWER (AEP, Germany, Italian)	
CNP801 Δ	1-575-652-11	CORD, POWER (UK)	
F801 Δ	1-532-286-00	FUSE, TIME-LAG (2.5A)	

		ACCESSORY & PACKING MATERIAL *****	
	1-465-774-11	REMOTE COMMANDER (RM-S905) (AEP, Germany, Italian)	
	1-501-369-11	ANTENNA (AEP, Germany, Italian)	
	1-501-374-11	ANTENNA, LOOP (AEP, Germany, Italian)	
	1-558-271-11	CORD, CONNECTION (AEP, Germany, Italian)	
	1-559-533-11	CORD, CONNECTION (AEP, Germany, Italian)	
	1-575-832-11	CORD (WITH CONNECTOR) (AEP, Germany, Italian)	
	3-753-429-11	MANUAL, INSTRUCTION (AEP) (English, French, Spanish, Portuguese)	
	3-753-429-41	MANUAL, INSTRUCTION (AEP, Germany, Italian) (German, Dutch, Swedish, Italian)	
	* 4-934-860-01	CUSHION	
	* 4-946-090-01	INDIVIDUAL CARTON (AEP, Germany, Italian)	

		HARDWARE LIST *****	
# 1	7-682-548-09	SCREW +BVTT 3X8 (S)	
# 2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
# 3	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
# 4	7-621-773-93	SCREW (PANEL 2.6 TP2)	
# 5	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	

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

