

Service Manual

Colour Television EURO-2 Chassis

TX-21MD1C/P

Safety Specifications Block Diagram(Video) Block Diagram(Control) Block Diagram(Audio) Parts List Service Information PCB view(B) PCB view(E) PCB view(Y)	Adjustments Self Check Service Hints Mechanical View Disassembly Location of Controls Waveforms B Schematic E Schematic Y Schematic	Notes Service Support About.... GO BACK EXIT
---	---	---

Service Manual



Colour Television

TX-21MD1C/P

EURO-2 Chassis

Specifications

Power Source :	220—240V AC 50Hz
Power Consumption :	119W
Aerial Impedance :	75Ω unbalanced, Coaxial Type
Receiving System :	PAL-B/G D/K, PAL-60 SECAM B/G D/K M.NTSC NTSC(AV Input only)
Receiving Channels :	VHF E2 — E12 VHF R1 — R2 VHF R6 — R12 UHF E21 — E69 CATV S01 — S05 CATV S1 — S10 (M1 — M10) CATV S11 — S20 (U1 — U10) CATVS21 — S41 (HYPERBAND)
Intermediate Frequency :	Video 38.9 MHz Sound 33.4MHz 33.16MHz 32.4MHz Colour 34.47 MHz (PAL) 34.5MHz 34.65MHz (SECAM)
Video / AudioTerminals :	
AUDIO MONITOR OUT	Audio(RCA x 2)500mV rms, 1kΩ
AV1 IN	Video (21 pin)1V p—p 75Ω Audio (21 pin)500mV rms, 10kΩ RGB (21 pin)
AV1 OUT	Video (21 pin)1V p—p 75Ω Audio (21 pin) 500mV rms, 1kΩ
AV2 IN	Video (21 pin)1V p—p 75Ω Audio (21 pin)500mV rms, 10 kΩ S—Video IN Y : 1V p—p 75Ω (21 pin) C : 0.3V p—p 75Ω

AV2 OUT	Video (21 pin) 1V p—p 75Ω Audio (21 pin) 500mV rms, 1kΩ
AV3 IN	Audio (RCA x 2)500mV rms, 10kΩ Video (RCA x 1)1V p—p 75Ω
High Voltage :	27kV ±1kV at zero beam current
Picture Tube :	A51EAL155X01 63 cm measured diagonally.
Audio Output :	
Internal Speaker	2 x 15 W (Music Power) 8Ω Impedance
Headphones	1 x 8 Ω Impedance
Accessories supplied :	Remote Control UM3 Batteries
Dimensions :	Height : 480mm Width : 525mm Depth : 480mm
Net Weight	20.2kg

Specifications are subject to change without notice.
Weight and dimensions shown are approximate.

Panasonic

Contents

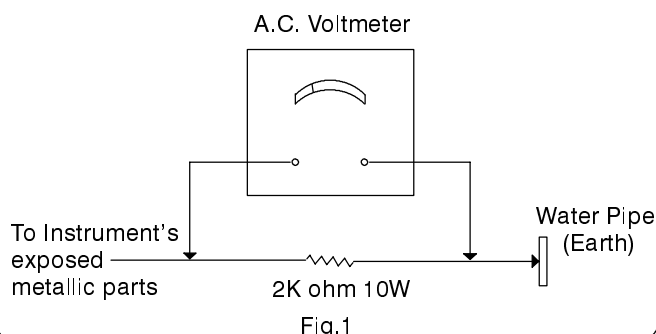
Safety Precautions.....	2
Location of Controls.....	3
Chassis Service Position.....	4
Self Check.....	6
Adjustment Procedure.....	6
Alignment Settings.....	7
Waveform Pattern Table.....	8
Conductor Views.....	9
Schematic Diagrams.....	12
Block Diagrams.....	15
Parts Location.....	19
Replacement Parts List.....	20

Safety Precautions

General Guide Lines

1. It is advisable to insert an isolation transformer in the AC supply before servicing a hot chassis.
2. When servicing, observe the original lead dress in the high voltage circuits. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
3. After servicing, see that all the protective devices such as insulation barriers, insulation papers, shields and isolation R-C combinations are correctly installed.
4. When the receiver is not being used for a long period of time, unplug the power cord from the AC outlet.
5. Potentials as high as 28 kV are present when this receiver is in operation. Operation of the receiver without the rear cover involves the danger of a shock hazard from the receiver power supply. Servicing should not be attempted by anyone who is not familiar with the precautions necessary when working on high voltage equipment. Always discharge the anode of the picture to the chassis before handling the tube.
6. After servicing make the following leakage current checks to prevent the customer from being exposed to shock hazards.
 4. Check each exposed Metallic part and check the voltage at each point.
 5. Reverse the AC plug at the outlet and repeat each of the above measurements.
 6. The potential at any point should not exceed 1.4 Vrms. In case a measurement is outside the limits specified, there is a possibility of a shock hazard, and the receiver should be repaired and rechecked before it is returned to the customer.

HOT CHECK CIRCUIT



Leakage Current Cold Check

1. Unplug the AC cord and connect a jumper between the two prongs of the plug.
2. Turn on the receiver's power switch.
3. Measure the resistance value with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the receiver, such as screw heads, aerials, connectors, control shafts etc. When the exposed metallic part has a return path to the chassis the reading should be between 4M ohm and 20M ohm. When the exposed metal does not have a return path to the chassis the reading must be infinite.

Leakage Current Hot Check

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 2k ohm 10W resistor in series with an exposed metallic part on the receiver and an earth such as a water pipe.
3. Use an AC voltmeter with high impedance to measure the potential across the resistor.

X-Radiation Warning

1. The potential sources of X-Radiation in TV sets are the high voltage section and the picture tube.
2. When using a picture tube test jig for service ensure that the jig is capable of handling 28kV without causing X-Radiation.

NOTE : It is important to use an accurate periodically calibrated high voltage meter

1. Set the brightness to minimum.
2. Measure the high voltage. The meter should indicate $27\text{kV} \pm 1\text{kV}$ at zero beam current if the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.
3. To prevent an X-Radiation possibility, it is essential to use the specified tube.

Service Hints

How to remove the rear cover

1. Remove the 5 fixing screws (A) as shown in Fig.2

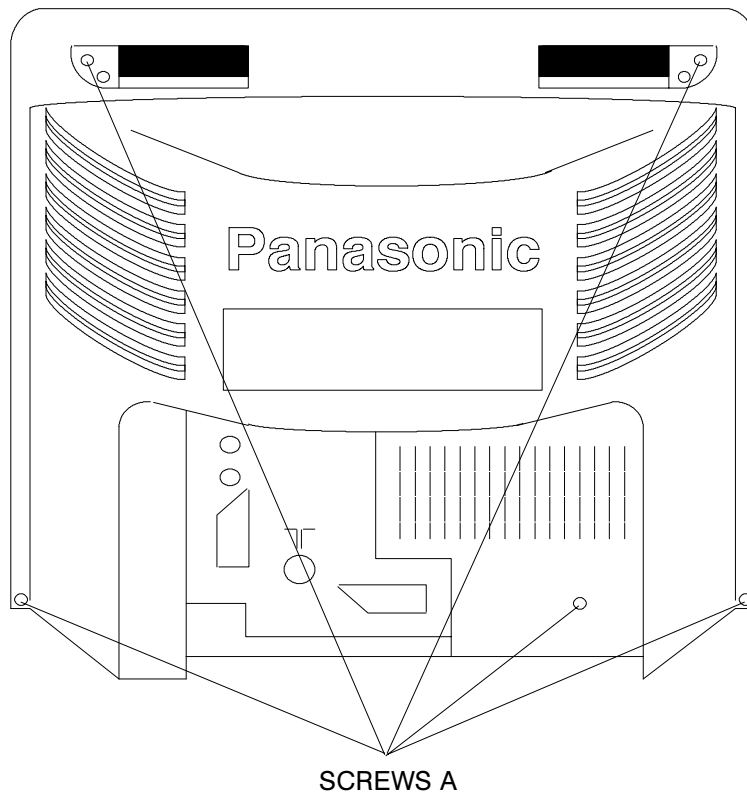


Fig.2.

Location Of Controls

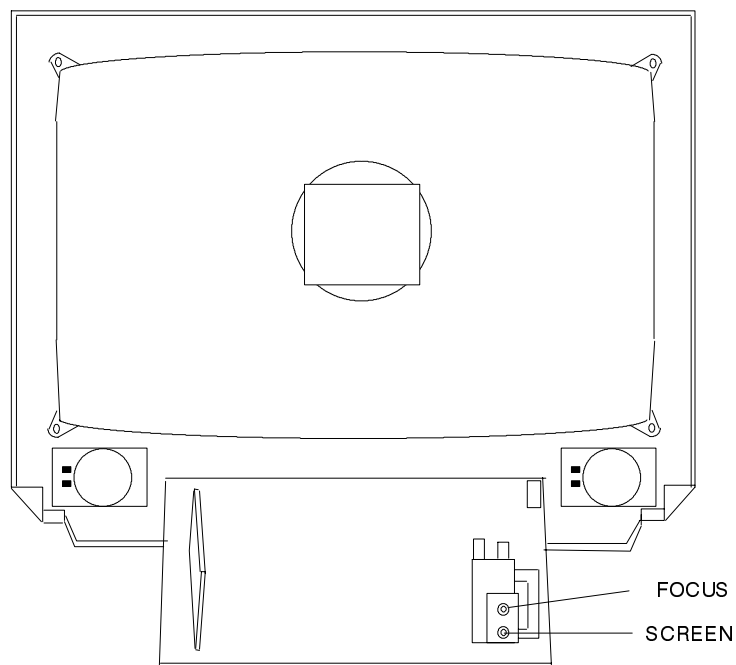
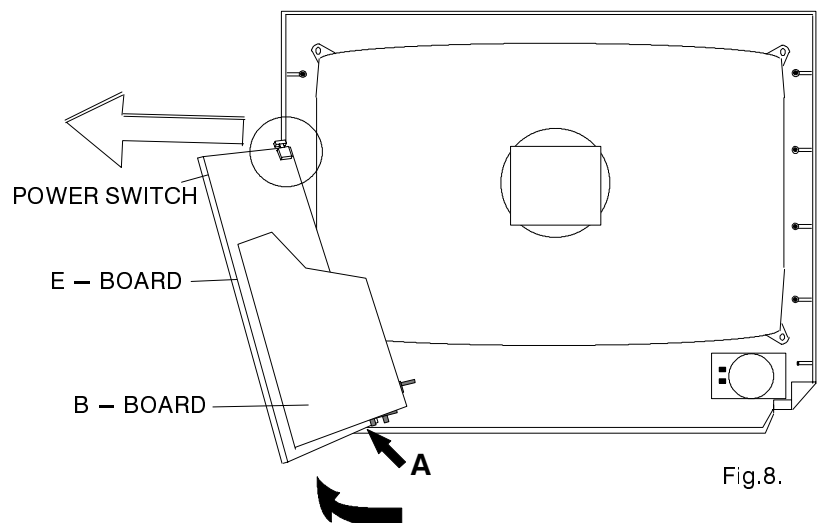
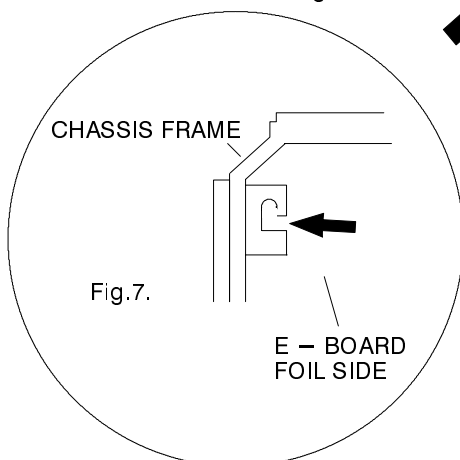
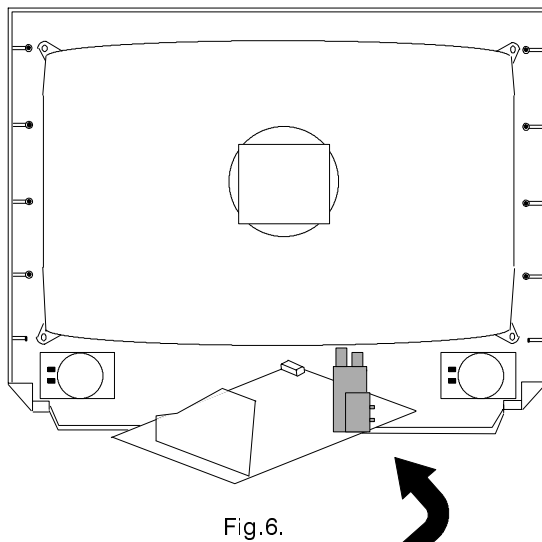
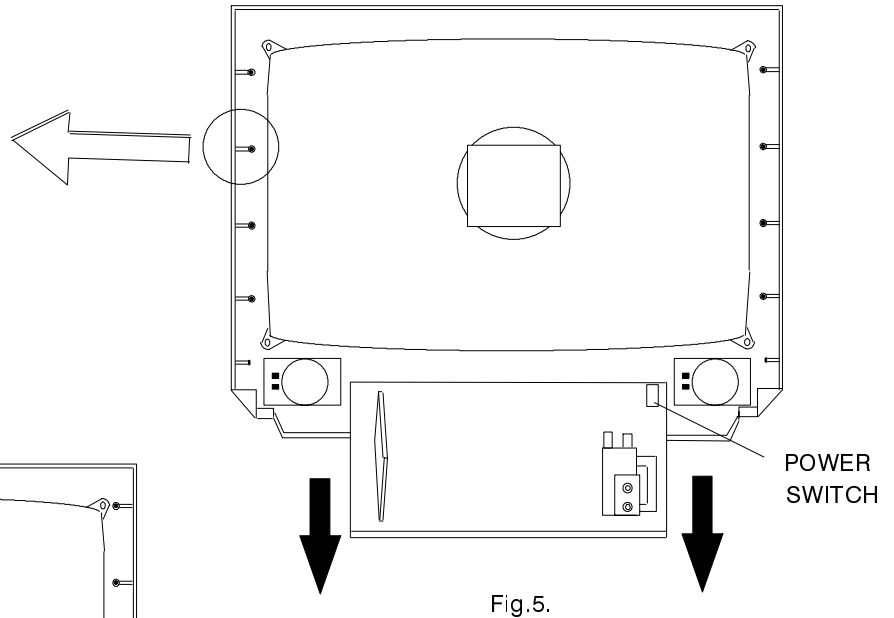
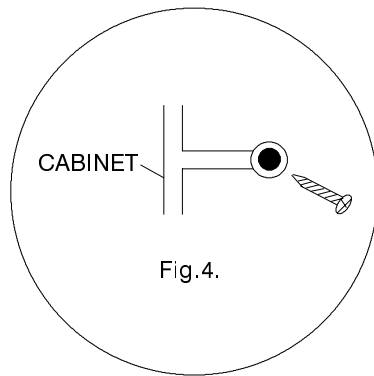


Fig.3.

How to move the chassis into the Service position

1. Insert 1 of the backcover screws into the rib on the left hand side of the cabinet as shown in Fig.4.
2. Hold and lift the rear of the E- PCB chassis and gently pull the chassis toward you as shown in fig.5.
3. Release the respective wiring clips and rotate the chassis horizontally through 90°, anti-clockwise, shown in Fig.6, then elevate the front of the chassis as shown in fig.8.
4. Clip the chassis frame onto the screw in the rib of the cabinet, shown in Fig.7/8.
5. Locate the base of the chassis frame into the recess marked A, shown in Fig.8.
6. After servicing remove the screw and ensure all wiring is returned to its original position before returning the receiver to the customer.



Service Mode

The remote control is used for entering and storing adjustments, with the exception of cut-off adjustments which must always be done prior to service adjustment. Perform adjustments in accordance with screen display. The display on the screen also specifies the CCU variants as well as the approx. setting values. The adjustment sequence for the service mode is indicated below.

1. Set the Bass to maximum position, set the Treble to minimum position, press the F button followed by the Volume down on the customer controls at the front of the TV and at the same time press the Reveal button on the remote control, this will place the TV into the Service Mode.
2. Press the RED / GREEN buttons to step down / up through the functions.
3. Press the YELLOW / BLUE buttons to alter the function values.
4. Press the STORE button on the preset panel after each adjustment has been made to store the required values.
5. To exit the Service Mode press the Normalisation button.

NOTE: This TV also has the option of using a Memory Pack which enables you to copy the preset TV channels and analogue levels into the Memory Pack and then upload them onto another EURO-2 TV set.

Using the Memory Pack

TV to Memory Pack process

1. Plug the memory pack into the lower of the two 21 pin terminals at the back of the TV and switch the TV on. If the TV has only one 21 pin connector then this will be able to accept the memory pack.
2. Go into the Service Mode as explained above. The screen will show:—

Program
External>>TV

3. Press the blue button on the remote control. The screen will show:—

Program
TV>>External

4. Press the STORE button on the TV. The screen will show:—

Storing

5. All the tuning information stored inside the TV will now be transferred to the Memory Pack. This process will take 2–3 minutes to complete and when finished the screen will show:—

OK!

Memory Pack to TV Process

1. Plug the memory pack into the lower of the two 21 pin terminals at the back of the TV and switch the TV on. If the TV has only one 21 pin connector then this will be able to accept the memory pack.
2. Go into the Service Mode as explained above. The screen will show:—

Program
External>>TV

3. Press the STORE button on the TV. The screen will show:—

Loading

4. All the tuning information stored inside the Memory Pack will now be transferred to the TV. This process will take 2–3 minutes to complete and when finished the screen will show:—

OK!

5. The tuning information from the Memory Pack has now been copied into the TV
6. To exit from the Service Mode switch off the TV.
7. The process has now been completed and the Memory Pack can now be removed.

Errors

If an error occurs while using the Memory Pack the TV will detect this and the screen will show:—

Program
Error!

If this happens then switch off the TV and repeat the process that was being used. If the errors continue to occur then check the connectors between the TV and the memory pack and check the 9V battery inside the memory pack.

Self Check

Self check is used to automatically check the Bus lines and Hexadecimal code of the TV set.

To enter the Self Check mode press Function down button, on the Preset Panel, at the same time pressing the Status button, on the Remote Control, and the screen will show:—

1 — ok	Tuner	11 — — —	Dolby IC for C/R	21 — ok	P SBLED
2 — ok	VIF	12 — ok	P S MODE	22 — ok	P OFF
3 — ok	EEPROM	13 — ok	P TA0	23 — ok	P DEFL
4 — — —	Sound AV switch 1	14 — ok	P TA1	24 — ok	P RAM
5 — ok	Video AV switch 1	15 — ok	P TA2		
6 — ok	VDP	16 — ok	P TA3	7A	
7 — ok	TPU	17 — ok	P SDA	22	
8 — ok	MSP	18 — ok	P SCL1	22	Hex codes
9 — — —	Dolby Sub	19 — ok	P SCL3	54	
10 — — —	Dolby IC for L/R	20 — ok	P SCL4	85	

If the CCU ports have been checked and found to be incorrect then "—" will appear in place of "OK".

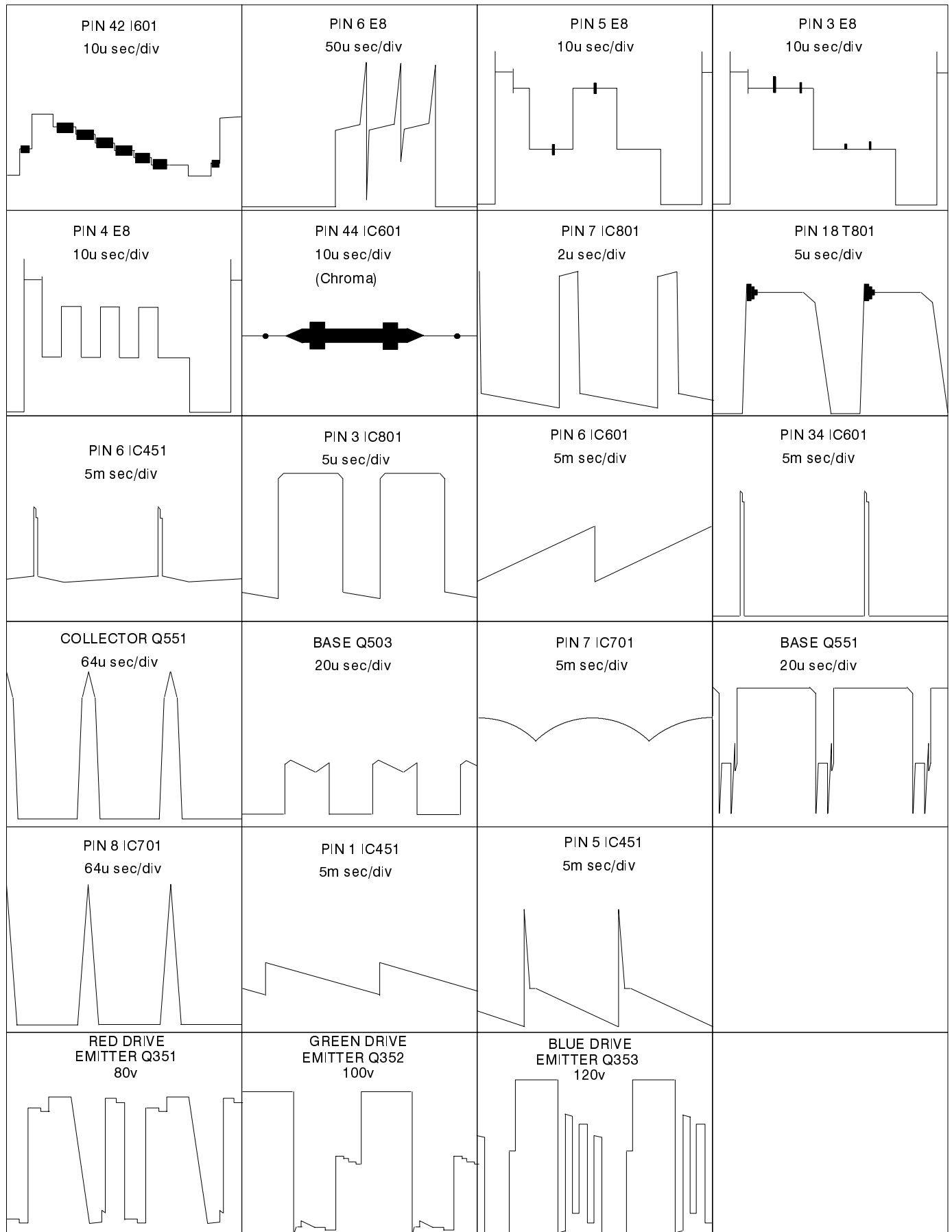
Adjustment Procedure

Item/Preparation	Adjustments
+B SET-UP 1. Receive a Greyscale pattern 2. Set the controls: Brightness minimum Contrast minimum Volume minimum	1. Set the +B voltage up as follows: Adjust R811 so that B2 shows 130V $\pm$ 1V 2. Confirm the following voltages. B1 200 $\pm$ 10V B6 12 $\pm$ 0.5V B3 27 $\pm$ 1V B7 5 + 0.1/—0.25V B4 35.5 $\pm$ 1V B8 5 $\pm$ 0.25V B5 15.5 $\pm$ 1V U33 31 $\pm$ 1V
RF AGC 1. Receive a test pattern. 2. Connect an oscilloscope between the tuner RF AGC and ground. 3. Set the oscilloscope gain range to 1V/div.	1. Check that the noise becomes large when the RF AGC VR R126 is turned counterclockwise. After the check turn it clockwise. 2. Gradually turn the RF AGC VR anti-clockwise, and set the RF AGC VR to the point where the RF AGC voltage is just falling to point where this voltage drops by 0.2V from the maximum value.
CUT OFF 1. Receive a Greyscale pattern. 2. Degauss the tube externally. 3. Set the TV into Service Mode 1. 4. Select Cutoff DC mode.	1. Confirm then value is 128 and select Ug2 mode noting colour with largest value 2. Turn the screen VR until a colour reaches 20~30. 3. Connect an oscilloscope to the cathode with the biggest value colour. 4. Select Cutoff DC mode and adjust Cutoff pulse to 159V $\pm$ 5V. 5. Disconnect the oscilloscope and adjust the screen to whichever colour reaches 70 $\pm$ 30 first.

ALIGNMENT SETTINGS (The figures used below are nominal and used for representative purposes only)

Alignment Function		Settings / Special features
1. Vertical amplitude	V-AMP 054	Optimum setting
2. Vertical symmetry	V-SYM 002	
3. Vertical linearity	V-LIN 006	
4. Vert. DC.	Vert. D.C. 000	Not to be adjusted.
5. V-Pos	V. Pos. 005	Optimum setting
6. Horizontal amplitude	H-AMP 055	Optimum setting
7. Horizontal position	H-POS 061	
8. Text Position	TEXT POSITION 048	Optimum setting
9. EW-amplitude	E-W-AMP 1 -128	Optimum setting
10. EW-amplitude	E-W-AMP 2 006	Optimum setting
11. Trapezium-comp	TRAPEZ-1 047	Optimum setting
12. Trapezium-comp	TRAPEZ-2 -128	Optimum setting
13. Colour VCO	Colour VCO -005	Press either Blue or Yellow buttons to effect automatic adjustment
14. Cut-off DC	Cut-off DC 171	Not to be adjusted.
15. Ug2 Test	Ug 2 Test 006 055 059	Select Cutoff DC in Service Mode mode and confirm the value is 128. Select Ug 2 Test noting colour with largest value, adjust on FBT until a colour reaches 20 ~ 30. Connect an oscilloscope to the cathode of the biggest value colour, select Cutoff DC mode and adjust get Cutoff pulse voltage to $159 \pm 5V$. Disconnect the oscilloscope and adjust the screen to whichever colour reaches 70 ± 30 first.
16. Cutoff	Cutoff 034 052 056	Press the GREEN button to step through the settings. Adjust for optimum.
17. White	White 216 255 216	Press the GREEN button to step through the settings. Adjust for optimum.

WAVEFORM PATTERN TABLE



SCHEMATIC DIAGRAM FOR MODELS TX-21MD1C/P (EURO-2L CHASSIS)

IMPORTANT SAFETY NOTICE

Components identified by  mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

Notes

1. **RESISTOR**
All resistors are carbon $\frac{1}{4}W$ resistor, unless marked.
Unit of resistance is OHM (Ω) (K=1,000, M=1,000,000).
2. **CAPACITOR**
All capacitors are ceramic 50V capacitors, unless marked, the unit of capacitance is μF unless otherwise stated.
3. **COIL**
Unit of inductance is μH , unless otherwise stated.
4. **TEST POINT**
 : Test Point position
5. **EARTH SYMBOL**
 : Chassis Earth (Cold)
 : Line Earth (Hot)
6. **VOLTAGE MEASUREMENT**
Voltage is measured by a DC voltmeter.
Measurement conditions are as follows:

Power source	AC 220-240V, 50Hz
Receiving Signal	Colour Bar signal (RF)
All customer controls	Maximum position
7.  : Indicates the Video signal path
 : Indicates the Audio signal path
 : Indicates the Vertical/Horizontal signal path
8. This schematic diagram is the latest at the time of printing and is subject to change without notice.

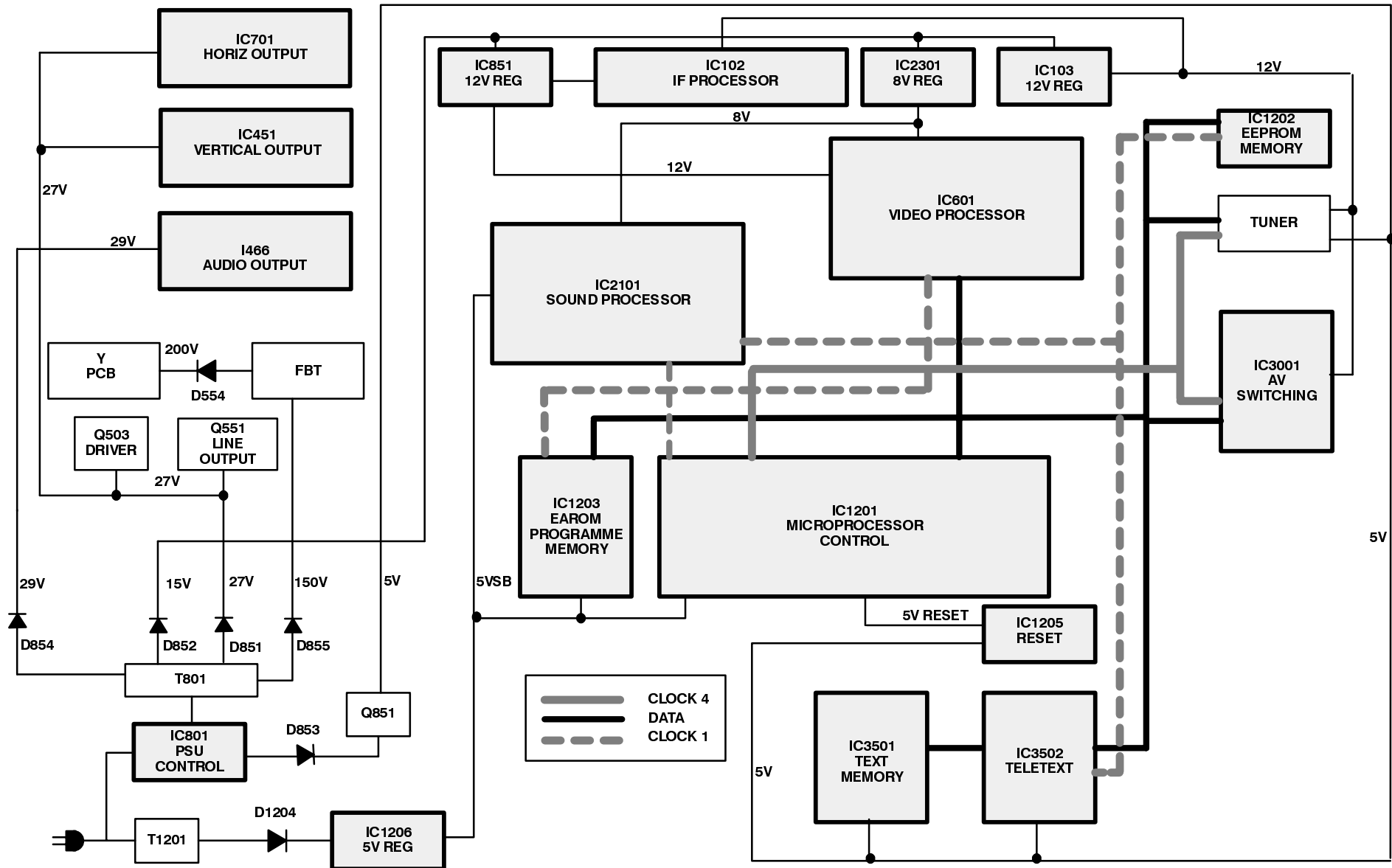
Precautions

- a. Do not touch the hot part, or the hot and cold parts at the same time, as you are liable to a shock hazard.
- b. Do not short-circuit the hot and cold circuits as electrical components may be damaged.
- c. Do not connect an instrument, such as an oscilloscope, to the hot and cold circuits simultaneously, as this may cause fuse failure. Connect the earth of the instruments to the earth connection of the circuit being measured.
- d. Make sure to disconnect the power plug before removing the chassis.

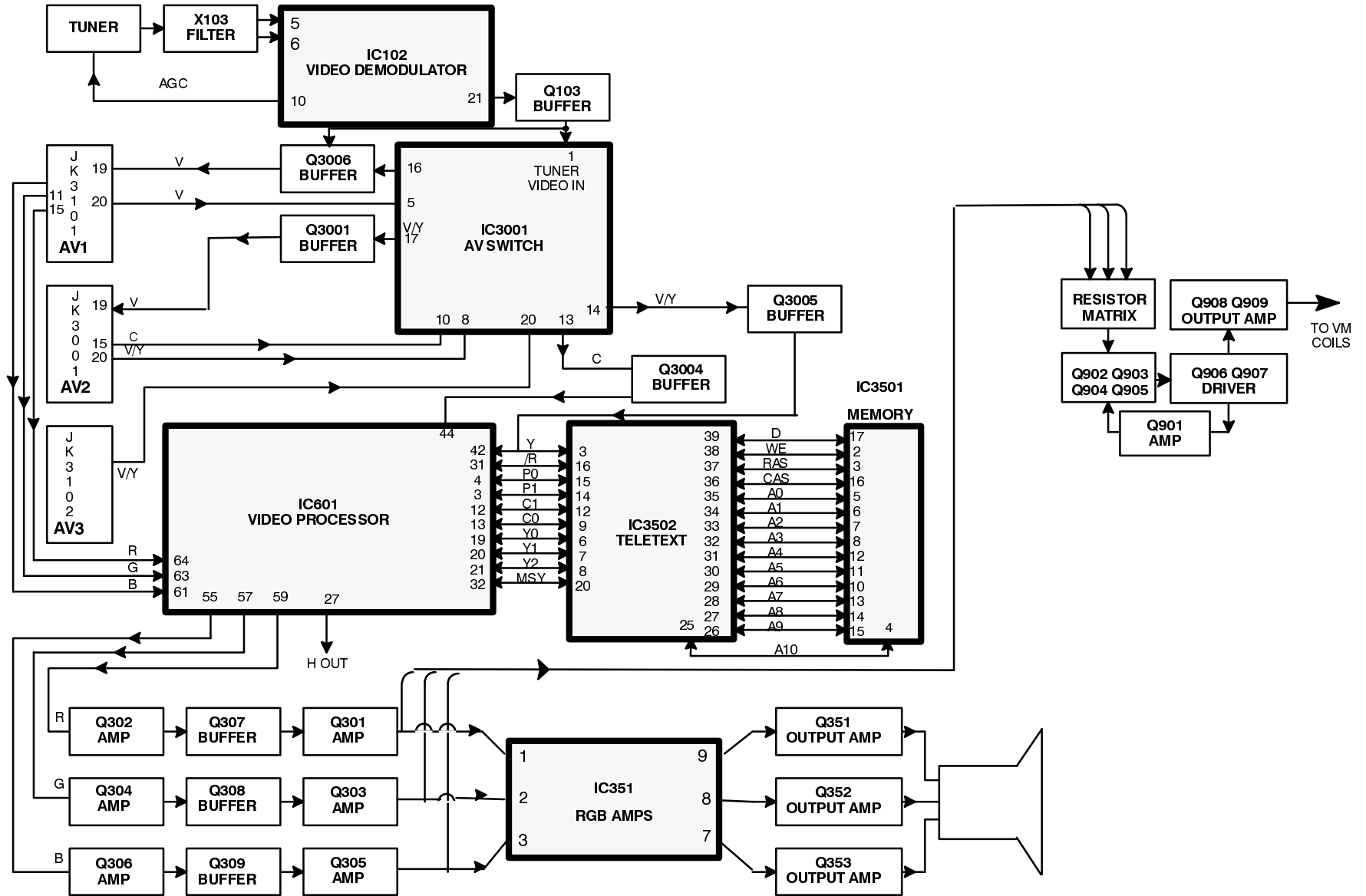
Remarks

1. The Power Circuit contains a circuit area which uses a separate power supply to isolate the earth connection. The circuit is defined by HOT and COLD indications in the schematic diagram. All circuits, except the Power Circuit, are COLD.

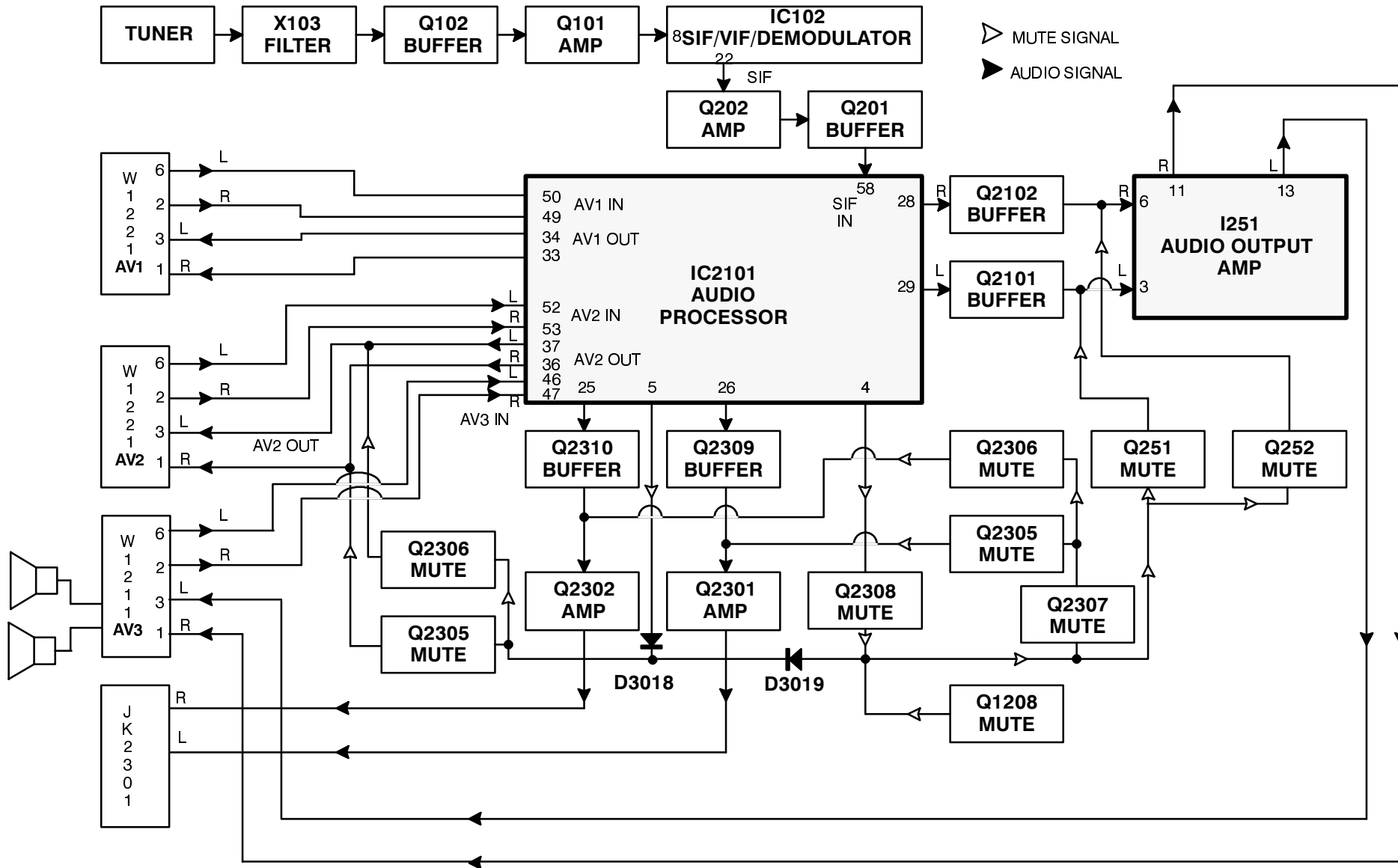
POWER SUPPLY AND CONTROL BLOCK DIAGRAM



VIDEO BLOCK DIAGRAM



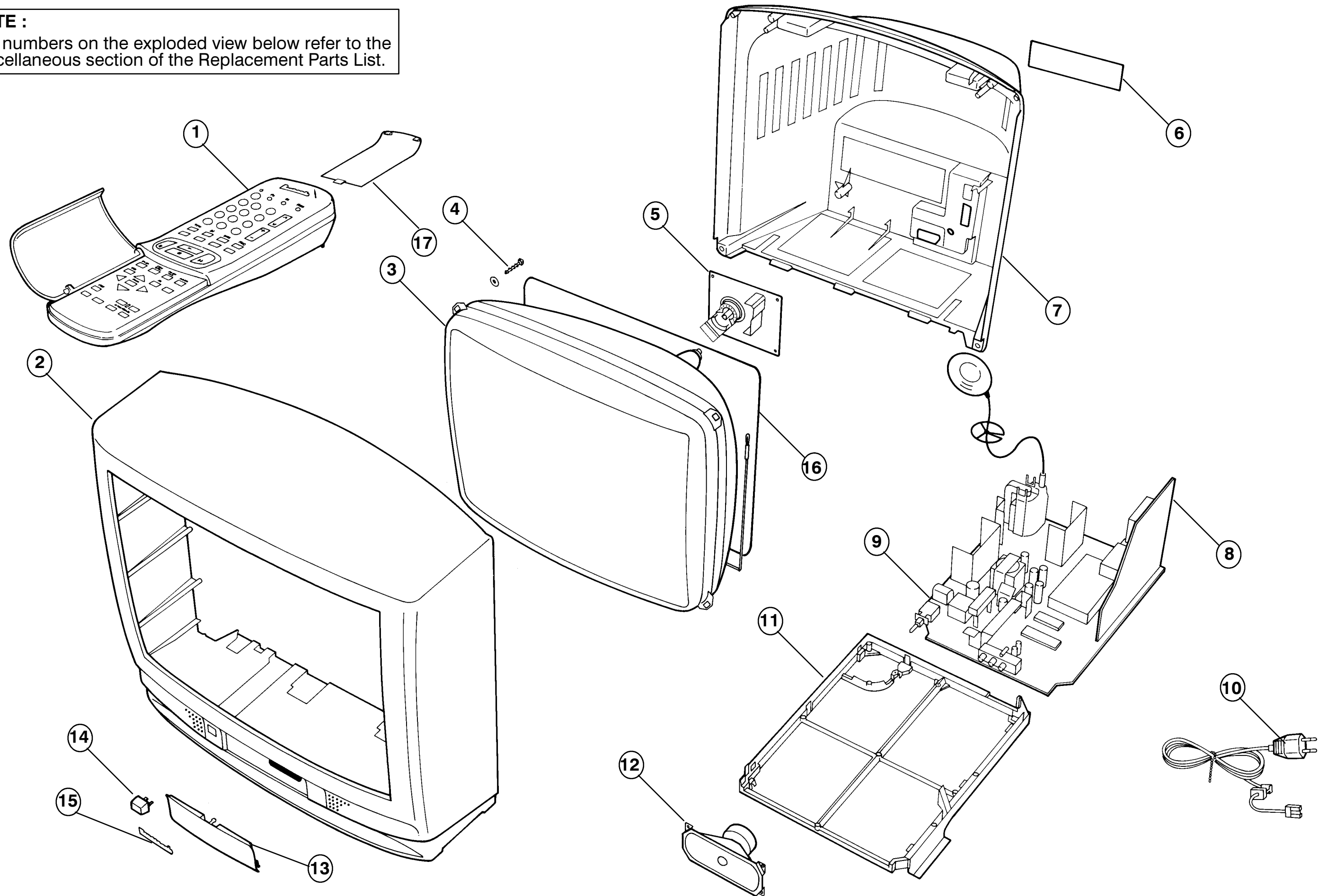
AUDIO BLOCK DIAGRAM



EXPLODED VIEW

NOTE :

The numbers on the exploded view below refer to the miscellaneous section of the Replacement Parts List.



REPLACEMENT PARTS LIST

Important Safety Notice

Components identified by Δ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

Ref No.	Part No.	Description	
MISCELLANEOUS COMPONENTS			
1)	EUR51920	REMOTE CONTROL	
2)	TKY8E039	CABINET	Δ
3)	A51EAL55X01	C.R.T.	Δ
4)	THT1009R	CRT FIXING SCREW	
5)	TNP117069AA	Y P.C.B.	Δ
7)	TKU8E00260	REAR COVER	Δ
8)	TNP117064AD	B P.C.B.	Δ
9)	TNP197091BU	E P.C.B.	Δ
10)	TSX8E0020	POWER CORD	Δ
12)	EASG12D531F2	SPEAKER	
13)	TKP8E1127	LID	
14)	TBX8E026	POWER BUTTON	
15)	TBM153022	PANASONIC BADGE	
16)	TLK8E05117	DEGAUSS COIL	
17)	UR51EC780	BATTERY COVER (REMOTE)	
	TBM8E1451-1	PRESET LABEL	
	TEK6935	LID SWITCH	
	TKP8E1128	LED PANEL	
	TMW8E020	LED HOLDER	
	TPC8E4479	OUTER CARTON	
	TPD8E562	CUSHION	
	TQB8E2246	INST BOOK	Δ
	ENV578F5G3	TUNER	Δ
MOE6	TES4537	SPRING	
MOE10	TES4537	SPRING	
	F9-4-220	RELAY	
CAPACITORS			
C001	ECUV1H103ZFX	S.M. CAP	50V 10nF
C002	ECA1HMR33GB	ELECT	50V 0.33 μ F
C003	ECUV1H104ZFX	S.M. CAP	50V 100nF
C004	ECA1CM221GB	ELECT	16V 220pF
C006	ECA1CM101GB	ELECT	16V 100pF
C007	ECUV1H104ZFX	S.M. CAP	50V 100nF
C009	ECUV1H104ZFX	S.M. CAP	50V 100nF
C109	ECUV1H390JPX	S.M. CAP	50V 39pF
C110	ECUV1H102KBX	S.M. CAP	50V 1nF
C111	ECUV1H683ZFX	S.M. CAP	50V 68nF
C112	ECUV1H150JCX	S.M. CAP	50V 15pF
C113	ECA1CM100GB	ELECT	16V 10pF
C114	ECUV1H270JPX	S.M. CAP	50V 27pF
C115	ECUV1H103ZFX	S.M. CAP	50V 10nF
C116	ECA1CM100GB	ELECT	16V 10pF
C117	ECUV1H103ZFX	S.M. CAP	50V 10nF
C118	ECUV1H103ZFX	S.M. CAP	50V 10nF
C119	ECA1HMR47GB	ELECT	50V 0.47 μ F
C120	ECUV1H102KBX	S.M. CAP	50V 1nF
C121	ECUV1H103ZFX	S.M. CAP	50V 10nF
C122	ECUV1H151JX	S.M. CAP	50V 150pF
C123	ECUV1H102KBX	S.M. CAP	50V 1nF
C124	ECA1CM470GB	ELECT	16V 47 μ F
C125	ECUV1H103ZFX	S.M. CAP	50V 10nF
C127	ECA1CM470GB	ELECT	16V 47 μ F
C128	ECUV1H103ZFX	S.M. CAP	50V 10nF
C130	ECA1HMR47GB	ELECT	50V 0.47 μ F
C131	ECA1HM2R2GB	ELECT	50V 2.2 μ F
C132	ECUV1H331KBX	S.M. CAP	50V 330pF

Ref No.	Part No.	Description	
C133	ECUV1H102KBX	S.M. CAP	50V 1nF
C134	ECUV1H103ZFX	S.M. CAP	50V 10nF
C135	ECUV1H103ZFX	S.M. CAP	50V 10nF
C136	ECA1CM100GB	ELECT	16V 10pF
C137	ECA1EM100GB	ELECT	25V 0.1 μ F
C138	ECUV1H103ZFX	S.M. CAP	50V 10nF
C139	ECUV1H020CCX	S.M. CAP	50V 2pF
C140	ECA1HM010GB	ELECT	50V 1pF
C141	ECUV1H102KBX	S.M. CAP	50V 1nF
C142	ECUV1H102KBX	S.M. CAP	50V 1nF
C143	ECUV1H102KBX	S.M. CAP	50V 1nF
C145	ECA1CM470GB	ELECT	16V 47 μ F
C201	ECUV1H070DCX	S.M. CAP	50V 7pF
C202	ECUV1H070DCX	S.M. CAP	50V 7pF
C203	ECUV1H470JX	S.M. CAP	50V 47pF
C204	ECUV1H560JCX	S.M. CAP	50V 56pF
C205	ECUV1H100DCX	S.M. CAP	50V 10pF
C207	ECUV1H220JCX	S.M. CAP	50V 22pF
C209	ECUV1H103ZFX	S.M. CAP	50V 10nF
C210	ECUV1H103ZFX	S.M. CAP	50V 10nF
C211	ECUV1H103ZFX	S.M. CAP	50V 10nF
C251	ECA1EM101GB	ELECT	25V 1 μ F
C252	ECUV1H223KBX	S.M. CAP	50V 22nF
C253	ECA1HM4R7GB	ELECT	50V 4.7 μ F
C254	ECQM1H224J	FILM	50V 220nF
C255	ECEA1EGE101	ELECT	25V 100 μ F
C256	ECUV1H223KBX	S.M. CAP	50V 22nF
C257	ECA1HM4R7GB	ELECT	50V 4.7 μ F
C258	ECA1EM101GB	ELECT	25V 1 μ F
C259	ECQM1H224J	FILM	50V 220nF
C260	ECA1VM102GE	ELECT	35V 1nF
C261	ECA1VM102GE	ELECT	35V 1nF
C262	ECEA1HN010	ELECT	50V 1 μ F
C263	ECA1HM010GB	ELECT	50V 1pF
C264	ECEA1HGE222	ELECT	50V 2200 μ F
C265	ECEA1HN010	ELECT	50V 1 μ F
C266	ECA1HM010GB	ELECT	50V 1pF
C267	ECUV1H104ZFX	S.M. CAP	50V 100nF
C268	ECUV1H104ZFX	S.M. CAP	50V 100nF
C269	ECA1CM100GB	ELECT	16V 10pF
C271	ECUV1H561KBX	S.M. CAP	50V 560pF
C301	ECA1CM470GB	ELECT	16V 47 μ F
C302	ECUV1H104ZFX	S.M. CAP	50V 100nF
C303	ECUV1H104ZFX	S.M. CAP	50V 100nF
C310	ECUV1H104ZFX	S.M. CAP	50V 100nF
C354	ECQM2104KZ	FILM	250V 100nF
C355	ECUV1H222JCX	S.M. CAP	50V 2.2nF
C356	ECUV1H222JCX	S.M. CAP	50V 2.2nF
C357	ECUV1H222JCX	S.M. CAP	50V 2.2nF
C358	ECQB1H224J	FILM	100V 0.22 μ F
C360	ECKC3D152J	CERAMIC	2KV 1.5nF Δ
C361	ECA1HMR47GB	ELECT	50V 0.47 μ F
C451	ECUV1H102JX	S.M. CAP	50V 1nF
C452	ECUV1H473ZFX	S.M. CAP	50V 47nF
C453	ECUV1H472KBX	S.M. CAP	50V 4.7nF
C454	ECUV1H104ZFX	S.M. CAP	50V 100nF
C455	ECA1VM222GE	ELECT	35V 2200 μ F
C456	ECEA1HGE221	ELECT	50V 220 μ F
C457	ECUV1H103KBX	S.M. CAP	50V 10nF
C458	ECQM1H154J	FILM	50V 150nF
C459	ECQM1H154J	FILM	50V 150nF
C460	ECQV1H105JZ	FILM	50V 1 μ F

Ref No.	Part No.	Description			
C462	ECEA1VGE332	ELECT	35V	3300µF	
C463	ECQB1H222J	FILM	50V	2200pF	
C501	ECA1AM330GB	ELECT	10V	33pF	
C506	ECUV1H103ZFX	S.M. CAP	50V	10nF	
C508	ECQV1H105JZ	FILM	50V	1µF	
C509	ECEA1HGE101	ELECT	50V	100µF	
C510	ECUV1H104ZFX	S.M. CAP	50V	100nF	
C511	ECQM2683JZ	FILM	250V	68nF	
C551	ECWH12H272J	CERAMIC	1250V	2.7nF	Δ
C552	ECWH12H102J	FILM	1250V	1nF	Δ
C555	ECWH12H103J	FILM	1250V	10nF	Δ
C556	ECQF4273JZH	FILM	400V	0.027µF	
C559	ECWF2H474J	FILM	500V	470nF	Δ
C562	ECKC2H101J	CERAMIC	500V	100pF	Δ
C563	ECEA2EU220	ELECT	250V	22µF	
C564	ECEA2AU2R2	ELECT	100V	2.2µF	
C565	ECQP1H273J	FILM	100V	2700µF	
C601	ECUV1H271JCX	S.M. CAP	50V	270pF	
C602	ECUV1H121JCX	S.M. CAP	50V	120pF	
C603	ECUV1H471JCX	S.M. CAP	50V	470pF	
C604	ECA0JM102GB	ELECT	6.3V	1nF	
C605	ECUV1H103ZFX	S.M. CAP	50V	10nF	
C608	ECUV1H683ZFX	S.M. CAP	50V	68nF	
C609	ECA1CM470GB	ELECT	16V	47µF	
C610	ECUV1H683ZFX	S.M. CAP	50V	68nF	
C611	ECUV1H104ZFX	S.M. CAP	50V	100nF	
C612	ECUV1H103ZFX	S.M. CAP	50V	10nF	
C613	ECUV1H102JCX	S.M. CAP	50V	1nF	
C614	ECUV1H104ZFX	S.M. CAP	50V	100nF	
C615	ECUV1H103ZFX	S.M. CAP	50V	10nF	
C616	ECUV1H103ZFX	S.M. CAP	50V	10nF	
C618	ECUV1H473ZFX	S.M. CAP	50V	47nF	
C619	ECUV1H104ZFX	S.M. CAP	50V	100nF	
C620	ECUV1H104ZFX	S.M. CAP	50V	100nF	
C621	ECA1CM100GB	ELECT	16V	10pF	
C622	ECA1CM100GB	ELECT	16V	10pF	
C623	ECUV1H104ZFX	S.M. CAP	50V	100nF	
C624	ECUV1H103ZFX	S.M. CAP	50V	10nF	
C625	ECEA1HNR22	ELECT	50V	0.22µF	
C626	ECA0JM102GB	ELECT	6.3V	1nF	
C627	ECUV1H100DCX	S.M. CAP	50V	10pF	
C628	ECUV1H470JCX	S.M. CAP	50V	47pF	
C629	ECUV1H101JCX	S.M. CAP	50V	100pF	
C630	ECUV1H104ZFX	S.M. CAP	50V	100nF	
C631	ECUV1H104ZFX	S.M. CAP	50V	100nF	
C632	ECUV1H104ZFX	S.M. CAP	50V	100nF	
C633	ECUV1H102JCX	S.M. CAP	50V	1nF	
C636	ECUV1H101JCX	S.M. CAP	50V	100pF	
C637	ECUV1H102KBX	S.M. CAP	50V	1nF	
C638	ECUV1H181JCX	S.M. CAP	50V	180pF	
C639	ECUV1H561KBX	S.M. CAP	50V	560pF	
C701	ECEA1HU101	ELECT	50V	100µF	
C702	ECUV1H103KBX	S.M. CAP	50V	10nF	
C703	ECA1HM100GB	ELECT	50V	10µF	
C704	ECQB1H223K	FILM	50V	22nF	
C705	ECQB1H152K	FILM	50V	1.5nF	
C801	ECUV1H101JCX	S.M. CAP	50V	100pF	
C802	ECQE6104K	FILM	600V	100nF	Δ
C803	ECUV1H560JX	S.M. CAP	50V	56pF	
C804	ECA1HM101GB	ELECT	50V	100µF	
C805	ECUV1H104ZFX	S.M. CAP	50V	100nF	
C806	ECEA1HU101	ELECT	50V	100µF	
C807	ECEA1EGE101	ELECT	25V	100µF	
C808	ECQB1H103J	FILM	50V	10nF	
C809	ECQB1H103J	FILM	50V	10nF	
C810	ECQU2A224MN	FILM	250V	220nF	
C811	ECEA1HN010	ELECT	50V	1µF	
C815	ECKC2H472J	CERAMIC	500V	4.7nF	Δ
C816	ECKC3D222JB	CERAMIC	2KV	2200pF	Δ
C817	ECQB1H223K	FILM	50V	22nF	

Ref No.	Part No.	Description			
C818	ECKC2H472J	CERAMIC	500V	4.7nF	Δ
C820	ECOS2GA151CB	ELECT	400V	150µF	
C821	ECKWNA332MECCERAMIC		250V	3.3nF	
C851	ECKC2H681J	CERAMIC	500V	680pF	Δ
C852	ECEA1HU102	ELECT	50V	1000µF	
C853	ECEA1EGE222	ELECT	25V	2200µF	
C854	ECEA1HGE102	ELECT	50V	1000µF	
C855	ECKC3D471JB	CERAMIC	2KV	470pF	Δ
C856	ECEA1EGE222	ELECT	25V	2200µF	
C857	ECA2CM101E	ELECT	160V	100µF	
C858	ECUV1H103ZFX	S.M. CAP	50V	10nF	
C859	ECUV1H103ZFX	S.M. CAP	50V	10nF	
C860	ECA1CM471GB	ELECT	16V	470pF	
C861	ECA2CGE221	ELECT	160V	220µF	
C862	ECA1CM471GB	ELECT	16V	470pF	
C1051	ECA0JM101G	ELECT	6.3V	100pF	
C1052	ECUV1H104ZFX	S.M. CAP	50V	100nF	
C1201	ECUV1H332KBX	S.M. CAP	50V	3.3nF	
C1202	ECUV1H332KBX	S.M. CAP	50V	3.3nF	
C1203	ECUV1H332KBX	S.M. CAP	50V	3.3nF	
C1204	ECUV1H332KBX	S.M. CAP	50V	3.3nF	
C1205	ECUV1H103ZFX	S.M. CAP	50V	10nF	
C1206	ECA1HM4R7GB	ELECT	50V	4.7µF	
C1207	ECUV1H472KBX	S.M. CAP	50V	4.7nF	
C1208	ECUV1H390JCX	S.M. CAP	50V	39pF	
C1209	ECUV1H390JCX	S.M. CAP	50V	39pF	
C1210	ECUV1H103ZFX	S.M. CAP	50V	10nF	
C1211	ECUV1H470JCX	S.M. CAP	50V	47pF	
C1212	ECA1CM470GB	ELECT	16V	47µF	
C1213	ECUV1H103ZFX	S.M. CAP	50V	10nF	
C1214	ECA1CM470GB	ELECT	16V	47µF	
C1215	ECUV1H103ZFX	S.M. CAP	50V	10nF	
C1217	ECUV1H104ZFX	S.M. CAP	50V	100nF	
C1219	ECA1CM471GB	ELECT	16V	470pF	
C1220	ECUV1H103ZFX	S.M. CAP	50V	10nF	
C1221	ECA0JM102GB	ELECT	6.3V	1nF	
C1222	ECUV1H104ZFX	S.M. CAP	50V	100nF	
C1223	ECA1HM101GB	ELECT	50V	100nF	
C1224	ECA0JM222GB	ELECT	6.3V	2.2nF	
C1225	ECA0JM472GE	ELECT	6.3V	4.7nF	
C1226	ECA1HM101GB	ELECT	50V	100nF	
C2101	ECUV1H223KBX	S.M. CAP	50V	22nF	
C2102	ECUV1H391KBX	S.M. CAP	50V	390pF	
C2103	ECUV1H102KBX	S.M. CAP	50V	1nF	
C2104	ECUV1H102KBX	S.M. CAP	50V	1nF	
C2107	ECUV1H391KBX	S.M. CAP	50V	390pF	
C2108	ECA1CM101GB	ELECT	16V	100pF	
C2109	ECUV1H223KBX	S.M. CAP	50V	22nF	
C2110	ECA1CM100GB	ELECT	16V	10pF	
C2111	ECUV1H104ZFX	S.M. CAP	50V	100nF	
C2112	ECA1CM100GB	ELECT	16V	10pF	
C2113	ECUV1H102KBX	S.M. CAP	50V	1nF	
C2114	ECUV1H104ZFX	S.M. CAP	50V	100nF	
C2115	ECUV1H471KBX	S.M. CAP	50V	470pF	
C2116	ECA1HM3R3GB	ELECT	50V	3.3µF	
C2117	ECUV1H471KBX	S.M. CAP	50V	470pF	
C2118	ECUV1H104ZFX	S.M. CAP	50V	100nF	
C2119	ECA1CM100GB	ELECT	16V	10pF	
C2120	ECUV1H104ZFX	S.M. CAP	50V	100nF	
C2121	ECUV1H104ZFX	S.M. CAP	50V	100nF	
C2122	ECUV1H104ZFX	S.M. CAP	50V	100nF	
C2123	ECA1CM100GB	ELECT	16V	10pF	
C2124	ECUV1H104ZFX	S.M. CAP	50V	100nF	
C2125	ECUV1H030CCX	S.M. CAP	50V	30pF	
C2126	ECUV1H030CCX	S.M. CAP	50V	30pF	
C2127	ECA1CM100GB	ELECT	16V	10pF	
C2307	ECA1CM470GB	ELECT	16V	47µF	
C2308	ECA1CM470GB	ELECT	16V	47µF	
C2309	ECA1CM101GB	ELECT	16V	100pF	
C2310	ECA1CM470GB	ELECT	16V	47µF	

Ref No.	Part No.	Description		
C2312	ECUV1H104ZFX	S.M. CAP	50V	100nF
C2313	ECUV1H103KBX	S.M. CAP	50V	10nF
C2314	ECUV1H104ZFX	S.M. CAP	50V	100nF
C2315	ECUV1H103KBX	S.M. CAP	50V	10nF
C2316	ECUV1H103ZFX	S.M. CAP	50V	10nF
C2317	ECA1CM470GB	ELECT	16V	47μF
C2318	ECUV1H222KBX	S.M. CAP	50V	2.2nF
C2319	ECUV1H222KBX	S.M. CAP	50V	2.2nF
C2651	ECUV1H103KBX	S.M. CAP	50V	10nF
C2652	ECUV1H103KBX	S.M. CAP	50V	10nF
C3001	ECA1HMR47GB	ELECT	50V	0.47μF
C3002	ECA1HMR47GB	ELECT	50V	0.47μF
C3003	ECA1EM4R7GB	ELECT	25V	4.7μF
C3004	ECA1HM4R7GB	ELECT	50V	4.7μF
C3005	ECA1HM4R7GB	ELECT	50V	4.7μF
C3006	ECUV1H473ZFX	S.M. CAP	50V	47nF
C3007	ECA1HM470GB	ELECT	50V	47μF
C3011	ECUV1H473ZFX	S.M. CAP	50V	47nF
C3012	ECA1CM470GB	ELECT	16V	47μF
C3013	ECUV1H104ZFX	S.M. CAP	50V	100nF
C3014	ECUV1H104ZFX	S.M. CAP	50V	100nF
C3017	ECEA1CN470	ELECT	16V	47μF
C3018	ECUV1H102KBX	S.M. CAP	50V	1nF
C3019	ECUV1H102KBX	S.M. CAP	50V	1nF
C3021	ECUV1H102KBX	S.M. CAP	50V	1nF
C3023	ECA1CM470GB	ELECT	16V	47μF
C3024	ECUV1H473ZFX	S.M. CAP	50V	47nF
C3025	ECUV1H102KBX	S.M. CAP	50V	1nF
C3026	ECA1CM470GB	ELECT	16V	47μF
C3027	ECA1CM470GB	ELECT	16V	47μF
C3028	ECUV1H221JX	S.M. CAP	50V	220pF
C3029	ECUV1H221JX	S.M. CAP	50V	220pF
C3030	ECUV1H221JX	S.M. CAP	50V	220pF
C3031	ECUV1H221JX	S.M. CAP	50V	220pF
C3032	ECA1HMR47GB	ELECT	50V	0.47μF
C3033	ECA1HMR47GB	ELECT	50V	0.47μF
C3034	ECUV1H221JX	S.M. CAP	50V	220pF
C3035	ECUV1H221JX	S.M. CAP	50V	220pF
C3036	ECUV1H222KBX	S.M. CAP	50V	2.2nF
C3037	ECUV1H561JCX	S.M. CAP	50V	560pF
C3038	ECA1CM470GB	ELECT	16V	47μF
C3039	ECA1CM470GB	ELECT	16V	47μF
C3040	ECA1HMR47GB	ELECT	50V	0.47μF
C3041	ECA1HMR47GB	ELECT	50V	0.47μF
C3043	ECA1HM4R7GB	ELECT	50V	4.7μF
C3045	ECUV1H104ZFX	S.M. CAP	50V	100nF
C3050	ECUV1H222KBX	S.M. CAP	50V	2.2nF
C3051	ECUV1H222KBX	S.M. CAP	50V	2.2nF
C3052	ECUV1H561JCX	S.M. CAP	50V	560pF
C3053	ECUV1H561JCX	S.M. CAP	50V	560pF
C3054	ECUV1H222KBX	S.M. CAP	50V	2.2nF
C3055	ECUV1H561JCX	S.M. CAP	50V	560pF
C3056	ECUV1H101JCX	S.M. CAP	50V	100pF
C3062	ECUV1H104ZFX	S.M. CAP	50V	100nF
C3071	ECUV1H104ZFX	S.M. CAP	50V	100nF
C3151	ECUV1H561JCX	S.M. CAP	50V	560pF
C3152	ECUV1H561JCX	S.M. CAP	50V	560pF
C3501	ECUV1H104ZFX	S.M. CAP	50V	100nF
C3502	ECA1HM101GB	ELECT	50V	100nF
C3503	ECUV1H103ZFX	S.M. CAP	50V	10nF
C3504	ECUV1H102JCX	S.M. CAP	50V	1nF
C3505	ECUV1H104ZFX	S.M. CAP	50V	100nF
C3506	ECA1CM470GB	ELECT	16V	47μF
C3507	ECA1CM470GB	ELECT	16V	47μF
C3508	ECUV1H473ZFX	S.M. CAP	50V	47nF
C3509	ECUV1H103ZFX	S.M. CAP	50V	10nF
C3510	ECA0JM102GB	ELECT	6.3V	1nF
C3511	ECUV1H103ZFX	S.M. CAP	50V	10nF

DIODES

Ref No.	Part No.	Description	
D251	MA2180TP	DIODE	
D252	MA165TA5	DIODE 1SS133T-77	
D253	MA700TA5	DIODE	
D254	MA700TA5	DIODE	
D310	MA165TA5	DIODE 1SS133T-77	
D311	MA29TA5	DIODE	
D312	MA29TA5	DIODE	
D354	ERA22-04V1	DIODE	
D355	ERA22-04V1	DIODE	
D356	ERA22-04V1	DIODE	
D357	MA165TA5	DIODE 1SS133T-77	
D358	MA165TA5	DIODE 1SS133T-77	
D359	MA165TA5	DIODE 1SS133T-77	
D360	MA4150	DIODE	
D451	MA165TA5	DIODE 1SS133T-77	
D452	MA165TA5	DIODE 1SS133T-77	
D454	ERA15-02V3	DIODE	
D456	MA2160BLFS	DIODE	
D501	MA165TA5	DIODE 1SS133T-77	
D502	EU02	DIODE	
D551	ERD07-15L7	DIODE	
D552	TVSRU2AM	DIODE	
D554	AU02V0	DIODE	
D556	MA166TA5	DIODE	
D601	MA165TA5	DIODE 1SS133T-77	
D602	MA165TA5	DIODE 1SS133T-77	
D604	MA165TA5	DIODE 1SS133T-77	
D605	MA165TA5	DIODE 1SS133T-77	
D606	MA165TA5	DIODE 1SS133T-77	
D609	MA167TA5	DIODE	
D701	MA165TA5	DIODE 1SS133T-77	
D702	MA4056	DIODE	
D801	MA165TA5	DIODE 1SS133T-77	
D802	MA165TA5	DIODE 1SS133T-77	
D803	MA165TA5	DIODE 1SS133T-77	
D804	ERA15-02V3	DIODE	
D805	EU02	DIODE	
D806	RBV4-08	DIODE	
D807	EU02	DIODE	
D808	PC120FY	DIODE	
D809	MA165TA5	DIODE 1SS133T-77	
D851	EU02	DIODE	
D852	ERD32-02L7	DIODE	
D853	FML22SLF610	DIODE	
D854	RU4AMLF-M1	DIODE	
D855	RU4BLF-L1	DIODE	
D856	MA4047	DIODE	
D857	MA4300	DIODE	
D858	MA29TA5	DIODE	
D1201	LN81RPHL	DIODE	
D1203	MA4082	DIODE	
D1204	TVSS1WBS20	DIODE	
D1205	MA165TA5	DIODE 1SS133T-77	
D1207	MA165TA5	DIODE 1SS133T-77	
D1208	MA165TA5	DIODE 1SS133T-77	
D1209	MA165TA5	DIODE 1SS133T-77	
D2303	MA165TA5	DIODE 1SS133T-77	
D2304	MA4091	DIODE	
D3001	MA4120	DIODE	
D3003	MA4082	DIODE	
D3004	MA4100	DIODE	
D3005	MA4120	DIODE	
D3006	MA4120	DIODE	
D3007	MA4120	DIODE	
D3008	MA4082	DIODE	
D3009	MA4082	DIODE	
D3010	MA4082	DIODE	
D3011	MA4082	DIODE	
D3012	MA4120	DIODE	
D3013	MA4120	DIODE	
D3014	MA4120	DIODE	

Ref No.	Part No.	Description
D3015	MA4120	DIODE
D3016	MA4120	DIODE
D3018	MA165TA5	DIODE 1SS133T-77
D3019	MA165TA5	DIODE 1SS133T-77
D3501	MA165TA5	DIODE 1SS133T-77
FUSES		
F801	19181-3.15	FUSE Δ
F851	TR5-T1250	FUSE Δ
F852	TR5-T2000	FUSE Δ
F853	TR5-T2000	FUSE Δ
F8011	EYF52BC	FUSE HOLDER
F8012	EYF52BC	FUSE HOLDER
INTEGRATED CIRCUITS		
IC102	LA7577N	V.I.F.
IC103	L78M12MRB	12V REGULATOR
IC251	LA4280-TV	AUDIO OUTPUT
IC351	TDA6103Q	R.G.B. AMPLIFIER
IC451	TDA8175-3	VERTICAL OUTPUT
IC601	VDP3108-29	VIDEO PROCESSOR
IC701	TEA2031A	HORIZONTAL OUTPUT
IC801	TDA4601	POWER SUPPLY
IC851	L78M12MRB	12V REGULATOR
IC1051	RPM-637CBRL	LED RECEIVER
IC1201	CCU3000I-05	CENTRAL CONTROL UNIT
IC1202	27C010-814AA	EPROM
IC1203	X24C0801TF	EAROM
IC1205	MN1280R	RESET
IC1206	L78M05MRB	5V REGULATOR
IC2101	MSP3400	AUDIO PROCESSOR
IC2301	AN78L08TA	8V REGULATOR
IC3001	TEA6415C	VIDEO SWITCH
IC3501	UD61256DC-08	DYNAMIC RAM
IC3502	TPU3040-20	TEXT PROCESSOR
SOCKETS/TERMINALS/LINK WIRES		
H1202	832AG11D-ESL	I.C. SOCKET
JA1	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA2	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA3	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA4	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA5	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA6	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA7	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA8	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA9	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA10	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA11	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA12	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA13	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA14	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA15	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA16	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA17	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA18	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA19	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA20	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA21	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA22	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA23	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA24	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA25	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA26	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA28	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA29	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA30	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω

Ref No.	Part No.	Description
JA31	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA32	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA33	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA.10	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA.11	ERJ8GEY0R00	S.M.CAR .125W 5% 0 Ω
JA.12	ERJ8GEY0R00	S.M.CAR .125W 5% 0 Ω
JA.13	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA.14	ERJ8GEY0R00	S.M.CAR .125W 5% 0 Ω
JA.15	ERJ8GEY0R00	S.M.CAR .125W 5% 0 Ω
JA.16	ERJ8GEY0R00	S.M.CAR .125W 5% 0 Ω
JA.17	ERJ8GEY0R00	S.M.CAR .125W 5% 0 Ω
JA.18	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA.19	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA.20	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA.21	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA.22	ERJ8GEY0R00	S.M.CAR .125W 5% 0 Ω
JA.24	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA.25	ERJ8GEY0R00	S.M.CAR .125W 5% 0 Ω
JA.26	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA.27	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA.28	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA.29	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA.30	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA.34	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA.35	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA.36	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA.37	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA.38	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA.1	ERJ8GEY0R00	S.M.CAR .125W 5% 0 Ω
JA.2	ERJ8GEY0R00	S.M.CAR .125W 5% 0 Ω
JA.3	ERJ8GEY0R00	S.M.CAR .125W 5% 0 Ω
JA.4	ERJ8GEY0R00	S.M.CAR .125W 5% 0 Ω
JA.5	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA.6	ERJ8GEY0R00	S.M.CAR .125W 5% 0 Ω
JA.7	ERJ8GEY0R00	S.M.CAR .125W 5% 0 Ω
JA.8	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JA.9	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JK2301	TJB18644	AV TERMINAL
JK3001	TJS8E007	21PIN TERMINAL
JK3101	TJS8E007	21PIN TERMINAL
JK3102	TJB16673	AV TERMINAL
JSB.5	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JSE011	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JSE012	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JSE013	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JSE014	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JSE015	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JSE016	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JSE031	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JSE032	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JSE036	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JSE038	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
COILS		
L001	TLT100K991R	COIL
L002	TLT047K991R	COIL
L102	EIV7EN200B	COIL
L103	TLT100K991R	COIL
L104	EIV7EN201B	COIL
L105	TLT100K991R	COIL
L106	TLT022K991R	COIL
L109	TLTR47K991R	COIL
L111	ELESNR82MA	COIL
L112	EXCELSA35T	COIL
L113	EXCELSA35T	COIL
L202	TLT068K991R	COIL
L251	EXCELSA35T	COIL
L301	TLT047K991R	COIL
L302	EXCEMT101BT	COIL
L303	EXCEMT101BT	COIL

Ref No.	Part No.	Description
L304	EXCEMT101BT	COIL
L552	ELH5L429	COIL
L601	TLT047K991R	COIL
L602	EXCELD35V	COIL
L603	TLT047K991R	COIL
L604	EXCELD35V	COIL
L606	TLT015K991R	COIL
L607	EXCELSA35T	COIL
L701	ELC10D006	COIL
L801	EXCELSA24T	COIL
L802	TLT022K991R	COIL
L803	ELF18D490F	COIL
L804	ELESN4R7KA	COIL
L805	298—82858001	COIL
L851	EXCELD35V	COIL
L852	EXCELSA35T	COIL
L853	ELEIE470KA	COIL
L854	ELEIN470KA	COIL
L855	ELEIN470KA	COIL
L856	ELEIN470KA	COIL
L1051	TLT331K991R	COIL
L1201	TLT047K991R	COIL
L1202	TLT047K991R	COIL
L1203	TLT047K991R	COIL
L1204	EXCELD35V	COIL
L2101	TLT100K991R	COIL
L2102	TLT3R9K991R	COIL
L2103	EXCELSA35T	COIL
L2104	EXCELSA35T	COIL
L3151	EXCEMT101BT	COIL
L3152	EXCEMT101BT	COIL
L3153	EXCEMT101BT	COIL
L3154	EXCEMT101BT	COIL
L3155	ELEBT6R8KA	COIL
L3156	ELEBT6R8KA	COIL
L3158	EXCELSA39V	COIL
L3501	EXCELD35V	COIL
L3502	EXCELD35V	COIL
L3503	ELESN4R7KA	COIL
L3504	EXCELSA35T	COIL
TRANSISTORS		
Q101	BF370—126	TRANSISTOR
Q102	BF370—126	TRANSISTOR
Q103	BC847B	TRANSISTOR OR 2SD601ATX
Q201	BC847B	TRANSISTOR OR 2SD601ATX
Q202	BC847B	TRANSISTOR OR 2SD601ATX
Q251	2SD1328STX	TRANSISTOR
Q252	2SD1328STX	TRANSISTOR
Q253	BC847B	TRANSISTOR OR 2SD601ATX
Q301	BC857B	TRANSISTOR OR 2SB709ATX
Q302	BC847B	TRANSISTOR OR 2SD601ATX
Q303	BC857B	TRANSISTOR OR 2SB709ATX
Q304	BC847B	TRANSISTOR OR 2SD601ATX
Q305	BC857B	TRANSISTOR OR 2SB709ATX
Q306	BC847B	TRANSISTOR OR 2SD601ATX
Q307	BC847B	TRANSISTOR OR 2SD601ATX
Q308	BC847B	TRANSISTOR OR 2SD601ATX
Q309	BC847B	TRANSISTOR OR 2SD601ATX
Q310	BC847B	TRANSISTOR OR 2SD601ATX
Q311	BC847B	TRANSISTOR OR 2SD601ATX
Q351	2SA1767	TRANSISTOR
Q352	2SA1767	TRANSISTOR
Q353	2SA1767	TRANSISTOR
Q451	BC847B	TRANSISTOR OR 2SD601ATX
Q501	BC847B	TRANSISTOR OR 2SD601ATX
Q502	BC847B	TRANSISTOR OR 2SD601ATX
Q503	2SD836—AL	TRANSISTOR
Q504	BC847B	TRANSISTOR OR 2SD601ATX
Q551	BU2506DXLB	TRANSISTOR

Ref No.	Part No.	Description
Q552	2SC1473—RN	TRANSISTOR
Q701	BC857B	TRANSISTOR OR 2SB709ATX
Q801	2SC1573	TRANSISTOR
Q802	S2000NLBMA	TRANSISTOR
Q851	2SD1273PLB	TRANSISTOR ALT2SD2396/JM3
Q852	TFD312SOF632	DIODE
Q1201	BC847B	TRANSISTOR OR 2SD601ATX
Q1202	BC847B	TRANSISTOR OR 2SD601ATX
Q1205	BC847B	TRANSISTOR OR 2SD601ATX
Q1206	BC847B	TRANSISTOR OR 2SD601ATX
Q1207	BC847B	TRANSISTOR OR 2SD601ATX
Q1208	BC857B	TRANSISTOR OR 2SB709ATX
Q2101	BC860B	TRANSISTOR
Q2102	BC860B	TRANSISTOR
Q2301	BC857B	TRANSISTOR OR 2SB709ATX
Q2302	BC857B	TRANSISTOR OR 2SB709ATX
Q2305	2SD1328STX	TRANSISTOR
Q2306	2SD1328STX	TRANSISTOR
Q2307	BC860B	TRANSISTOR
Q2308	BC857B	TRANSISTOR OR 2SB709ATX
Q2309	BC860B	TRANSISTOR
Q2310	BC860B	TRANSISTOR
Q3001	2SC1318—S	TRANSISTOR
Q3004	BC847B	TRANSISTOR OR 2SD601ATX
Q3005	BC847B	TRANSISTOR OR 2SD601ATX
Q3006	2SC1318—S	TRANSISTOR
Q3011	BC857B	TRANSISTOR OR 2SB709ATX
Q3012	2SD1328STX	TRANSISTOR
Q3013	2SD1328STX	TRANSISTOR
RESISTORS		
R001	ERJ6GEYJ223	S.M.CARB 0.1W 5% 22KΩ
R002	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω
R003	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω
R004	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω
R107	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
R109	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
R113	ERJ6GEYJ153	S.M.CARB 0.1W 5% 15KΩ
R116	ERJ6GEYJ103	S.M.CARB 0.1W 5% 10KΩ
R117	ERJ6GEYJ683	S.M.CARB 0.1W 5% 68KΩ
R118	ERJ6ENF4701	S.M.CARB 0.1W 1% 4K7Ω
R119	ERJ6ENF1202	S.M.CARB 0.1W 1% 1K2Ω
R120	ERJ6GEYJ102	S.M.CARB 0.1W 5% 1KΩ
R121	ERJ6GEYJ201	S.M.CARB 0.1W 5% 200Ω
R122	ERJ6GEYJ470	S.M.CARB 0.1W 5% 47Ω
R123	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
R124	ERJ6GEYJ682	S.M.CARB 0.1W 5% 6K8Ω
R125	ERJ6GEYJ102	S.M.CARB 0.1W 5% 1KΩ
R126	EVNDXAA03B53	CONTROL 5KΩ
R127	ERDS1TJ121	CARBON 0.5W 5% 120Ω
R128	ERJ6GEYJ271	S.M.CARB 0.1W 5% 270Ω
R129	ERJ6GEYJ332	S.M.CARB 0.1W 5% 3K3Ω
R130	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω
R131	ERJ6GEYJ102	S.M.CARB 0.1W 5% 1KΩ
R132	ERJ6GEYJ222	S.M.CARB 0.1W 5% 2K2Ω
R133	ERJ6GEYJ682	S.M.CARB 0.1W 5% 6K8Ω
R134	ERJ6GEYJ222	S.M.CARB 0.1W 5% 2K2Ω
R136	ERJ6GEYJ473	S.M.CARB 0.1W 5% 47KΩ
R137	ERJ6GEYJ563	S.M.CARB 0.1W 5% 56KΩ
R138	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω
R139	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
R141	ERJ6GEYJ102	S.M.CARB 0.1W 5% 1KΩ
R142	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
R143	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
R145	ERJ6GEYJ152	S.M.CARB 0.1W 5% 1K5Ω
R146	ERJ6GEYJ471	S.M.CARB 0.1W 5% 470Ω
R147	ERJ6GEYJ821	S.M.CARB 0.1W 5% 820Ω
R149	ERJ6GEYJ181	S.M.CARB 0.1W 5% 180Ω
R201	ERJ6GEYJ471	S.M.CARB 0.1W 5% 470Ω
R203	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω

Ref No.	Part No.	Description				
R204	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω	
R205	ERJ6GEYJ332	S.M.CARB	0.1W	5%	3K3Ω	
R206	ERJ6GEYJ681	S.M.CARB	0.1W	5%	680Ω	
R207	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ	
R208	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2Ω	
R209	ERJ6GEYJ332	S.M.CARB	0.1W	5%	3K3Ω	
R210	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω	
R251	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω	
R252	ERJ6GEYJ152	S.M.CARB	0.1W	5%	1K5Ω	
R253	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ	
R254	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω	
R255	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ	
R256	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω	
R257	ERJ6GEYJ2R2	S.M.CARB	0.1W	5%	2R2Ω	
R258	ERJ6GEYJ152	S.M.CARB	0.1W	5%	1K5Ω	
R259	ERJ6GEYJ2R2	S.M.CARB	0.1W	5%	2R2Ω	
R260	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ	
R261	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω	
R262	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ	
R263	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ	
R264	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47KΩ	
R265	ERD25TJ2R2	CARBON	0.25W	5%	2R2Ω	
R266	ERD25TJ2R2	CARBON	0.25W	5%	2R2Ω	
R267	ERF7ZK4R7	WOUND	7W	10%	4R7Ω	Δ
R268	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ	
R269	ERJ6GEYJ273	S.M.CARB	0.1W	5%	27KΩ	
R271	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ	
R272	ERF7ZK5R6	WOUND	7W	10%	5R6Ω	Δ
R273	ERD25TJ273	CARBON	0.25W	5%	27KΩ	
R301	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω	
R302	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω	
R303	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω	
R304	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω	
R305	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω	
R306	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω	
R307	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω	
R308	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω	
R309	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω	
R310	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω	
R311	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω	
R312	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω	
R313	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω	
R314	ERJ6GEYJ332	S.M.CARB	0.1W	5%	3K3Ω	
R315	ERJ6GEYJ332	S.M.CARB	0.1W	5%	3K3Ω	
R316	ERJ6GEYJ332	S.M.CARB	0.1W	5%	3K3Ω	
R321	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47KΩ	
R322	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47KΩ	
R323	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ	
R324	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ	
R351	ERJ6GEYJ182	S.M.CARB	0.1W	5%	1K8Ω	
R352	ERJ6GEYJ182	S.M.CARB	0.1W	5%	1K8Ω	
R353	ERJ6GEYJ182	S.M.CARB	0.1W	5%	1K8Ω	
R354	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ	
R355	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ	
R356	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ	
R357	ERG1SJ563	METAL	1W	5%	56KΩ	
R358	ERG1SJ563	METAL	1W	5%	56KΩ	
R359	ERG1SJ563	METAL	1W	5%	56KΩ	
R363	ERDS1TJ103	CARBON	0.5W	5%	10KΩ	
R364	ERDS1TJ103	CARBON	0.5W	5%	10KΩ	
R365	ERDS1TJ103	CARBON	0.5W	5%	10KΩ	
R366	ERDS1TJ152	CARBON	0.5W	5%	1K5Ω	
R367	ERDS1TJ152	CARBON	0.5W	5%	1K5Ω	
R368	ERDS1TJ152	CARBON	0.5W	5%	1K5Ω	
R369	ERD25TJ223	CARBON	0.25W	5%	22KΩ	
R370	ERD25TJ103	CARBON	0.25W	5%	10KΩ	
R372	ERQ12AJ121	FUSIBLE	0.5W	5%	120Ω	Δ
R373	ERJ6GEYJ220	S.M.CARB	0.1W	5%	22Ω	
R374	ERDS1TJ274	CARBON	0.5W	5%	270KΩ	
R375	ERJ6GEYJ684	S.M.CARB	0.1W	5%	680KΩ	
R376	ERJ6GEYJ183	S.M.CARB	0.1W	5%	18KΩ	

Ref No.	Part No.	Description				
R377	ERQ12HJ1R2	METAL	0.5W	5%	1R2Ω	Δ
R378	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω	
R379	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω	
R380	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω	
R451	ERJ6GEYJ223	S.M.CARB	0.1W	5%	22KΩ	
R452	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω	
R453	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ	
R455	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω	
R456	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ	
R457	ERJ6GEYJ682	S.M.CARB	0.1W	5%	6K8Ω	
R458	ERD25TJ1R5	CARBON	0.25W	5%	1R5Ω	
R459	ERJ6GEYJ470	S.M.CARB	0.1W	5%	47Ω	
R460	ERJ6GEYJ183	S.M.CARB	0.1W	5%	18KΩ	
R461	ERDS1TJ471	CARBON	0.5W	5%	470Ω	
R462	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω	
R463	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω	
R464	ERW12PK1R5	WIREWOUND	5W	10%	1R5Ω	Δ
R465	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω	
R466	ERO25CKF1801	METAL	0.25W	1%	1K8Ω	Δ
R467	ERO25CKF1201	METAL	0.25W	1%	1K2Ω	Δ
R471	ERDS1TJ102	CARBON	0.5W	5%	1KΩ	
R472	ERDS1TJ4R7	CARBON	0.5W	5%	4R7Ω	
R501	ERJ6GEYJ331	S.M.CARB	0.1W	5%	330Ω	
R502	ERJ6GEYJ560	S.M.CARB	0.1W	5%	56Ω	
R503	ERJ6GEYJ273	S.M.CARB	0.1W	5%	27KΩ	
R504	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω	
R506	ERD25TJ560	CARBON	0.25W	5%	56Ω	
R507	ERQ14AJ3R3	METAL	0.25W	5%	3R3Ω	Δ
R509	ERDS1TJ152	CARBON	0.5W	5%	1K5Ω	
R510	ERDS1TJ152	CARBON	0.5W	5%	1K5Ω	
R511	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ	
R512	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω	
R513	ERJ6GEYJ123	S.M.CARB	0.1W	5%	12KΩ	
R514	ERJ6GEYJ123	S.M.CARB	0.1W	5%	12KΩ	
R551	ERW2PKR47	WIREWOUND	2W	10%	0R47Ω	Δ
R553	ERG1SJ152	METAL	1W	5%	1K5Ω	
R558	ERDS1TJ124	CARBON	0.5W	5%	120KΩ	
R561	ERJ6GEYJ563	S.M.CARB	0.1W	5%	56KΩ	
R562	ERJ6GEYJ225	S.M.CARB	0.1W	5%	220KΩ	
R563	ERJ6GEYJ225	S.M.CARB	0.1W	5%	220KΩ	
R564	ERJ6GEYJ623	S.M.CARB	0.1W	5%	62KΩ	
R566	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47KΩ	
R567	ERJ6GEYJ274	S.M.CARB	0.1W	5%	270KΩ	
R601	ERJ6GEYJ151	S.M.CARB	0.1W	5%	150Ω	
R602	ERJ6GEYJ151	S.M.CARB	0.1W	5%	150Ω	
R603	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω	
R605	ERJ6GEYJ183	S.M.CARB	0.1W	5%	18KΩ	
R606	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω	
R607	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ	
R608	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω	
R609	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω	
R610	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47KΩ	
R611	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ	
R612	ERJ6GEYJ123	S.M.CARB	0.1W	5%	12KΩ	
R613	ERJ6GEYJ271	S.M.CARB	0.1W	5%	270Ω	
R614	ERJ6GEYJ470	S.M.CARB	0.1W	5%	47Ω	
R615	ERJ6GEYJ333	S.M.CARB	0.1W	5%	33KΩ	
R616	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ	
R618	ERJ6GEYJ151	S.M.CARB	0.1W	5%	150Ω	
R619	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω	
R623	ERJ6GEYJ821	S.M.CARB	0.1W	5%	820Ω	
R701	ERQ12AJ101	FUSIBLE	0.5W	5%	100Ω	Δ
R702	ERQ12HJ330	METAL	0.5W	5%	33Ω	Δ
R703	ERG2FJ821	METAL	2W	5%	820Ω	Δ
R704	ERJ6GEYJ563	S.M.CARB	0.1W	5%	56KΩ	
R705	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ	
R706	ERJ6GEYJ272	S.M.CARB	0.1W	5%	2K7Ω	
R707	ERJ6GEYJ122	S.M.CARB	0.1W	5%	1K2Ω	
R708	ERJ6GEYJ393	S.M.CARB	0.1W	5%	39KΩ	
R709	ERJ6GEYJ393	S.M.CARB	0.1W	5%	39KΩ	

Ref No.	Part No.	Description			
R710	ERJ6GEYJ273	S.M.CARB	0.1W	5%	27KΩ
R711	ERJ6GEYJ681	S.M.CARB	0.1W	5%	680Ω
R712	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R713	ERG1SJ101	METAL	1W	5%	100Ω
R801	ERG3FJ682H	METAL	3W	5%	6K8Ω Δ
R802	ERG2FJ472	METAL	2W	5%	4K7Ω Δ
R803	ERX12SJWR47	METAL	12W	5%	R47
R804	ERJ6GEYJ682	S.M.CARB	0.1W	5%	6K8Ω
R805	ERJ6GEYJ221	S.M.CARB	0.1W	5%	220Ω
R806	ERG1SJ823	METAL	1W	5%	820Ω
R807	ERO25CKF1201	METAL	0.25W	1%	1K2Ω Δ
R808	232266296319	THERMISTOR			
R809	ERO25CKF1302	METAL	0.25W	1%	13KΩ Δ
R810	ERD25TJ103	CARBON	0.25W	5%	10KΩ
R811	EVMEAS A00B33	CONTROL			3KΩ
R812	ERDS1TJ220	CARBON	0.5W	5%	22Ω
R813	ERD50FJ274	CARBON	5W	5%	270KΩ Δ
R814	ERF7ZK2R7	WOUND	7W	20%	2R7Ω Δ
R815	ERDS1TJ563	CARBON	0.5W	5%	56KΩ
R817	ERG3FJ470	METAL	3W	5%	47Ω Δ
R818	ERD50FJ104	CARBON	5W	5%	100KΩ Δ
R819	ERD50FJ184	CARBON	5W	5%	180KΩ Δ
R820	ERD75TAJ825	CARBON	0.75W	5%	8M2Ω Δ
R852	ERJ6GEYJ271	S.M.CARB	0.1W	5%	270Ω
R853	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R854	ERDS1TJ474	CARBON	0.5W	5%	470KΩ
R855	ERG2FJ223	METAL	2W	5%	22KΩ Δ
R856	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ
R.604	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
R.622	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
R1201	ERJ6GEYJ271	S.M.CARB	0.1W	5%	270Ω
R1202	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R1203	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R1204	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R1205	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R1206	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R1207	ERD25TJ331	CARBON	0.25W	5%	330Ω
R1208	ERJ6GEYJ223	S.M.CARB	0.1W	5%	22KΩ
R1209	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1210	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1212	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R1213	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R1214	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1215	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R1216	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R1217	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R1218	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1219	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1220	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1221	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R1222	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R1224	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R1225	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1226	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1227	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1229	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
R1230	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
R1231	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1232	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R1233	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1235	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R1236	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1237	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R1238	ERJ6GEYJ393	S.M.CARB	0.1W	5%	39KΩ
R1239	ERJ6GEYJ392	S.M.CARB	0.1W	5%	3K9Ω
R1240	ERJ6GEYJ392	S.M.CARB	0.1W	5%	3K9Ω
R1241	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R1242	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R1244	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
R1245	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2Ω

Ref No.	Part No.	Description			
R1246	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R1247	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R1249	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1250	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R1251	ERJ6GEYJ393	S.M.CARB	0.1W	5%	39KΩ
R1252	ERX1SJ3R3	METAL	1W	5%	3R3Ω
R1253	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R1254	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ
R1255	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ
R1256	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ
R1257	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R1258	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R1260	ERDS1FJ121	CARBON	0.5W	5%	120Ω Δ
R2101	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2102	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2Ω
R2103	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2104	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2105	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2Ω
R2106	ERJ6GEYJ183	S.M.CARB	0.1W	5%	18KΩ
R2107	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2108	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R2109	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R2110	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R2111	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47KΩ
R2301	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2Ω
R2302	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2Ω
R2303	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2304	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2313	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R2314	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R2315	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47KΩ
R2316	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ
R2318	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ
R2321	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R2322	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2323	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R2324	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2325	ERJ6GEYJ273	S.M.CARB	0.1W	5%	27KΩ
R2326	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2327	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2328	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47KΩ
R2329	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2Ω
R2330	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2Ω
R2331	ERJ6GEYJ223	S.M.CARB	0.1W	5%	22KΩ
R2332	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2333	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2334	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
R2335	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
R2651	ERG2FJ221	METAL	2W	5%	220Ω Δ
R2652	ERG2FJ221	METAL	2W	5%	220Ω Δ
R2653	ERDS1TJ151	CARBON	0.5W	5%	150Ω
R2654	ERDS1TJ151	CARBON	0.5W	5%	150Ω
R3001	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3002	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3003	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3004	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3005	ERJ6GEYJ470	S.M.CARB	0.1W	5%	47Ω
R3006	ERJ6GEYJ470	S.M.CARB	0.1W	5%	47Ω
R3007	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3008	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ
R3009	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ
R3010	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3011	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3012	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3013	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3015	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
R3016	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3017	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ
R3019	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R3020	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ

Ref No.	Part No.	Description			
R3022	ERD2FCG560	CARBON	2W	2%	56Ω
R3024	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R3025	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3026	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R3027	ERJ6GEYJ680	S.M.CARB	0.1W	5%	68Ω
R3029	ERJ6GEYJ680	S.M.CARB	0.1W	5%	68Ω
R3030	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3032	ERJ6GEYJ680	S.M.CARB	0.1W	5%	68Ω
R3034	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3036	ERJ6GEYJ220	S.M.CARB	0.1W	5%	22Ω
R3037	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3038	ERD2FCG100	CARB	2W	2%	10Ω
R3039	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3040	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3041	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3042	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω
R3043	ERD2FCG100	CARB	2W	2%	10Ω
R3044	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3045	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R3046	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3047	ERJ6GEYJ680	S.M.CARB	0.1W	5%	68Ω
R3048	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ
R3049	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3050	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3051	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3052	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3053	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3054	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3055	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3056	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3057	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3058	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3059	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3060	ERJ6GEYJ470	S.M.CARB	0.1W	5%	47Ω
R3062	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3063	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3064	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3065	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ
R3066	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ
R3067	ERJ6GEYJ273	S.M.CARB	0.1W	5%	27KΩ
R3068	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3069	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ

Ref No.	Part No.	Description			
R3070	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3071	ERJ6GEYJ470	S.M.CARB	0.1W	5%	47Ω
R3150	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3151	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3152	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3153	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3154	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3155	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3156	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3157	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3158	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3502	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3504	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3505	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
R3508	ERJ6GEYJ183	S.M.CARB	0.1W	5%	18KΩ
R3511	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3512	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω

SWITCHES

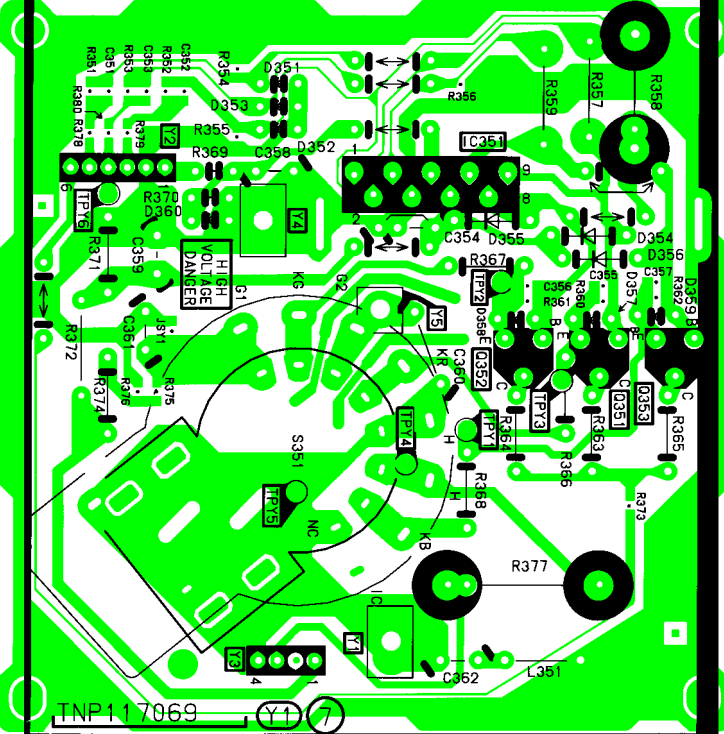
S801	ESB91232A	SWITCH	▲
S1201	EVQ23405R	SWITCH	
S1202	EVQ23405R	SWITCH	
S1203	EVQ23405R	SWITCH	
S1204	EVQ23405R	SWITCH	
S1205	EVQ23405R	SWITCH	

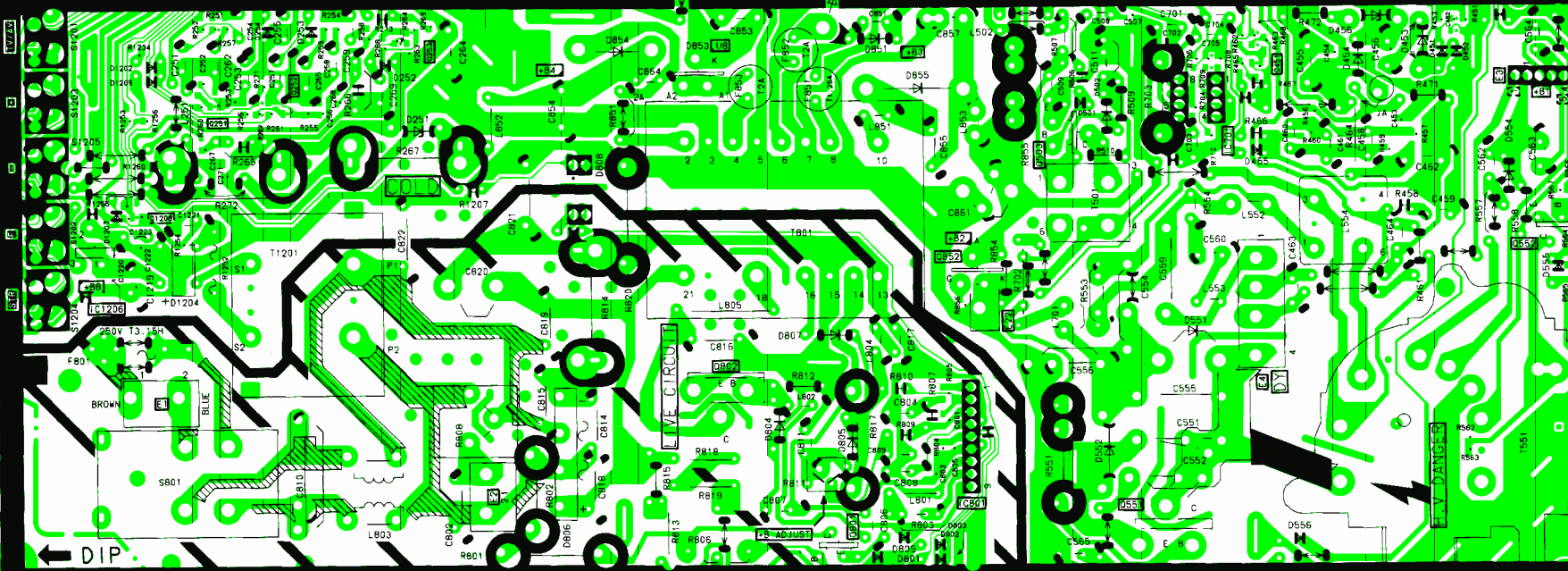
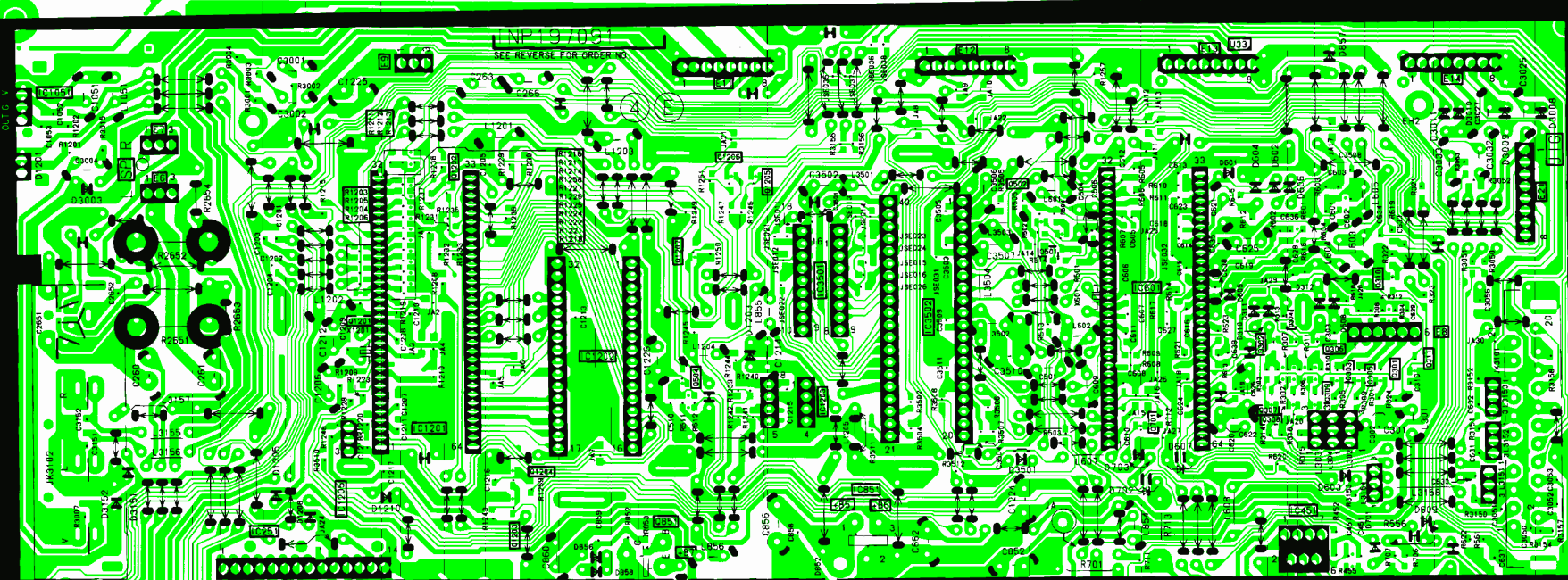
TRANSFORMERS

T501	5270103200	TRANSFORMER	
T551	ZTFH44007A	F.B.T.	
T801	TLP8E1001	TRANSFORMER	
T1201	ETP35KAN61ZU	TRANSFORMER	

FILTERS

X101	EFCS5M7MW3	CERAMIC FILTER	
X103	G3355K	SAW FILTER	
X105	EFCV3095A6	CHIP FILTER	
X601	TSS2169-B	CRYSTAL	
X1201	TSS120M2	CRYSTAL	

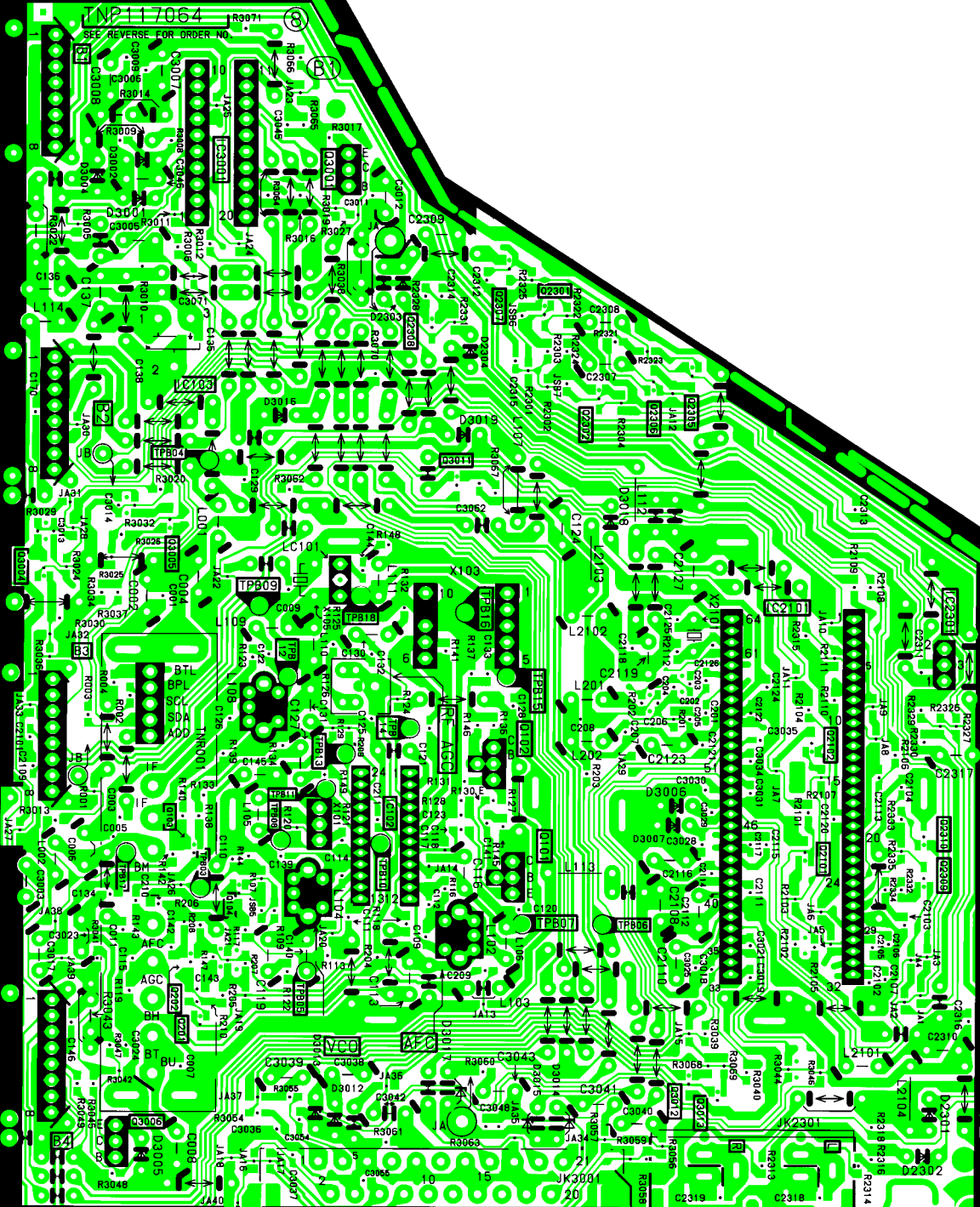


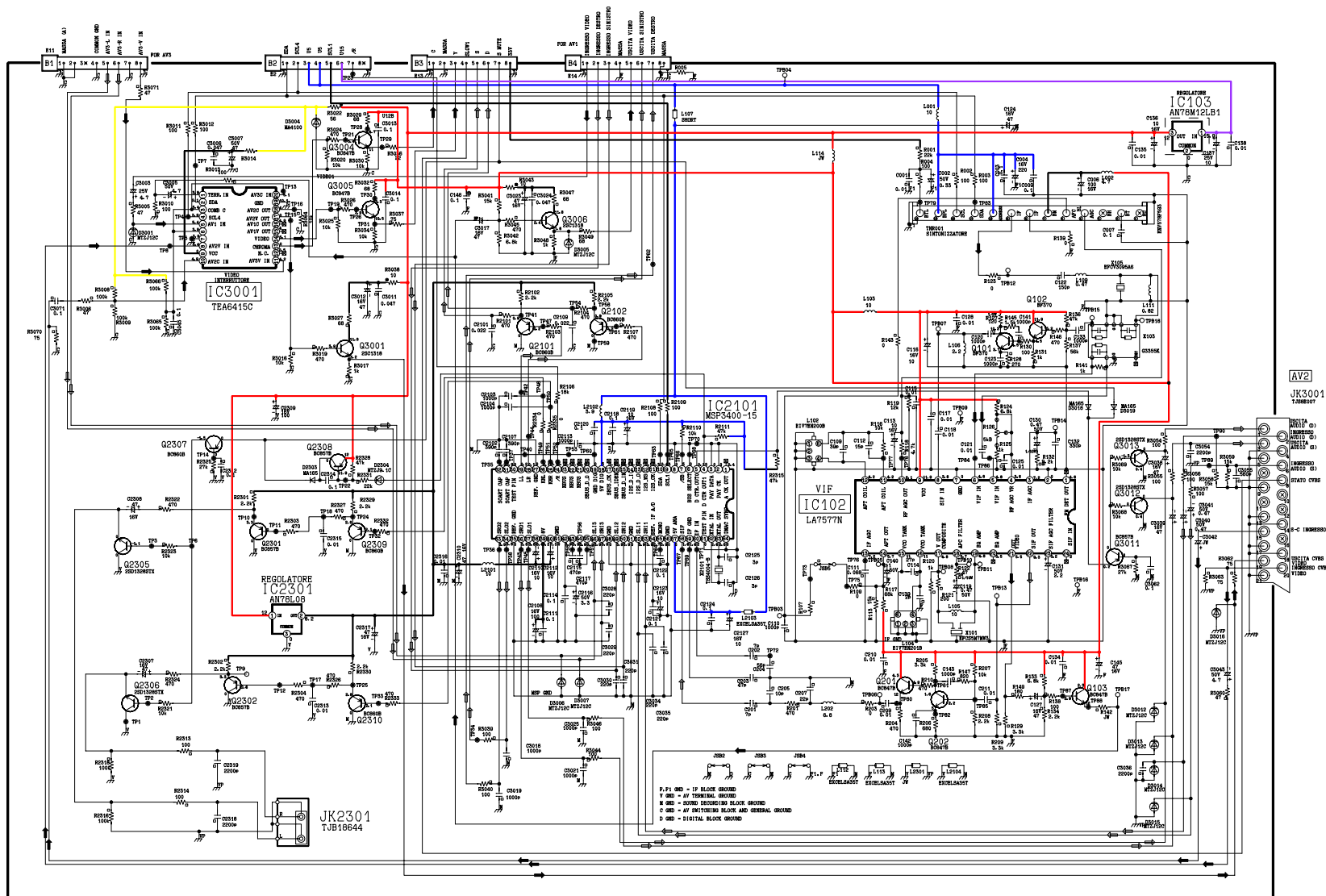


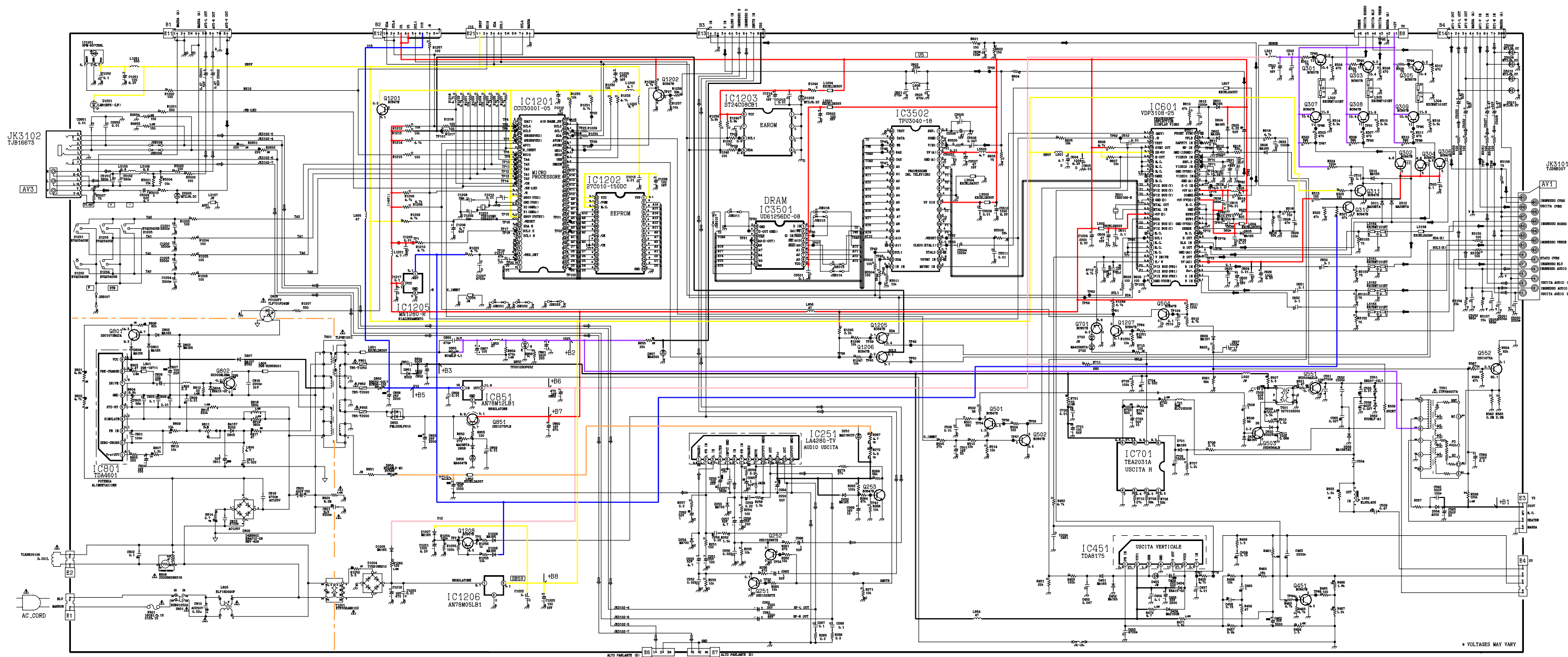
TP117064

R0071

SEE REVERSE FOR ORDER NO.







* VOLTAGES MAY VARY

