ORDER No. 99-SM-009

Service Manual

Colour Television

TX-28CK1P

TX-25CK1P

TX-21CK1P

Z8 Chassis

SPECIFICATION

(Information in brackets { } refers to model TX-25CK1P)
(Information in brackets [ ] refers to model TX-21CK1P)

Power Source:	220-240V a.c., 50Hz
Power Consumption:	97W {97W} [88W]
Stand-by Power Consumption:	0,9W {0,9W} [1W]
Aerial Impedance:	75Ω unbalanced, Coaxial Type
Receiving System:	PAL B/G, PAL D/K ,PAL-60 SECAM B/G, SECAM D/K M.NTSC (AV) NTSC (AV only)

Receiving Channels:

VHF E2-E12	VHF H1-H2 (ITALY)
VHF A-H (ITALY)	VHF R1-R2
VHF R3-R5	VHF R6-R12
UHF E21-E69	CATV (S01-S05)
CATV S1-S10 (M1-M10)	CATV S11-S20 (U1-U10)
CATV S21-S41 (HYPERBAND)	

Intermediate Frequency:
Video/Audio

Video	38,9MHz
Audio	32,4MHz, 32,66MHz (A2 CZECH) 33,05MHz (NICAM) 33,4MHz, 33,16MHz (A2) 33,05MHz (NICAM B/G)
Colour	34,47MHz 34,5MHz, 34,65MHz

Terminals:

AV1 IN	Video (21 pin)	1V p-p 75Ω
	Audio (21 pin)	500mV rms 10kΩ
	RGB (21 pin)	0,7V p-p 75Ω
AV1 OUT	Video (21 pin)	1V p-p 75Ω
	Audio (21 pin)	500mV rms 1kΩ
AV FRONT	Video (21 pin)	1V p-p 75Ω
	Audio (21 pin)	500mV rms 10kΩ

High Voltage:	28kV +0,7kV - 1kV {28kV +0,7kV -1kV} [27kV +0.7kV - 1kV]
Picture Tube:	A66ECF50X04 63cm {A59ECF50X04 59cm} [A51EER35X80 51cm]
Audio Output:	2 x 10W (M.P.O.) 2 x 5W (R.M.S.) 8Ω Impedance
Headphones:	8Ω Impedance 3,5mm
Accessories supplied :	Remote Control 2 x R6 (UM3) Batteries

Dimensions:

Height:	580mm	{538mm}	[476mm]
Width:	646mm	{580mm}	[512mm]
Depth:	471mm	{442.5mm}	[470mm]

Net weight:	33kg	{27kg}	[20.6kg]

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

NOTE: This Service Manual should be used in conjunction with the Z8 Technical guide.

Panasonic

CONTENTS

SAFETY PRECAUTIONS

GENERAL GUIDE LINES

1. It is advisable to insert an isolation transformer in the a.c. 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 that 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 a.c. outlet.
5. Potentials as high as 28,7kV, {28,7kV}, [27,7kV] 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 tube.
6. After servicing make the following leakage current checks to prevent the customer from being exposed to shock hazard.

LEAKAGE CURRENT COLD CHECK

1. Unplug the a.c. 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 a.c. 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 a.c. cord directly into the a.c. outlet. Do not use an isolation transformer for this check.
2. Connect a 2kΩ 10W resistor in series with an exposed metallic part on the receiver and an earth, such as a water pipe.
3. Use an a.c. voltmeter with high impedance to measure the potential across the resistor.
4. Check each exposed metallic part and check the voltage at each point.
5. Reverse the a.c. plug at the outlet and repeat each of the above measurements.

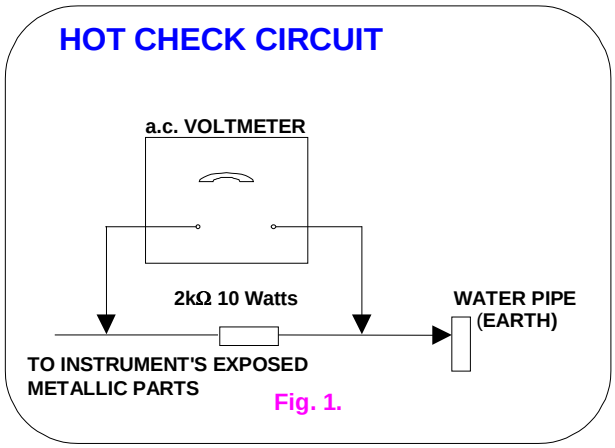


Fig. 1.

6. The potential at any point should not exceed 1,4Vrms. 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.

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 28,7kV, {28,7kV}, [27,7kV] 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.
   TX-28,25CK1P 28kV +0,7kV -1kV.
   TX-21CK1P 27kV +0,7kV -1kV.

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 any X-Radiation possibility, it is essential to use the specified tube.

ADJUSTMENT PROCEDURE

Item / Preparation	Adjustments
+B SET-UP 1. Receive a Greyscale signal. 2. Set the controls :- Brightness Minimum Contrast Minimum Volume Minimum	Confirm the following voltages. **+B1** 3,3 ± 0,3V **+B2** 195 ± 10V {195 ± 10V} [190 ± 10V] **+B3** 13,5 ± 1V {13,5 ± 1V} [12,5 ± 1V] **+B4** 10 ± 1V **+B8** 5 ± 0,3V **+B11** 147 ± 10V { 147 ± 10V} [127 ± 10V] **+B13** -13 ± 1V **+B14** 27,5 ± 1,5V {27,5 ± 1,5V} [27,5 ± 1,5V] **+B15** 28 ± 1,5V {28 ± 1,5V} [28 ± 1,5V] **+B16** 11,5 ± 1V {11,5 ± 1V} [11,5 ± 1V] **+B17** 8 ± 1V **+B18** 5 ± 0,3V
CUT OFF / Ug2 Adjustment 1. Receive a Greyscale signal. 2. Degauss the tube externally. 3. Set the TV into Service Mode 1. 4. Select Ug2 Test.	Set Contrast on maximum, set Brightness on center, switch on AV mode. Enter Service mode. Set Sub-Brightness to 31. Select Ug2 Test. Press "**+**" and adjust screen Vr till sharp vertical line is visible and LED switches off. Then reduce screen Vr till LED is just switched on (pin6 of connector E6 must be connected to GND).

Note: To set up "white balance" first set up "Cut off" register to 8. Then set up "high-light" with the help of "drive" registers. Finish setting-up of "Low-light" with the help of "Cut-off" register.
Carry out setting-up of "white balance" in available TV systems (PAL, SECAM).

FACTORY SETTINGS

To return customer settings to factory settings and clear owner ID of all information input by the customer, enter Self-Check mode. Press the down **(-/v)** button on the customer controls at the front of the TV set, at the same time pressing the **STATUS** button [+] on the remote control. To exit Self Check, switch off the TV set at the power button.
NOTE: Self Check should only be used when refurbishing the TV set and not during normal repair work.

OPTION 1	6C	{OPTION 1	6C}	[OPTION 1	4C]
OPTION 2	00	{OPTION 2	00}	[OPTION 2	00]

Service Aids

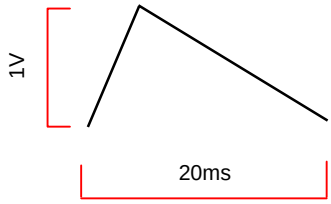
To aid in the service of our current chassis there are a number of Service Aids which have been made available.

- **LUCI** interface kit (**L**inked **U**tility **C**omputer **I**nterface)
  Part number: TZS6EZ002
  This contains interface and cables for connecting TV service connector and a PC as well as diagnostic software. As new models are introduced upgrade software will become available.
- **VICI** (**V**isual **I**nteractive **C**omputer **I**nformation)
  These C.D.'s contain multimedia documentation providing quick access to service information.
  Part No. TZS7EZ006, TZS7EZ005 & TZS8EZ001
  1. Service Manuals
  2. Instruction Books
  3. Technical Information
- **TASMIN** (**T**echnically **A**dvanced **S**ystem for **M**ultimedia **I**nteractive **N**otes)
  As well as providing a first step towards more interactive training this product also achieves quick access to Technical Information.

WAVEFORM PATTERN TABLE

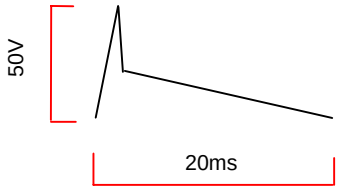
IC 601
Pin 21

VERT - OUT



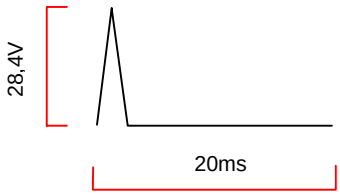
IC 451
Pin 2

VERT - DRIVE



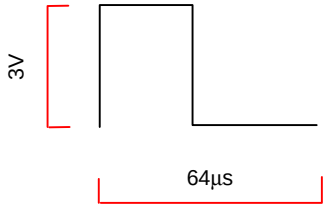
IC 451
Pin 3

VFLB



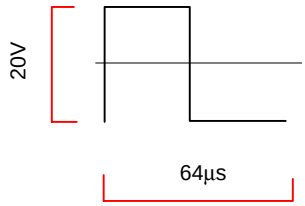
IC 601
Pin 33

H - OUT



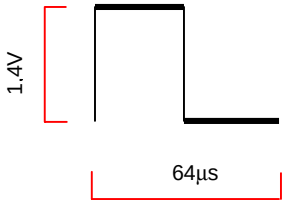
IC 701
Pin 5

EW - OUT



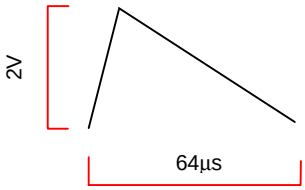
Base Q501

H - PULSE



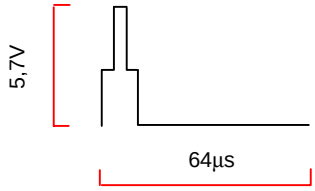
IC 701
Pin 8

HFLB



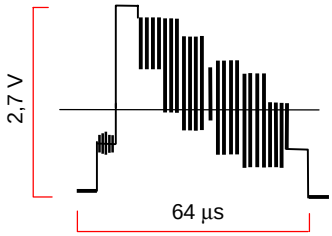
IC 601
Pin 34

FBI/SCO



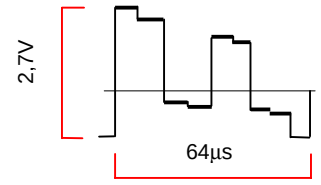
IC601
Pin 38

VIDEO OUT



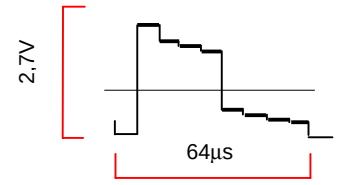
IC 601
Pin 51

R - OUT



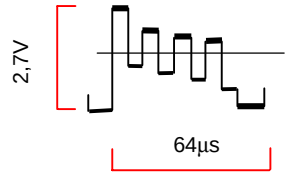
IC 601
Pin 52

G - OUT



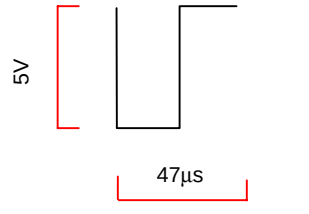
IC 601
Pin 53

B - OUT



IC 601
Pin 2

SCL



ALIGNMENT SETTINGS

Enter in service mode:
By imputing remote code "**FA**" followed by key "0" (19 hex) or press "**MUTE**" on remote control and "**V**" on TV set, when the sharpness is set on minimum and programme position is on 99.

Use ∧ / ∨ remote buttons to cycle through the service items.

Use + / − remote keys to decrement / increment the values within range.
STR lokal key stores the current data.
To exit service mode press "**N**" button.

Alignment Function	Setting indication **Note:** All setting values are approximate	Settings / Special features
1. Cut off (Ug2)	LED On/Off (pin6 of connector E6 to the GND)	LED to be just On
2. Vertical slope	V-SLO 32	Optimum setting
3. Vertical shift	V-POS 43	Optimum setting.
4. Vert. Amplitude	V-AMP 60	Optimum setting.
5. Horizontal shift	H-CTR 31	Optimum setting.
6. Horizontal parallelogram	H-PAR 034 {034} [-]	Optimum setting.
7. Horizontal bow	H-BOW 031 {031} [-]	Optimum setting.
8. R - Cut	R - CUT 8	Optimum setting.
9. B - Cut	B - CUT 8	Optimum setting.
10. R - Drive	R - DRV 31	Optimum setting.
11. G - Drive	G - DRV 31	Optimum setting.
12. B - Drive	B - DRV 31	Optimum setting.
13. AGC	AGC 20	Optimum setting.
14. Sub Colour	S - COL 15	Optimum setting.
15. Sub Brightness	S - BRI 31	Optimum setting.

For models TX-25CK1P and TX-28CK1P only:

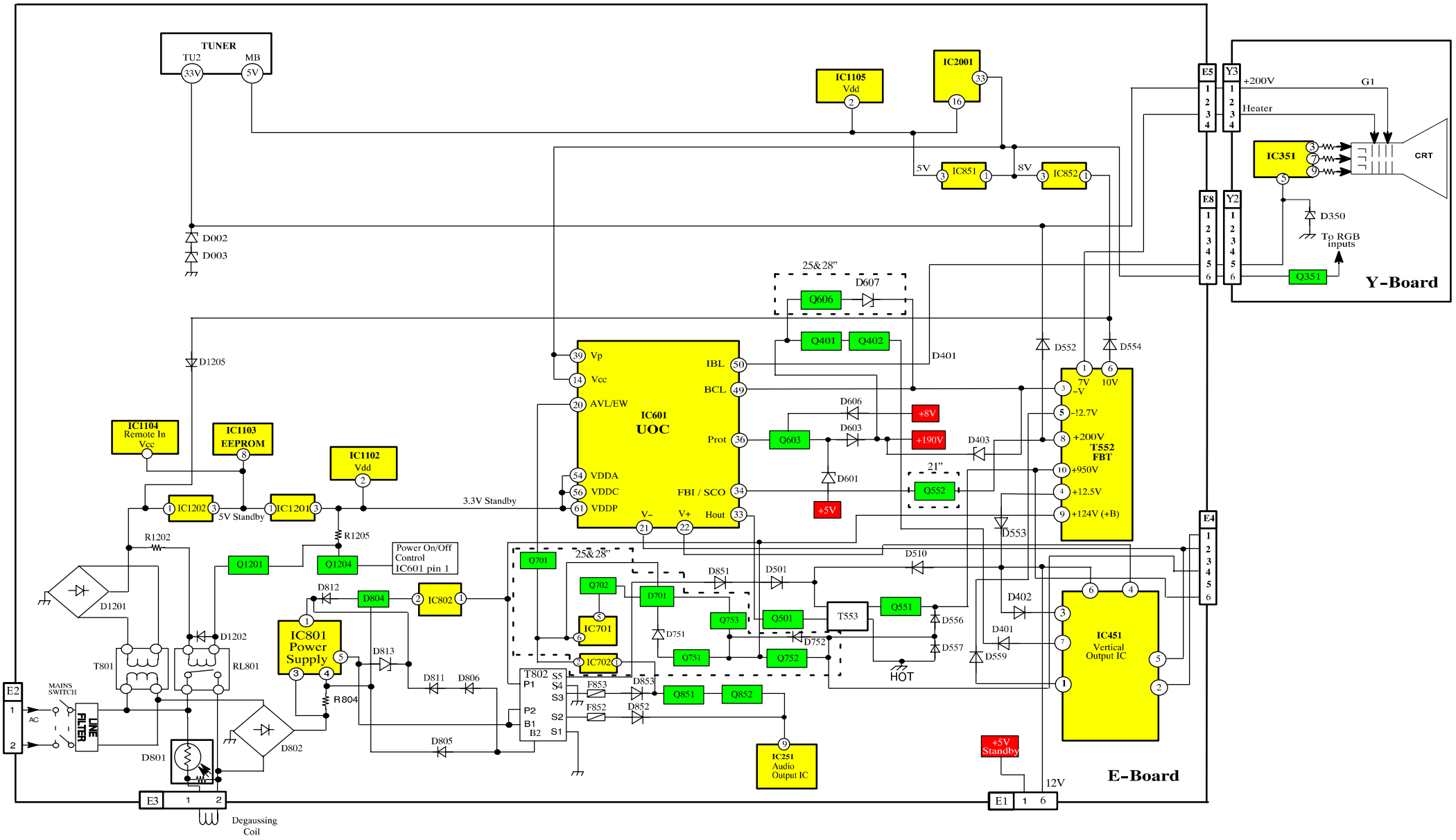
Alignment Function	Setting indication **Note:** All setting values are approximate	Settings / Special features
18. Horizontal Width	EW – WD 34	Optimum setting.
19. EW parabola	EW – PR 32	Optimum setting.
20. EW Upper corners	EW – UC32	Optimum setting.
21. EW Lower corners	EW – LC 33	Optimum setting.
22. EW Trapezoid	EW – TP 36	Optimum setting.

Imput remote code "**FA**" followed by key 5 (14 hex) or press "**V**" on remote control:

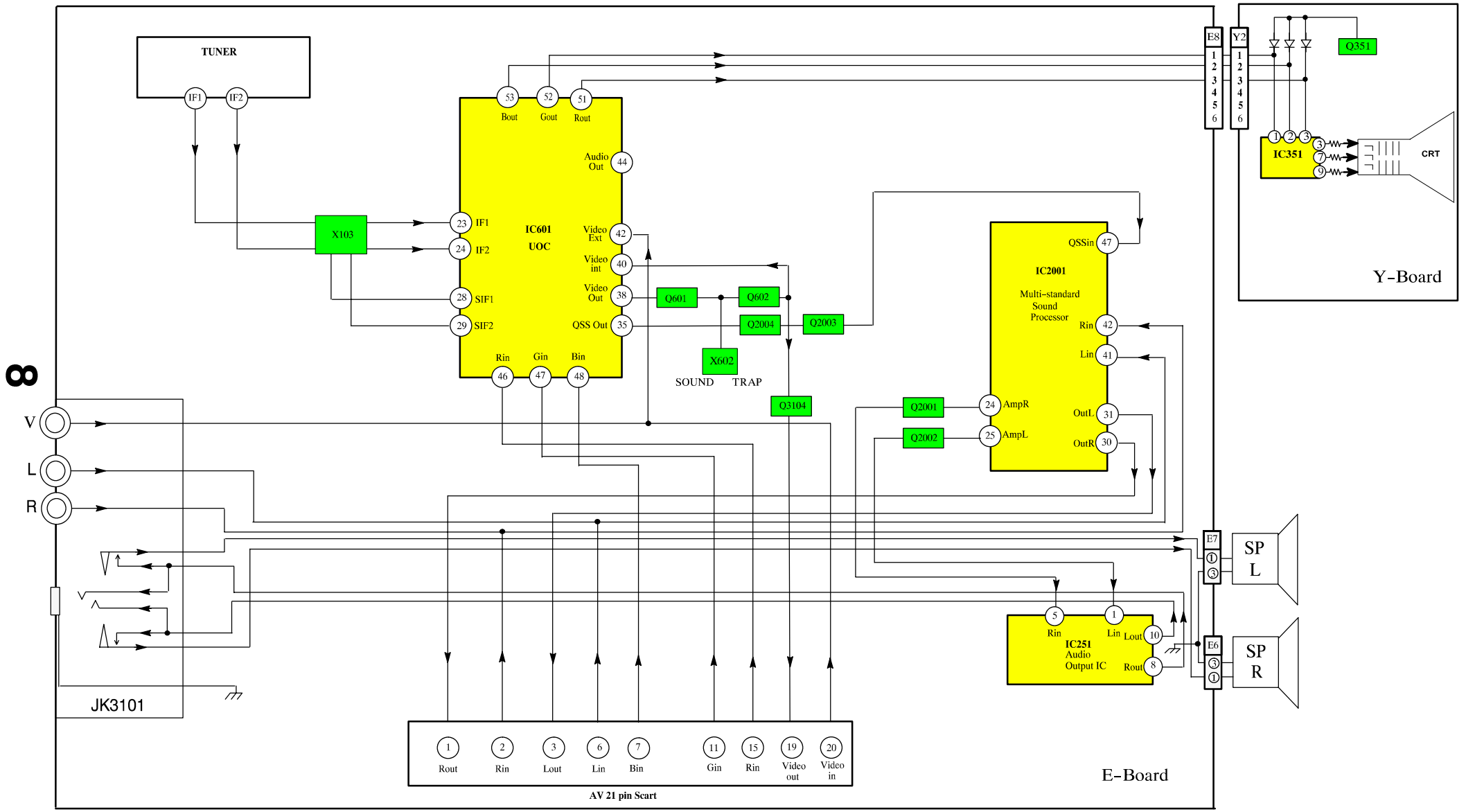
Option Byte - 1		Option Byte Table		
Bit No.	Value	Functions		
0	0	French model	0 1	NO YES
1	0	Irish model	0 1	NO YES
2	1	NICAM enabled	0 1	NO YES
3	1	A2 stereo enabled	0 1	NO YES
4	0	Tuner manufacturer	0 1	MACO ALPS
5	1 [0]	CRT	0 1	21" 25",28"
6	1	Q - link enabled	0 1	NO YES

Option Byte - 2		Option Byte Table
Bit No.	Value	Functions
0	0	
1	0	
2	0	
3	0	
4	0	
5	0	
6	0	

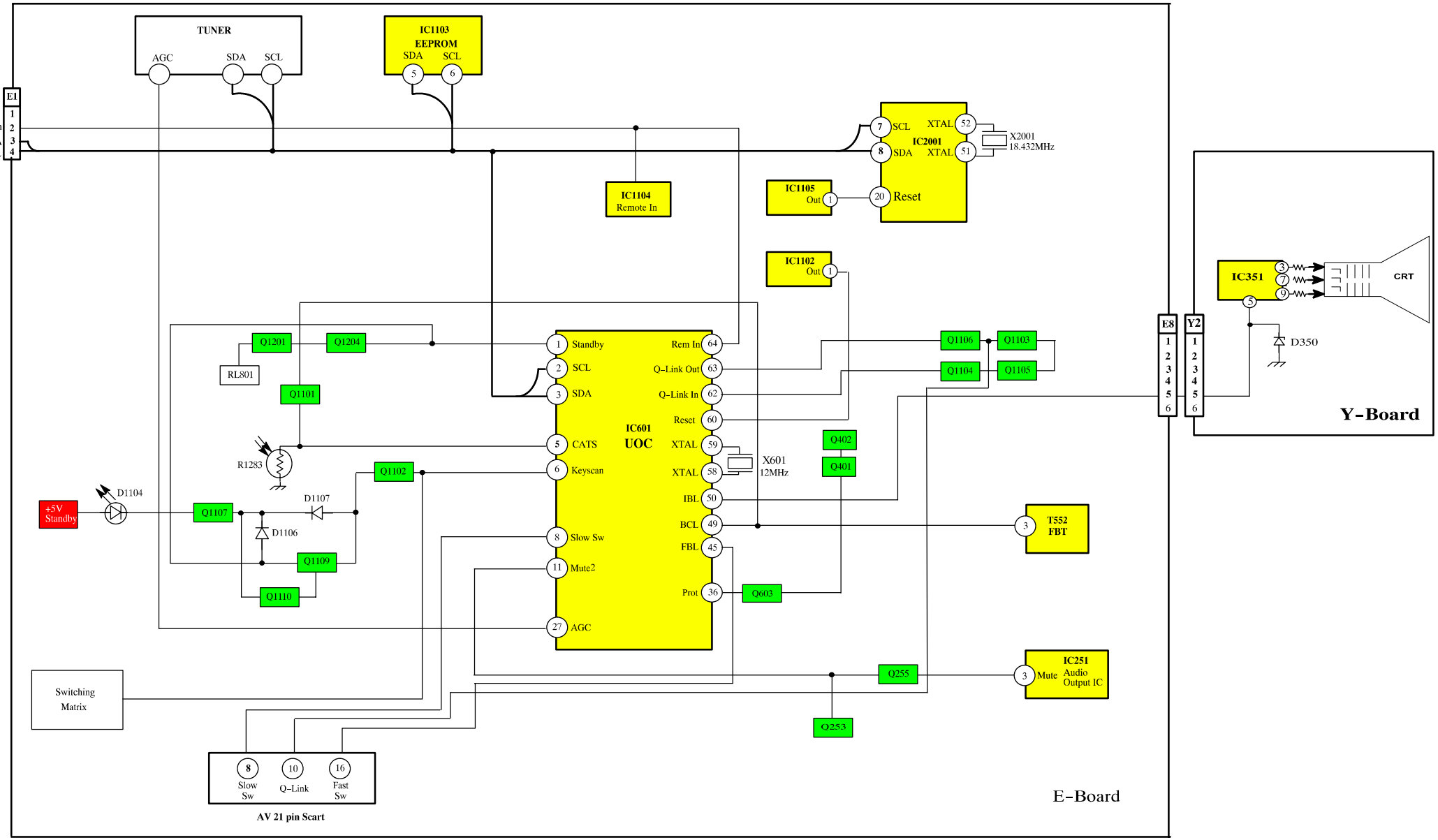
POWER SUPPLY & DEFLECTION BLOCK DIAGRAM



VIDEO & STEREO AUDIO BLOCK DIAGRAM



CONTROL BLOCK DIAGRAM



REPLACEMENT PARTS LIST

Important Safety Notice

Components Identified by ⚠ mark have special characteristics important for safety.
* When replacing any of these components, use only manufacturers specified parts.
In case of ordering these spare parts, please always add the complete Model-Type number to your order.

Cct Ref	Parts Number	Description	
COMMON PARTS			
MECHANICAL PARTS			
1	EASG12D552A2	SPEAKER	
2	ENV57D37G3	TUNER	⚠
3	EUR511310	REMOTE CONTROL	
4	EUR51EC924A	BATTERY COVER	
5	TBM8E1928	PANA BADGE	
6	TBX8E071	POWER BUTON	⚠
7	TBX8E072	5-KEY BUTON	
8	TKK8E037	AV COVER	
9	TMZ8E001	CHASSIS RAIL RIGHT	
10	TMZ8E002	CHASSIS RAIL LEFT	
11	TSX8E0023	POWER CORD	⚠
MISCELLANEOUS COMPONENTS			
	TKP8E1291	LIGHT TUBE	
	TKP8E1292	LED VISOR	
	UM-3DJ-2P	BATTERY PACK	
POE3	TMW8E015-2	LED HOLDER	
R1283	P1201	SENSOR	
RL801	DJ5D1-0M	RELAY	⚠
INSTRUCTION BOOKS			
	TQB8E2763MN1	BULGARIAN / ROMANIAN	⚠
	TQB8E2763PQ1	POLISH / HUNGARIAN	⚠
	TQB8E2763RU	CZECH / ENGLISH	⚠
I.C.s			
IC251	TDA7263	AUDIO OUTPUT	
IC801	STRF6523LF51	POWER SUPPLY	
IC851	L78M05MRB	5V REGULATOR	
IC852	BA08T-M3	8V REGULATOR	
IC1102	MN13812-HTA	RESET IC	
IC1104	RPM-6937	LED RECEIVER	
IC1105	MN1381-R(TA)	RESET	
IC1201	BA033T	3,3V REGULATOR	
IC1202	BA05T-M1	5V REGULATOR	
IC2001	MSP3415DPOA2	AUDIO PROCESSOR	
FUSES			
F801	19181-3.15	FUSE	⚠
F851	TR5-T500	FUSE	⚠
F852	TR5-T1000	FUSE	⚠
F853	TR5-T500	FUSE	⚠
F8011	EYF52BC	FUSE HOLDER	
F8012	EYF52BC	FUSE HOLDER	
DIODES			
D002	MTZJT-7716A	DIODE	
D003	MTZJT-7716A	DIODE	

Cct Ref	Parts Number	Description
D260	MA29TA5	DIODE
D261	MTZJT-7739C	DIODE
D262	MTZJT-7739C	DIODE
D350	MTZJT-777.5B	DIODE
D351	1SR124-4AT82	DIODE
D352	1SR124-4AT82	DIODE
D353	1SR124-4AT82	DIODE
D370	MA165TA5	DIODE
D371	MA165TA5	DIODE
D372	MA165TA5	DIODE
D401	MA165TA5	DIODE
D402	ERA15-02V3	DIODE
D403	MTZJ33B	DIODE
D501	1SR124-4AT82	DIODE
D502	MTZJT-778.2A	DIODE
D510	1SR124-4AT82	DIODE
D555	MA165TA5	DIODE
D601	MTZJT-775.1A	DIODE
D603	MA165TA5	DIODE
D606	MA165TA5	DIODE
D802	RBV4-08	DIODE
D803	AU01V0	DIODE
D804	TLP621GR-LF2	PHOTO COUPLER
D805	1SR124-4AT82	DIODE
D806	1SR124-4AT82	DIODE
D809	R2KNLFA1	DIODE
D810	MA165TA5	DIODE
D811	1SR124-4AT82	DIODE
D812	MA165TA5	DIODE
D813	MTZJT-7720D	DIODE
D851	TVSRU3AMLFA5	DIODE
D852	TVSRU3AMLFA5	DIODE
D853	1SR124-4AT82	DIODE
D1101	MTZJT-776.2A	DIODE
D1104	SLR56UR3FLF	LED
D1106	MA165TA5	DIODE
D1107	MA165TA5	DIODE
D1201	TVSS1WBS20	DIODE
D1202	MA165TA5	DIODE
D1205	MA165TA5	DIODE
D3101	MTZJT-775.1A	DIODE
TRANSISTORS		
Q253	BC857B	TRANSISTOR
Q255	BC847B	TRANSISTOR
Q401	BC847B	TRANSISTOR
Q402	BC847B	TRANSISTOR
Q501	2SD2398-M2	TRANSISTOR
Q601	BC847B	TRANSISTOR
Q602	BC847B	TRANSISTOR
Q603	BC857B	TRANSISTOR
Q851	BC557B/126	TRANSISTOR
Q852	2SA684R	TRANSISTOR

Cct Ref	Parts Number	Description			
Q1101	2SD965-R	TRANSISTOR			
Q1102	BC847B	TRANSISTOR			
Q1103	BC847B	TRANSISTOR			
Q1104	BC847B	TRANSISTOR			
Q1105	BC847B	TRANSISTOR			
Q1106	BC847B	TRANSISTOR			
Q1107	BC847B	TRANSISTOR			
Q1109	BC847B	TRANSISTOR			
Q1110	BC847B	TRANSISTOR			
Q1201	BC847B	TRANSISTOR			
Q1204	BC847B	TRANSISTOR			
Q2001	BC857B	TRANSISTOR			
Q2002	BC857B	TRANSISTOR			
Q2003	BC847B	TRANSISTOR			
Q2004	BC847B	TRANSISTOR			
Q3104	2SC1318-S	TRANSISTOR			
TRANSFORMERS					
T553	ETH19Z192AZ	TRANSFORER			⚠
T801	ETP35KAN619U	TRANSFORMER			⚠
COILS					
J116	EXCELSA35T	COIL			
L001	TALV35VB100K	COIL			
L601	TALV35VB100K	COIL			
L602	TALV35VB100K	COIL			
L604	EXCELDR35V	COIL			
L802	EXCELSA35T	COIL			
L803	EXCELDR35V	COIL			
L851	EXCELSA35T	COIL			
L852	EXCELSA35T	COIL			
L853	EXCELSA35T	COIL			
L1101	TALV35VB331K	COIL			
L2001	TALV35VB4R7K	COIL			
L2002	TALV35VB4R7K	COIL			
L2004	EXCELSA35T	COIL			
L2005	TALV35VB6R8K	COIL			
L2006	TALV35VB100K	COIL			
L3101	TLT100K991R	COIL			
L3102	TLT100K991R	COIL			
L3103	EXCELSA35T	COIL			
L3104	EXCELSA35T	COIL			
L3105	TALV35VB100K	COIL			
L3107	EXCELDR35V	COIL			
L3108	EXCELDR35V	COIL			
FILTERS					
L801	ELF15N005A	LINE FILTER			
X103	K3350K	SAW FILTR			
CRYSTALS					
X601	TSSA010	CRYSTAL			
X602	EFCWS2F11T	CRYSTAL			
X2001	4730007158	CRYSTAL			
RESISTORS					
C3122	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
J118	ERD25T0V	RESISTOR	0W	0%	0 Ω
JA1	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
JA2	ERJ8GEY0R00	S.M.CARB	.125W	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
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
JA15	ERJ8GEY0R00	S.M.CARB	.125W	5%	0 Ω

Cct Ref	Parts Number	Description			
JA16	ERJ8GEY0R00	S.M.CARB	.125W	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
JA27	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
JA28	ERJ8GEY0R00	S.M.CARB	.125W	5%	0 Ω
JA29	ERJ8GEY0R00	S.M.CARB	.125W	5%	0 Ω
JA30	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
JA31	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
JA32	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
JA33	ERJ8GEY0R00	S.M.CARB	.125W	5%	0 Ω
JA34	ERJ8GEY0R00	S.M.CARB	.125W	5%	0 Ω
JA36	ERJ8GEY0R00	S.M.CARB	.125W	5%	0 Ω
JA37	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
JA38	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
JA39	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
JA40	ERJ8GEY0R00	S.M.CARB	.125W	5%	0 Ω
JA41	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
JA42	ERJ8GEY0R00	S.M.CARB	.125W	5%	0 Ω
JA43	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
JA44	ERJ8GEY0R00	S.M.CARB	.125W	5%	0 Ω
JSE1	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
JSE2	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
JSE10	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
JSE11	ERJ8GEY0R00	S.M.CARB	.125W	5%	0 Ω
JSE15	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
JSE18	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
JSE26	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
JSE29	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
JSE30	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R001	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R002	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R003	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15K Ω
R004	ERG2SJS273	METAL	2W	5%	27K Ω ⚠
R005	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R006	ERJ6GEYJ273	S.M.CARB	0.1W	5%	27K Ω
R007	ERJ6GEYJ302	S.M.CARB	0.1W	5%	3K Ω
R008	ERJ6GEYJ681	S.M.CARB	0.1W	5%	680 Ω
R110	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R241	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω
R251	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75 Ω
R252	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω
R254	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75 Ω
R256	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470 Ω
R257	ERJ6GEYJ240	RESISTOR	0.1W	5%	24 Ω
R258	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω
R259	ERJ6GEYJ240	RESISTOR	0.1W	5%	24 Ω
R260	ERJ6GEYJ432	S.M.CARB	0.1W	5%	4K3 Ω
R261	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470 Ω
R262	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R263	ERJ6GEYJ432	S.M.CARB	0.1W	5%	4K3 Ω
R264	ERJ6GEYJ512	S.M.CARB	0.1W	5%	5K1 Ω
R265	ERD25TJ2R2	CARBON	0.25W	5%	2R2 Ω
R266	ERD25TJ2R2	CARBON	0.25W	5%	2R2 Ω
R268	ERJ6GEYJ203	S.M.CARB	0.1W	5%	20K Ω
R280	ERJ6GEYJ204	RESISTOR	0.1W	5%	200K Ω
R281	ERJ6GEYJ204	RESISTOR	0.1W	5%	200K Ω
R351	ERDS1TJ182	CARBON	0.5W	10%	1K8 Ω
R352	ERDS1TJ182	CARBON	0.5W	10%	1K8 Ω
R353	ERDS1TJ182	CARBON	0.5W	10%	1K8 Ω
R357	ERDS1TJ102	CARBON	0.5W	5%	1K Ω

Cct Ref	Parts Number	Description				
R358	ERDS1TJ102	CARBON	0.5W	5%	1K Ω	
R359	ERDS1TJ102	CARBON	0.5W	5%	1K Ω	
R401	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47K Ω	
R402	ERJ6GEYJ332	S.M.CARB	0.1W	5%	3K3 Ω	
R403	ERJ6ENF2701	S.M.CARB	0.1W	5%	27 Ω	
R404	ERJ6ENF2701	S.M.CARB	0.1W	5%	27 Ω	
R405	ERJ6ENF2701	S.M.CARB	0.1W	5%	27 Ω	
R406	ERJ6GEYJ1R0	S.M.CARB	0.1W	5%	1 Ω	
R409	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47K Ω	
R410	ERJ6GEYJ683	S.M.CARB	0.1W	5%	68K Ω	
R411	ERJ6GEYJ821	S.M.CARB	0.1W	5%	820 Ω	
R415	ERJ6ENF2701	S.M.CARB	0.1W	5%	27 Ω	
R501	ERJ6GEYJ391	S.M.CARB	0.1W	5%	390 Ω	
R502	ERD25TJ272	CARBON	0.25W	5%	2K7 Ω	
R503	ERG3SJS220H	RESISTOR	3W	5%	22 Ω	
R504	ERG2ANJ471	METAL	2W	5%	470 Ω	⚠
R507	ERJ6GEYJ122	S.M.CARB	0.1W	5%	1K2 Ω	
R553	ERJ6GEYJ273	S.M.CARB	0.1W	5%	27K Ω	
R557	ERDS1TJ184	CARBON	0.5W	5%	180 Ω	
R560	ERQ1CJP102	FUSIBLE	1W	5%	1K Ω	⚠
R601	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15K Ω	
R602	ERJ6ENF3001	S.M.CARB	0.5W	5%	30 Ω	
R604	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R605	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R606	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R607	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R608	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R609	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R610	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R611	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R612	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R613	ERJ6GEYJ391	S.M.CARB	0.1W	5%	390 Ω	
R614	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R615	ERJ6GEYJ470	S.M.CARB	0.1W	5%	47 Ω	
R616	ERJ6GEYJ201	S.M.CARB	0.1W	5%	200 Ω	
R617	ERJ6GEYJ181	S.M.CARB	0.1W	5%	180 Ω	
R618	ERJ6GEYJ470	S.M.CARB	0.1W	5%	47 Ω	
R619	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470 Ω	
R620	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470 Ω	
R621	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R622	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R623	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
R624	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R625	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2 Ω	
R626	ERJ6GEYJ474	S.M.CARB	0.1W	5%	470K Ω	
R627	ERJ6GEYJ474	S.M.CARB	0.1W	5%	470K Ω	
R629	ERJ6GEYJ154	S.M.CARB	0.1W	5%	150K Ω	
R630	ERJ6ENF1802	S.M.CARB	0.1W	5%	1K8 Ω	
R631	ERO50PKF5603	METAL	0.5W	1%	560K Ω	⚠
R632	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R633	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R635	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R638	ERJ6GEYJ151	S.M.CARB	0.1W	5%	150 Ω	
R646	ERJ6GEYJ220	S.M.CARB	0.1W	5%	22 Ω	
R802	ERC12ZGK335D	SOLID	0.5W	10%	3M3 Ω	
R803	ERF7ZK2R7	WOUND	7W	20%	2R7 Ω	⚠
R804	ERG2ANJ104	METAL	2W	5%	100K Ω	
R805	ERDS1TJ103	CARBON	0.5W	5%	10K Ω	
R806	ERDS1TJ332	RESISTOR	0,5W	5%	3K3 Ω	
R810	ERDS1TJ152	CARBON	0.5W	5%	1K5 Ω	
R811	ERQ12HJ100	FUSIBLE	0.5W	5%	10 Ω	⚠
R812	ERD75TAJ825	CARBON	0.75W	5%	8M2 Ω	⚠
R814	ERDS1TJ330	CARBON	0.5W	5%	33 Ω	
R815	ERDS1TJ681	CARBON	0.5W	5%	680 Ω	
R851	ERG2SJS220H	RESISTOR	2W	5%	22 Ω	
R852	ERG2SJS130H	RESISTOR	2W	5%	13 Ω	

Cct Ref	Parts Number	Description				
R853	ERG3FJ151	METAL	3W	5%	150 Ω	⚠
R854	ERG3FJ151	METAL	3W	5%	150 Ω	⚠
R855	ERDS1TJ4R7	CARBON	0.5W	5%	4R7 Ω	
R856	ERD25TJ101	CARBON	0.25W	5%	100 Ω	
R857	ERD25TJ202	CARBON	0.25W	5%	2K Ω	
R858	ERDS1TJ103	CARBON	0.5W	5%	10K Ω	
R1101	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1102	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1104	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω	
R1105	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω	
R1107	ERJ6GEYJ563	S.M.CARB	0.1W	5%	56K Ω	
R1110	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R1112	ERJ6GEYJ362	S.M. CAR	0.1W	5%	3K6 Ω	
R1113	ERJ6GEYJ242	S.M.CARB	0.1W	5%	2K4 Ω	
R1114	ERJ6GEYJ432	S.M.CARB	0.1W	5%	4K3 Ω	
R1115	ERJ6GEYJ822	S.M.CARB	0.1W	5%	8K2 Ω	
R1116	ERJ6GEYJ183	S.M.CARB	0.1W	5%	18K Ω	
R1117	ERJ6GEYJ821	S.M.CARB	0.1W	5%	820 Ω	
R1118	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1119	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1120	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1121	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1122	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1125	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1127	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1128	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1129	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1130	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47K Ω	
R1131	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7 Ω	
R1132	ERJ6GEYJ225	S.M.CARB	0.1W	5%	2M2 Ω	
R1133	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100K Ω	
R1134	ERJ6GEYJ224	S.M.CARB	0.1W	5%	220K Ω	
R1135	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R1136	ERJ6GEYJ221	S.M.CARB	0.1W	5%	220 Ω	
R1137	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100K Ω	
R1138	ERJ6GEYJ223	S.M.CARB	0.1W	5%	22K Ω	
R1139	ERJ6GEYJ273	S.M.CARB	0.1W	5%	27K Ω	
R1140	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R1141	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R1144	ERJ6GEYJ183	S.M.CARB	0.1W	5%	18K Ω	
R1145	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100K Ω	
R1146	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47K Ω	
R1148	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R1149	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R1150	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R1202	ERDS1TJ680	CARBON	0.5W	5%	68 Ω	
R1205	ERJ6GEYJ152	S.M.CARB	0.1W	5%	1K5 Ω	
R1206	ERJ6GEYJ223	S.M.CARB	0.1W	5%	22K Ω	
R1209	ERDS1TJ560	CARBON	0.5W	5%	56 Ω	
R2001	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R2002	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R2003	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2 Ω	
R2004	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2 Ω	
R2007	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R2008	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R2009	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R2010	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470 Ω	
R2011	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15K Ω	
R2012	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15K Ω	
R2013	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470 Ω	
R2014	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470 Ω	
R2015	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R2016	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R2017	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R2018	ERJ6GEYJ681	S.M.CARB	0.1W	5%	680 Ω	
R2020	ERJ6GEYJ202	S.M.CARB	0.1W	5%	2K Ω	

Cct Ref	Parts Number	Description				
R2021	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R2022	ERJ6GEYJ303	S.M.CARB	0.1W	5%	30K Ω	
R3106	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R3111	ERDS1TJ101	CARBON	0.5W	5%	100 Ω	
R3115	ERJ6GEYJ151	S.M.CARB	0.1W	5%	150 Ω	
R3116	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75 Ω	
R3117	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75 Ω	
R3118	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75 Ω	
R3120	ERDS1TJ750	CARBON	0.5W	5%	75 Ω	
R3121	ERJ6GEYJ334	S.M.CARB	0.1W	5%	330K Ω	
R3122	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
R3123	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
R3124	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
R3125	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100K Ω	
R3129	ERDS1TJ750	CARBON	0.5W	5%	75 Ω	
R3130	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
R3131	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
R3132	ERJ6GEYJ221	S.M.CARB	0.1W	5%	220 Ω	
R3133	ERJ6GEYJ221	S.M.CARB	0.1W	5%	220 Ω	
R3134	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
CAPACITORS						
C001	ECA1CM220GB	ELECT	16V		22µF	
C002	ECJ2VF1H104Z	ELECT	350V		100nF	
C005	ECJ2VF1H104Z	ELECT	350V		100nF	
C006	ECA1HM101GB	ELECT	50V		100µF	
C007	ECA1HM330B	ELECT	50V		33µF	
C008	ECA1HM010GB	ELECT	50V		1µF	
C009	ECUV1H100DCX	S.M. CAP	50V		10pF	
C010	ECUV1H100DCX	S.M. CAP	50V		10pF	
C117	ECJ2VB1H103K	ELECT	350V		10µF	
C118	ECJ2VB1H103K	ELECT	350V		10µF	
C251	ECA1HM101GB	ELECT	50V		100µF	
C252	ECJ2VB1H223K	ELECT	350V		22µF	
C253	ECKC1H103JB	CERAMIC	50V		10nF	
C254	ECQM1H154J	FILM	50V		150nF	
C255	ECA1CM470GB	ELECT	16V		47µF	
C256	ECJ2VB1H223K	ELECT	350V		22µF	
C257	ECA1CHG102B	ELECT	10V		1000µF	
C258	ECA1HM101GB	ELECT	50V		100µF	
C259	ECQM1H154J	FILM	50V		150nF	
C260	ECA1VM102GB	ELECT	35V		1nF	
C261	ECA1VM102GB	ELECT	35V		1nF	
C262	ECA1HM3R3GB	ELECT	50V		3.3µF	
C263	ECA1HM010GB	ELECT	50V		1µF	
C264	ECA1HHG222E	ELECT	50V		2200µF	
C265	ECA1HM3R3GB	ELECT	50V		3.3µF	
C266	ECA1HM010GB	ELECT	50V		1µF	
C267	ECJ2YB1H104K	ELECT	350V		100nF	
C268	ECJ2YB1H104K	ELECT	350V		100nF	
C270	ECJ2YB1H104K	ELECT	350V		100nF	
C351	ECA2EM010B	ELECT	250V		100nF	
C352	ECKC2H152J	CERAMIC	500V		1.5nF	⚠
C353	ECA2EM100B	ELECT	250V		10µF	
C370	ECA1CM221GB	ELECT	16V		220µF	
C405	ECUV1H100CCX	S.M. CAP	50V		10pF	
C406	ECA1HHG101B	ELECT	50V		100µF	
C408	ECQM1H274J	FILM	50V		270nF	
C409	ECA1HM2R2GB	ELECT	50V		2.2µF	
C410	ECEA1HU101	ELECT	50V		100µF	
C501	EEUFC1H390B	ELECT	50V		390µF	
C502	ECQM1273KZW	FILM	100V		27nF	
C504	ECUV1H222JCX	S.M. CAP	50V		2.2nF	
C552	ECA2EM100B	ELECT	250V		10µF	
C554	ECA1VM471GB	ELECT	35V		470µF	
C555	ECKC2H471J	CERAMIC	500V		470pF	⚠
C556	ECKC2H471J	CERAMIC	500V		470pF	⚠

Cct Ref	Parts Number	Description			
C557	ECKC2H331J	CERAMIC	500V	330pF	⚠
C560	ECQF4273JZH	FILM	400V	27nF	⚠
C563	ECWF2394JBB	FILM	250V	0,39µF	
C564	ECA1VM471GB	ELECT	35V	470µF	
C565	ECKC2H471J	CERAMIC	500V	470pF	⚠
C566	ECA1VM471GB	ELECT	35V	470µF	
C601	ECA1CM102B	ELECT	16V	1000µF	
C602	ECJ2YB1H104K	ELECT	350V	100nF	
C603	ECJ2VB1H472K	ELECT	350V	4,7nF	
C604	ECQM1H224J	FILM	50V	220nF	
C605	ECQM1H224J	FILM	50V	220nF	
C606	ECUV1H222JCX	S.M. CAP	50V	2.2nF	
C607	ECA1HM010GB	ELECT	50V	1µF	
C608	ECA1HM2R2GB	ELECT	50V	2.2µF	
C609	ECJ2YB1H104K	ELECT	350V	100nF	
C610	ECJ2VB1H103K	ELECT	350V	10µF	
C612	ECJ2VB1H472K	ELECT	350V	4,7nF	
C613	ECJ2VB1H472K	ELECT	350V	4,7nF	
C614	ECQM1H104J	FILM	50V	100nF	
C615	ECQM1H224J	FILM	50V	220nF	
C618	ECA1CM100GB	ELECT	16V	10µF	
C620	ECUV1H470GCG	S.M. CAP	50V	47pF	
C621	ECJ2VF1H104Z	ELECT	350V	100nF	
C622	ECUV1H101JCX	S.M. CAP	50V	100pF	
C623	ECUV1H220GCG	S.M. CAP	50V	22pF	
C624	ECQB1H223K	FILM	50V	22nF	
C625	ECQB1H223K	FILM	50V	22nF	
C626	ECQB1H223K	FILM	50V	22nF	
C627	ECJ2YB1H473K	ELECT	350V	47nF	
C628	ECJ2YB1H473K	ELECT	350V	47nF	
C629	ECJ2YB1H104K	ELECT	350V	100nF	
C630	ECJ2VF1H104Z	ELECT	350V	100nF	
C631	ECA1HM101GB	ELECT	50V	100µF	
C632	ECA1HM101GB	ELECT	50V	100µF	
C633	ECJ2VF1H104Z	ELECT	350V	100nF	
C634	ECA1HM101GB	ELECT	50V	100µF	
C635	ECJ2VF1H104Z	ELECT	350V	100nF	
C636	ECA1CM102B	ELECT	16V	1000µF	
C637	ECA1HM101GB	ELECT	50V	100µF	
C638	ECA1HM101GB	ELECT	50V	100µF	
C639	ECA1HM220GB	ELECT	50V	22µF	
C640	ECA1HM2R2GB	ELECT	50V	2.2µF	
C642	ECA1HM010GB	ELECT	50V	1µF	
C654	ECJ2VB1H103K	ELECT	350V	10µF	
C802	ECKWNA332MEC	CERAMIC	250V	3.3nF	
C803	ECKWNA152MEC	CERAMIC	400V	1500µF	⚠
C805	ECQE2A474MWB	FILM	100V	470nF	
C806	ECKC2H472J	CERAMIC	500V	4.7nF	⚠
C807	ECKC2H472J	CERAMIC	500V	4.7nF	⚠
C808	ECKC2H472J	CERAMIC	500V	4.7nF	⚠
C809	ECOS2GA151BB	ELECT	400V	150µF	
C810	ECA1HHG101B	ELECT	50V	100µF	
C811	ECKC1H471J	CERAMIC	50V	470pF	
C812	ECKC3A182J	CERAMIC	1KV	1800pF	⚠
C813	ECKC3D221JB	CERAMIC	2KV	220pF	⚠
C814	ECKC3D102J	CERAMIC	2KV	1nF	⚠
C815	ECA2CHG221E	ELECT	160V	220µF	
C816	ECKC2H472J	CERAMIC	500V	4.7nF	⚠
C818	ECQB1H683K	FILM	50V	68nF	
C851	ECA1CM471GB	ELECT	16V	470µF	
C854	ECKC2H471J	CERAMIC	500V	470pF	⚠
C855	ECJ2VF1H104Z	ELECT	350V	100nF	
C856	ECA1VM471GB	ELECT	35V	470µF	
C857	ECA1CM471GB	ELECT	16V	470µF	
C858	ECJ2VF1H104Z	ELECT	350V	100nF	
C859	ECA1HHG471E	ELECT	50V	470µF	

Cct Ref	Parts Number	Description		
C860	ECA1VHG331B	ELECT	35V	330pF
C1101	ECJ2VF1H104Z	ELECT	350V	100nF
C1102	ECA1CM220GB	ELECT	16V	22µF
C1103	ECUV1H331JCX	S.M. CAP	50V	330pF
C1104	ECA1HM101GB	ELECT	50V	100µF
C1105	ECJ2VF1H104Z	ELECT	350V	100nF
C1106	ECA1HM010GB	ELECT	50V	1µF
C1107	ECUV1H221JCX	S.M. CAP	50V	220pF
C1108	ECUV1H221JCX	S.M. CAP	50V	220pF
C1201	ECA1CM471GB	ELECT	16V	470µF
C1202	ECQM1H334J	FILM	50V	330nF
C1203	ECA1HM101GB	ELECT	50V	100µF
C1204	ECA1HM101GB	ELECT	50V	100µF
C1205	ECJ2VF1C334Z	ELECT	350V	330nF
C1210	ECA1HM101GB	ELECT	50V	100µF
C2001	ECJ2VB1H103K	ELECT	350V	10µF
C2002	ECJ2VB1H103K	ELECT	350V	10µF
C2003	ECA1HM101GB	ELECT	50V	100µF
C2004	ECJ2VF1H104Z	ELECT	350V	100nF
C2005	ECUV1H102JCX	S.M. CAP	50V	1nF
C2006	ECUV1H102JCX	S.M. CAP	50V	1nF
C2007	ECUV1H102JCX	S.M. CAP	50V	1nF
C2008	ECUV1H010CCX	S.M. CAP	50V	1pF
C2009	ECUV1H010CCX	S.M. CAP	50V	1pF
C2012	ECUV1H470JCX	S.M. CAP	50V	47pF
C2013	ECUV1H070DTX	S.M. CAP	50V	70pF
C2014	ECUV1H560GCG	S.M. CAP	50V	56pF
C2015	ECUV1H220JCX	S.M. CAP	50V	22pF
C2016	ECJ2VF1H104Z	ELECT	350V	100nF
C2017	ECJ2VF1H104Z	ELECT	350V	100nF
C2018	ECA1CM100GB	ELECT	16V	10µF
C2019	ECA1HM101GB	ELECT	50V	100µF
C2020	ECQM1H474J	FILM	50V	470nF
C2021	ECQM1H474J	FILM	50V	470nF
C2022	ECUV1H221JCX	S.M. CAP	50V	220pF
C2023	ECUV1H221JCX	S.M. CAP	50V	220pF
C2024	ECJ2VF1H104Z	ELECT	350V	100nF
C2025	ECA1HM2R2GB	ELECT	50V	2.2µF
C2026	ECA1CM100GB	ELECT	16V	10µF
C2027	ECA1HM101GB	ELECT	50V	100µF
C2029	ECA1CM470GB	ELECT	16V	47µF
C2030	ECA1CM470GB	ELECT	16V	47µF
C2031	ECUV1H102JCX	S.M. CAP	50V	1nF
C2032	ECUV1H102JCX	S.M. CAP	50V	1nF
C2033	ECJ2VF1H104Z	ELECT	350V	100nF
C2037	ECUV1H221JCX	S.M. CAP	50V	220pF
C2038	ECJ2VB1H103K	ELECT	350V	10µF
C2039	ECJ2VF1H104Z	ELECT	350V	100nF
C2040	ECA1HM101GB	ELECT	50V	100µF
C2041	ECUV1H100DCX	S.M. CAP	50V	10pF
C2042	ECUV1H100DCX	S.M. CAP	50V	10pF
C3103	ECA1HM101GB	ELECT	50V	100µF
C3104	ECJ2VF1H104Z	ELECT	350V	100nF
C3109	ECUV1H222KBX	S.M. CAP	50V	2.2nF
C3110	ECUV1H222KBX	S.M. CAP	50V	2.2nF
C3111	ECUV1H222KBX	S.M. CAP	50V	2.2nF
C3112	ECUV1H222KBX	S.M. CAP	50V	2.2nF
C3113	ECUV1H222KBX	S.M. CAP	50V	2.2nF
C3114	ECUV1H222KBX	S.M. CAP	50V	2.2nF
C3116	ECUV1H561KBX	S.M. CAP	50V	560pF
C3117	ECUV1H561KBX	S.M. CAP	50V	560pF
TERMINALS AND LINKS				
JK3101	TJB16673	RCA / HEADPHONE JACK		
JK3102	TJB8E011	SCART SOCKET		
SWITCHES				
S801	ESB92S11B	SWITCH		⚠

Cct Ref	Parts Number	Description
S1101	EVQ21405R	SWITCH
S1102	EVQ21405R	SWITCH
S1103	EVQ21405R	SWITCH
S1104	EVQ21405R	SWITCH
S1105	EVQ21405R	SWITCH

DIFFERENCES FOR MODEL TX-21CK1P

MECHANICAL PARTS

12	ZTUZAE450A	ANODE LEAD	⚠
13	TKU8E00490	BACK COVER	⚠
14	A51EER35X80	C.R.T.	⚠
15	TKY8E410	CABINET	⚠
16	VP15005-35	CRT FIXING SCREW	
17	TLK8E05143	DEGAUSS COIL	⚠
18	TNP8EE011AP	E P.C.B.	⚠
19	ZTFM23004A	F.B.T.	⚠
20	TXAJTF01B2AG	FOCUS LEAD ASSY	⚠
21	TBM8E1961	MODEL LABEL	⚠
22	TNP8EY015AF	Y P.C.B.	⚠

MISCELLANEOUS COMPONENTS

	TPC8E4766-1	OUTER CARTON
	TPD8E697	TOP CUSHION
	TPD8E698	BOTTOM CUSHION
MOE8	31221212478	FIX CLIP

I.C.s

IC351	TDA6107Q	RGB OUTPUT
IC451	LA7840	VERTICAL OUTPUT
IC601	TDA9367V501S	UOC
IC802	SE120NLF4	ERROR IC
IC1103	XPK2-3AP	EEROM

DIODES

D551	MA165TA5	DIODE
D552	1SR124-4AT82	DIODE
D553	EU02	DIODE
D554	EU02	DIODE
D556	TVSRH2FV1	DIODE
D557	RU2AMLFA1	DIODE
D559	1SR124-4AT82	DIODE
D801	59209T80B110	DIODE
D807	MTZJT-7720D	DIODE
D808	RU3LFA1	DIODE
D814	MTZJT-773.9A	DIODE

TRANSISTORS

Q551	BU4506DFRB	TRANSISTOR
Q552	BC847B	TRANSISTOR

TRANSFORMERS

T802	ETS33KD1B6AC	TRANSFORER	⚠

COILS

L501	ELH5L4119	COIL
L551	ELC08D820E	COIL

RESISTORS

R407	ERDS1TJ331	CARBON	0.5W	5%	330 Ω	
R416	ERO25CKF2R40	RESISTOR	0,25W	1%	2R4 Ω	⚠
R417	ERO25CKF2R40	RESISTOR	0,25W	1%	2R4 Ω	⚠
R418	ERO25CKF2R40	RESISTOR	0,25W	1%	2R4 Ω	⚠
R554	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R555	ERJ6GEYJ123	S.M.CARB	0.1W	5%	12K Ω	
R556	ERD25TJ103	CARBON	0.25W	5%	10K Ω	
R558	ERD25TJ153	CARBON	0.25W	5%	15K Ω	
R559	ERQ1CJP1R5	RESISTOR	1W	5%	1R5 Ω	⚠
R603	ERJ6ENF3902	S.M.CARB	0.5W	5%	39 Ω	
R628	ERDS1TJ564	RESISTOR	0,5W	5%	560K Ω	

Cct Ref	Parts Number	Description				
R807	ERD25TJ152	CARBON	0.25W	5%	1K5 Ω	
R809	ERW2PKR47	WOUND	2W	10%	R47 Ω	⚠
R813	ERDS1TJ333	CARBON	0.5W	5%	33K Ω	
R1106	ERJ6GEYJ124	S.M.CARB	0.1W	5%	120K Ω	
R1108	ERJ6GEYJ183	S.M.CARB	0.1W	5%	18K Ω	
R1147	ERJ6GEYJ124	S.M.CARB	0.1W	5%	120K Ω	
CAPACITORS						
C558	ECEA2CN2R2SB	ELECT	160V		2,2µF	
C559	ECWH16103JVB	FILM	1600		0,01µF	
C567	ECKC3D122J	CERAMIC	2KV		1.2nF	⚠
C570	ECKC2H472J	CERAMIC	500V		4.7nF	⚠
C611	ECA1EM4R7GB	ELECT	25V		4.7µF	
C653	ECJ2YB1H473K	ELECT	350V		47nF	
C2036	ECUV1H471JCX	S.M. CAP	50V		470pF	

DIFFERENCES FOR MODEL TX-25CK1P

MECHANICAL PARTS			
12	ZTUZAE550A	ANODE LEAD	⚠
13	TKU8E00520	BACK COVER	⚠
14	A59ECF50X04	C.R.T.	⚠
15	TKY8E450	CABINET	⚠
16	VP17005-32	CRT FIXING SCREW	
17	TLK8E05138	DEGAUSS COIL	⚠
18	TNP8EE011AY	E P.C.B.	⚠
19	ZTFL84001A	F.B.T.	⚠
20	TXFJTF01BXGG	FOCUS LEAD ASSY	⚠
21	TBM8E1982	MODEL LABEL	⚠
22	TNP8EY015AG	Y P.C.B.	⚠
MISCELLANEOUS COMPONENTS			
	31221212478	FIX CLIP	
	TPC8E4799	OUTER CARTON	
	TPD8E708	TOP CUSHION	
	TPD8E709	BOTTOM CUSHION	
D801	232266296706	THERMISTOR	⚠
S351	TJSC00300	CRT SOCKET	
I.C.s			
IC451	LA7845N	VERTICAL OUTPUT	
IC601	TDA9365V501S	UOC	
IC701	TEA2031A	E/W CORRECTION	
IC702	AN78L20	20V REGULATOR	
IC802	SE140NLF4	ERROR AMLIFIER	
IC1103	XPK2-4BP	EEROM	
DIODES			
D551	MTZJT-778.2C	DIODE	
D552	EU02	DIODE	
D553	TVSRU3AMLFB4	DIODE	
D554	TVSRU3AMLFB4	DIODE	
D556	ERD07-15L7	DIODE	
D557	RU3LFA1	DIODE	
D559	EU02	DIODE	
D607	BZD23C240143	DIODE	
D701	TLP621GR-LF2	PHOTO COUPLER	
D702	MA165TA5	DIODE	
D703	MA165TA5	DIODE	
D704	MTZJT-775.6C	DIODE	
D705	MA29TA5	DIODE	
D706	MA4036MTA	DIODE	
D751	MA4051	DIODE	
D752	AU02V0	DIODE	
D753	MTZJT-7730D	DIODE	
D754	MTZJT-7727D	DIODE	
D755	MA165TA5	DIODE	
D808	TVSRU3AMLFA5	DIODE	

Cct Ref	Parts Number	Description				
D814	MTZJT-775.6A	DIODE				
TRANSISTORS						
Q351	BC857B	TRANSISTOR				
Q551	BU4508AFRB	TRANSISTOR				
Q606	BC847B	TRANSISTOR				
Q701	BC857B	TRANSISTOR				
Q702	BC847B	TRANSISTOR				
Q751	BC847B	TRANSISTOR				
Q752	2SK2538000LB	TRANSISTOR				
Q753	BC557B/126	TRANSISTOR				
TRANSFORMERS						
T802	10653050-A	TRANSFORER				
COILS						
J405	EXCELSA35T	COIL				
L501	ELH5L4121	COIL				
L502	ELC08D682E	COIL				
L751	ELC18B801L	COIL				
L752	ELC10D822E	COIL				
RESISTORS						
JSE33	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
JYAK	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
R360	ERG2SJS470	METAL	2W	5%	47 Ω	
R370	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R371	ERJ6GEYJ391	S.M.CARB	0.1W	5%	390 Ω	
R407	ERDS1TJ471	CARBON	0.5W	5%	470 Ω	
R408	ERDS1TJ471	CARBON	0.5W	5%	470 Ω	
R416	ERDS1TJ1R5	CARBON	0.5W	5%	1R5 Ω	
R417	ERDS1TJ1R2	CARBON	0.5W	5%	1R2 Ω	
R418	ERDS1TJ1R2	CARBON	0.5W	5%	1R2 Ω	
R556	ERG1SJ183	METAL	1W	5%	18K Ω	
R558	ERD25TJ183	CARBON	0.25W	5%	18K Ω	
R559	ERQ1ABJP3R0S	RESISTOR	1W	5%	3 Ω	⚠
R561	ERQ12AJ101	FUSIBLE	0.5W	5%	100 Ω	⚠
R563	ERD25T0V	RESISTOR	0W	0%	0 Ω	
R603	ERJ6GEYJ393	S.M.CARB	0.1W	5%	39K Ω	
R628	ERDS1TJ684	RESISTOR	1W	5%	680K Ω	
R639	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47K Ω	
R701	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R702	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R703	ERJ6GEYJ392	S.M.CARB	0.1W	5%	3K9 Ω	
R704	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω	
R705	ERDS1TJ821	CARBON	0.5W	5%	820 Ω	
R706	ERJ6GEYJ563	S.M.CARB	0.1W	5%	56K Ω	
R707	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100K Ω	
R708	ERJ6GEYJ273	S.M.CARB	0.1W	5%	27K Ω	
R709	ERJ6GEYJ393	S.M.CARB	0.1W	5%	39K Ω	
R710	ERJ6GEYJ393	S.M.CARB	0.1W	5%	39K Ω	
R711	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R712	ERJ6GEYJ391	S.M.CARB	0.1W	5%	390 Ω	
R713	ERG1SJ101	METAL	1W	5%	100 Ω	
R715	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R716	ERJ6GEYJ432	S.M.CARB	0.1W	5%	4K3 Ω	
R717	ERJ6GEYJ392	S.M.CARB	0.1W	5%	3K9 Ω	
R751	ERJ6GEYJ152	S.M.CARB	0.1W	5%	1K5 Ω	
R752	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2 Ω	
R753	ERJ6GEYJ152	S.M.CARB	0.1W	5%	1K5 Ω	
R754	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R756	ERDS1TJ472	CARBON	0.5W	5%	4K7 Ω	
R757	ERJ6GEYJ680	S.M.CARB	0.1W	5%	68 Ω	
R758	ERJ6GEYJ392	S.M.CARB	0.1W	5%	3K9 Ω	
R759	ERQ12HJ8R2	FUSIBLE	0.5W	5%	8R2 Ω	⚠
R760	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R761	ERG1SJ563	RESISTOR	1W	5%	56K Ω	
R762	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R763	ERG3FJ561H	RESISTOR	3W	5%	560 Ω	

Cct Ref	Parts Number	Description				
R809	ERW2PKR33	WOUND	2W	20%	R33 Ω	⚠
R813	ERDS1TJ103	CARBON	0.5W	5%	10K Ω	
R1106	ERJ6GEYJ184	S.M.CARB	0.1W	5%	180K Ω	
R1108	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R1147	ERJ6GEYJ184	S.M.CARB	0.1W	5%	180K Ω	
CAPACITORS						
C354	ECJ2VF1H104Z	ELECT	350V		100nF	
C356	ECUV1H102ZFX	S.M. CAP	50V		1nF	
C357	ECKC3D152J	CERAMIC	2KV		1.5nF	⚠
C358	ECUV1H561KBX	S.M. CAP	50V		560pF	
C551	ECUV1H220JCX	S.M. CAP	50V		22pF	
C558	ECA2CM3R3B	ELECT	160V		3,3µF	
C559	ECWH20123JVB	FILM	2000V		120nF	
C562	ECA2GHG2R2B	ELECT	400V		120nF	
C567	ECKC3D681J	CERAMIC	2KV		680pF	⚠
C570	ECKC2H152J	CERAMIC	500V		1.5nF	⚠
C646	ECJ2YB1H104K	ELECT	350V		100nF	
C650	ECUV1H390JCX	S.M. CAP	50V		39pF	
C651	ECUV1H390JCX	S.M. CAP	50V		39pF	
C652	ECUV1H390JCX	S.M. CAP	50V		39pF	
C653	ECJ2YB1H683K	S.M. CAP	50V		68nF	
C701	ECA1HM100GB	ELECT	50V		10µF	
C702	ECJ2VF1H104Z	ELECT	350V		100nF	
C703	ECA1HHG100B	ELECT	50V		10µF	
C704	ECQB1H122J	FILM	50V		1.2nF	
C705	ECQB1H223K	FILM	50V		22nF	
C706	ECQP1152GZ	FILM	100V		1.5nF	
C707	ECQP1102JZ3	FILM	100V		1nF	
C708	ECA1HM220GB	ELECT	50V		22µF	
C751	ECWF2334JBB	FILM	250V		330nF	
C752	ECJ2VF1H104Z	ELECT	350V		100nF	
C753	ECJ2VF1H104Z	ELECT	350V		100nF	
C754	ECA1JM101B	ELECT	63V		100µF	

DIFFERENCES FOR MODEL TX-28CK1P

MECHANICAL PARTS

12	ZTUZAE550A	ANODE LEAD	⚠
13	TKU8E00530	BACK COVER	⚠
14	A66ECF50X04	C.R.T.	⚠
15	TKY8E460	CABINET	⚠
16	VP17005-32	CRT FIXING SCREW	
17	TLK8E05140	DEGAUSS COIL	⚠
18	TNP8EE011BB	E P.C.B.	⚠
19	ZTFL84001A	F.B.T.	⚠
20	TXFJTF01BXGG	FOCUS LEAD ASSY	⚠
21	TBM8E1980	MODEL LABEL	⚠
22	TNP8EY015AH	Y P.C.B.	⚠

MISCELLANEOUS COMPONENTS

	31221212478	FIX CLIP	
	TPC8E4800	OUTER CARTON	
	TPD8E710	TOP CUSHON	
	TPD8E711	BOTTOM CSHION	
D801	232266296706	THERMISTOR	⚠
S351	TJSC00300	CRT SOCKET	

INSTRUCTION BOOKS

	TQB8E2763MN	OPERATING INSTRUCTIONS	⚠
	TQB8E2763PQ	OPERATING INSTRUCTIONS	⚠

I.C.s

IC351	TDA6108JF	R.G.B. AMPLIFIER
IC451	LA7845N	VERTICAL OUTPUT
IC601	TDA9365V501S	UOC
IC701	TEA2031A	E/W CORRECTION
IC702	AN78L20	20V REGULATOR

Cct Ref	Parts Number	Description
IC802	SE140NLF4	ERROR AMLIFIER
IC1103	XPK2-4CP	EEROM
DIODES		
D551	MTZJT-778.2C	DIODE
D552	EU02	DIODE
D553	TVSRU3AMLFB4	DIODE
D554	TVSRU3AMLFB4	DIODE
D556	ERD07-15L7	DIODE
D557	RU3LFA1	DIODE
D559	EU02	DIODE
D607	BZD23C240143	DIODE
D701	TLP621GR-LF2	PHOTO COUPLER
D702	MA165TA5	DIODE
D703	MA165TA5	DIODE
D704	MTZJT-775.6C	DIODE
D705	MA29TA5	DIODE
D706	MA4036MTA	DIODE
D751	MA4051	DIODE
D752	AU02V0	DIODE
D753	MTZJT-7730D	DIODE
D754	MTZJT-7727D	DIODE
D755	MA165TA5	DIODE
D808	TVSRU3AMLFA5	DIODE
D814	MTZJT-775.6A	DIODE
TRANSISTORS		
Q351	BC857B	TRANSISTOR
Q551	BU4508AFRB	TRANSISTOR
Q606	BC847B	TRANSISTOR
Q701	BC857B	TRANSISTOR
Q702	BC847B	TRANSISTOR
Q751	BC847B	TRANSISTOR
Q752	2SK2538000LB	TRANSISTOR
Q753	BC557B/126	TRANSISTOR
TRANSFORMERS		
T802	10653050-A	TRANSFORER
COILS		
J405	EXCELSA35T	COIL
L501	ELH5L4105	COIL
L502	ELC08D682E	COIL
L751	ELC18B801L	COIL
L752	ELC10D822E	COIL
RESISTORS		
JSE33	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JYAK	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
R360	ERG2SJS470	METAL 2W 5% 47 Ω
R370	ERJ6GEYJ103	S.M.CARB 0.1W 5% 10K Ω
R371	ERJ6GEYJ391	S.M.CARB 0.1W 5% 390 Ω
R407	ERDS1TJ471	CARBON 0.5W 5% 470 Ω
R408	ERDS1TJ471	CARBON 0.5W 5% 470 Ω
R416	ERDS1TJ1R5	CARBON 0.5W 5% 1R5 Ω
R417	ERDS1TJ1R2	CARBON 0.5W 5% 1R2 Ω
R418	ERDS1TJ1R2	CARBON 0.5W 5% 1R2 Ω
R556	ERG1SJ183	METAL 1W 5% 18K Ω
R558	ERD25TJ183	CARBON 0.25W 5% 18K Ω
R559	ERQ1ABJP3R0S	RESISTOR 1W 5% 3 Ω ⚠
R561	ERQ12AJ101	FUSIBLE 0.5W 5% 100 Ω ⚠
R563	ERD25T0V	RESISTOR 0W 0% 0 Ω
R603	ERJ6GEYJ393	S.M.CARB 0.1W 5% 39K Ω
R628	ERDS1TJ684	RESISTOR 1W 5% 680K Ω
R639	ERJ6GEYJ473	S.M.CARB 0.1W 5% 47K Ω
R701	ERJ6GEYJ102	S.M.CARB 0.1W 5% 1K Ω
R702	ERJ6GEYJ103	S.M.CARB 0.1W 5% 10K Ω
R703	ERJ6GEYJ392	S.M.CARB 0.1W 5% 3K9 Ω
R704	ERJ6GEYJ562	S.M.CARB 0.1W 5% 5K6 Ω
R705	ERDS1TJ821	CARBON 0.5W 5% 820 Ω

Cct Ref	Parts Number	Description				
R706	ERJ6GEYJ563	S.M.CARB	0.1W	5%	56K Ω	
R707	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100K Ω	
R708	ERJ6GEYJ273	S.M.CARB	0.1W	5%	27K Ω	
R709	ERJ6GEYJ393	S.M.CARB	0.1W	5%	39K Ω	
R710	ERJ6GEYJ393	S.M.CARB	0.1W	5%	39K Ω	
R711	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R712	ERJ6GEYJ391	S.M.CARB	0.1W	5%	390 Ω	
R713	ERG1SJ101	METAL	1W	5%	100 Ω	
R715	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R716	ERJ6GEYJ432	S.M.CARB	0.1W	5%	4K3 Ω	
R717	ERJ6GEYJ392	S.M.CARB	0.1W	5%	3K9 Ω	
R751	ERJ6GEYJ152	S.M.CARB	0.1W	5%	1K5 Ω	
R752	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2 Ω	
R753	ERJ6GEYJ152	S.M.CARB	0.1W	5%	1K5 Ω	
R754	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R756	ERDS1TJ472	CARBON	0.5W	5%	4K7 Ω	
R757	ERJ6GEYJ680	S.M.CARB	0.1W	5%	68 Ω	
R758	ERJ6GEYJ392	S.M.CARB	0.1W	5%	3K9 Ω	
R759	ERQ12HJ8R2	FUSIBLE	0.5W	5%	8R2 Ω	⚠
R760	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R761	ERG1SJ563	RESISTOR	1W	5%	56K Ω	
R762	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R763	ERG3FJ561H	RESISTOR	3W	5%	560 Ω	
R809	ERW2PKR33	WOUND	2W	20%	R33 Ω	⚠
R813	ERDS1TJ103	CARBON	0.5W	5%	10K Ω	
R1106	ERJ6GEYJ184	S.M.CARB	0.1W	5%	180K Ω	
R1108	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R1147	ERJ6GEYJ184	S.M.CARB	0.1W	5%	180K Ω	
CAPACITORS						
C354	ECJ2VF1H104Z	ELECT	350V		100nF	
C356	ECUV1H102ZFX	S.M. CAP	50V		1nF	
C357	ECKC3D152J	CERAMIC	2KV		1.5nF	⚠
C358	ECUV1H561KBX	S.M. CAP	50V		560pF	
C551	ECUV1H220JCX	S.M. CAP	50V		22pF	
C558	ECA2CM3R3B	ELECT	160V		3,3µF	
C559	ECWH20123JVB	FILM	2000V		120nF	
C562	ECA2GHG2R2B	ELECT	400V		120nF	
C567	ECKC3D681J	CERAMIC	2KV		680pF	⚠
C570	ECKC2H152J	CERAMIC	500V		1.5nF	⚠
C646	ECJ2YB1H104K	ELECT	350V		100nF	
C650	ECUV1H390JCX	S.M. CAP	50V		39pF	
C651	ECUV1H390JCX	S.M. CAP	50V		39pF	
C652	ECUV1H390JCX	S.M. CAP	50V		39pF	
C653	ECJ2YB1H683K	S.M. CAP	50V		68nF	
C701	ECA1HM100GB	ELECT	50V		10µF	
C702	ECJ2VF1H104Z	ELECT	350V		100nF	
C703	ECA1HHG100B	ELECT	50V		10µF	
C704	ECQB1H122J	FILM	50V		1.2nF	
C705	ECQB1H223K	FILM	50V		22nF	
C706	ECQP1152GZ	FILM	100V		1.5nF	
C707	ECQP1102JZ3	FILM	100V		1nF	
C708	ECA1HM220GB	ELECT	50V		22µF	
C751	ECWF2334JBB	FILM	250V		330nF	
C752	ECJ2VF1H104Z	ELECT	350V		100nF	
C753	ECJ2VF1H104Z	ELECT	350V		100nF	
C754	ECA1JM101B	ELECT	63V		100µF	
C2036	ECUV1H471JCX	S.M. CAP	50V		470pF	

Cct Ref	Parts Number	Description

TX-28CK1P, TX-25CK1P, TX-21CK1P

(Z8 CHASSIS)

IMPORTANT SAFETY NOTICE

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

NOTE

3. RESISTOR
   All resistors are carbon ¼W resistor, unless marked otherwise.
   Unit of resistance is OHM (Ω) (k=1,000, M=1,000,000)
4. CAPACITORS
   All capacitors are ceramic 50V unless marked otherwise.
   Unit of capacitance is µF unless otherwise stated.
5. COIL
   Unit of inductance is µH, unless otherwise stated.

6. TEST POINT

Test Point Position

7. EARTH SYMBOL

Chassis Earth (Cold)

Line Earth (Hot)

8. VOLTAGE MEASUREMENT
   Voltage is measured by a d.c. voltmeter.
   Measurement conditions are as follows:

Power source	a.c. 220V-240V, 50Hz
Receiving Signal	Colour Bar signal (RF)
All customer controls	Maximum position

9.

Indicates the Video signal path

Indicates the Audio signal path

These schematic diagrams are the latest at time of printing and are subject to change without notice.

REMARKS

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.

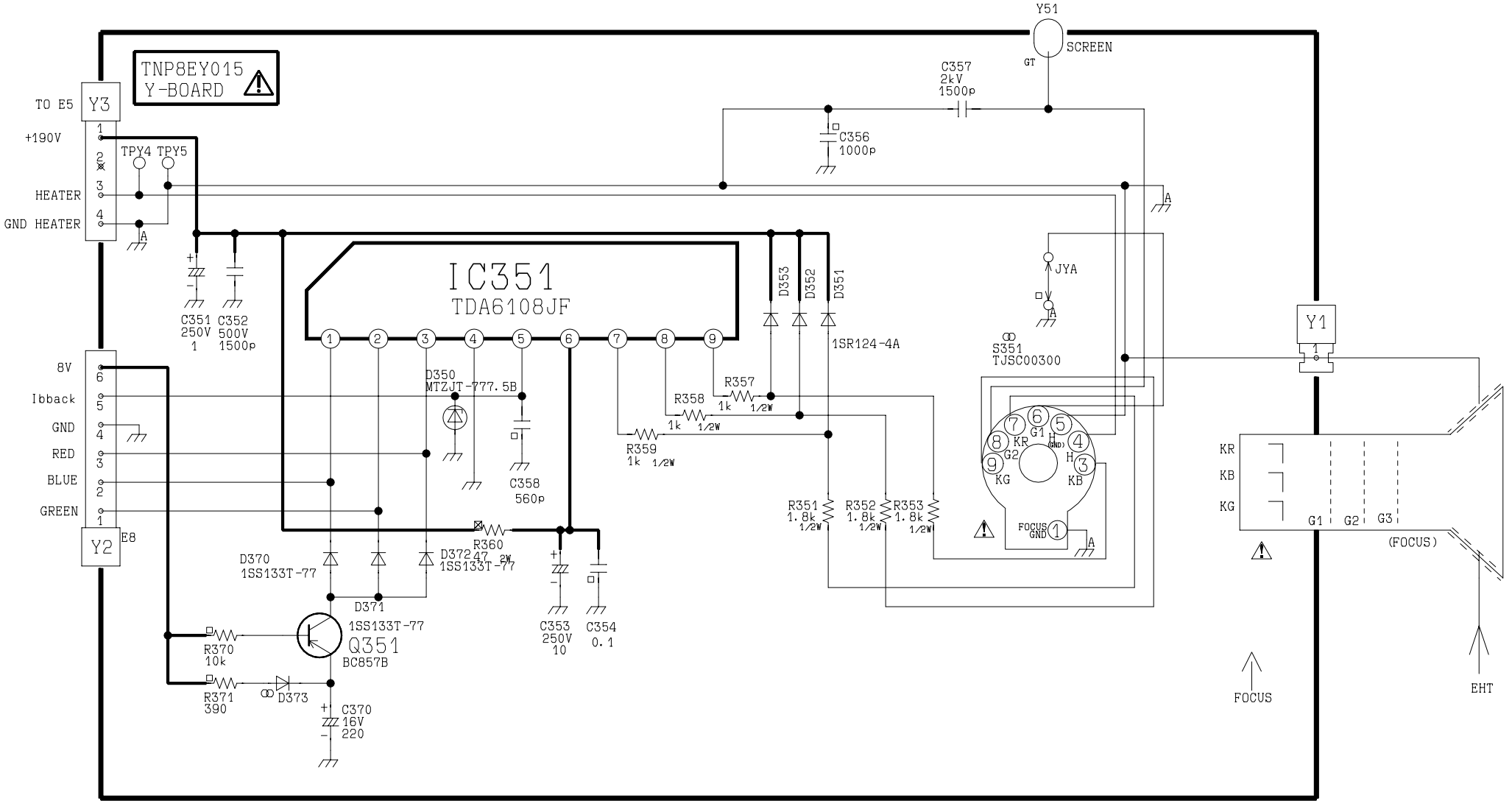
c. Do not connect an instrument, such as an oscilloscope, to the hot and cold circuits simultaneously as this may cause fuse failure. Connect the earth of the instruments to the earth connection of the circuit being measured.

d. Make sure to disconnect the power plug before removing the chassis.

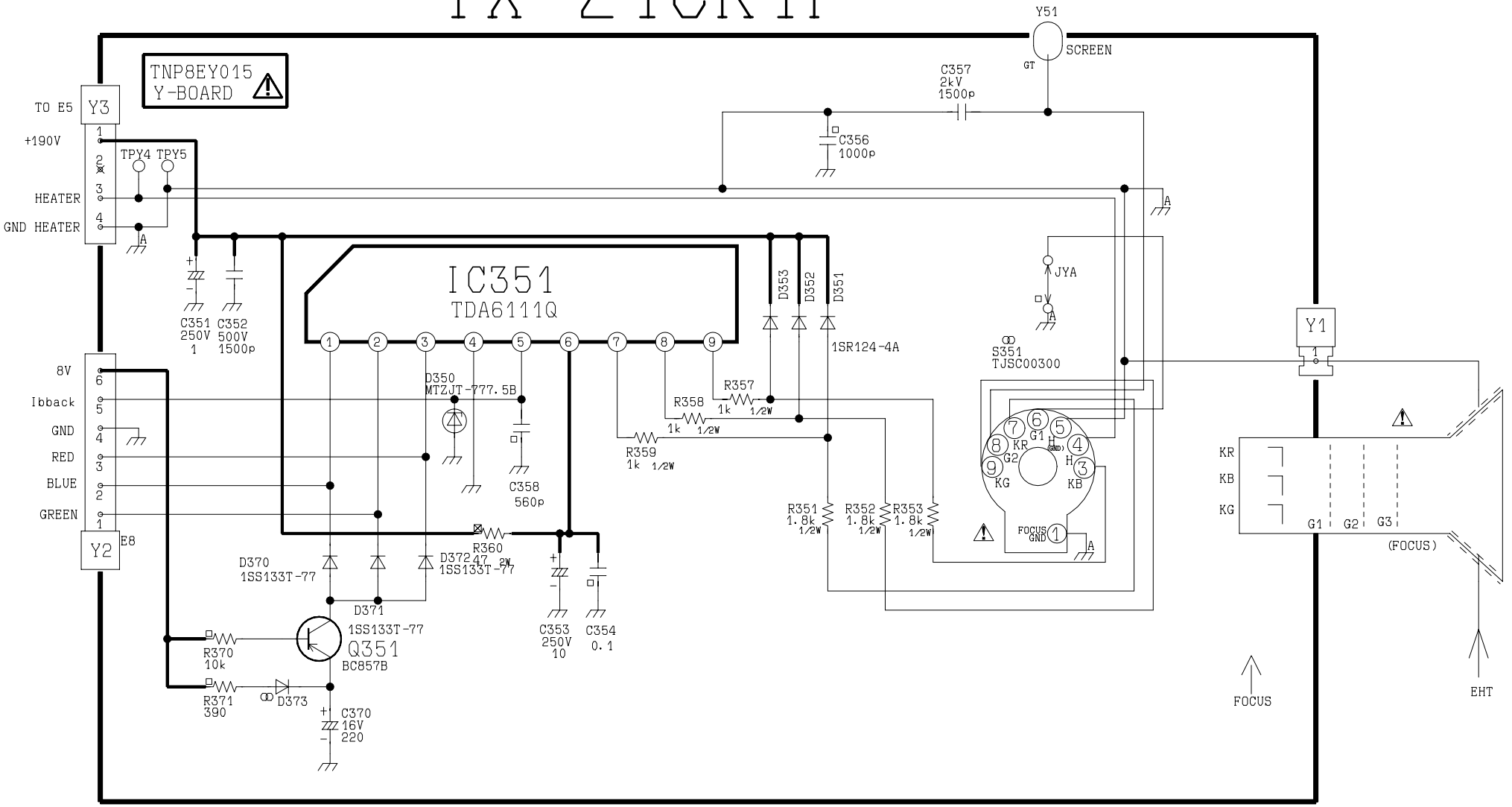
NOTE

1. The Power Supply 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.

TX-28CK1P, TX-25CK1P



TX-21CK1P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Y-BOARD
TO E5
Y3
+190V
HEATER
GND HEATER
TPY4 TPY5
C351 250V 1
C352 500V 1500p
IC351
TDA6111Q
8V
Ibback
GND
RED
BLUE
GREEN
Y2
E8
D350 MTZJT-777.5B
C358 560p
R358 1k 1/2W
R359 1k 1/2W
R357 1k 1/2W
D353
D352
D351
1SR124-4A
Y51
SCREEN
GT
C357 2kV 1500p
C356 1000p
JYA
S351 TJSC00300
R351 1.8k 1/2W
R352 1.8k 1/2W
R353 1.8k 1/2W
FOCUS GND
KR
KB
KG
G1
G2
H
Y1
G3
(FOCUS)
FOCUS
EHT
R360 47 2W
D370 1SS133T-77
D372 1SS133T-77
D371 1SS133T-77
Q351 BC857B
R370 10k
R371 390
D373
C370 16V 220
C353 250V 10
C354 0.1

TX-21CK1P

TNP8EE011
E-BOARD

IC1103
AT24C16-10PC

IC1102
MN13812-HTA

IC1105
MN1381-RTA

IC2001
MSP3415DPOA2

IC601
TDA9367V501S

IC251
TDA7263

IC451
LA7840

IC851
AN78M05

IC852
BA08T-M3

IC1202
BA05T-W1

IC1201
BA033T

IC802
SE120NLF4

IC801
STRF6523LF51

JK3101
TJB16673

JK3102

3.3VSTNDBY

TX-25CK1P, 28CK1P

TNP8EE011
E-BOARD ⚠

DIFFERENCE LIST	
TX-25CK1P	TX-28CK1P
* L501 - ELH5L4121	L501 - ELH5L4105

IC1103
AT24C16-10PC

IC1102
MN13812-HTA

IC1105
MN1381-RTA

IC2001
MSP3415DP0A2

IC601
TDA9365V501S

IC1202
BA05T-W1

IC1201
BA033T

IC802
SE140NLF4

IC801
STRF6523LF51

IC851
AN78M05

IC852
BA08T-M3

IC451
LA7845N

IC702
AN78L20

IC701
TEA2031A

IC251
TDA7263

JK3101
TJB16673

JK3102

3.3VSTNDBY