

# TX-21/14S4TF / TC-21/14S4RF Service Manual

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## Service Support

Service and repair of this product is supported by Panasonic's LUCI interface.

This interface provides a link between the TV and a standard PC to allow a number of diagnostic and control functions to be performed.

For more details contact your local Panasonic company.

  
BACK

EXIT

Audio/Video

Control

Power supply



BACK

E - PCB

Y - PCB



BACK

E - Schematics

Y - Schematics



BACK

# Service Manual



## Colour Television TX-21S4TF TC-21S4RF TX-14S4TF TC-14S4RF Z-7 Chassis

### SPECIFICATIONS

(Information in brackets {} refer to TX-14S4TF/TC-14S4RF)

<b>Power Source :</b>	220-240V AC, 50Hz	
<b>Power Consumption :</b>	50W {33W}	
<b>Standby Power Consumption :</b>	1W	
<b>Aerial Impedance :</b>	75Ω unbalanced, Coaxial Type	
<b>Receiving System :</b>	PAL-BG, H, PAL 525/60 SECAM BG, L/L'	
<b>Receiving Channels :</b>	VHF E2 - E12                    VHF H1 - H2 (ITALY) VHF A - H (ITALY)            UHF E21 - E69 CATV (S01 - S05)            CATV S1 - S10 (M1 - M10) CATV S11 - S20 (U1 - U10)    CATV S21 - S41 (HYPERBAND)	
<b>Intermediate Frequency :</b>	Video                    38,9MHz, 34MHz Sound                    32,4MHz, 33,4MHz 33,16MHz, 40,4MHz Colour                    34,47MHz, 34,5MHz, 34,65MHz	
<b>Video / Audio Terminals :</b>		
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
RCA IN	Video	1V p-p 75Ω
RCA IN	Audio	500mV rms, 10kΩ
<b>High Voltage :</b>	27kV + 0,7kV / - 1kV	
(zero beam current)	{23kV + 0,7kV / - 1kV}	
<b>Picture Tube :</b>	A51EAL135X13 51cm {A34EAC01X13 34cm}	
<b>Audio Output :</b>	6W (Music Power)	
<b>Speaker</b>	8 Ω Impedance	
<b>Headphones</b>	8 Ω Impedance	
<b>Accessories supplied :</b>	Remote Control 2 x R6 (UM3) Batteries	
<b>Dimensions :</b>		
Height :	480 mm	{365mm}
Width :	520 mm	{388mm}
Depth :	485 mm	{380mm}
<b>Net Weight :</b>	20kg	{10kg}

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

### TECHNISCHE DATEN

(Werte in klammern gelten {} nur für TX-14S4TF/TC-14S4RF)

<b>Netzspannung :</b>	220-240V AC, 50Hz	
<b>Leistungsaufnahme :</b>	50W {33W}	
<b>Standby Leistungsaufnahme :</b>	1W	
<b>Antennenimpedanz :</b>	75Ω asymmetrisch, Koaxial-Typ	
<b>Empfangssystem :</b>	PAL-BG, H, PAL 525/60 SECAM BG, L/L'	
<b>Empfangsbereiche :</b>	VHF E2 - E12                    VHF H1 - H2 (ITALY) VHF A - H (ITALY)            UHF E21 - E69 CATV (S01 - S05)            CATV S1 - S10 (M1 - M10) CATV S11 - S20 (U1 - U10)    CATV S21 - S41 (HYPERBAND)	
<b>Zwischenfrequenz :</b>	Video                    38,9MHz, 34MHz Sound                    32,4MHz, 33,4MHz 33,16MHz, 40,4MHz Colour                    34,47MHz, 34,5MHz, 34,65MHz	
<b>Video / Audio Anschlüsse :</b>		
AV1 EINGANG	Video (21 pin)	1V p-p 75Ω
	Audio (21 pin)	500mV rms 10kΩ
	RGB (21 pin)	
AV1 AUSGANG	Video (21 pin)	1V p-p 75Ω
	Audio (21 pin)	500mV rms 1kΩ
RCA EINGANG	Video	1V p-p 75Ω
RCA EINGANG	Audio	500mV rms, 10kΩ
<b>Hochspannung:</b>	27kV + 0,7kV / - 1kV	
(bei Nullstrahlstom)	{23kV + 0,7kV / - 1kV}	
<b>Bildrohre :</b>	A51EAL135X13 51cm {A34EAC01X13 34cm}	
<b>Ton Ausgangsleistung :</b>	6W (Musikleistung)	
<b>Lautsprecher</b>	8 Ω Impedanz	
<b>Kopfhörer</b>	8 Ω Impedanz	
<b>Mitgel. Zubehör</b>	Fernbedienung 2 x R6 (UM3) Batterien	
<b>Abmessungen :</b>		
Höhe :	480 mm	{365mm}
Breite :	520 mm	{388mm}
Tiefe :	485 mm	{380mm}
<b>Gewicht :</b>	20kg	{10kg}

Änderungen der technischen Daten vorbehalten.  
Gewichte und Abmessungen sind Näherungsangaben.

# Panasonic

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## 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 27,7kV {23,7kV} 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 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.

### 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.

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## SICHERHEITSVORKEHRUNGEN

### ALLGEMEINE RICHTLINIEN

1. Es ist empfehlenswert einen Trenntransformator in die Stromversorgung zu schalten, bevor Reparaturen an einem Gerät vorgenommen werden, dessen Chassis unter Spannung steht.
2. Bei der Durchführung von Servicearbeiten dürfen die ursprünglichen Kabelanschlüsse nicht vertauscht werden. Dies gilt insbesondere für die Anschlüsse im Hochspannungsteil. Hat sich ein Kurzschluß ereignet, dann sind alle Teile, an denen Spuren von Überhitzung sichtbar sind, auszuwechseln.
3. Nach Beenden der Servicearbeiten ist sicherzustellen, daß alle Sicherheitsvorrichtungen, wie Isolationsstege, Isolationspapiere, Abschirmungen und Isolations-R-C-Glieder wieder richtig eingesetzt sind.
4. Wenn der Fernseher während längerer Zeit nicht in Betrieb gesetzt wird, sollte der Netzstecker aus der Netzsteckdose gezogen werden.
5. Im Betrieb sind Spannungen bis zu 27,7kV {23,7kV} in diesem Gerät vorhanden. Die Inbetriebnahme des Fernsehers ohne aufgesetzte Rückwand bringt die Gefahr eines elektrischen Schlages von der Fernseher - Stromversorgung mit sich. Servicearbeiten sollten daher auch nie durch Personen versucht werden, die nicht in vollem Umfang mit den Sicherheitsvorkehrungen beim Umgang mit Hochspannungsgeräten vertraut sind. Vor der Handhabung mit der Bildröhre ist die Anode der Bildröhre immer an dem Empfängerchassis zu entladen.
6. Nach Beenden der Servicearbeiten sind die folgenden Kriechstrom-Prüfungen durchzuführen, um den Kunden vor der Gefahr eines elektrischen Schlages zu schützen.

### MESSUNG DES ISOLATIONSWIDERSTANDES IM ABGESCHALTETEN ZUSTAND

1. Den Netzstecker aus der Netzsteckdose ziehen und die beiden Steckerstifte kurzschließen.
2. Den Geräteschalter des Fernsehgerätes einschalten.
3. Mit einem Ohmmeter den Widerstandswert zwischen dem überbrückten Netzkabelstecker und jenem zugänglichen Metallteil am Gehäuse des Fernsehgerätes, wie Schraubenköpfe, Antennen, Achsen der Regler, Griffassungen usw. messen. Wenn ein zugängliches Metallteil keine Rückleitung zum Chassis hat, muß die Anzeige unendlich betragen.

## 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 2kΩ 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.
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.

## MESSUNG DES KRIECHSTROMS IM EINGESCHALTETEN ZUSTAND

1. Den Netzstecker direkt in eine Netsteckdose stecken. Für diese Messung keinen Trenntransformator verwenden.
2. Einen 2k Ω / 10W–Widerstand in Serie mit einem von außen zugänglichen Metallteil am Fernsehgerät und einer guten, Erdung z.B Wasserleitung, anschließen.
3. Ein Wechselstrom–Voltmeter mit einem Meßbereich von 1000 Ohm.Volt oder größer verwenden, um die Spannung über den Widerstand zu messen.
4. Jedes zugängliche Metallteil prüfen, und an jedem Punkt dies Spannung messen.
5. Den Netzstecker umgekehrt in die Steckdose stecken und jede der obigen Messungen wiederholen.
6. Die Spannung darf an keinem der Punkte 1.4V eff. überschreiten. Wird dieser Wert nicht eingehalten, besteht die Gefahr eines elektrischen Schlages, und das Fernsehgerät sollte daher repariert und nachgeprüft werden, bevor es an den Kunden zurückgegeben wird.

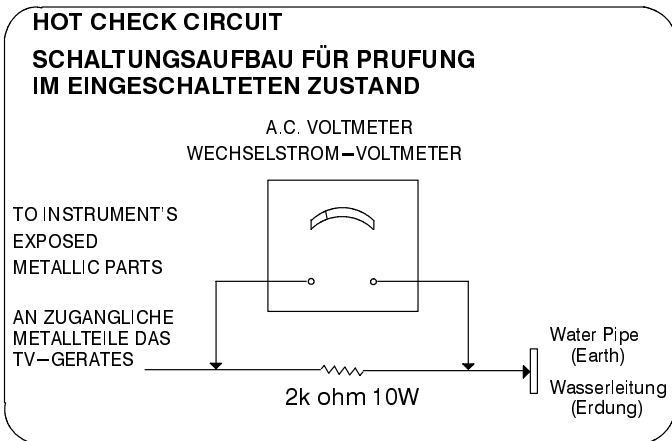


Fig.1.  
Abb.1.

## 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 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 27kV + 0,7 / - 1kV {23kV + 0,7 / - 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.

## RÖNTGENSTRAHLUNG ACHTUNG :

1. Potentielle Quellen von Röntgenstrahlung in Fernsehgeräten sind das Hochspannungsteil und die Bildröhre.
2. Bei Verwendung eines Bildröhren-Prüfgerätes für den Service ist sicherzustellen, daß es für die Belastung von 27,7kV geeignet ist, ohne daß eine Röntgenstrahlung verursacht wird.

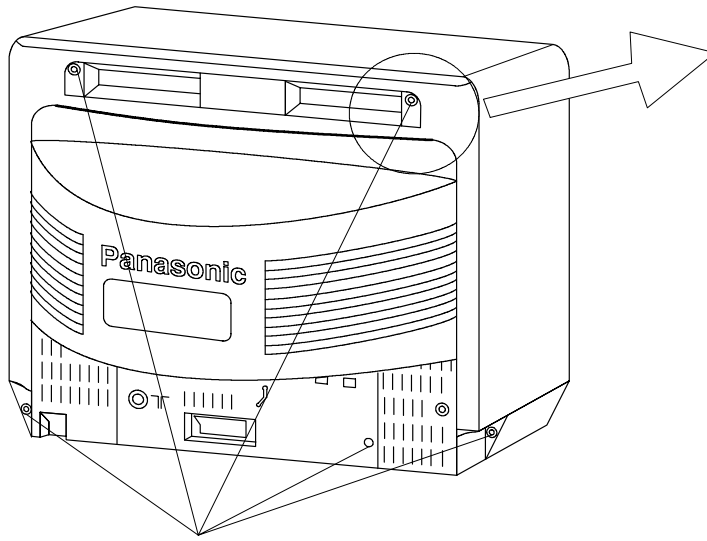
## ANMERKUNG : Es ist wichtig, daß ein präzises, regelmäßig geprüftes Voltmeter verwendet wird.

1. Helligkeit auf Minimum stellen.
2. Die Hochspannung messen. Die Anzeige des Instrumentes sollte 27kV + 0,7 / - 1kV {23kV + 0,7 / - 1kV} Falls die Anzeige diese Toleranzgrenzen überschreitet, ist die sofortige Behebung nötig, um die Möglichkeit vorzeitigen Komponentenausfalls zu verhüten.
3. Um die Möglichkeit von Röntgenstrahlung zu begrenzen, ist es wichtig, daß nur die vorgeschriebene Bildröhre verwendet wird.

## SERVICE HINTS

### HOW TO REMOVE THE REAR COVER

1. Remove the 5 screws (A) as shown in Fig.2/Fig.3.



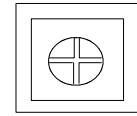
SCREWS A  
SCHRAUBEN A

Fig. 2.  
Abb. 2.

## SERVICE HINWEISE

### ENTFERNEN DER GERÄTERÜCKWAND

1. Die 5 Schrauben (A) entfernen, siehe Abb.2/Abb.3.

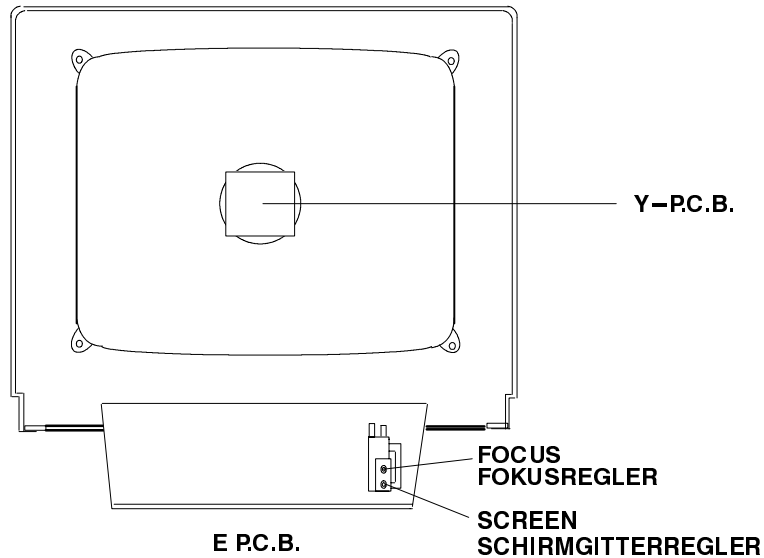


SCREW  
SCHRAUBEN

Fig. 3.  
Abb. 3.

## LOCATION OF CONTROLS

## LAGE DER EINSTELLREGLER



E P.C.B.

Fig. 4.  
Abb. 4.

## ADJUSTMENTS

ITEM/PREPARATION	ADJUSTMENT PROCEDURE
<p><b>B VOLTAGE</b></p> <p>1. Operate the TV set.</p> <p>2. Set controls :</p> <p>Bright            minimum.</p> <p>Contrast        minimum.</p> <p>Volume         minimum.</p> <p>Beam Current   Zero.</p>	<p>Confirm the indicated test points for the specified voltage.</p> <p>TPE 1: 10V            ±        1V</p> <p>TPE 2: 5V             ±        0,3V</p> <p>TPE 3: 12,5V        ±        1V</p> <p>TPE 4: 22V            ±        2,5V</p> <p>TPE 5: 5V             ±        0,3V</p> <p>TPE 6: 9V             ±        0,3V{1V}</p> <p>TPE 9: 30V            ±        1V</p> <p>TPE 10: 185V{135V} ±        10V</p> <p>TPE 11: -13V         ±        1V</p> <p>TPE 12: 12V          ±        1,5V</p> <p>TPE 13: 125V{104V} ±        1,5V</p> <p>TPE 14: 8V            ±        1V</p> <p>TPE 18: 8V            ±        1V</p> <p>TPE 19: 31V          ±        1,5V</p>

## ABGLEICH

VORBEREITUNG	ABGLEICH
<p><b>B VOLTAGE</b></p> <p>1. TV einschalten.</p> <p>2. Die Regler wie folgt einstellen:</p> <p>Helligkeit            minimum.</p> <p>Grundhelligkeitsregler    minimum.</p> <p>Kontrast                minimum.</p> <p>Strahlstrom            Null.</p>	<p>Die Messungen an den Testpunkten sollen folgende Betriebsspannungenergeben.</p> <p>TPE 1: 10V            ±        1V</p> <p>TPE 2: 5V             ±        0,3V</p> <p>TPE 3: 12,5V        ±        1V</p> <p>TPE 4: 22V            ±        1,5V</p> <p>TPE 5: 5V             ±        0,3V</p> <p>TPE 6: 9V             ±        0,3V{1V}</p> <p>TPE 9: 30V            ±        2,5V</p> <p>TPE 10: 185V{135V} ±        10V</p> <p>TPE 11: -13V         ±        1V</p> <p>TPE 12: 12V          ±        1,5V</p> <p>TPE 13: 125V{104V} ±        1,5V</p> <p>TPE 14: 8V            ±        1V</p> <p>TPE 18: 8V            ±        1V</p> <p>TPE 19: 31V          ±        1,5V</p>

## ALIGNMENT SETTINGS

1. Select program position 60 and set the sharpness to minimum.
2. Press the Off Timer button on the remote control and at the same time press the V (down) button on the customer controls at the front of the TV, this will place the TV into Service Mode.
3. Press the  $\wedge$  /  $\vee$  buttons to step up / down through the functions.
4. Press the + / - buttons to alter the function values.
5. Press the STORE button after each adjustment has been made to store the required values.
6. To exit Service Mode press the Normalisation button.

### NOTE :

The figures used below are nominal and used for representative purposes only.

Alignment Function		Settings / Special Features
1. Vertical amplitude	V-Amp 27	Optimum setting.
2. Vertical position	V-Pos 03	Optimum setting.
3. Horizontal centre	H-Ctr 07	Optimum setting.
4. Red cutoff	R-Cut 186	Optimum setting.
5. Green cutoff	G-Cut 220	Optimum setting.
6. Blue cutoff	B-Cut 213	Optimum setting.
7. Red drive	R-Drv 46	Optimum setting.
8. Blue drive	B-Drv 36	Optimum setting.
9. AGC	AGC 33	Optimum setting.
10. Sub contrast	S-Con 33	Optimum setting.
11. Sub colour	S-Col 39	Optimum setting.
12. Sub bright	S-Bri 40	Optimum setting.



## ABGLEICHTABELLE

1. Programmplatz 60 wählen und Schärfe auf Minimum stellen.
2. Taste 'Ausschalt-Timer' auf der Fernbedienung und gleichzeitig die Taste 'V' (ab) auf dem Bedienungsfeld vorn am Fernsehgerät drücken, um das Gerät in den Service-Modus zu versetzen.
3. Die einzelnen Funktionen mit Hilfe der  $\wedge$  /  $\vee$  Taste anwählen.
4. Mit der + / - Taste die Werte der einzelnen Funktionen ändern.
5. Nach jeder Einstellung die Taste STR auf der Fernbedienung oder am Bedienfeld drücken, um die geänderten Werte abzuspeichern.
6. Zum Verlassen des Service-Modus die "N"-Taste auf der Fernbedienung drücken.

### ANMERKUNG :

Die angegebenen Werte sind Mittelwerte und Können individuell nach oben oder unten nach dem korrekten Abgleich abweichen.

Abgleichfunktion		Einstellung/Besondere Merkmale
1. Vertikale amplitude	V-Amp 27	Optimale Einstellung.
2. Vertikale position	V-Pos 03	Optimale Einstellung.
3. Horizontale centre	H-Ctr 07	Optimale Einstellung.
4. Red cutoff	R-Cut 186	Optimale Einstellung.
5. Green cutoff	G-Cut 220	Optimale Einstellung.
6. Blue cutoff	B-Cut 213	Optimale Einstellung.
7. Red drive	R-Drv 46	Optimale Einstellung.
8. Blue drive	B-Drv 36	Optimale Einstellung.
9. AGC	AGC 33	Optimale Einstellung.
10. Sub contrast	S-Con 33	Optimale Einstellung.
11. Sub colour	S-Col 39	Optimale Einstellung.
12. Sub bright	S-Bri 40	Optimale Einstellung.

## SELF CHECK

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

To access the Self Check mode press the Status button on the Remote Control, followed by the V button on the customer controls at the front of the TV, and the screen will show: –

When exiting Self Check the customer settings will return to factory settings.

### TX–21S4TF



### TC–21S4RF



### TX–14S4TF



### TC–14S4RF



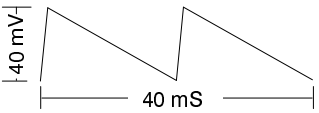
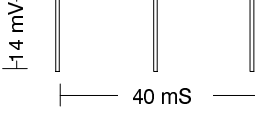
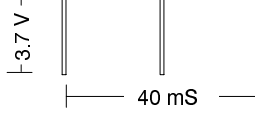
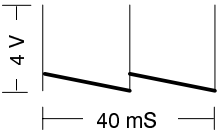
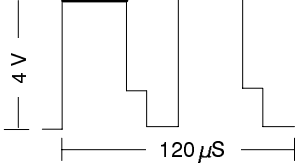
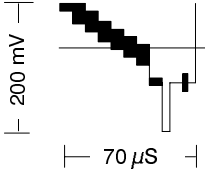
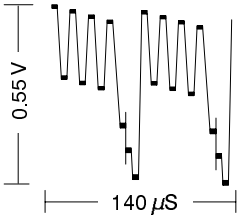
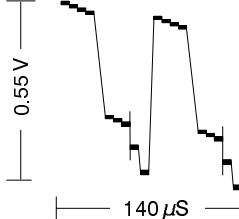
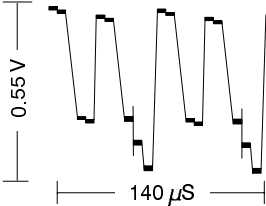
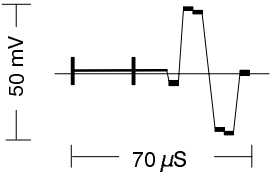
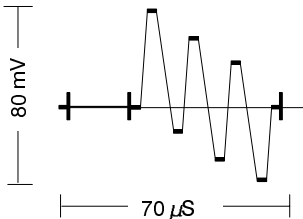
## SELF CHECK

1) Die Selbstdiagnose dient zum automatischen Prüfen der Bus–Leitungen, sowie des Hexadezimalcodes des Gerätes. Zum Aufrufen der Selbstdiagnose die Statustaste auf der Fernbedienung und dann die Taste 'V' auf dem Bedienungsfeld vorn am Fernsehgerät drücken, worauf der entsprechende Bildschirm erscheint.

2) Nach der Selbstdiagnose wird das Gerät automatisch auf sämtliche werksseitigen Standardeinstellungen zurückgesetzt.

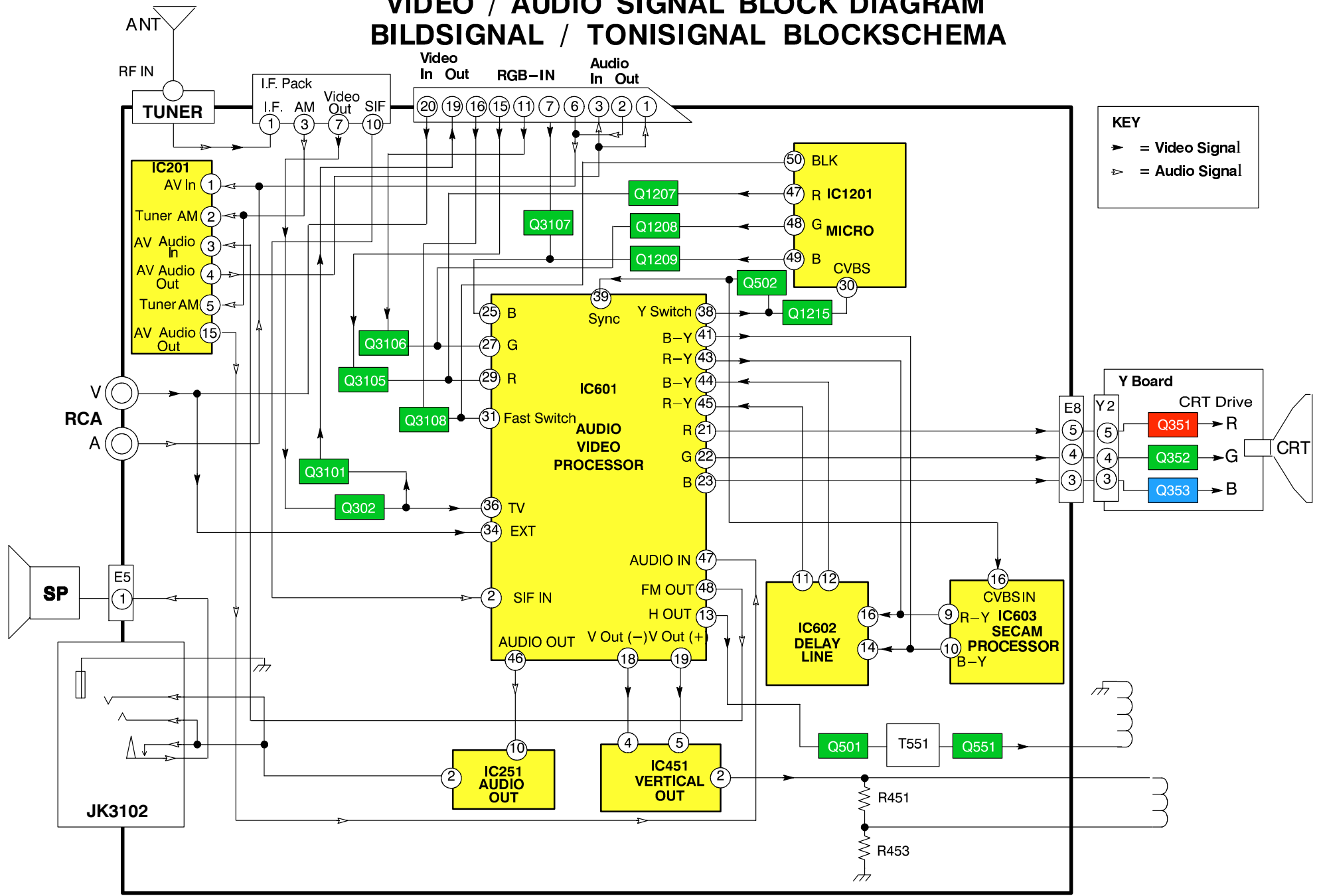
# WAVEFORM PATTERN TABLE

## SIGNAL TABELLE

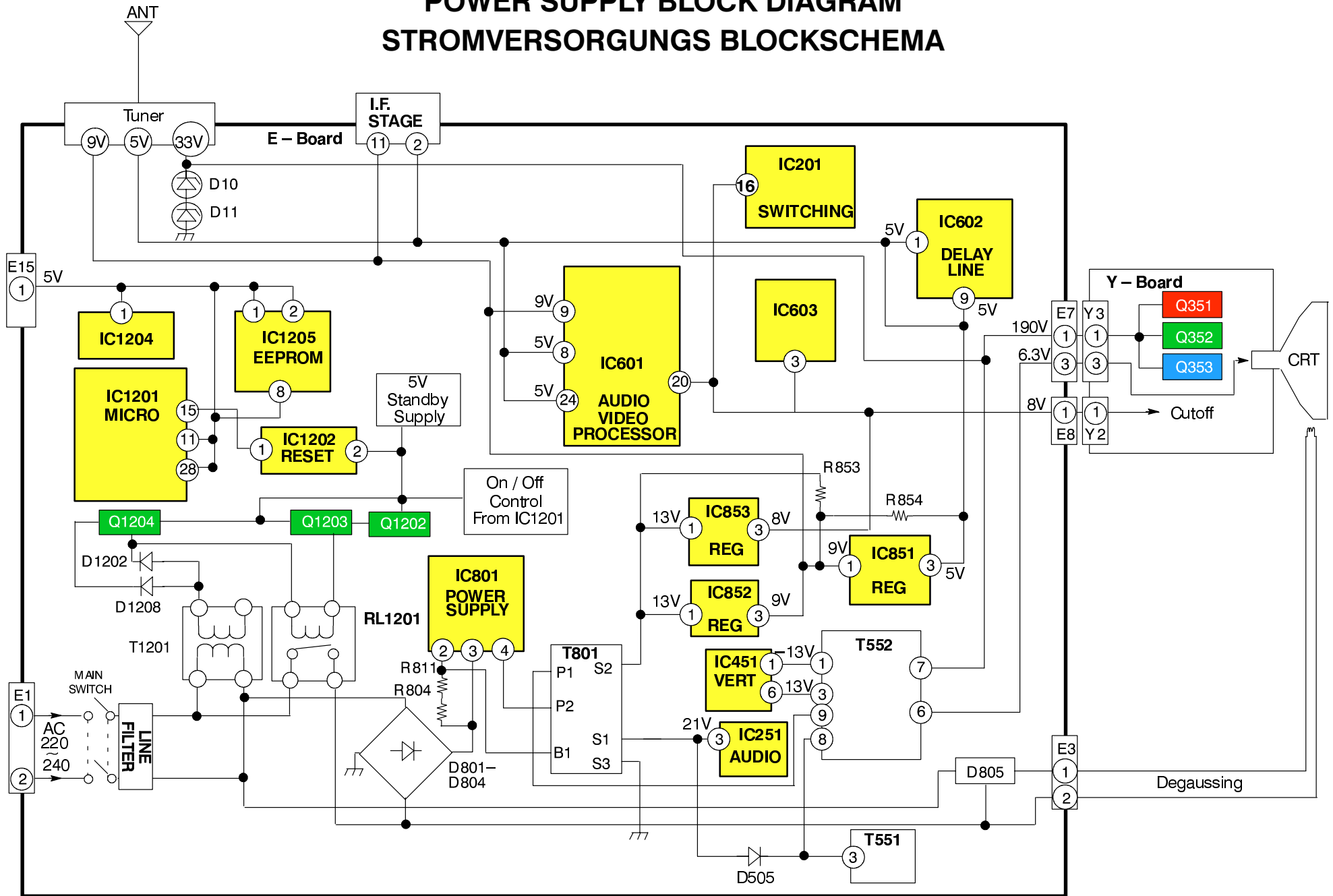
<p>Vert Out IC IN IC451 pin 4 5 mS 20 mV</p> 	<p>SDA IC601 pin 14 5 mS 5 mV</p> 	<p>SCL IC1201 pin 3 5 mS 1 V</p> 
<p>Vert Drive IC451 pin 2 5 mS 1 V</p> 	<p>H. Out IC601 pin 13 20 μS 1 V</p> 	<p>IF VO IC601 pin 52 20 μS 50 mV</p> 
<p>B Out TPE15 20 μS 0.1 V</p> 	<p>G Out TPE16 20 μS 0.1 V</p> 	<p>R Out TPE17 20 μS 0.1 V</p> 
<p>'RY' Out IC601 pin 43 20 μS 20 mV</p> 	<p>'BY' Out IC601 pin 41 20 μS 20 mV</p> 	

# VIDEO / AUDIO SIGNAL BLOCK DIAGRAM BILD SIGNAL / TON SIGNAL BLOCKSCHEMA

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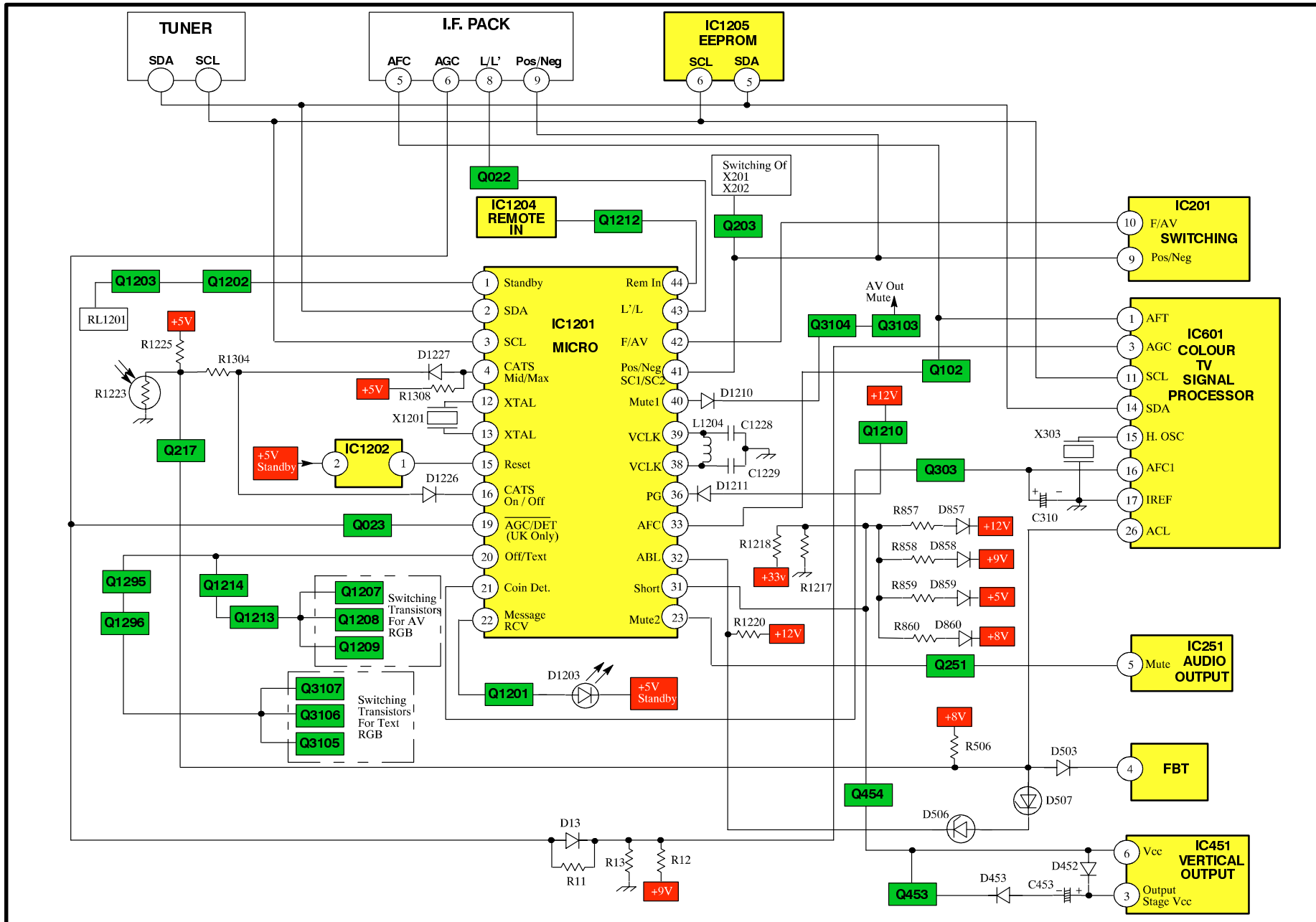
# POWER SUPPLY BLOCK DIAGRAM STROMVERSORGUNGS BLOCKSCHEMA



# CONTROL BLOCK DIAGRAM

# KONTROLL BLOCKSCHEMA

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## PARTS LOCATION

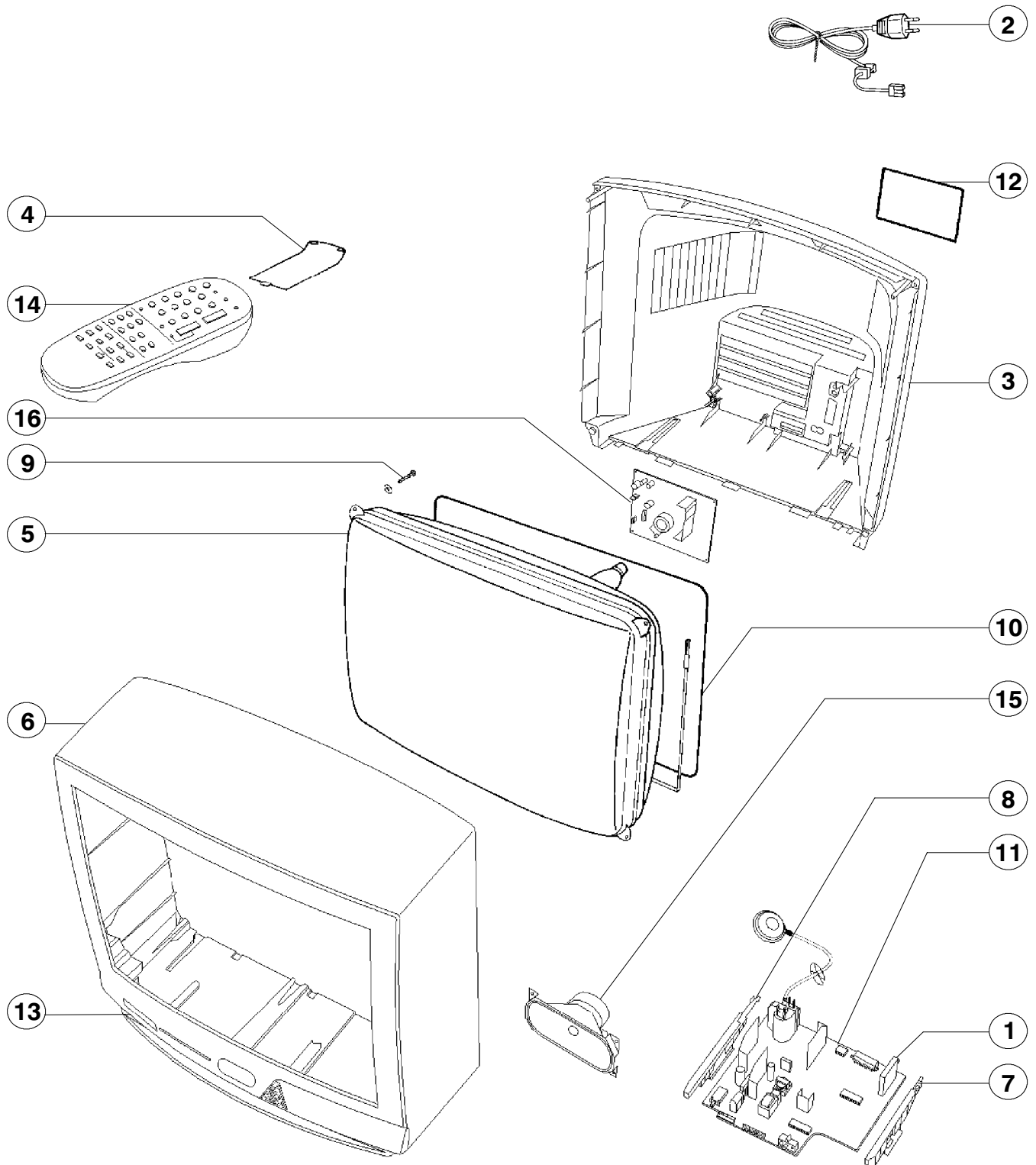
### NOTE :

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

## EXPLOSIONSZEICHNUNG


### Anmerking :

Die Nummer auf den mechanischen Teilen zeigt die Bezugsnummer der Ersatzteilliste an.




# 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.

# ERSATZTEILLISTE

## Wichtiger Sicherheitshinweis

Teile, die mit einem Hinweis  gekennzeichnet sind wichtig für die Sicherheit. Sollte ein Auswechsellern erforderlich sein, sind unbedingt Originalteile einzusetzen.  
Bei der Bestellung von Ersatzteilen, die mit \* gekennzeichnet sind, geben Sie bitte unbedingt die vollständige Typenbezeichnung mit an.

Cct Ref	Parts Number	Description
<b>COMMON PARTS</b>		
<b>MECHANICAL PARTS</b>		
1	ENG29501G	TUNER
2	TSX8E0023	POWER CORD 
<b>MISCELLANEOUS COMPONENTS</b>		
	F9-4-220	RELAY
	UM-3DJ-2P	BATTERY PACK
MOE8	31221212478	FIX CLIP
MOE4	31221212478	FIX CLIP
MOE2	31221212478	FIX CLIP
POE3	TMW8E015-2	LED HOLDER
RL1201	TSE1885-1	RELAY
<b>I.C.s</b>		
IC201	HEF4053B	SWITCHING I.C.
IC251	LA4265	AUDIO OUTPUT
IC451	LA7840	VERTICAL OUTPUT
IC601	M52778SP-A	AUDIO VIDEO PROCESSOR
IC602	U3666M-MDP	DELAY LINE
IC603	TDA8395PN2	SECAM DECODER
IC801	STR58041A	POWER SUPPLY
IC851	L78M05MRB	5V REGULATOR
IC852	AN7809LB	9V REGULATOR
IC853	AN78M08LB	8V REGULATOR
IC1202	MN1280R	RESET
IC1204	RPM-637CBRS	RECEIVER
<b>FUSES</b>		
F801	2153.15H	FUSE 
F8011	EYF52BC	FUSE HOLDER
F8012	EYF52BC	FUSE HOLDER
<b>DIODES</b>		
D010	MA4150	DIODE
D011	MA4150	DIODE
D304	1SS355TE-17	DIODE
D306	MTZJT-774.7A	DIODE
D307	MTZJT-774.7A	DIODE
D351	MA165TA5	DIODE
D352	MA165TA5	DIODE
D353	MA165TA5	DIODE
D354	MA165TA5	DIODE
D452	ERA15-02V3	DIODE
D453	MA165TA5	DIODE
D454	MA165TA5	DIODE
D455	MA165TA5	DIODE
D503	MA165TA5	DIODE
D504	MA165TA5	DIODE

Cct Ref	Parts Number	Description
D505	1SR124-4AT82	DIODE
D506	MTZJ33B	DIODE
D541	MA165TA5	DIODE
D542	MA165TA5	DIODE
D551	TVSRH2FV1	DIODE
D552	TVSRU2AMLFA5	DIODE
D553	1SR124-4AT82	DIODE
D554	1SR124-4AT82	DIODE
D555	ERA22-02V3	DIODE
D556	MA165TA5	DIODE
D557	1SR124-4AT82	DIODE
D801	EMO2BMV0	DIODE
D802	EMO2BMV0	DIODE
D803	EMO2BMV0	DIODE
D804	EMO2BMV0	DIODE
D808	1SR124-4AT82	DIODE
D809	1SR124-4AT82	DIODE
D810	RU3LFA1	DIODE
D811	1SR124-4AT82	DIODE
D812	R2KNLFA1	DIODE
D814	MA165TA5	DIODE
D815	1SR124-4AT82	DIODE
D816	1SR124-4AT82	DIODE
D851	TVSRU3AMLFA5	DIODE
D852	TVSRU2AMV1	DIODE
D857	MA165TA5	DIODE
D858	MA165TA5	DIODE
D859	MA165TA5	DIODE
D860	MA165TA5	DIODE
D861	MA165TA5	DIODE
D1202	1N4150T-77	DIODE
D1203	SLR56UR3FLF	LED
D1205	1N4150T-77	DIODE
D1207	MTZJT-778.2A	DIODE
D1208	1N4150T-77	DIODE
D1209	MTZJT-775.1C	DIODE
D1211	MA165TA5	DIODE
D1212	MA165TA5	DIODE
D1213	MA165TA5	DIODE
D1214	1N4150T-77	DIODE
D1217	MA165TA5	DIODE
D1218	MA165TA5	DIODE
D1219	MA165TA5	DIODE
D1220	MA165TA5	DIODE
D1221	MA165TA5	DIODE
D1222	MA165TA5	DIODE
D1224	MA165TA5	DIODE
D1301	MTZJT-775.1A	DIODE
D1311	MA165TA5	DIODE
D1312	MA700TA5	DIODE
D3101	MA165TA5	DIODE



Cct Ref	Parts Number	Description
<b>TRANSISTORS</b>		
Q102	BC847B	TRANSISTOR
Q201	BC847B	TRANSISTOR
Q202	BC847B	TRANSISTOR
Q251	BC847B	TRANSISTOR
Q302	BC847B	TRANSISTOR
Q303	BC847B	TRANSISTOR
Q354	BC857B	TRANSISTOR
Q453	BC847B	TRANSISTOR
Q454	BC847B	TRANSISTOR
Q501	2SD2398-M2	TRANSISTOR
Q502	BC857B	TRANSISTOR
Q503	BC847B	TRANSISTOR
Q504	BC847B	TRANSISTOR
Q551	BU2506DFRB	TRANSISTOR
Q801	BC847B	TRANSISTOR
Q802	2SD965-R	TRANSISTOR
Q1201	BC847B	TRANSISTOR
Q1202	BC847B	TRANSISTOR
Q1203	BC847B	TRANSISTOR
Q1204	2SC1317-TA	TRANSISTOR
Q1205	BC847B	TRANSISTOR
Q1207	BC847B	TRANSISTOR
Q1208	BC847B	TRANSISTOR
Q1209	BC847B	TRANSISTOR
Q1210	BC857B	TRANSISTOR
Q1211	BC857B	TRANSISTOR
Q1212	BC847B	TRANSISTOR
Q1213	BC847B	TRANSISTOR
Q1240	BC847B	TRANSISTOR
Q1295	BC857B	TRANSISTOR
Q1296	BC847B	TRANSISTOR
Q3101	2SC1318-S	TRANSISTOR
Q3103	2SD1328STX	TRANSISTOR
Q3104	BC857B	TRANSISTOR
Q3105	BC857B	TRANSISTOR
Q3106	BC857B	TRANSISTOR
Q3107	BC857B	TRANSISTOR
Q3108	BC857B	TRANSISTOR
<b>TRANSFORMERS</b>		
T551	ETH19Z169AZ	TRANSFORMER
T1201	ETP35KAN617U	TRANSFORMER
<b>COILS</b>		
J208	EXCELSA39V	COIL
J305	EXCELSA39V	COIL
L010	EXCELSA35T	COIL
L012	EXCELSA35T	COIL
L451	EXCELSA35T	COIL
L803	EXCELSA35T	COIL
L804	EXCELD35V	COIL
L851	EXCELSA35T	COIL
L852	EXCELSA35T	COIL
L1201	EXCELSA35T	COIL
L1202	TLTACT331K	COIL
L1203	TLTACT100K	COIL
L1204	ERJNA6R8GF	COIL
L1207	TLTACT100K	COIL
L1208	TLTACT100K	COIL
L1209	EXCELSA35T	COIL
R016	ELJFC6R8KF	COIL
R017	ELJFC6R8KF	COIL
<b>FILTERS</b>		
L801	ELF15N005A	LINE FILTER
X201	EFCS5R5MS5	FILTER
X303	TAFCSB503F6	FILTER

Cct Ref	Parts Number	Description
<b>CRYSTALS</b>		
X601	LN-P-01S	CRYSTAL
X1201	CSA18.00MXZ	CRYSTAL
<b>RESISTORS</b>		
C605	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JC26	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JC22	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JC11	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JC12	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JC2	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JC21	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JC23	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JC1	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JC7	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JC9	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JC3	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JEZK	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JEADK	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JEFK	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JC31	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JEJK	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JENK	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JC20	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JEXK	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
JC28	ERJ8GEY0R00	S.M.CARB .125W 5% 0 Ω
JC8	ERJ8GEY0R00	S.M.CARB .125W 5% 0 Ω
JC35	ERJ8GEY0R00	S.M.CARB .125W 5% 0 Ω
JC14	ERJ8GEY0R00	S.M.CARB .125W 5% 0 Ω
JC30	ERJ8GEY0R00	S.M.CARB .125W 5% 0 Ω
JC25	ERJ8GEY0R00	S.M.CARB .125W 5% 0 Ω
R010	ERJ6GEYJ153	S.M.CARB 0.1W 5% 15K Ω
R011	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
R014	ERG2SJS273	METAL 2W 5% 27K Ω
R107	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω
R112	ERJ8GEYJ122	S.M.CARB .125W 5% 1K2 Ω
R114	ERJ6GEYJ123	S.M.CARB 0.1W 5% 12K Ω
R116	ERJ8GEYJ152	S.M.CARB .125W 5% 1K5 Ω
R117	ERJ6GEYJ473	S.M.CARB 0.1W 5% 47K Ω
R203	ERJ6GEYJ122	S.M.CARB 0.1W 5% 1K2 Ω
R205	ERJ6GEYJ222	S.M.CARB 0.1W 5% 2K2 Ω
R206	ERJ6GEYJ182	S.M.CARB 0.1W 5% 1K8 Ω
R214	ERJ6GEYJ102	S.M.CARB 0.1W 5% 1K Ω
R215	ERJ6GEYJ562	S.M.CARB 0.1W 5% 5K6 Ω
R221	ERJ6GEYJ221	S.M.CARB 0.1W 5% 220 Ω
R222	ERJ6GEYJ102	S.M.CARB 0.1W 5% 1K Ω
R223	ERJ6GEYJ562	S.M.CARB 0.1W 5% 5K6 Ω
R230	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100 Ω
R231	ERJ6GEYJ563	S.M.CARB 0.1W 5% 56K Ω
R232	ERJ6GEYJ563	S.M.CARB 0.1W 5% 56K Ω
R233	ERJ6GEYJ563	S.M.CARB 0.1W 5% 56K Ω
R234	ERJ6GEYJ391	S.M.CARB 0.1W 5% 390 Ω
R235	ERJ6GEYJ563	S.M.CARB 0.1W 5% 56K Ω
R251	ERJ6GEYJ3R3	S.M.CARB 0.1W 5% 3R3 Ω
R256	ERJ6GEYJ104	S.M.CARB 0.1W 5% 100K Ω
R257	ERQ1CJP120	FUSIBLE 1W 5% 12 Ω
R259	ERJ6GEYJ331	S.M.CARB 0.1W 5% 330 Ω
R260	ERJ6GEYJ332	S.M.CARB 0.1W 5% 3K3 Ω
R261	ERJ6GEYJ682	S.M.CARB 0.1W 5% 6K8 Ω
R301	ERJ6GEYJ102	S.M.CARB 0.1W 5% 1K Ω
R302	ERJ6GEYJ102	S.M.CARB 0.1W 5% 1K Ω
R303	ERJ6GEYJ472	S.M.CARB 0.1W 5% 4K7 Ω
R304	ERJ6ENF2201	S.M.CARB 0.1W 1% 2K2 Ω
R305	ERJ6GEYJ271	S.M.CARB 0.1W 5% 270 Ω
R306	ERJ6GEYJ271	S.M.CARB 0.1W 5% 270 Ω
R307	ERJ6GEYJ271	S.M.CARB 0.1W 5% 270 Ω
R313	ERQ14AJ470	METAL 0.25W 5% 47 Ω

Cct Ref	Parts Number	Description				
R314	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470 Ω	
R315	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470 Ω	
R317	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R318	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R319	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R320	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R321	ERJ6GEYJ243	S.M.CARB	0.1W	5%	24K Ω	
R322	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47K Ω	
R372	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R373	ERJ6GEYJ391	S.M.CARB	0.1W	5%	390 Ω	
R374	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R401	ERJ6ENF9100	S.M.CARB	0.1W	1%	910 Ω	
R402	ERJ6ENF8201	S.M.CARB	0.1W	1%	8K2 Ω	
R403	ERJ6ENF6801	S.M.CARB	0.1W	1%	6K8 Ω	
R451	ERDS1TJ331	CARBON	0.5W	5%	330 Ω	
R452	ERJ6GEYJ1R0	S.M.CARB	0.1W	5%	1 Ω	
R454	ERJ6GEYF153V	S.M.CARB	0.1W	5%	15K Ω	
R456	ERO25CKF5601	METAL	0.25W	1%	6K1 Ω	△
R457	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R458	ERD25TJ683	CARBON	0.25W	5%	68K Ω	
R459	ERJ6GEYJ332	S.M.CARB	0.1W	5%	3K3 Ω	
R460	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47K Ω	
R461	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47K Ω	
R462	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47K Ω	
R501	ERJ6GEYJ391	S.M.CARB	0.1W	5%	390 Ω	
R502	ERJ6GEYJ681	S.M.CARB	0.1W	5%	680 Ω	
R503	ERG3SJS101	METAL	3W	5%	10 Ω	△
R504	ERG2ANJ471	METAL	2W	5%	470 Ω	△
R505	ERJ6GEYJ433	S.M.CARB	0.1W	5%	43K Ω	
R510	ERJ6GEYJ561	S.M.CARB	0.1W	5%	560 Ω	
R511	ERJ6GEYJ334	S.M.CARB	0.1W	5%	330K Ω	
R512	ERJ6GEYJ152	S.M.CARB	0.1W	5%	1K5 Ω	
R513	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470 Ω	
R514	ERJ6GEYJ152	S.M.CARB	0.1W	5%	1K5 Ω	
R515	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R516	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R518	ERJ6ENF1302	S.M.CARB	0.1W	1%	13K Ω	
R520	ERJ6GEYJ334	S.M.CARB	0.1W	5%	330K Ω	
R521	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R541	ERJ6GEYJ332	S.M.CARB	0.1W	5%	3K3 Ω	
R601	ERJ6GEYJ332	S.M.CARB	0.1W	5%	3K3 Ω	
R602	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2 Ω	
R603	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R604	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7 Ω	
R605	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R606	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R611	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
R612	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
R613	ERJ6GEYJ395	S.M.CARB	0.1W	5%	3M9 Ω	
R614	ERJ6GEYJ223	S.M.CARB	0.1W	5%	22K Ω	
R801	ERF5ZK2R7	WOUND	5W	20%	2R7 Ω	△
R804	ERDS1TJ224	CARBON	0.5W	5%	220K Ω	
R805	ERW2PKR33	WOUND	2W	20%	R33 Ω	△
R806	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R807	ERG2ANJ101	METAL	0.5W	5%	100 Ω	△
R808	ERG12SJ561P	METAL	0.5W	5%	650 Ω	
R809	ERG2ANJP560H	METAL	2W	5%	56 Ω	△
R810	ERQ12HJ100	FUSIBLE	0.5W	5%	10 Ω	△
R811	ERDS1TJ224	CARBON	0.5W	5%	220K Ω	
R813	ERJ6GEYJ202	S.M.CARB	0.1W	5%	2K Ω	
R814	ERD75TAJ825	CARBON	0.75W	5%	8M2 Ω	△
R819	ERDS1TJ104	CARBON	0.5W	5%	100K Ω	
R853	ERG2ANJ270	METAL	2W	5%	27 Ω	△
R854	ERG2ANJ330	METAL	2W	5%	33 Ω	
R857	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R858	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	

Cct Ref	Parts Number	Description				
R859	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R860	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R861	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
R1201	ERQ1CJP2R2	FUSIBLE	1W	10%	2R2 Ω	△
R1202	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω	
R1203	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω	
R1204	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω	
R1205	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω	
R1206	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω	
R1208	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1209	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1210	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1211	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1212	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1214	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R1219	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω	
R1220	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7 Ω	
R1221	ERJ6GEYJ271	S.M.CARB	0.1W	5%	270 Ω	
R1222	ERJ6GEYJ330	S.M.CARB	0.1W	5%	33 Ω	
R1226	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R1227	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1228	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1229	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1231	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1232	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω	
R1233	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω	
R1234	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1235	ERJ6GEYJ152	S.M.CARB	0.1W	5%	1K5 Ω	
R1236	ERJ6GEYJ223	S.M.CARB	0.1W	5%	22K Ω	
R1237	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2 Ω	
R1238	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1239	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1240	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1243	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1244	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1246	ERD25TJ272	CARBON	0.25W	5%	2K7 Ω	
R1247	ERD25TJ221	CARBON	0.25W	5%	220 Ω	
R1248	ERJ6GEYJ223	S.M.CARB	0.1W	5%	22K Ω	
R1249	ERDS1TJ121	CARBON	0.5W	5%	120 Ω	
R1250	ERDS1TJ560	CARBON	0.5W	5%	56 Ω	
R1255	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R1257	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω	
R1258	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
R1259	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R1261	ERJ6GEYJ122	S.M.CARB	0.1W	5%	1K2 Ω	
R1263	ERJ6GEYJ122	S.M.CARB	0.1W	5%	1K2 Ω	
R1265	ERJ6GEYJ122	S.M.CARB	0.1W	5%	1K2 Ω	
R1266	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R1267	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1268	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1269	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1270	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1271	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1272	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1273	ERJ6GEYJ333	S.M.CARB	0.1W	5%	33K Ω	
R1274	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100K Ω	
R1276	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R1282	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R1283	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R1284	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω	
R1285	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2 Ω	
R1286	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2 Ω	
R1287	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2 Ω	
R1288	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2 Ω	
R1289	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω	
R1293	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	

Cct Ref	Parts Number	Description			
R1294	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R1295	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R1296	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R1298	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R1303	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω
R1309	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω
R1311	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R3101	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω
R3102	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω
R3103	ERJ6GEYJ564	S.M.CARB	0.1W	5%	560K Ω
R3104	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100K Ω
R3105	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75 Ω
R3106	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75 Ω
R3107	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75 Ω
R3108	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75 Ω
R3109	ERJ6GEYJ221	S.M.CARB	0.1W	5%	220 Ω
R3110	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2 Ω
R3111	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R3114	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R3115	ERDS1TJ750	CARBON	0.5W	5%	75 Ω
R3120	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75 Ω
R3121	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω
R3122	ERJ6GEYJ182	S.M.CARB	0.1W	5%	1K8 Ω
R3123	ERJ6GEYJ221	S.M.CARB	0.1W	5%	220 Ω
R3124	ERJ6GEYJ221	S.M.CARB	0.1W	5%	220 Ω
R3125	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R3126	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15K Ω
R3127	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R3128	ERJ6GEYJ273	S.M.CARB	0.1W	5%	27K Ω
R3130	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω
R3132	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R3133	ERJ6GEYJ223	S.M.CARB	0.1W	5%	22K Ω
R3134	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω
R3136	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R3137	ERJ6GEYJ223	S.M.CARB	0.1W	5%	22K Ω
R3138	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω
R3140	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R3141	ERJ6GEYJ223	S.M.CARB	0.1W	5%	22K Ω
R3142	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1K Ω
R3143	ERJ6GEYJ181	S.M.CARB	0.1W	5%	180 Ω
<b>CAPACITORS</b>					
C010	ECUV1H103KBX	S.M. CAP	50V		10nF
C011	ECA1CM470GB	ELECT	16V		47μF
C012	ECUV1H103KBX	S.M. CAP	50V		10nF
C014	ECUV1H080DCX	S.M. CAP	50V		80pF
C015	ECA1HM330B	ELECT	50V		33μF
C019	ECUV1H103KBX	S.M. CAP	50V		10nF
C020	ECA1HM010GB	ELECT	50V		1μF
C022	ECUV1H150JCX	S.M. CAP	50V		15pF
C023	ECUV1H150JCX	S.M. CAP	50V		15pF
C027	ECUV1H222JCX	S.M. CAP	50V		2.2nF
C029	ECUV1H101JCX	S.M. CAP	50V		100pF
C030	ECUV1H221JCX	S.M. CAP	50V		220pF
C112	ECA1HMR47GB	ELECT	50V		220pF
C113	ECUV1H103KBX	S.M. CAP	50V		10nF
C114	ECA1HM010GB	ELECT	50V		1μF
C205	ECEA1HN2R2UB	ELECT	50V		2.2μF
C206	ECEA1HN2R2UB	ELECT	50V		2.2μF
C207	ECEA1CN100	ELECT	16V		10μF
C208	ECA1CM100GB	ELECT	16V		10μF
C210	ECEA1HN2R2UB	ELECT	50V		2.2μF
C213	ECA1HM010GB	ELECT	50V		1μF
C214	ECEA1HN2R2UB	ELECT	50V		2.2μF
C215	ECJ2VF1H104Z	ELECT	350V		100nF
C216	ECUV1H272KBX	S.M. CAP	50V		100nF
C251	ECA1EM471GB	ELECT	25V		470μF

Cct Ref	Parts Number	Description			
C252	ECA1HM010GB	ELECT	50V		1μF
C253	ECA1EHG470B	ELECT	50V		1μF
C254	ECUV1H272JCX	S.M. CAP	50V		2.7nF
C256	ECQM1H224J	FILM	50V		220nF
C257	ECQM1H474J	FILM	50V		470nF
C258	ECA1EHG101B	ELECT	50V		470nF
C260	ECA1EM102GB	ELECT	25V		100μF
C261	ECUV1H471JCX	S.M. CAP	50V		470pF
C301	ECA1HM101GB	ELECT	50V		100μF
C302	ECJ2VF1H104Z	ELECT	350V		100nF
C303	ECA1CM471GB	ELECT	16V		470μF
C304	ECJ2VF1H104Z	ELECT	350V		100nF
C305	ECA1HM101GB	ELECT	50V		100μF
C307	ECA1HM101GB	ELECT	50V		100μF
C308	ECUV1H104ZFW	S.M. CAP	50V		100nF
C309	ECUV1H103KBX	S.M. CAP	50V		10nF
C310	ECA1HM010GB	ELECT	50V		1μF
C311	ECJ2VF1H104Z	ELECT	350V		100nF
C312	ECJ2VF1H104Z	ELECT	350V		100nF
C313	ECJ2VF1H104Z	ELECT	350V		100nF
C314	ECEA1HNR47UB	ELECT	50V		100nF
C315	ECEA1HN2R2UB	ELECT	50V		2.2μF
C317	ECA1HM101GB	ELECT	50V		100μF
C318	ECEA1HNR47UB	ELECT	50V		100μF
C319	ECJ2VF1H104Z	ELECT	350V		100nF
C320	ECA1HM010GB	ELECT	50V		1μF
C355	EKC3D152J	CERAMIC	2KV		1.5nF
C357	EKC2H152J	CERAMIC	500V		1.5nF
C362	ECUV1H102ZFX	S.M. CAP	50V		1nF
C368	ECEA2EU010	ELECT	250V		1μF
C370	ECA1CM220GB	ELECT	16V		22μF
C371	ECA1CM221GB	ELECT	16V		220μF
C401	ECUV1H223KBX	S.M. CAP	50V		22nF
C402	ECUV1H472KBX	S.M. CAP	50V		4.7nF
C403	ECA1HM010GB	ELECT	50V		1μF
C404	ECJ2VF1H103Z	ELECT	350V		10nF
C452	ECQM1H274J	FILM	50V		270nF
C457	ECQM1H394J	FILM	50V		390nF
C461	ECUV1H100CCX	S.M. CAP	50V		10pF
C501	ECA1HM010GB	ELECT	50V		1μF
C502	ECUV1H223KBX	S.M. CAP	50V		22nF
C503	ECUV1H391JCX	S.M. CAP	50V		390pF
C504	ECEA1HN010UB	ELECT	50V		1μF
C505	ECUV1H331JCX	S.M. CAP	50V		330pF
C506	ECQM1273KZW	FILM	100V		27nF
C507	ECA1HHG100B	ELECT	50V		10μF
C541	ECEA1EN4R7UB	ELECT	25V		4.7μF
C550	ECA1VM471GB	ELECT	35V		470μF
C559	EKC2H471J	CERAMIC	500V		470pF
C560	EKC2H471J	CERAMIC	500V		470pF
C561	ECEA2EU100	ELECT	250V		10μF
C562	EKC2H471J	CERAMIC	500V		470pF
C563	ECA1VM471GB	ELECT	35V		470μF
C564	ECA1CM471GB	ELECT	16V		470μF
C565	ECA1VM471GB	ELECT	35V		470μF
C566	EKC2H471J	CERAMIC	500V		470pF
C601	ECJ2YB1H473K	ELECT	350V		47nF
C602	ECUV1H153KBX	S.M. CAP	50V		15nF
C603	ECA1HM010GB	ELECT	50V		1μF
C606	ECJ2VF1H104Z	ELECT	350V		100nF
C607	ECJ2VF1H104Z	ELECT	350V		100nF
C608	ECUV1H470JCX	S.M. CAP	50V		47pF
C609	ECUV1H470JCX	S.M. CAP	50V		47pF
C610	ECA1HM101GB	ELECT	50V		100μF
C611	ECJ2VF1H104Z	ELECT	350V		100nF
C612	ECUV1H103KBX	S.M. CAP	50V		10nF

Cct Ref	Parts Number	Description		
C613	ECUV1H103KBX	S.M. CAP	50V	10nF
C614	ECJ2VF1H104Z	ELECT	350V	100nF
C615	ECQM1H224J	FILM	50V	220nF
C616	222236576104	FILM	760V	100nF
C617	ECJ2VF1H104Z	ELECT	350V	100nF
C618	ECA1HM101GB	ELECT	50V	100µF
C619	ECUV1H103KBX	S.M. CAP	50V	10nF
C620	ECUV1H103KBX	S.M. CAP	50V	10nF
C623	ECUV1H104ZFW	S.M. CAP	50V	100nF
C624	ECUV1H560JCX	S.M. CAP	50V	56pF
C625	ECUV1H560JCX	S.M. CAP	50V	56pF
C626	ECUV1H560JCX	S.M. CAP	50V	56pF
C627	ECUV1H560JCX	S.M. CAP	50V	56pF
C628	ECUV1H390JCX	S.M. CAP	50V	39pF
C630	ECUY1H103JCW	S.M. CAP	50V	10nF
C802	ECQU2A823MNB	FILM	200V	82nF
C803	ECKC2H472J	CERAMIC	500V	4.7nF
C804	ECKC2H472J	CERAMIC	500V	4.7nF
C805	ECKC2H472J	CERAMIC	500V	4.7nF
C806	ECKC2H472J	CERAMIC	500V	4.7nF
C807	ECOS2GA101BB	ELECT	400V	100µF
C808	ECQB1H333J	FILM	50V	33nF
C809	ECKC3D471JB	CERAMIC	2KV	470pF
C810	ECA1VM101GB	ELECT	35V	100µF
C812	ECA2CHG221E	ELECT	160V	220µF
C817	ECA1VM101GB	ELECT	35V	100µF
C818	ECKWNA471MBC	CERAMIC	250V	470pF
C820	ECKWNA332MEC	CERAMIC	250V	3.3nF
C821	ECKC3A101J	CERAMIC	1KV	100pF
C853	ECA1EHG102B	ELECT	25V	100pF
C854	ECA1HHG471E	ELECT	50V	470µF
C855	ECJ2VF1H104Z	ELECT	350V	100nF
C856	ECJ2VF1H104Z	ELECT	350V	100nF
C857	ECA1HM101GB	ELECT	50V	100µF
C858	ECA1AM222B	ELECT	10V	100µF
C859	ECJ2VF1H104Z	ELECT	350V	100nF
C860	ECA1HM101GB	ELECT	50V	100µF
C861	ECA1CM102B	ELECT	16V	100µF
C1201	ECA1EM102GB	ELECT	25V	100µF
C1202	ECA1EM101GB	ELECT	25V	100µF
C1203	ECA1EM471GB	ELECT	25V	470µF
C1204	ECUV1H471KBX	S.M. CAP	50V	470pF
C1205	ECUV1H471KBX	S.M. CAP	50V	470pF
C1206	ECUV1H471KBX	S.M. CAP	50V	470pF
C1207	ECUV1H471KBX	S.M. CAP	50V	470pF
C1208	ECUV1H471KBX	S.M. CAP	50V	470pF
C1210	ECJ2YB1H473K	ELECT	350V	47nF
C1218	ECA1HM010GB	ELECT	50V	1µF
C1219	ECJ2VF1H104Z	ELECT	350V	100nF
C1220	ECA0JM101G	ELECT	6.3V	100µF
C1221	ECUV1H331JCX	S.M. CAP	50V	330pF
C1226	ECJ2VF1H104Z	ELECT	350V	100nF
C1227	ECA1HM101GB	ELECT	50V	100µF
C1229	ECUV1H470GCG	S.M. CAP	50V	47pF
C1232	ECJ2VF1H104Z	ELECT	350V	100nF
C1234	ECJ2VF1H104Z	ELECT	350V	100nF
C1241	ECA1HM101GB	ELECT	50V	100µF
C1244	ECA1CM100GB	ELECT	16V	10µF
C1249	ECJ2VF1H104Z	ELECT	350V	100nF
C1255	ECA1HM101GB	ELECT	50V	100µF
C1256	ECJ2YB1H104K	ELECT	350V	100nF
C1257	ECUV1H561JCX	S.M. CAP	50V	560pF
C1258	ECA1CM100GB	ELECT	16V	10µF
C1259	ECUV1H150JCX	S.M. CAP	50V	15pF
C1260	ECUV1H560JCX	S.M. CAP	50V	56pF
C1261	ECA1HM101GB	ELECT	50V	100µF

Cct Ref	Parts Number	Description		
C1262	ECUV1H390JCX	S.M. CAP	50V	39pF
C1263	ECUV1H390JCX	S.M. CAP	50V	39pF
C1264	ECUV1H390JCX	S.M. CAP	50V	39pF
C1265	ECUV1H560JCX	S.M. CAP	50V	56pF
C3101	ECUV1H101JCX	S.M. CAP	50V	100pF
C3102	ECUV1H561KBX	S.M. CAP	50V	560pF
C3104	ECUV1H102KBX	S.M. CAP	50V	1nF
C3105	ECUV1H101JCX	S.M. CAP	50V	100pF
C3109	ECUV1H561JCX	S.M. CAP	50V	560pF
C3110	222236516684	FILM	160V	100nF
C3113	ECUV1H103KBX	S.M. CAP	50V	10nF
C3115	ECEA1CN100	ELECT	16V	10µF
C3117	ECJ2VF1H104Z	ELECT	350V	100nF
C3118	ECEA1CN100	ELECT	16V	10µF
C3119	ECEA1CN100	ELECT	16V	10µF
C3120	ECA1CM471GB	ELECT	16V	470µF
C3121	ECA1HM4R7GB	ELECT	50V	4.7µF
L202	ECCR1H560J	CERAMIC	50V	4.7µF
<b>TERMINALS AND LINKS</b>				
JK3102	TJB16663	A.V. TERMINAL		
<b>SWITCHES</b>				
S801	ESB91232A	SWITCH		
S1201	EVQ23405R	SWITCH		
S1202	EVQ23405R	SWITCH		
S1203	EVQ23405R	SWITCH		
S1204	EVQ23405R	SWITCH		
S1205	EVQ23405R	SWITCH		
<b>DIFFERENCES FOR MODEL TC-14S4RF</b>				
<b>MECHANICAL PARTS</b>				
3	TKU8E00340	BACK COVER		
4	UR51EC780	BATTERY COVER (REMOTE)		
5	A34EAC01X13	C.R.T.		
6	TKY8E220	CABINET		
9	THE492-4	CRT FIXING SCREW		
10	TLK8E05134	DEGAUSS COIL		
11	TNP8EE007CH	E P.C.B.		
12	TBM8E1845	MODEL LABEL		
13	TBX8E051	POWER BUTTON		
14	TNQ8E0460	REMOTE CONTROL		
15	EASG9D541B2	SPEAKER		
16	TNP8EY011AJ	Y P.C.B.		
<b>MISCELLANEOUS COMPONENTS</b>				
	TBM8E1727	PANASONIC BADGE		
	TKP8E1226	SMOKED PANEL		
	TPC8E4693	OUTER CARTON		
	TPD8E665	BOTTOM CUSHION		
	TPD8E666	TOP CUSHION		
	TSA120026	MONOPOLE ANTENNA		
D805	232266296319	THERMISTOR		
PKN1	TBX8E052	KEY PAD		
S351	0330660069	CRT SOCKET		
<b>INSTRUCTION BOOKS</b>				
	TQB8E2514	GERMAN/DUTCH/ITALIAN		
	TQB8E2661	FRENCH/SPANISH		
<b>I.C.s</b>				
IC1201	SDA5222V23	MICRO PROCESSOR		
IC1205	XL24D02P-1GF	EAROM *		
<b>DIODES</b>				
D1228	1SS355TE-17	DIODE		
<b>TRANSISTORS</b>				
	2SC1473-RN	TRANSISTOR		

Cct Ref	Parts Number	Description			
Q351	TYMQ0003	TRANSISTOR			
Q352	TYMQ0003	TRANSISTOR			
Q353	TYMQ0003	TRANSISTOR			
<b>TRANSFORMERS</b>					
T552	ZTFK33004A	F.B.T.			▲
T801	ETS29AK237AC	TRANSFORMER			▲
<b>RESISTORS</b>					
C1230	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
C1245	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
JYAK	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R252	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R254	ERJ6GEYJ560	S.M.CARB	0.1W	5%	56 Ω
R255	ERJ6GEYJ271	S.M.CARB	0.1W	5%	270 Ω
R351	ERG1SJ123E	METAL	1W	5%	12K Ω
R352	ERG1SJ123E	METAL	1W	5%	12K Ω
R353	ERG1SJ123E	METAL	1W	5%	12K Ω
R366	ERJ6GEYJ561	S.M.CARB	0.1W	5%	560 Ω
R367	ERJ6GEYJ681	S.M.CARB	0.1W	5%	680 Ω
R368	ERJ6GEYJ681	S.M.CARB	0.1W	5%	680 Ω
R369	ERJ6GEYJ682	S.M.CARB	0.1W	5%	6K8 Ω
R370	ERJ6GEYJ682	S.M.CARB	0.1W	5%	6K8 Ω
R371	ERJ6GEYJ682	S.M.CARB	0.1W	5%	6K8 Ω
R375	ERDS1TJ182	CARBON	0.5W	10%	1K8 Ω
R386	ERDS1TJ182	CARBON	0.5W	10%	1K8 Ω
R387	ERDS1TJ182	CARBON	0.5W	10%	1K8 Ω
R453	ERDS1TJ1R5	CARBON	0.5W	5%	1R5 Ω
R506	ERJ6GEYJ753	S.M.CARB	0.1W	5%	75K Ω
R508	ERJ6GEYJ753	S.M.CARB	0.1W	5%	75K Ω
R519	ERJ6GEYJ754	S.M.CARB	0.1W	5%	750K Ω
R522	ERJ6GEYJ394	S.M.CARB	0.1W	5%	390K Ω
R542	ERJ6GEYJ242	S.M.CARB	0.1W	5%	2K4 Ω
R543	ERJ6GEYJ682	S.M.CARB	0.1W	5%	6K8 Ω
R551	ERDS1TJ1R5	CARBON	0.5W	5%	1R5 Ω
R552	ERDS1TJ1R5	CARBON	0.5W	5%	1R5 Ω
R555	ERQ1CJP1R0	FUSIBLE	1W	5%	1 Ω ▲
R557	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω
R560	ERDS1TJ304	CARBON	0.5W	5%	300K Ω
R1215	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R1216	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R1217	ERJ6ENF1202	S.M.CARB	0.1W	1%	1K2 Ω
R1218	ERO50PKF6203	METAL	0.5W	1%	620K Ω ▲
R1230	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R1242	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R1252	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω
R1253	ERJ6GEYJ393	S.M.CARB	0.1W	5%	39K Ω
R1275	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R1291	ERJ6GEYJ432	S.M.CARB	0.1W	5%	4K3 Ω
<b>CAPACITORS</b>					
C255	B32529-C224	FILM	50V		220nF
C351	ECUV1H151JCX	S.M. CAP	50V		150pF
C352	ECUV1H151JCX	S.M. CAP	50V		150pF
C353	ECUV1H181JCX	S.M. CAP	50V		180pF
C453	ECEA1HU101	ELECT	50V		100μF
C454	ECA1HM2R2GB	ELECT	50V		2.2μF
C551	ECWH12H822J	FILM	1250V		8.2nF
C552	ECQE6104K	FILM	600V		100nF ▲
C554	ECKC3D331J	CERAMIC	2KV		330pF ▲
C557	ECWF2H474J	FILM	500V		470nF ▲
C558	ECEA2CG010	ELECT	160V		1μF
C567	ECA1VM471GB	ELECT	35V		470μF
C811	ECA1JM100GB	ELECT	63V		10μF
C1228	ECUV1H560GCC	S.M. CAP	50V		56pF
C1268	ECA1HM101GB	ELECT	50V		100μF

Cct Ref	Parts Number	Description			
<b>DIFFERENCES FOR MODEL TC-21S4RF</b>					
<b>MECHANICAL PARTS</b>					
3	TKU8E00213	BACK COVER			▲
4	UR51EC780	BATTERY COVER (REMOTE)			
5	A51EAL135X13	C.R.T.			▲
6	TKY8E310	CABINET			▲
7	TMZ8E002	CHASSIS RAIL LEFT			
8	TMZ8E001	CHASSIS RAIL RIGHT			
9	THT1009R	CRT FIXING SCREW			
10	TLK8E05133	DEGAUSS COIL			▲
11	TNP8EE007DE	E P.C.B.			▲
12	TBM8E1909	MODEL LABEL			
13	TBX8E038	POWER BUTTON			
14	TNQ8E0460	REMOTE CONTROL			
15	EASG12D546A2	SPEAKER			
16	TNP8EY011AH	Y P.C.B.			▲
<b>MISCELLANEOUS COMPONENTS</b>					
	TBM8E1626	PANASONIC BADGE			▲
	TKP8E1164-1	DOOR LID			
	TPC8E4722	OUTER CARTON			
	TPD8E627	TOP CUSHION			
	TPD8E628	BOTTOM CUSHION			
D805	232266296706	THERMISTOR			▲
PKN1	TBX8E039	KEY PAD			
R1223	P1201	SENSOR			
S351	TJSC00300	CRT SOCKET			
<b>INSTRUCTION BOOKS</b>					
	TQB8E2514	GERMAN/DUTCH/ITALIAN			▲
	TQB8E2661	FRENCH/SPANISH			▲
<b>I.C.s</b>					
IC1201	SDA5222V23	MICRO PROCESSOR			
IC1205	XL24C02P-1HF	EAROM *			
<b>DIODES</b>					
D1226	MA700TA5	DIODE			
D1227	MA700TA5	DIODE			
D1228	1SS355TE-17	DIODE			
<b>TRANSISTORS</b>					
Q351	2SC4714RL2	TRANSISTOR			
Q352	2SC4714RL2	TRANSISTOR			
Q353	2SC4714RL2	TRANSISTOR			
Q507	BC847B	TRANSISTOR			
Q1217	2SD965-R	TRANSISTOR			
<b>TRANSFORMERS</b>					
T552	FSU-21A002	F.B.T.			▲
T801	ETS29AK227AC	TRANSFORMER			▲
<b>COILS</b>					
L551	ELH5L4104	COIL			
L553	ELH16F713	COIL			
<b>RESISTORS</b>					
C1230	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
C1245	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
JC13	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R252	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω
R254	ERJ6GEYJ121	S.M.CARB	0.1W	5%	120 Ω
R255	ERJ6GEYJ181	S.M.CARB	0.1W	5%	180 Ω
R351	ERG2ANJ103	METAL	2W	5%	10K Ω ▲
R352	ERG2ANJ103	METAL	2W	5%	10K Ω ▲
R353	ERG2ANJ103	METAL	2W	5%	10K Ω ▲
R366	ERJ6GEYJ391	S.M.CARB	0.1W	5%	390 Ω
R367	ERJ6GEYJ431	S.M.CARB	0.1W	5%	430 Ω
R368	ERJ6GEYJ431	S.M.CARB	0.1W	5%	430 Ω

Cct Ref	Parts Number	Description				
R369	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7 Ω	
R370	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7 Ω	
R371	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7 Ω	
R375	ERDS1TJ272	CARBON	0.5W	5%	2K7 Ω	
R378	ERD25TJ274	CARBON	0.25W	5%	270K Ω	
R379	ERJ6GEYJ183	S.M.CARB	0.1W	5%	18K Ω	
R380	ERJ6GEYJ684	S.M.CARB	0.1W	5%	680K Ω	
R386	ERDS1TJ272	CARBON	0.5W	5%	2K7 Ω	
R387	ERDS1TJ272	CARBON	0.5W	5%	2K7 Ω	
R453	ERDS1TJ1R0	CARBON	0.5W	5%	1 Ω	
R506	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15K Ω	
R508	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15K Ω	
R519	ERJ6GEYJ823	S.M.CARB	0.1W	5%	82K Ω	
R522	ERJ6GEYJ684	S.M.CARB	0.1W	5%	680K Ω	
R523	ERJ6GEYJ154	S.M.CARB	0.1W	5%	150K Ω	
R524	ERJ6GEYJ184	S.M.CARB	0.1W	5%	180K Ω	
R525	ERJ6GEYJ184	S.M.CARB	0.1W	5%	180K Ω	
R542	ERJ6GEYJ332	S.M.CARB	0.1W	5%	3K3 Ω	
R543	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2 Ω	
R553	ERQ1CJP102	FUSIBLE	1W	5%	1K Ω	△
R555	ERQ1CJP4R7	FUSIBLE	1W	5%	4R7 Ω	△
R557	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R560	ERDS1TJ204	CARBON	0.5W	5%	200K Ω	
R1215	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
R1216	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
R1217	ERJ6ENF7501	S.M.CARB	0.1W	1%	7K5 Ω	
R1218	ERO50PKF5603	METAL	0.5W	1%	560K Ω	△
R1224	ERJ6GEYJ683	S.M.CARB	0.1W	5%	68K Ω	
R1225	ERJ6GEYJ433	S.M.CARB	0.1W	5%	43K Ω	
R1230	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R1242	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
R1251	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
R1252	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω	
R1253	ERJ6GEYJ393	S.M.CARB	0.1W	5%	39K Ω	
R1275	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
R1279	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
R1280	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
R1291	ERJ6GEYJ432	S.M.CARB	0.1W	5%	4K3 Ω	
R1304	ERJ6GEYJ184	S.M.CARB	0.1W	5%	180K Ω	
R1305	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7 Ω	
R1308	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω	
<b>CAPACITORS</b>						
C255	ECQM1H104J	FILM	50V		100nF	
C351	ECUV1H221JCX	S.M. CAP	50V		220pF	
C352	ECUV1H271JCX	S.M. CAP	50V		270pF	
C353	ECUV1H221JCX	S.M. CAP	50V		220pF	
C369	ECA1HMR47GB	ELECT	50V		220pF	
C453	ECA1HHG101B	ELECT	50V		100µF	
C454	ECA1HHG2R2B	ELECT	50V		100µF	
C508	ECUV1H102JCX	S.M. CAP	50V		1nF	
C551	ECWH12H103J	FILM	1250V		10nF	
C552	ECQF4273JZH	FILM	400V		27nF	△
C555	ECKC3D152J	CERAMIC	2KV		1.5nF	△
C557	ECWF2H394JZ	FILM	500V		390nF	△
C558	ECEA2CU4R7	ELECT	160V		4.7µF	
C567	ECA1VHG471B	ELECT	35V		47µF	
C811	ECA1JHG100B	ELECT	6.3V		100µF	
C1228	ECUV1H470GCG	S.M. CAP	50V		47pF	
C1266	ECA1CM100GB	ELECT	16V		10µF	
C1268	ECA1HM101GB	ELECT	50V		100µF	
<b>DIFFERENCES FOR MODEL TX-14S4TF</b>						
<b>MECHANICAL PARTS</b>						
3	TKU8E00340	BACK COVER				△

Cct Ref	Parts Number	Description				
4	UR51EC904A	BATTERY COVER (REMOTE)				
5	A34EAC01X13	C.R.T.				△
6	TKY8E220	CABINET				△
9	THE492-4	CRT FIXING SCREW				
10	TLK8E05134	DEGAUSS COIL				△
11	TNP8EE007CD	E P.C.B.				△
12	TBM8E1846	MODEL LABEL				
13	TBX8E051	POWER BUTTON				
14	EUR511300	REMOTE CONTROL				
15	EASG9D541B2	SPEAKER				
16	TNP8EY011AJ	Y P.C.B.				△
<b>MISCELLANEOUS COMPONENTS</b>						
	TBM8E1727	PANASONIC BADGE				
	TKP8E1226	SMOKED PANEL				
	TPC8E4693	OUTER CARTON				
	TPD8E665	BOTTOM CUSHION				
	TPD8E666	TOP CUSHION				
	TSA120026	MONOPOLE ANTENNA				
D805	232266296319	THERMISTOR				△
PKN1	TBX8E052	KEY PAD				
S351	0330660069	CRT SOCKET				
<b>INSTRUCTION BOOKS</b>						
	TQB8E2518	GERMAN/DUTCH/ITALIAN				△
	TQB8E2660	FRENCH/SPANISH				△
<b>I.C.s</b>						
IC1201	SDA5254V31	MICRO PROCESSOR				
IC1205	XL24C02P-1GF	EAROM *				
<b>DIODES</b>						
D1225	MA165TA5	DIODE				
<b>TRANSISTORS</b>						
	2SC1473-RN	TRANSISTOR				
Q351	TYMQ0003	TRANSISTOR				
Q352	TYMQ0003	TRANSISTOR				
Q353	TYMQ0003	TRANSISTOR				
Q1214	BC857B	TRANSISTOR				
Q1215	BC857B	TRANSISTOR				
Q1216	BC847B	TRANSISTOR				
<b>TRANSFORMERS</b>						
T552	ZTFK33004A	F.B.T.				△
T801	ETS29AK237AC	TRANSFORMER				△
<b>COILS</b>						
L1206	EXCELSA35T	COIL				
<b>RESISTORS</b>						
JYAK	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω	
JC24	ERJ8GEY0R00	S.M.CARB	.125W	5%	0 Ω	
R252	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω	
R254	ERJ6GEYJ560	S.M.CARB	0.1W	5%	56 Ω	
R255	ERJ6GEYJ271	S.M.CARB	0.1W	5%	270 Ω	
R351	ERG1SJ123E	METAL	1W	5%	12K Ω	
R352	ERG1SJ123E	METAL	1W	5%	12K Ω	
R353	ERG1SJ123E	METAL	1W	5%	12K Ω	
R366	ERJ6GEYJ561	S.M.CARB	0.1W	5%	560 Ω	
R367	ERJ6GEYJ681	S.M.CARB	0.1W	5%	680 Ω	
R368	ERJ6GEYJ681	S.M.CARB	0.1W	5%	680 Ω	
R369	ERJ6GEYJ682	S.M.CARB	0.1W	5%	6K8 Ω	
R370	ERJ6GEYJ682	S.M.CARB	0.1W	5%	6K8 Ω	
R371	ERJ6GEYJ682	S.M.CARB	0.1W	5%	6K8 Ω	
R375	ERDS1TJ182	CARBON	0.5W	10%	1K8 Ω	
R386	ERDS1TJ182	CARBON	0.5W	10%	1K8 Ω	
R387	ERDS1TJ182	CARBON	0.5W	10%	1K8 Ω	
R453	ERDS1TJ1R5	CARBON	0.5W	5%	1R5 Ω	
R506	ERJ6GEYJ753	S.M.CARB	0.1W	5%	75K Ω	
R508	ERJ6GEYJ753	S.M.CARB	0.1W	5%	75K Ω	

Cct Ref	Parts Number	Description			
R519	ERJ6GEYJ754	S.M.CARB	0.1W	5%	750K Ω
R522	ERJ6GEYJ394	S.M.CARB	0.1W	5%	390K Ω
R542	ERJ6GEYJ242	S.M.CARB	0.1W	5%	2K4 Ω
R543	ERJ6GEYJ682	S.M.CARB	0.1W	5%	6K8 Ω
R551	ERDS1TJ1R5	CARBON	0.5W	5%	1R5 Ω
R552	ERDS1TJ1R5	CARBON	0.5W	5%	1R5 Ω
R555	ERQ1CJP1R0	FUSIBLE	1W	5%	1 Ω ▲
R557	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω
R560	ERDS1TJ304	CARBON	0.5W	5%	300K Ω
R1213	ERJ6GEYJ392	S.M.CARB	0.1W	5%	3K9 Ω
R1215	ERJ6GEYJ682	S.M.CARB	0.1W	5%	6K8 Ω
R1216	ERJ6GEYJ682	S.M.CARB	0.1W	5%	6K8 Ω
R1217	ERJ6ENF1202	S.M.CARB	0.1W	1%	1K2 Ω
R1218	ERO50PKF6203	METAL	0.5W	1%	620K Ω ▲
R1230	ERJ6GEYJ823	S.M.CARB	0.1W	5%	82K Ω
R1241	ERJ6GEYJ822	S.M.CARB	0.1W	5%	8K2 Ω
R1242	ERJ6GEYJ434	S.M.CARB	0.1W	5%	43K Ω
R1252	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω
R1253	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7 Ω
R1256	ERJ6GEYJ122	S.M.CARB	0.1W	5%	1K2 Ω
R1275	ERJ6GEYJ225	S.M.CARB	0.1W	5%	2M2 Ω
R1277	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R1278	ERJ6GEYJ182	S.M.CARB	0.1W	5%	1K8 Ω
R1290	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R1291	ERJ6GEYJ682	S.M.CARB	0.1W	5%	6K8 Ω
R1292	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R1306	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R1307	ERJ6GEYJ182	S.M.CARB	0.1W	5%	1K8 Ω

#### CAPACITORS

C255	B32529-C224	FILM	50V	220nF
C351	ECUV1H151JCX	S.M. CAP	50V	150pF
C352	ECUV1H151JCX	S.M. CAP	50V	150pF
C353	ECUV1H181JCX	S.M. CAP	50V	180pF
C453	ECEA1HU101	ELECT	50V	100μF
C454	ECA1HM2R2GB	ELECT	50V	2.2μF
C551	ECWH12H822J	FILM	1250V	8.2nF
C552	ECQE6104K	FILM	600V	100nF ▲
C554	ECKC3D331J	CERAMIC	2KV	330pF ▲
C557	ECWF2H474J	FILM	500V	470nF ▲
C558	ECEA2CG010	ELECT	160V	1μF
C567	ECA1VM471GB	ELECT	35V	470μF
C811	ECA1JM100GB	ELECT	63V	10μF
C1228	ECUV1H560GCG	S.M. CAP	50V	56pF
C1230	ECJ2VB1H333K	ELECT	350V	33nF
C1231	222236516154	FILM	160V	33nF
C1242	ECUV1H120JCX	S.M. CAP	50V	12pF
C1245	ECJ2VB1H333K	ELECT	350V	33nF
C1250	ECUV1H151JCX	S.M. CAP	50V	150pF
C1251	ECQM1H104J	FILM	50V	100nF
C1268	ECA1CM220GB	ELECT	16V	22μF
C1269	ECUV1H181JCX	S.M. CAP	50V	180pF

#### DIFFERENCES FOR MODEL TX-21S4TF

#### MECHANICAL PARTS

3	TKU8E00213	BACK COVER	▲
4	UR51EC904A	BATTERY COVER (REMOTE)	
5	A51EAL135X13	C.R.T.	▲
6	TKY8E310	CABINET	▲
7	TMZ8E002	CHASSIS RAIL LEFT	
8	TMZ8E001	CHASSIS RAIL RIGHT	
9	THT1009R	CRT FIXING SCREW	
10	TLK8E05133	DEGAUSS COIL	▲
11	TNP8EE007DF	E P.C.B.	▲
12	TBM8E1908	MODEL LABEL	

Cct Ref	Parts Number	Description			
13	TBX8E038	POWER BUTTON			
14	EUR511300	REMOTE CONTROL			
15	EASG12D546A2	SPEAKER			
16	TNP8EY011AH	Y P.C.B.			▲
<b>MISCELLANEOUS COMPONENTS</b>					
	TBM8E1626	PANASONIC BADGE			▲
	TKP8E1164-1	DOOR LID			
	TPC8E4722	OUTER CARTON			
	TPD8E627	TOP CUSHION			
	TPD8E628	BOTTOM CUSHION			
D805	232266296706	THERMISTOR			▲
PKN1	TBX8E039	KEY PAD			
R1223	P1201	SENSOR			
S351	TJSC00300	CRT SOCKET			
<b>INSTRUCTION BOOKS</b>					
	TQB8E2518	GERMAN/DUTCH/ITALIAN			▲
	TQB8E2660	FRENCH/SPANISH			▲
<b>I.C.s</b>					
IC1201	SDA5254V31	MICRO PROCESSOR			
IC1205	XL24D02P-1HF	EAROM *			
<b>DIODES</b>					
D1225	MA165TA5	DIODE			
D1226	MA700TA5	DIODE			
D1227	MA700TA5	DIODE			
<b>TRANSISTORS</b>					
Q351	2SC4714RL2	TRANSISTOR			
Q352	2SC4714RL2	TRANSISTOR			
Q353	2SC4714RL2	TRANSISTOR			
Q507	BC847B	TRANSISTOR			
Q1214	BC857B	TRANSISTOR			
Q1215	BC857B	TRANSISTOR			
Q1216	BC847B	TRANSISTOR			
Q1217	2SD965-R	TRANSISTOR			
<b>TRANSFORMERS</b>					
T552	FSU-21A002	F.B.T.			▲
T801	ETS29AK227AC	TRANSFORMER			▲
<b>COILS</b>					
L551	ELH5L4104	COIL			
L553	ELH16F713	COIL			
L1206	EXCELSA35T	COIL			
<b>RESISTORS</b>					
JC13	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
JC24	ERJ8GEY0R00	S.M.CARB	.125W	5%	0 Ω
R252	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω
R254	ERJ6GEYJ121	S.M.CARB	0.1W	5%	120 Ω
R255	ERJ6GEYJ181	S.M.CARB	0.1W	5%	180 Ω
R351	ERG2ANJ103	METAL	2W	5%	10K Ω ▲
R352	ERG2ANJ103	METAL	2W	5%	10K Ω ▲
R353	ERG2ANJ103	METAL	2W	5%	10K Ω ▲
R366	ERJ6GEYJ391	S.M.CARB	0.1W	5%	390 Ω
R367	ERJ6GEYJ431	S.M.CARB	0.1W	5%	430 Ω
R368	ERJ6GEYJ431	S.M.CARB	0.1W	5%	430 Ω
R369	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7 Ω
R370	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7 Ω
R371	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7 Ω
R375	ERDS1TJ272	CARBON	0.5W	5%	2K7 Ω
R378	ERD25TJ274	CARBON	0.25W	5%	270K Ω
R379	ERJ6GEYJ183	S.M.CARB	0.1W	5%	18K Ω
R380	ERJ6GEYJ684	S.M.CARB	0.1W	5%	680K Ω
R386	ERDS1TJ272	CARBON	0.5W	5%	2K7 Ω
R387	ERDS1TJ272	CARBON	0.5W	5%	2K7 Ω
R453	ERDS1TJ1R0	CARBON	0.5W	5%	1 Ω
R506	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15K Ω

Cct Ref	Parts Number	Description			
R508	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15K Ω
R519	ERJ6GEYJ823	S.M.CARB	0.1W	5%	82K Ω
R522	ERJ6GEYJ684	S.M.CARB	0.1W	5%	680K Ω
R523	ERJ6GEYJ154	S.M.CARB	0.1W	5%	150K Ω
R524	ERJ6GEYJ184	S.M.CARB	0.1W	5%	180K Ω
R525	ERJ6GEYJ184	S.M.CARB	0.1W	5%	180K Ω
R542	ERJ6GEYJ332	S.M.CARB	0.1W	5%	3K3 Ω
R543	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2 Ω
R553	ERQ1CJP102	FUSIBLE	1W	5%	1K Ω <sup>△</sup>
R555	ERQ1CJP4R7	FUSIBLE	1W	5%	4R7 Ω <sup>△</sup>
R557	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R560	ERDS1TJ204	CARBON	0.5W	5%	200K Ω
R1213	ERJ6GEYJ392	S.M.CARB	0.1W	5%	3K9 Ω
R1215	ERJ6GEYJ682	S.M.CARB	0.1W	5%	6K8 Ω
R1216	ERJ6GEYJ682	S.M.CARB	0.1W	5%	6K8 Ω
R1217	ERJ6ENF7501	S.M.CARB	0.1W	1%	7K5 Ω
R1218	ERO50PKF5603	METAL	0.5W	1%	560K Ω <sup>△</sup>
R1224	ERJ6GEYJ683	S.M.CARB	0.1W	5%	68K Ω
R1225	ERJ6GEYJ433	S.M.CARB	0.1W	5%	43K Ω
R1230	ERJ6GEYJ823	S.M.CARB	0.1W	5%	82K Ω
R1241	ERJ6GEYJ822	S.M.CARB	0.1W	5%	8K2 Ω
R1242	ERJ6GEYJ434	S.M.CARB	0.1W	5%	43K Ω
R1251	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R1252	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100 Ω
R1253	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7 Ω
R1256	ERJ6GEYJ122	S.M.CARB	0.1W	5%	1K2 Ω
R1275	ERJ6GEYJ225	S.M.CARB	0.1W	5%	2M2 Ω
R1277	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R1278	ERJ6GEYJ182	S.M.CARB	0.1W	5%	1K8 Ω
R1279	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R1280	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R1290	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R1291	ERJ6GEYJ752	S.M.CARB	0.1W	5%	7K5 Ω
R1292	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10K Ω
R1304	ERJ6GEYJ184	S.M.CARB	0.1W	5%	180K Ω
R1305	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7 Ω
R1306	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0 Ω
R1307	ERJ6GEYJ182	S.M.CARB	0.1W	5%	1K8 Ω
R1308	ERJ6GEYJ562	S.M.CARB	0.1W	5%	5K6 Ω
<b>CAPACITORS</b>					
C255	ECQM1H104J	FILM	50V		100nF
C351	ECUV1H221JCX	S.M. CAP	50V		220pF
C352	ECUV1H271JCX	S.M. CAP	50V		270pF
C353	ECUV1H221JCX	S.M. CAP	50V		220pF
C369	ECA1HMR47GB	ELECT	50V		220pF
C453	ECA1HHG101B	ELECT	50V		100µF
C454	ECA1HHG2R2B	ELECT	50V		100µF
C508	ECUV1H102JCX	S.M. CAP	50V		1nF
C551	ECWH12H103J	FILM	1250V		10nF
C552	ECQF4273JZH	FILM	400V		27nF <sup>△</sup>
C555	ECKC3D152J	CERAMIC	2KV		1.5nF <sup>△</sup>
C557	ECWF2H394JZ	FILM	500V		390nF <sup>△</sup>
C558	ECEA2CU4R7	ELECT	160V		4.7µF
C567	ECA1VHG471B	ELECT	35V		47µF
C811	ECA1JHG100B	ELECT	6.3V		100µF
C1228	ECUV1H470GCG	S.M. CAP	50V		47pF
C1230	ECJ2VB1H333K	ELECT	350V		33nF
C1231	222236516154	FILM	160V		33nF
C1242	ECUV1H120JCX	S.M. CAP	50V		12pF
C1245	ECJ2VB1H333K	ELECT	350V		33nF
C1250	ECUV1H151JCX	S.M. CAP	50V		150pF
C1251	ECQM1H104J	FILM	50V		100nF
C1266	ECA1CM100GB	ELECT	16V		10µF
C1268	ECA1CM220GB	ELECT	16V		22µF
C1269	ECUV1H181JCX	S.M. CAP	50V		180pF

Cct Ref	Parts Number	Description
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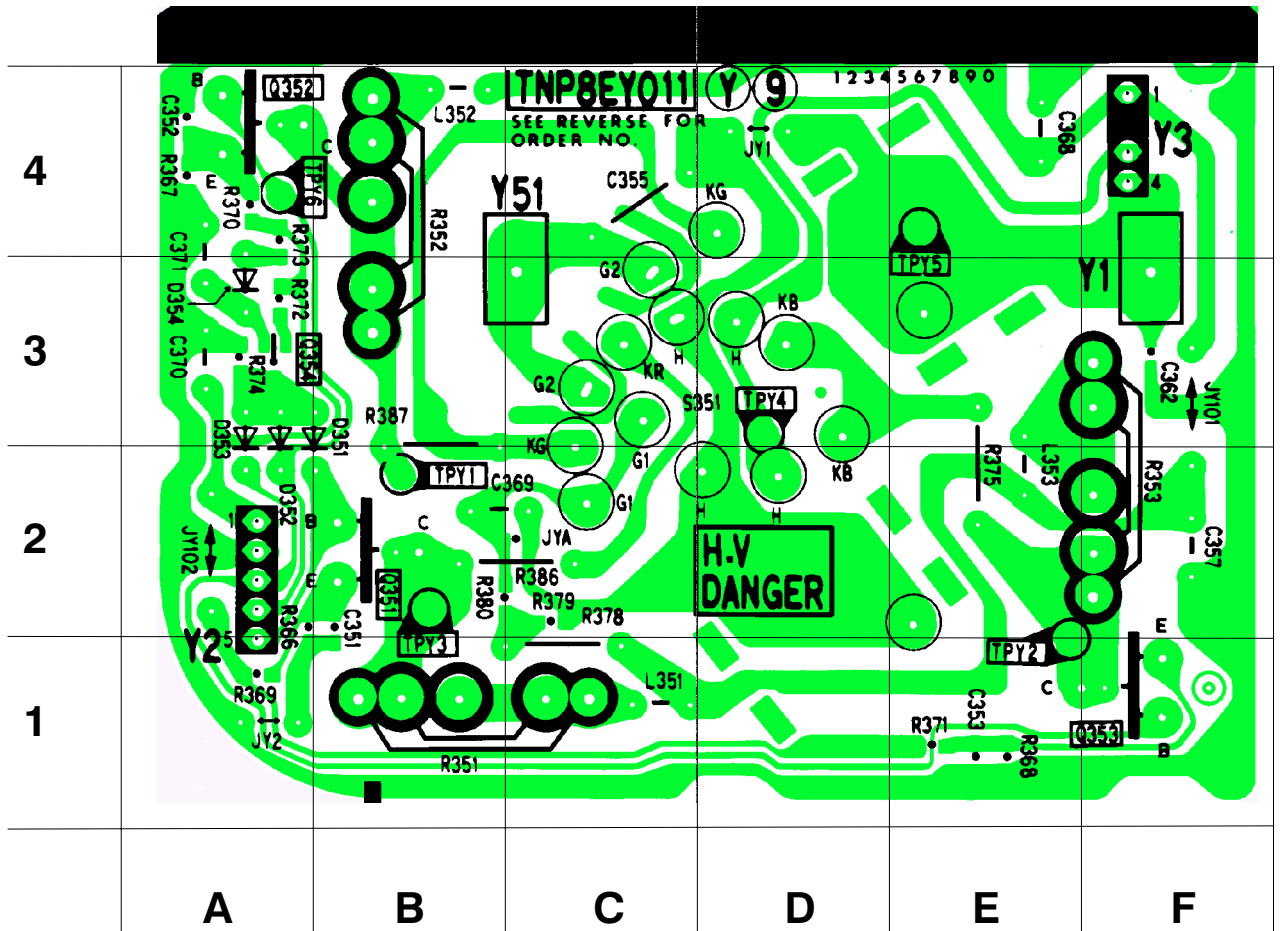


# CONDUCTOR VIEWS

# ANSICHT DER LEITERBAHNEN

## Y - BOARD TNP8EY011

TEST POINT	DIODE	TRANS
TPY1	B2	D351 B3 Q351 B2
TPY2	E1	D352 A3 Q352 A4
TPY3	B2	D353 A3 Q353 F1
TPY4	D3	D354 A3
TPY5	E4	
TPY6	A4	



# E - BOARD TNP8EE007

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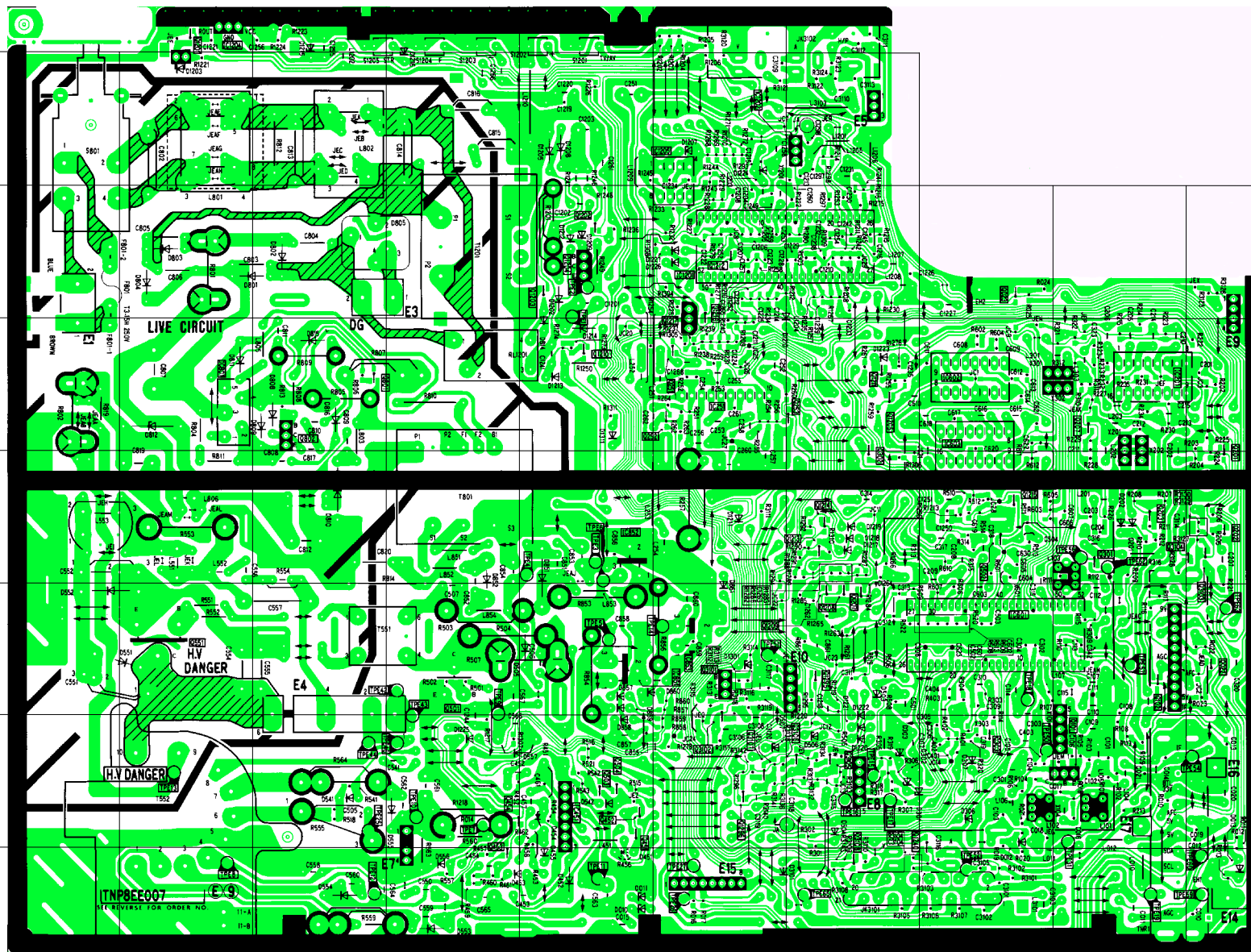
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A

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E

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H

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J


## E - BOARD TNP8EE007

DIODES				TRANS				TEST POINT	
D010	E1	D814	E5	Q022	J3	Q1216	F6	TPE1	E6
D011	E1	D815	C5	Q023	H6	Q1217	F5	TPE2	E6
D012	H2	D816	C5	Q101	I2	Q1240	G2	TPE3	E4
D013	J1	D851	E4	Q102	I3	Q1295	G3	TPE4	E4
D201	J4	D852	D4	Q201	J4	Q1296	F2	TPE5	E3
D202	J4	D857	E3	Q202	J4	Q3101	F3	TPE6	E4
D301	G2	D858	E2	Q203	I4	Q3102	F2	TPE7	D2
D302	G2	D859	E3	Q207	I5	Q3103	J3	TPE8	B1
D303	G2	D860	E3	Q251	F5	Q3105	G2	TPE9	D3
D306	H2	D861	F3	Q252	F5	Q3106	G2	TPE10	D2
D307	H2	D1201	E6	Q252	G5	Q3107	F2	TPE11	E1
D452	E1	D1203	B7	Q301	I4	Q3108	G2	TPE12	C1
D453	D1	D1205	E7	Q302	G4			TPE13	B2
D454	E2	D1207	F7	Q303	H2	I.C.		TPE14	F3
D455	E1	D1208	E7	Q451	E2	IC201	I5	TPE16	G2
D503	G3	D1209	E6	Q452	E2	IC251	F5	TPE17	G2
D504	G2	D1210	G6	Q453	D1	IC451	E2	TPE18	H3
D505	E3	D1211	F4	Q454	D2	IC601	H3	TPE19	I1
D506	G2	D1212	E6	Q501	D3	IC602	H5	TPE25	C2
D507	F2	D1213	E5	Q502	H4	IC603	H5	TPE26	F1
D541	C2	D1214	E5	Q503	E2	IC801	B5	TPE27	F1
D542	F2	D1215	C8	Q504	E2	IC851	E3	TPE31	I2
D551	B3	D1216	D7	Q551	B3	IC852	E4	TPE42	D3
D552	A3	D1217	G4	Q801	C5	IC853	F3	TPE43	D3
D553	D1	D1218	G4	Q802	C5	IC1201	F6	TPE44	C2
D554	C1	D1219	G4	Q1201	B8	IC1202	G7	TPE46	D2
D555	D2	D1220	G2	Q1202	F6	IC1204	B8	TPE50	H2
D556	D1	D1221	G2	Q1203	F6	IC1205	F7	TPE51	F3
D557	F2	D1223	G5	Q1204	F6			TPE52	H1
D801	B6	D1224	F7	Q1205	G5			TPE54	J2
D802	C6	D1225	D2	Q1207	G3			TPE56	I4
D803	B6	D1226	F6	Q1208	G3			TPE57	I3
D804	B6	D1227	F6	Q1209	G3			TPE59	J1
D805	D6	D1301	F3	Q1210	E5			TPE60	J1
D808	C5	D1311	E5	Q1211	G5			TPE62	I4
D809	C5	D3101	F1	Q1212	F6			TPE63	J3
D810	C4			Q1213	G4			TPE65	G1
D811	B5			Q1214	G4				
D812	B5			Q1215	H4				







# SCHEMATIC DIAGRAMS FOR MODELS

**TX-21S4TF/TC-21S4RF**  
**TX-14S4TF/TC-14S4RF**  
**(Z-7 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

- RESISTOR**  
All resistors are carbon 1/4W resistor, unless marked as follows:  
Unit of resistance is OHM ( $\Omega$ ) (k=1,000, M=1,000,000).
- CAPACITORS**  
All capacitors are ceramic 50V, unless marked as follows:  
Unit of capacitance is  $\mu$ F, unless otherwise stated.
- COIL**  
Unit of inductance is  $\mu$ H, unless otherwise stated.
- Components marked 'L' on the schematic diagram shows leadless parts.
- TEST POINT**  
 Test Point position
- EARTH SYMBOL**  
 Chassis Earth (Cold)       Line Earth (Hot)
- VOLTAGE MEASUREMENT**  
Voltage is measured by a DC voltmeter.  
Measurement conditions are as follows:  
Power source                                  AC 220V-240V, 50Hz  
Receiving Signal                              Colour Bar signal (RF)  
All customer controls                        Maximum position
-  Indicates the Video signal path  
 Indicates the Audio signal path  
 Indicates the Vertical/Horizontal signal path
- These schematic diagrams are the latest at the time of printing and are subject to change without notice.

### Remarks

- 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. Take the following precautions:


### Precautions

- Do not touch the hot part, or the hot and cold parts at the same time, as you are liable to a shock hazard.
- Do not short-circuit the hot and cold circuits as electrical components may be damaged.
- 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.
- Make sure to disconnect the power plug before removing the chassis.







# ZEICHENERKLÄRUNG FÜR MODELL

**TX-21S4TF/TC-21S4RF**  
**TX-14S4TF/TC-14S4RF**  
**(Z-7 Chassis)**

## WICHTIGER SICHERHEITSHINWEIS

Teile, die mit einem Hinweis  gekennzeichnet sind, sind wichtig für die Sicherheit. Sollte ein Auswechseln erforderlich sein, sind unbedingt Originalteile einzusetzen.

### Anmerkung

- WIDERSTÄNDE**  
Alle 1/4Watt Widerstände sind Kohlewiderstände, Abweichungen sind folgt gekennzeichnet.  
Die Maßeinheit ist OHM ( $\Omega$ ) (k=1,000 M=1,000,000)
- KONDENSATOREN**  
Alle Kondensatoren sind Keramikausführungen Spannungsfestigkeit 50V. Abweichungen sind wie folgt gekennzeichnet.  
Die Maßeinheit ist  $\mu$ F, wenn keine anderen Bezeichnungen genannt sind
- SPULEN**  
Die Maßeinheit ist  $\mu$ H, Abweichungen sind gekennzeichnet. Mit 'L' gekennzeichnete Teile sind ohne Anschlußdrähte.
- TESTPUNKTE**  
 Kennzeichnung der Testpunktpositio
- MASSE SYMBOL**  
 Erdung am Chassis       Erdung an Masse-Leitung
- SPANNUNGSMESSUNG**  
Spannungsmessungen sind mit einem DC-Voltmeter durchzuführen. Die Meßbedingungen sind folgende:  
Netzspannung                                  AC 220V-240V 50Hz  
Wiedergabe Signal                              Farbbalken-Testbild  
Alle übrigen Einstellungen für Benutzer Sollangaben
-  Videosignalweg  
 Audiosignalweg  
 Signalweg für Hor/Vert. Synchronsignale
- Anderungen im Laufe der Fertigung sind möglich.

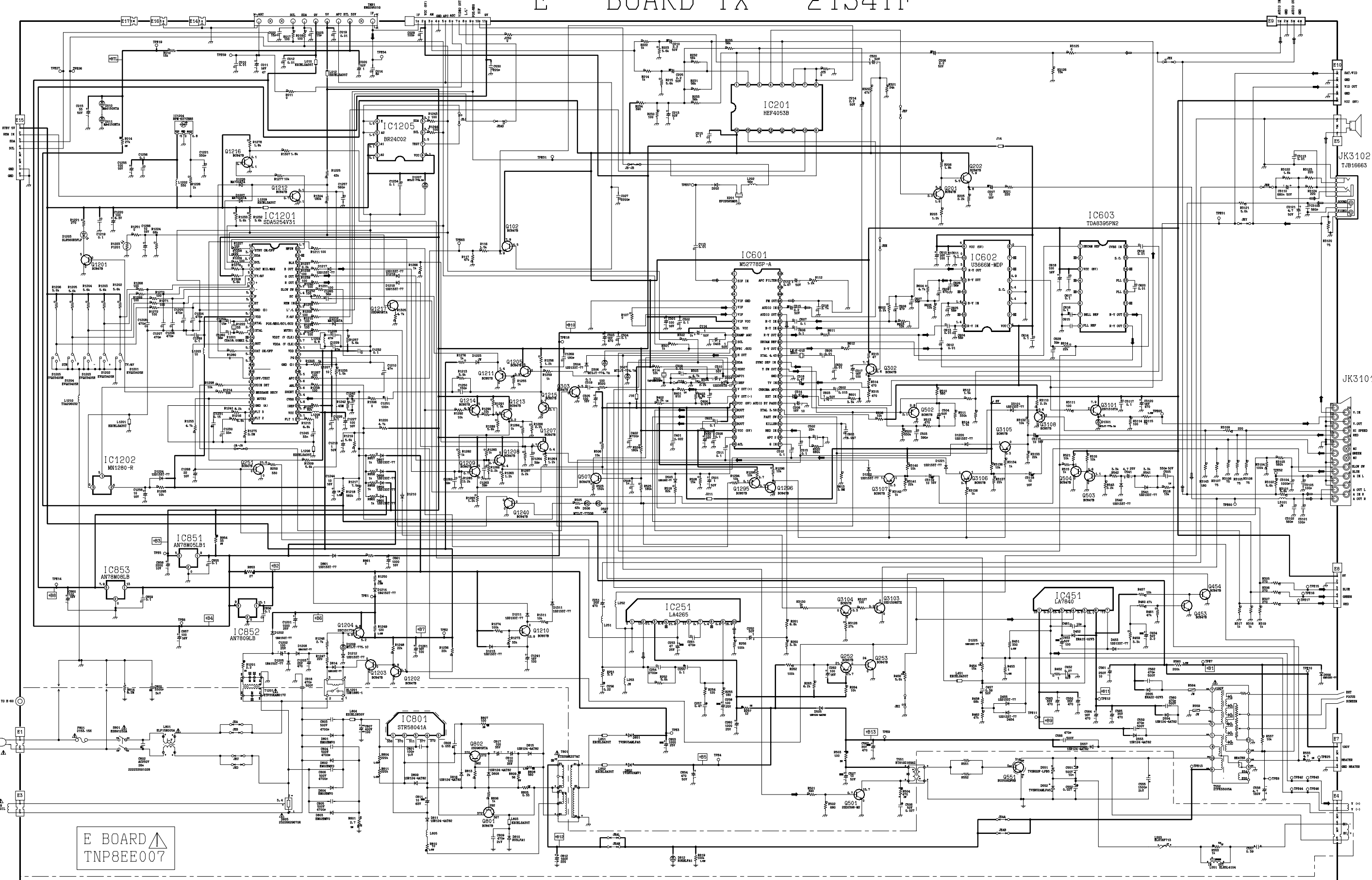
### Bemerkungen

- Das Schaltnetzteil enthält Bereiche, die direkt mit dem Netz verbunden sind. Diese Bereiche sind im Schalplan mit HOT gekennzeichnet. Alle anderen Schaltungen sind mit COLD gekennzeichnet und haben keine direkte Verbindung mit dem Netz.

### Für den netzverbundenen Bereich (HOT) sind folgende Vorsichtsmaßnahmen zu beachten:

- Weder die Leitungen im heißen noch Leitungen im heißen und im kalten Bereich gleichzeitig berühren. Es besteht die Gefahr eines elektrischen Schlages.
- Keinesfalls die Leitungen im heißen Bereich mit denen im kalten Bereich verbinden oder kurzschliessen. Dies kann zur Zerstörung von Bauteilen oder Sicherungen führen. Außerdem ist die elektrische Betriebssicherheit des Gerätes nicht mehr gegeben.
- Keine Messinstrumente gleichzeitig an Leitungen im heißen und kalten Bereich anschliessen. Sicherungen könnten zerstört werden. Die Erde des Messinstrumentes immer mit der des prüfenden Schaltkreises verbinden.
- Vor Ausbau des Chassis, Stecker aus der Netzsteckdose ziehen.

# E - BOARD TX - 21S4TF



E BOARD  
TNP8EE007

JK3102  
TJB16663

JK3101

BT  
L1  
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BLUE  
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RED

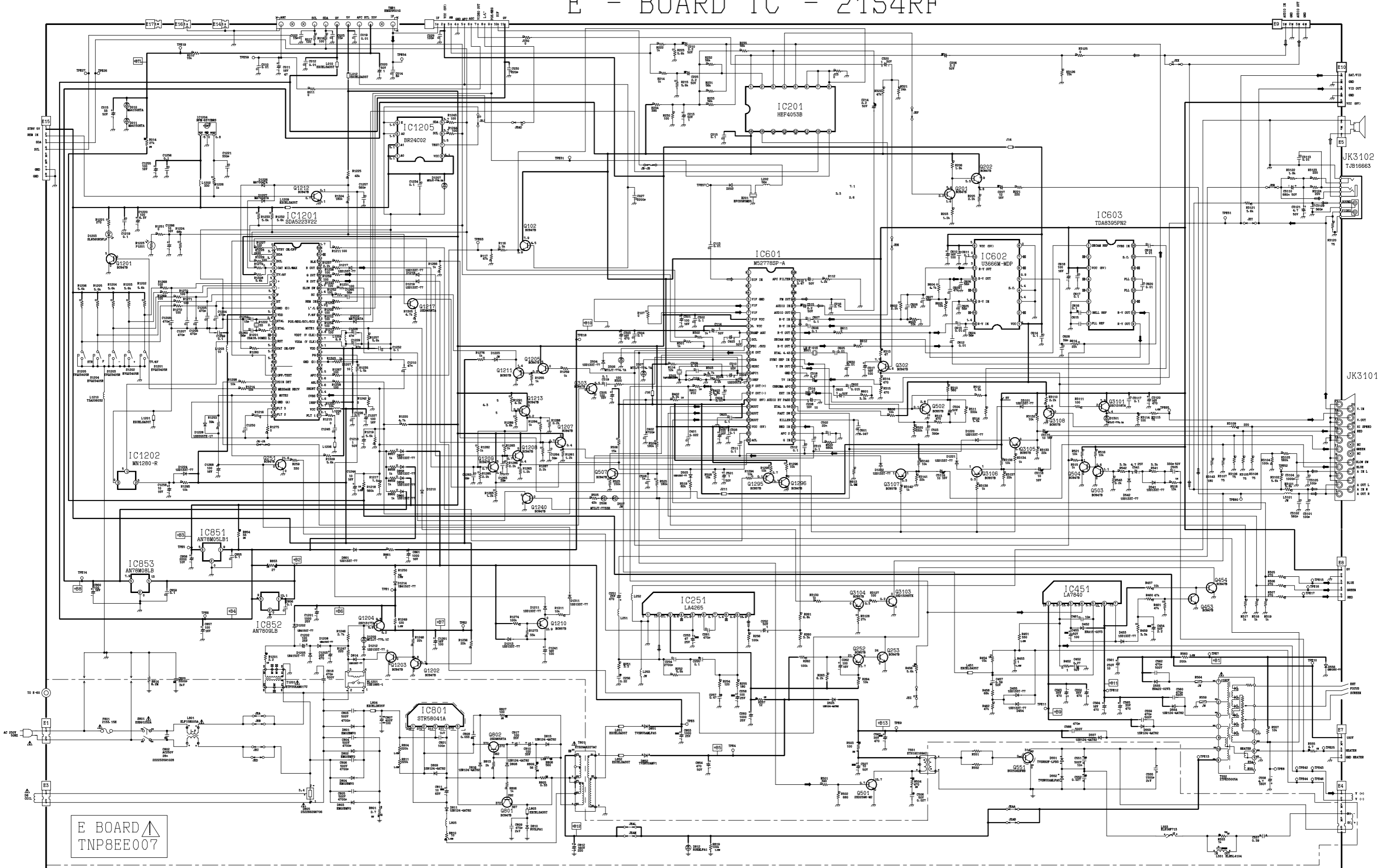
BT  
FOCUS  
SCREEN

BT  
HEATER  
RED HEATER

BT  
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3

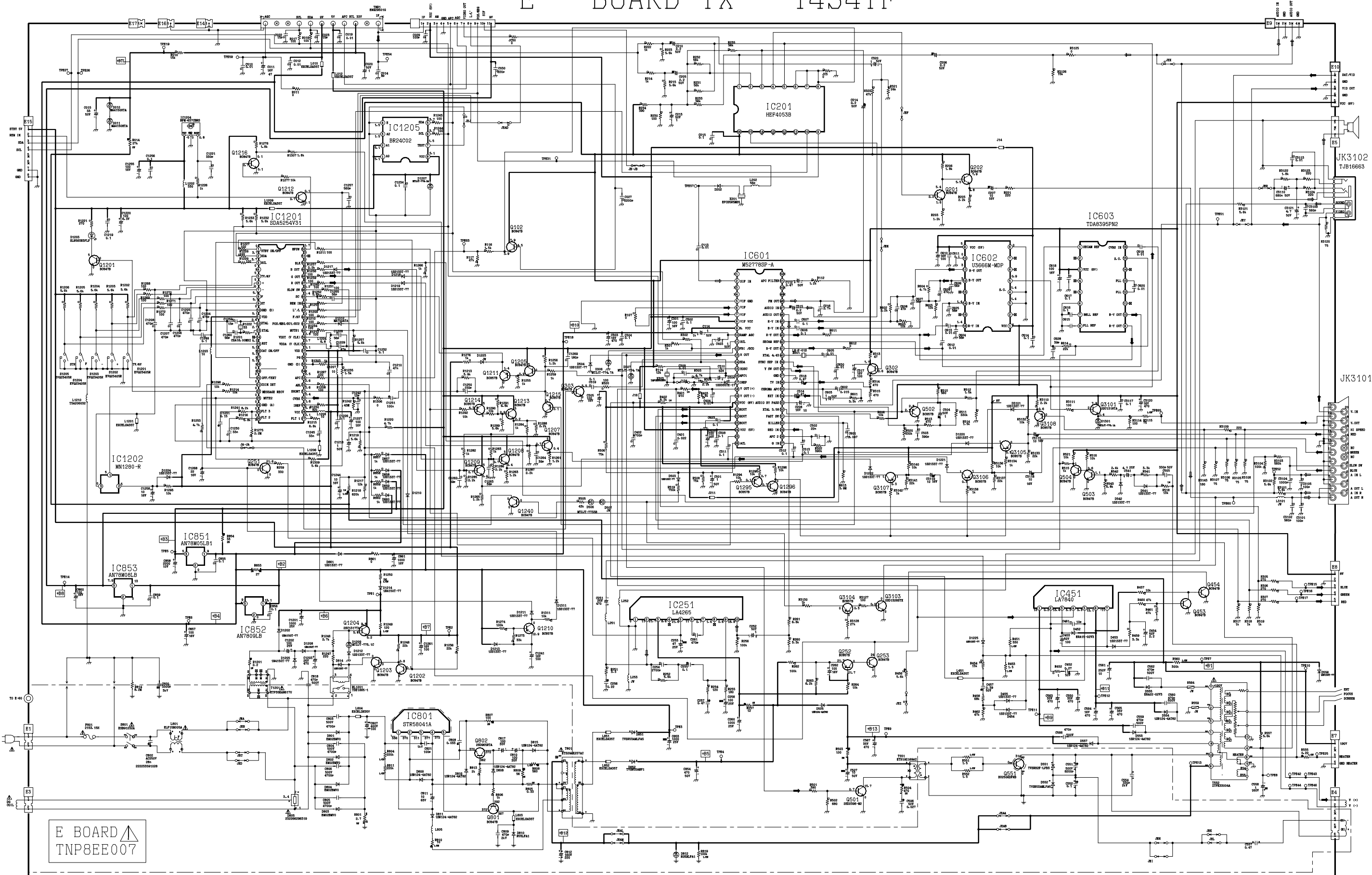
BT  
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# E - BOARD TC - 21S4RF



E BOARD  
TNP8EE007

# E - BOARD TX - 14S4TF



E BOARD  
TNP8EE007

JK3102  
TJB16663

JK3103

E1  
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E4  
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E6  
E7

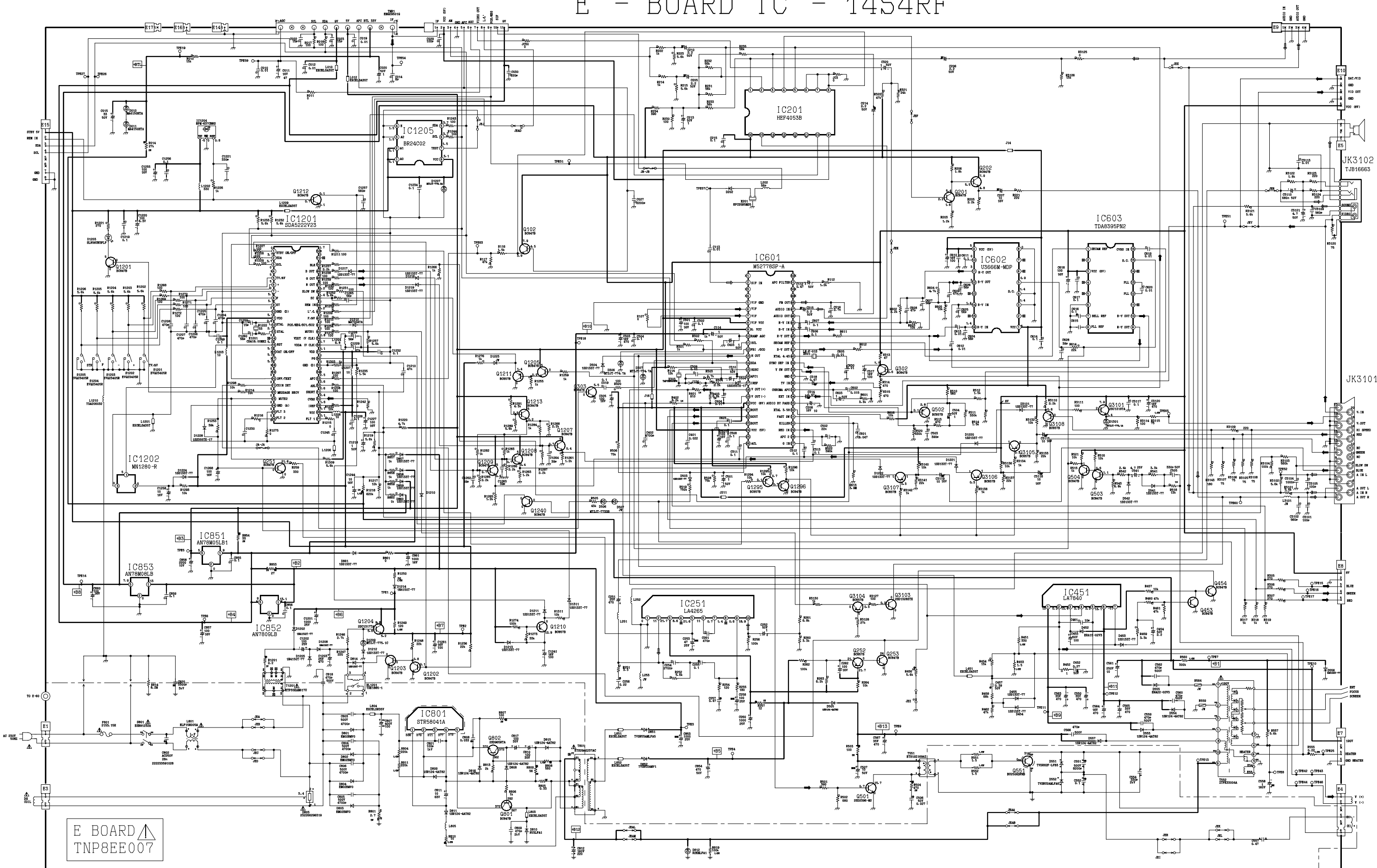
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HEATER  
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# E - BOARD TC - 14S4RF



E BOARD  
TNP8EE007

JK3102  
TJB16663

JK3101

IC451  
LA7840

IC251  
LA4265

IC801  
STR58041A

IC852  
AN7809LB

IC853  
AN78M08LB

IC851  
AN78M05LB1

IC1202  
MN1280-R

IC1201  
SDA522V23

IC1205  
BR24C02

IC201  
HEF4053B

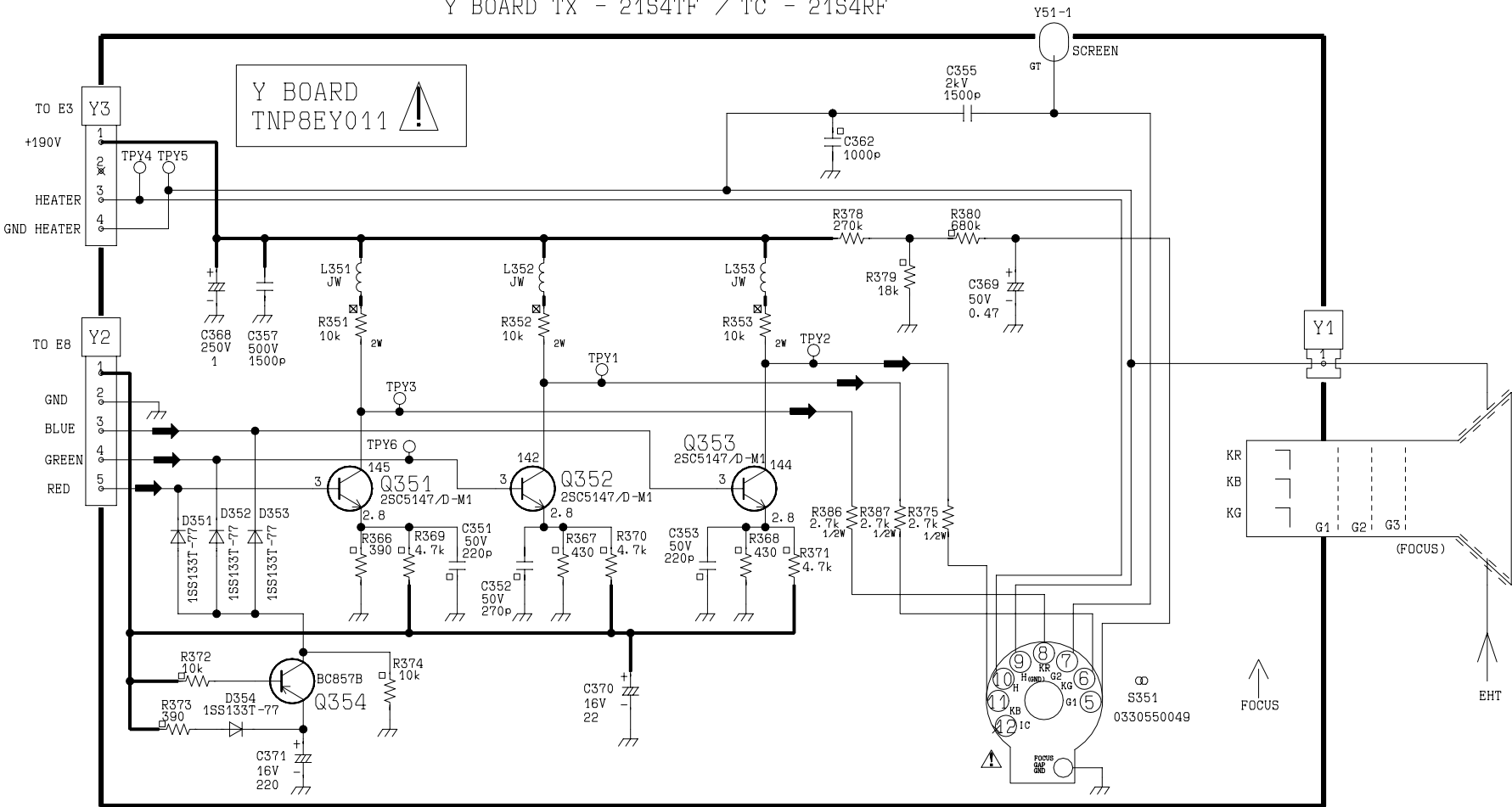
IC603  
TDA8395PN2

IC602  
U366M-MDP

IC601  
MS2778SP-A



Y BOARD TX - 21S4TF / TC - 21S4RF



Y BOARD TX - 14S4TF / TC - 14S4RF

