

Service Manual

Colour Television EURO 2 Chassis

TX-21AD2F

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Service Manual



Colour Television TX-21AD2F EURO-2 Chassis

Specifications

Power Source :	220 — 240 V AC, 50Hz	
Power Consumption :	80W	
Aerial Impedance :	75Ω unbalanced, Coaxial Type	
Receiving System :	PAL I, B/G, H PAL — 60 SECAM L/L', B/G MNTSC, NTSC (AV Only)	
Receiving Channels :	VHF E2 — E12 VHF A — H (ITALY) VHF R1 — R2 VHF R6 — R12 UHF E21 — E69 CATV S1 — S10 (M1 — M10) CATV S11 — S20 (U1 — U10)	
Intermediate Frequency :	Video 38.9MHz, 34MHz Sound 32.9MHz, 33.4MHz, 33.16MHz, 32.4MHz 33.05MHz, 34.05MHz, 40.4MHz 34.47MHz, 34.5MHz, 34.65MHz	
Colour		
Video / Audio Terminals :		
AUDIO MONITOR OUT	Audio (RCA x 2)	500mV rms, 1kΩ
AV1 IN	Video (21 pin) Audio (21 pin) RGB (21 pin)	1V p-p 75Ω 500mV rms 10kΩ
AV1 OUT	Video (21 pin) Audio (21 pin)	1V p-p 75Ω 500mV rms 1kΩ
AV2 IN	Video (21 pin) Audio (21 pin) S-Video IN (21 pin)	1V p-p 75Ω 500mV rms 10 kΩ Y : 1V p-p 75Ω C : 0.3V p-p 75Ω
AV2 OUT	Video (21 pin) Audio (21 pin)	1V p-p 75Ω 500mV rms 1kΩ
AV3 IN	Audio (RCA x 2) Video (RCA x 1)	500mV rms 10kΩ 1V p-p 75Ω
High Voltage :	27kV ± 1kV at zero beam current	
Picture Tube :	A51EAL155X01 51 cm	
Visible screen size:	90° deflection	
Audio Output :	2 x 20W (Music Power) 8Ω Impedance	
Headphones	8Ω Impedance	
Accessories supplied :	Remote Control 2 x R6 (UM3) Batteries	
Dimensions :	Height : 465mm Width : 558mm Depth : 495mm	
Net Weight	23kg	

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

Caractéristiques

Alimentation :	220 — 240 V AC, 50Hz	
Consommation :	80W	
Impédance d'antenne :	75Ω asymétrique sur prise coaxiale	
Système de réception :	PAL I, B/G, H PAL — 60 SECAM L/L', B/G MNTSC, NTSC (Entrée AV seulement)	
Canaux de réception :	VHF E2 — E2 VHF A — H (ITALY) VHF R1 — R2 VHF R6 — R12 UHF E21 — E69 CATV S1 — S10 (M1 — M10) CATV S11 — S20 (U1 — U10)	
Fréquence Intermédiaire :	Video 38.9MHz, 34MHz Sound 32.9MHz, 33.4MHz, 33.16MHz, 32.4MHz 33.05MHz, 34.05MHz, 40.4MHz 34.47MHz, 34.5MHz, 34.65MHz	
Colour		
Les bornes vidéo/audio :		
AUDIO MONITOR SORTIE	Audio (RCA x 2)	500mV rms, 1kΩ
Entrée AV1 (21 broches)	Vidéo Audio RVB	1V p-p 75Ω 500mV rms 10kΩ
Sortie AV1 (21 broches)	Vidéo Audio	1V p-p 75Ω 500mV rms 1kΩ
Entrée AV2 (21 broches)	Vidéo Audio S-Vidéo IN (21 broches)	1V p-p 75Ω 500mV rms 10 kΩ Y : 1V p-p 75Ω C : 0.3V p-p 75Ω
Sortie AV2 (21 broches)	Vidéo Audio	1V p-p 75Ω 500mV rms 1kΩ
Entrée AV3 (21 broches)	Audio (RCA x 2) Vidéo (RCA x 1)	500mV rms 10kΩ 1V p-p 75Ω
Tension d'anode :	27kV ± 1kV	
Tube image :	A51EAL55X01 51cm	
Sortie Audio :	2 x 20W (Music Power) 8Ω Impédance	
Casque d'écoute	8Ω Impédance	
Accessories fournis :	Télécommande R6 (UM3) Piles x 2	
Dimensions :	Hauteur : 465mm Largeur : 558mm Profondeur : 495mm	
Poids (NET) :	23kg	

Les caractéristiques techniques sont susceptibles de modification sans Préavis.
Le poids et les dimensions indiqués sont approximatifs.

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 28kV 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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PRECAUTIONS DE SECURITE

CONSEILS GENERAUX

1. Avant d'effectuer toute révision d'un châssis sous tension il est recommandé d'installer un transformateur d'isolation.
2. Il est important, lors des réparations, de conserver la position initiale de tous les fils et faisceaux, surtout dans le circuit de la haute tension. Remplacer toutes les pièces affectées par la chaleur dégagée lors d'un court-circuit.
3. Après les réparations, s'assurer que toutes les pièces protectrices telles que barrières ou papiers isolants, blindages et réseaux d'isolation R—C soient convenablement placées.
4. Il est préférable de débrancher le fil d'alimentation si la télé—couleur ne doit pas être utilisée pendant un certain temps.
5. Une tension élevée, de l'ordre de 28kV, est présente en plusieurs endroits lorsque l'appareil est en circuit. Il y a danger de chocs électriques lorsque le contact est établi en absence du panneau arrière. Toute personne qui tente de réparer cet appareil doit d'abord être consciente des précautions à observer avant de travailler sur un circuit à haute tension. Toujours décharger l'anode du tube cathodique au châssis avant de manipuler.
6. Après tout réparation, on doit effectuer les tests de courant de fuite dans le but d'éviter tout choc.

VERIFICATION DES COURANTS DE FUITE SANS ALIMENTATION

1. Débrancher le fil d'alimentation et installer un fil STRAP entre les deux broches de la fiche.
2. Placer l'interrupteur comme pour établir le contact sur l'appareil.
3. Mesurer la résistance entre les branches de la fiche d'alimentation et les pièces métalliques visibles telles que têtes de vis, antennes, arbre des commandes, support des poignées, etc. Certaines de ces pièces sont en contact avec le châssis et la résistance mesurée devrait se situer entre 4MΩ, et 20MΩ. La résistance des pièces qui ne sont pas en contact avec le châssis doit être infinie∞.

LEAKAGE CURRENT HOT CHECK

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 2k Ω 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.

HOT CHECK CIRCUIT CIRCUIT DE VERIFICATION A CHAUD

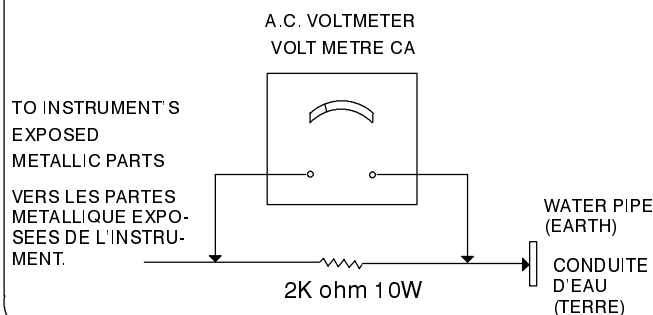


Fig.1

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 28kV without causing X-Radiation.

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

1. Set the brightness to minimum.
2. Measure the high voltage. The meter should indicate 27kV $\pm$ 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.

VERIFICATION A CHAUD DU COURANT DE FUITE

1. Brancher le cordon secteur directement à une prise secteur. Ne pas utiliser de transformateur d'isolation pour cette vérification.
2. Raccorder une résistance de 2k Ω , 10W, en série avec une partie métallique exposée du récepteur et une terre comme une conduite d'eau.
3. Utiliser un voltmètre CA, de type à impédance élevée, pour mesurer le potentiel à travers la résistance.
4. Vérifier toutes les parties métalliques exposées et mesurer la tension à chaque point.
5. Retourner la fiche CA dans la prise secteur et répéter toutes les mesures ci-dessus.
6. Le potentiel à tous les points ne doit pas dépasser 1.4 volt RMS. AU cas où une mesure est supérieure à cette limite spécifiée, il y a un risque de décharge électrique et le récepteur doit être réparé et revérifié avant d'être rendu au client.

IRRADIATION AUX RAYONS X ATTENTION:

1. Les parties de la haute tension et du tube—cathodique d'une télé—couleur sont des sources possible d'émissions de rayons X.
2. Si un tube cathodique témoin est utilisé pour la réparation, s'assurer que son assemblage pourra supporter 28kV sans émettre de radiations.

REMARQUE : Il est important que le multimètre à haute tension utilisé soit étalonné périodiquement.

1. Tourner entièrement vers la gauche la commande de lumière.
2. Mesurer la haute tension à l'aide du multimètre approprié. La valeur nominale est de 27kV $\pm$ 1kV. Si la lecture est hors des tolérances, une réparation immédiate s'impose afin de prévenir toute panne prématurée.
3. Il est essentiel d'utiliser le tube cathodique d'origine pour prévenir toute émission de rayons X.

LOCATION OF CONTROLS

EMPLACEMENT DES COMMANDES

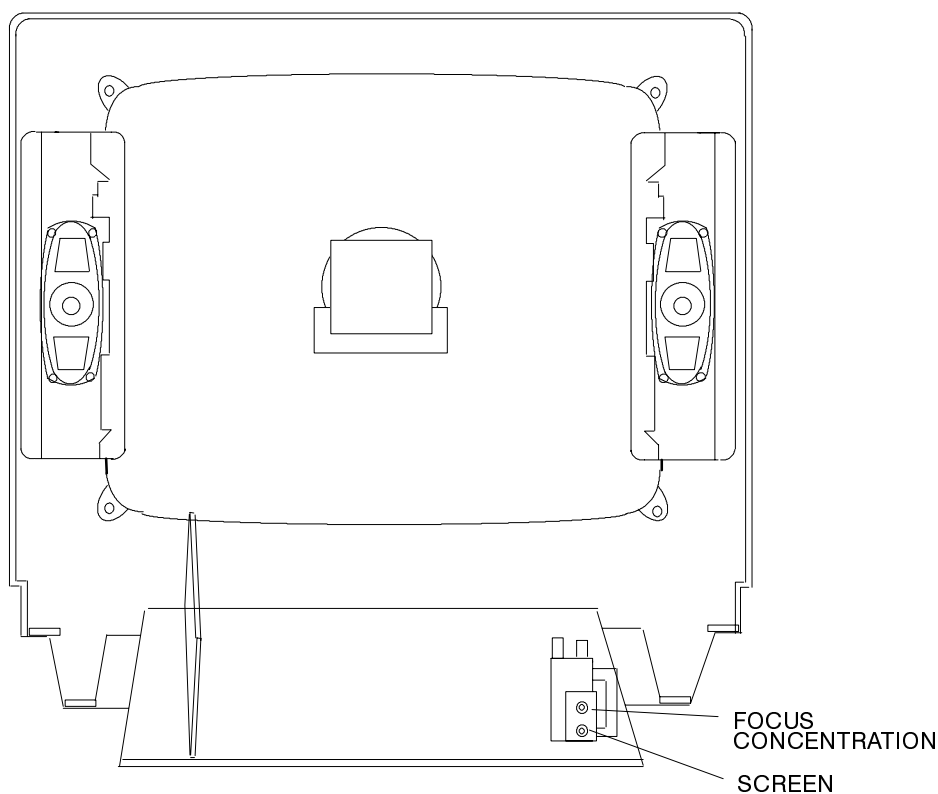


Fig.2

SERVICE HINTS

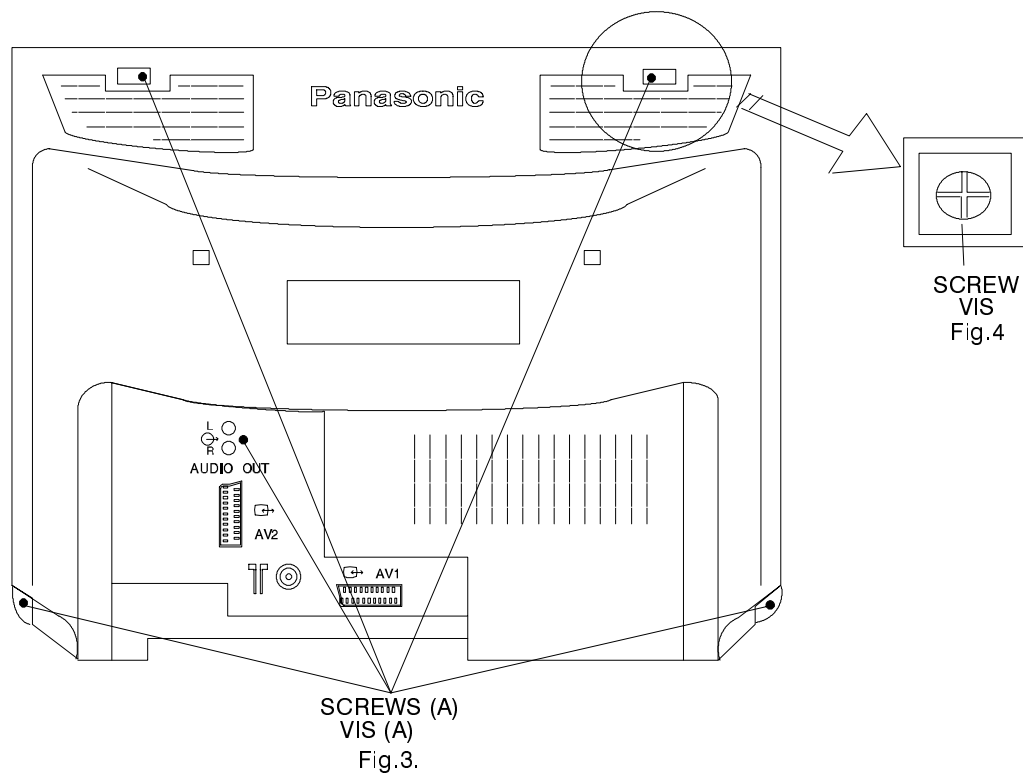
HOW TO REMOVE THE REAR COVER

1. Remove the 5 screws (A) as shown in Fig.3/Fig.4.

SUGGESTIONS DE DEPANNAGE

COMMENT RETIRER LE PENNEAU ARRIERE

1. Retirer les 5 vis (A) comme sur la Fig.3. / Fig.4.



SCREWS (A)
VIS (A)
Fig.3.

SCREW
VIS
Fig.4

ADJUSTMENT PROCEDURE

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

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

NOTE: This TV also has the option of using a Memory Pack which enables you to copy the preset TV channels into the Memory Pack and then download them onto this or any other EURO-2 TV set.

TV to Memory Pack process

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

Program
External>>TV

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

Program
TV>>External

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

Storing

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

OK!

Memory Pack to TV Process

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

Program
External>>TV

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

Loading

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

OK!

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

Errors

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

Program
Error!

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

RÉGLAGES

La télécommande sert à entrer et stocker les données des réglages. Sauf pour le cut-off qui doit être réalisé en priorité. Les réglages s'affichent sur l'écran, ainsi que les spécificités nominales du CCU.

1. Régler par la télécommande le niveau de **grave** au **maximum, aigu** au **minimum**. Simultanément appuyer sur: **Volume** — du tiroir en face avant et le bouton **Reveal** de la télécommande.
2. Appuyer sur la touche **ROUGE** ou **VERTE** pour sélectionner la fonction désirée.
3. Appuyer sur la touche **JAUNE** ou **BLEUE** pour modifier les valeurs des réglages.
4. Mettre en mémoire après chaque réglage, en appuyant sur la touche **STORE**.
5. Pour sortir de la position SERVICE MODE arrêter le TV

REMARQUE : Le Memory Pack permet de copier la configuration du TV, (Chaines, Niveaux analogiques) et de la transférer, via le bloc-Mémoire vers un autre TV EURO-2.

Processus de transfert "téléviseur vers bloc-mémoire"

1. La partie arrière du téléviseur comporte deux connecteurs à 21 broches : brancher le bloc-mémoire dans le connecteur inférieur (AV2), puis mettre le téléviseur en marche ("ON"). Si le téléviseur ne comporte qu'un seul connecteur à 21 broches, celui-ci pourra alors servir à reccorder le bloc-mémoire.
2. Passer en Mode Service (voir ci-dessus). L'écran affichera:

Program
External >> TV

3. Appuyer sur la bouton BLEU de la télécommande. L'écran du téléviseur présente le message suivant:

Program
TV >> External

4. Appuyer sur la bouton de mémorisation (STORE) du téléviseur et l'écran présentera la message suivant:

Storing

5. Toutes les informations de syntonisation enregistrées par le téléviseur seront maintenant transférées vers le bloc-mémoire. Cette opération ne prend que 2 à 3 minutes. Lorsqu'elle est terminée, l'écran du téléviseur présentera message suivant:

OK!

Processus de transfert "bloc-mémoire vers téléviseur"

1. La partie arrière du téléviseur comporte deux connecteurs à 21 broches : brancher le bloc-mémoire dans le connecteur inférieur (AV2), puis mettre le téléviseur en marche ("ON"). Si le téléviseur ne comporte qu'un seul connecteur à 21 broches, celui-ci pourra alors servir à reccorder le bloc mémoire.
2. Passer en Mode Service (voir ci-dessus). L'écran affichera:

Program
External >> TV

3. Appuyer sur la bouton de mémorisation (STORE) du téléviseur et l'écran présentera la message suivant:

Loading

4. Toutes les informations de syntonisation enregistrées par le téléviseur seront maintenant transférées vers le bloc-mémoire. Cette opération ne prend que 2 à 3 minutes. Lorsqu'elle est terminée, l'écran du téléviseur présentera message suivant:

OK!

5. Les informations de syntonisation du téléviseur du bloc-mémoire ont maintenant été copiées dans le téléviseur.
6. Pour sortir du mode d'exploitation SERVICE, mettre le téléviseur hors circuit ("OFF").
7. Une fois l'opération terminée, enlever le bloc-mémoire.

Erreurs

Le téléviseur détectera toutes les erreurs susceptibles de se produire éventuellement pendant l'utilisation du bloc-mémoire. L'écran présentera alors le message suivant:

Program
Error!

Dans ce cas, mettre le téléviseur hors circuit ("OFF") puis répéter l'opération qui était en cours. En cas d'erreurs répétées, vérifier les connexions entre le téléviseur et le bloc-mémoire, puis contrôler l'état de la pile 9V à l'intérieur du bloc-mémoire.

ADJUSTMENT PROCEDURE

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

RÉGLAGES

Préparation	Réglages
+B 1. Appliquer une mire à carreaux N/B 2. Régler les contrôles suivants Lumière Minimum Contraste Minimum Volume Minimum	1. Régler les tensions +B comme suit : Régler R811 tel que la tension B2 soit de $130V \pm 1V$ 2. Confirmer le réglage : B1 $200 \pm 10V$ B6 $12 \pm 0.5V$ B3 $27 \pm 1V$ B7 $5 \pm 0.1/-0.25V$ B4 $35.5 \pm 1V$ B8 $5 \pm 0.25V$ B5 $15.5 \pm 1V$ U33 $31 \pm 1V$
CAG RF 1. Appliquer une mire test 2. Relier l'oscilloscope entre l'AGC RF du tuner et la masse 3. Calibrer l'oscilloscope sur 1V/div	1. Vérifier que le bruit augmente en tournant le VR R126 CAG RF vers la gauche. Puis le tourner vers la droite. 2. Tourner graduellement VR R126 vers la gauche jusqu'à obtenir 0.2V de moins que la tension maximum
CUT OFF 1. Appliquer une mire à carreaux N/B 2. Démagnétiser le tube extérieurement 3. Mettre le TV en Mode Service 1 4. Sélectionner le Mode Cutoff DC	1. Confirmer que la valeur soit 128 et sélectionner le mode Ug2 et noter la valeur de la couleur la plus élevée 2. Tourner le potentiomètre d'Ecran jusqu'à ce que la valeur d'une couleur se situe entre 20 et 30 3. Relier l'oscilloscope sur la cathode de la couleur dont la valeur est la plus élevée 4. Sélectionner le mode CUTOFF DC et régler l'impulsion de CUTOFF à $159V \pm 5V$ 5. Retirer l'oscilloscope et régler la tension d'ecran à 70 ± 30 sur la première couleur atteignant cette valeur

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

Alignment Function	TX-21AD2F	Settings / Special features						
1. Vertical amplitude	V-AMP 051	Optimum setting						
2. Vertical symmetry	V-SYM 013							
3. Vertical linearity	V-LIN 012							
4. Vert. DC.	Vert. D.C.. 000	Not to be adjusted.						
5. V-Pos.	V. Pos. 003	Optimum setting						
6. Horizontal amplitude	H-AMP -033	Optimum setting						
7. Horizontal position	H-POS 049							
8. Text Position	TEXT POSITION 045	Optimum setting						
9. EW-amplitude	E-W-AMP 1 -058	Optimum setting						
10. EW-amplitude	E-W-AMP 2 023	Optimum setting						
11. Trapezium-comp	TRAPEZ-1 -014	Optimum setting						
12. Trapezium-comp	TRAPEZ-2 012	Optimum setting						
13. Colour VCO	Colour VCO 015	Press either Blue or Yellow buttons to effect automatic adjustment						
14. Cut-off DC	Cut-off DC 050	Not to be adjusted.						
15. Ug2 Test	<table border="1"> <tr><td colspan="3">Ug 2 Test</td></tr> <tr><td>107</td><td>021</td><td>023</td></tr> </table>	Ug 2 Test			107	021	023	Select Cutoff DC in Service Mode mode and confirm the value is 128. Select Ug 2 Test noting colour with largest value, adjust on FBT until a colour reaches 20 ~ 30. Connect an oscilloscope to the cathode of the biggest value colour, select Cutoff DC mode and adjust get Cutoff pulse voltage to $159 \pm 5V$. Disconnect the oscilloscope and adjust the screen to whichever colour reaches 70 ± 30 first.
Ug 2 Test								
107	021	023						
16. Cutoff	<table border="1"> <tr><td colspan="3">Cutoff</td></tr> <tr><td>045</td><td>055</td><td>050</td></tr> </table>	Cutoff			045	055	050	Press the GREEN button to step through the settings. Adjust for optimum.
Cutoff								
045	055	050						
17. White	<table border="1"> <tr><td colspan="3">White</td></tr> <tr><td>224</td><td>255</td><td>237</td></tr> </table>	White			224	255	237	Press the GREEN button to step through the settings. Adjust for optimum.
White								
224	255	237						

RÉGLAGES (Les figures ci-dessous sont fictives et utilisées uniquement à des fins représentatives)

Fonctions	TX-21AD2F	Réglages/Points particuliers						
1. Amplitude verticale	V-AMP 051	Optimiser les réglages						
2. Symétric verticale	V-SYM 013							
3. Linéarité verticale	V-LIN 012							
4. Vert. DC.	Vert. D.C.. 000	Ne pas régler						
5. V-Pos.	V. Pos. 003	Optimiser les réglages						
6. Amplitude horizontal	H-AMP -033	Optimiser les réglages						
7. Centrage horizontal	H-POS 049							
8. Text Position	TEXT POSITION 045	Optimiser les réglages						
9. Amplitude E.O.	E-W-AMP 1 -058	Optimiser les réglages						
10. Amplitude E.O.	E-W-AMP 2 023	Optimiser les réglages						
11. Correction trapèze	TRAPEZ-1 -014	Optimiser les réglages						
12. Correction trapèze	TRAPEZ-2 012	Optimiser les réglages						
13. Réglage oscillateur sous porteuse	Colour VCO 015	Régler la fréquence						
14. Cut-off DC	Cut-off DC 050	Ne pas régler						
15. Ug2 Test	<table border="1"> <tr><td colspan="3">Ug 2 Test</td></tr> <tr> <td>107</td><td>021</td><td>023</td></tr> </table>	Ug 2 Test			107	021	023	Sélectionner le Mode Cutoff DC. Confirmer que la valeur soit 128 puis sélectionner le Mode Test Ug2 et noter la valeur de la couleur la plus élevée. Ajuster le réglage situé sur le FBT jusqu'à ce que la valeur d'une des couleurs se situe entre 20 et 30. Relier l'oscilloscope sur la cathode dont la valeur de la couleur est la plus élevée. Sélectionner le mode CUTOFF DC et régler l'impulsion de CUTOFF à $159V \pm 5V$. Retirer l'oscilloscope et régler la tension d'écran à 70 ± 30 sur la première couleur atteignant cette valeur.
Ug 2 Test								
107	021	023						
16. Cutoff	<table border="1"> <tr><td colspan="3">Cutoff</td></tr> <tr> <td>045</td><td>055</td><td>050</td></tr> </table>	Cutoff			045	055	050	Appuyer sur la touche VERTE pour accéder aux réglages. Régler pour optimiser.
Cutoff								
045	055	050						
17. White	<table border="1"> <tr><td colspan="3">White</td></tr> <tr> <td>224</td><td>255</td><td>237</td></tr> </table>	White			224	255	237	Appuyer sur la touche VERTE pour accéder aux réglages. Régler pour optimiser.
White								
224	255	237						

SELF CHECK

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

To get into the Self Check mode press the F button followed by the volume down button on the customer controls at the front of the TV at the same time pressing the Status button, on the Remote Control, and the screen will show:—

1 — ok	Tuner	11 — — —	Dolby IC for C/R
2 — ok	VIF	12 — ok	P S MODE
3 — ok	EEPROM	13 — ok	P TA0
4 — — —	Sound AV switch1	14 — ok	P TA1
5 — ok	Video AV switch1	15 — ok	P TA2
6 — ok	VDP	16 — ok	P TA3
7 — ok	TPU	17 — ok	P SDA
8 — ok	MSP	18 — ok	P SCL1
9 — — —	Dolby Sub	19 — ok	P SCL3
10 — — —	Dolby IC for L/R	20 — ok	P SCL4

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

21 — ok	P SBLED	Hex codes
22 — ok	P OFF	6A
23 — ok	P DEFL	22
24 — ok	P RAM	21
		94
		85

AUTO TEST

L'auto test est utilisé pour vérifier le BUS et les codes Hexadécimaux du TV.

Pour passer en mode test ,il faut appuyé simultanément sur : VOLUME MOINS sur le tiroir en face avant et: OFF TIMER sur la télécommande Infra—rouge:—

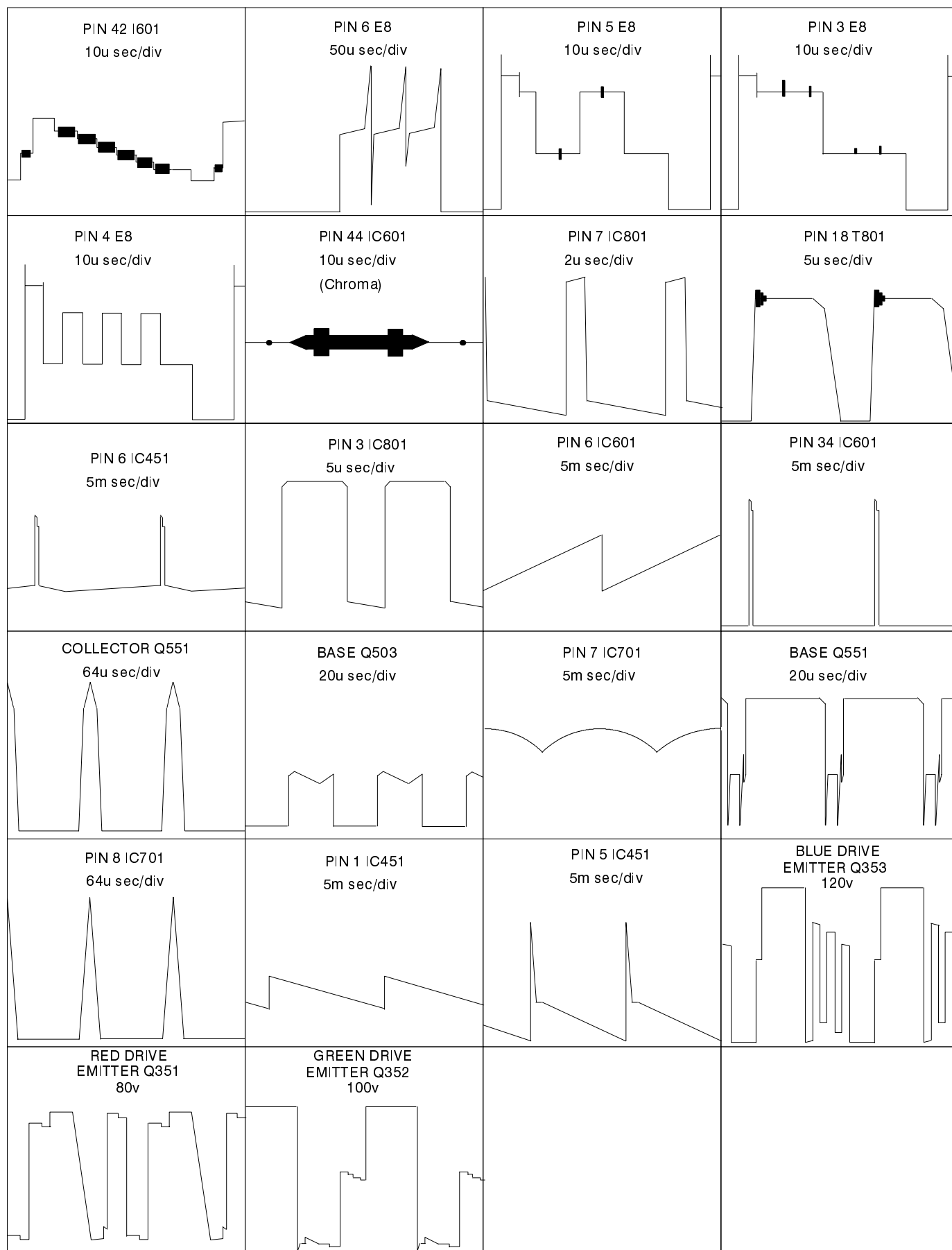
1 — ok	Tuner	11 — — —	Dolby IC for C/R
2 — ok	VIF	12 — ok	P S MODE
3 — ok	EEPROM	13 — ok	P TA0
4 — — —	Sound AV switch1	14 — ok	P TA1
5 — ok	Video AV switch1	15 — ok	P TA2
6 — ok	VDP	16 — ok	P TA3
7 — ok	TPU	17 — ok	P SDA
8 — ok	MSP	18 — ok	P SCL1
9 — — —	Dolby Sub	19 — ok	P SCL3
10 — — —	Dolby IC for L/R	20 — ok	P SCL4

Si lors du test une fonction du ccu est incorrecte l'afficheur indiquera "—" au lieu de "OK".

21 — ok	P SBLED	Hex codes
22 — ok	P OFF	6A
23 — ok	P DEFL	22
24 — ok	P RAM	21
		94
		85

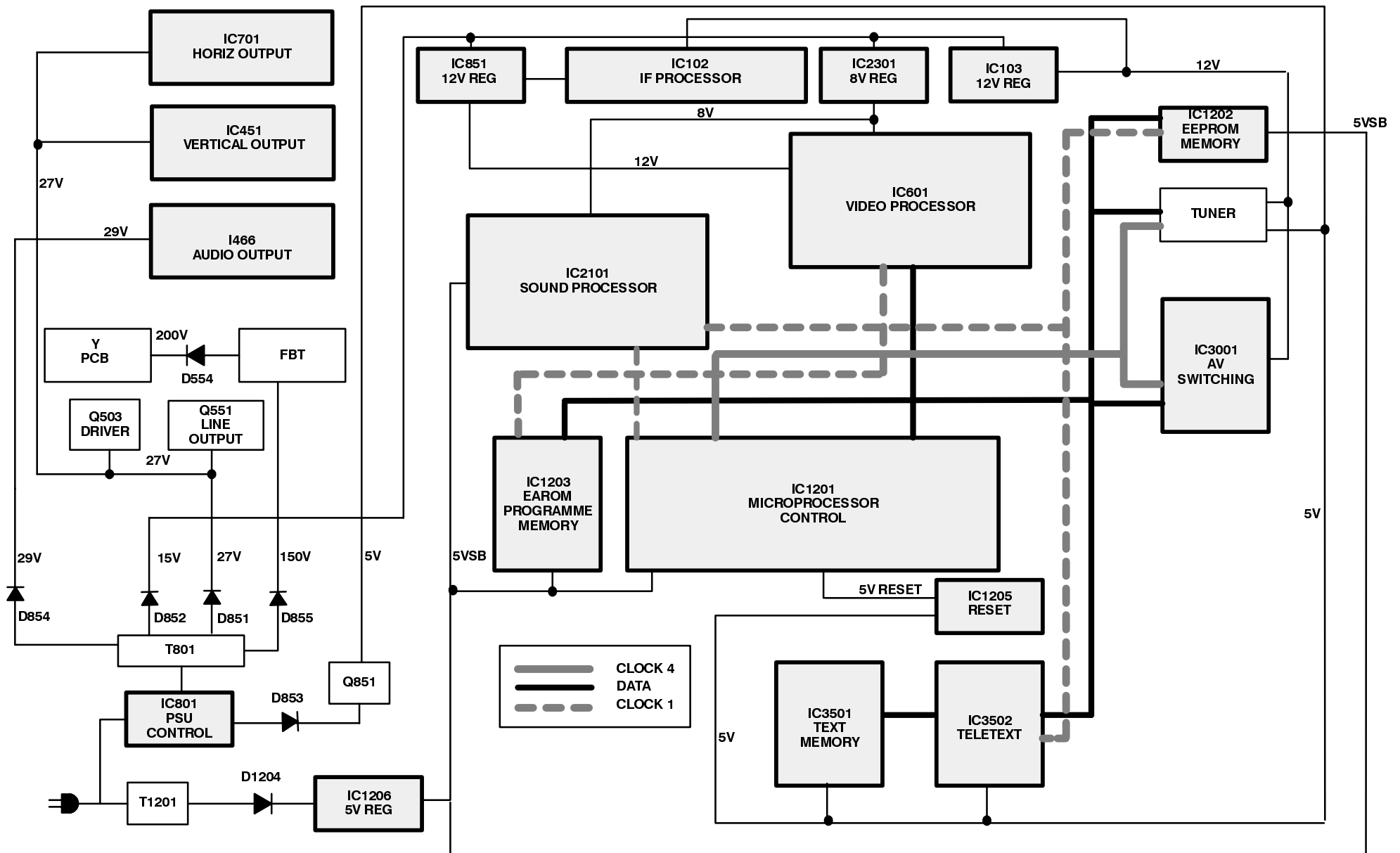
WAVEFORM PATTERN TABLE

TABLEAU DE MIRES DE FORMA D'ONDES

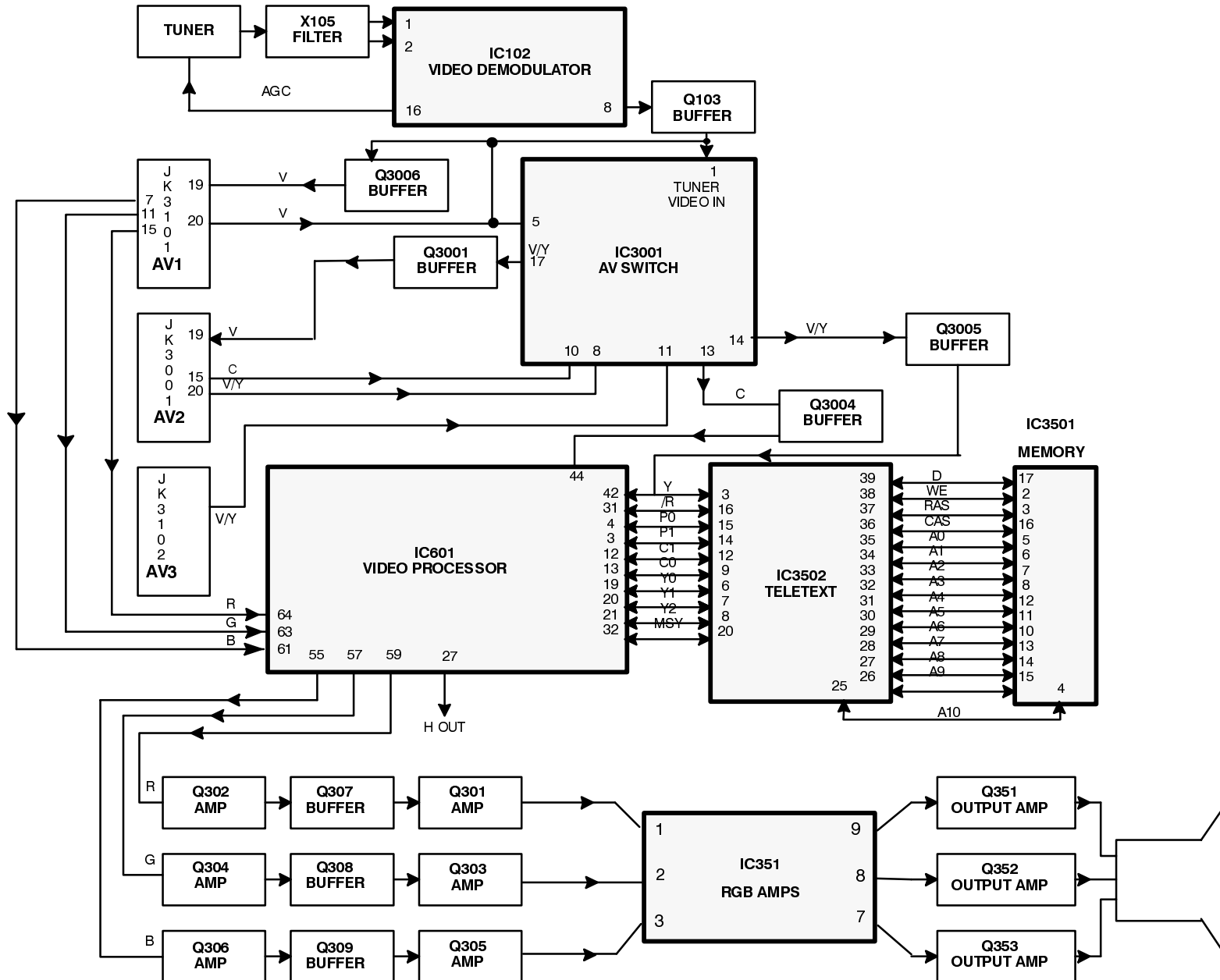


POWER SUPPLY AND CONTROL BLOCK DIAGRAM

ALIMENTATION ET SYNOPTIQUE DE COMMANDE

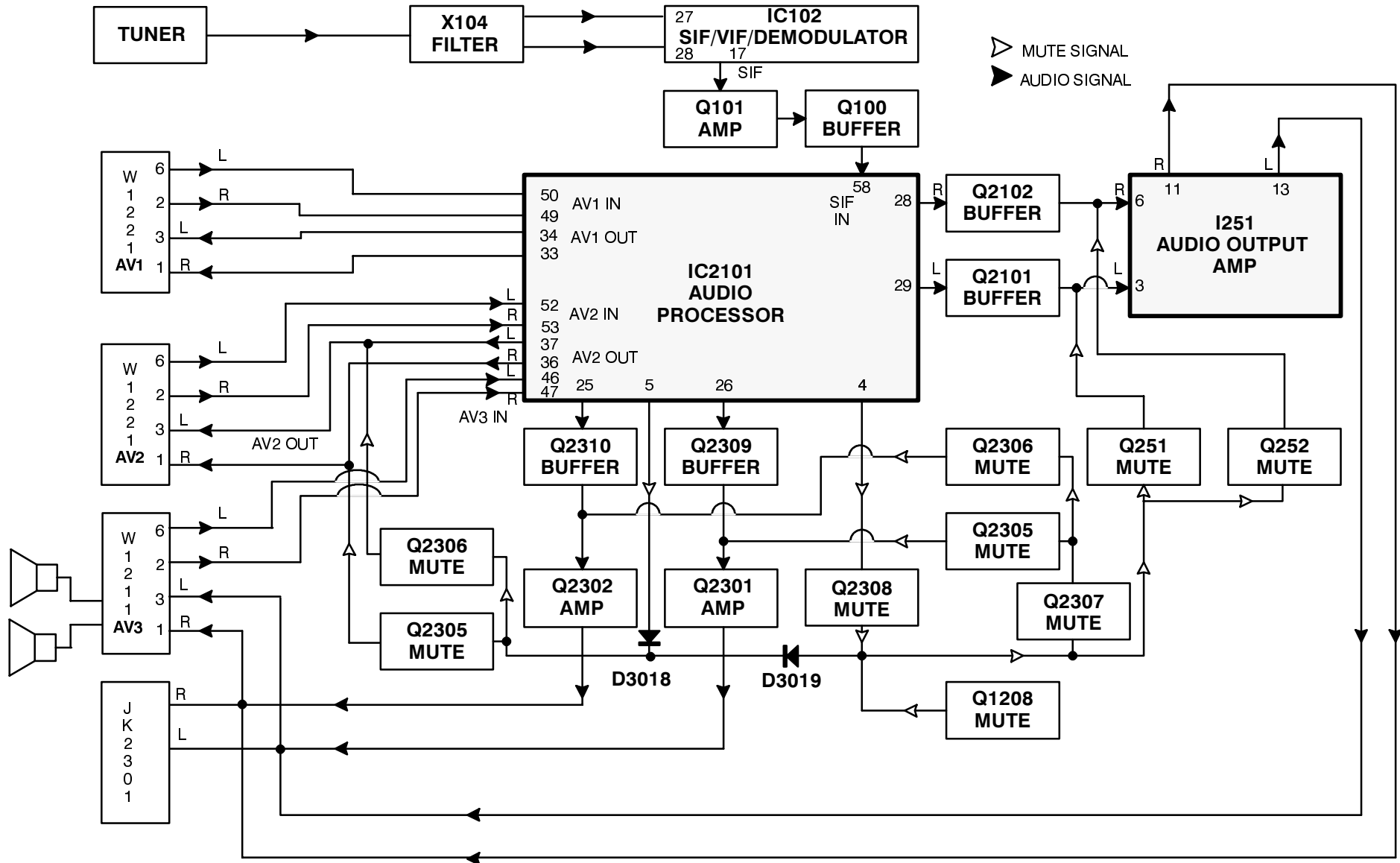


VIDEO BLOCK DIAGRAM SYNOPTIQUE VIDEO



AUDIO BLOCK DIAGRAM

SYNOPTIQUE AUDIO



SCHEMATIC DIAGRAM FOR MODEL TX-21AD2F (Euro-2 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 (Ω) (K=1,000, M=1,000,000).
- CAPACITORS**
All capacitors are ceramic 50V, unless marked as follows:
Unit of capacitance is μ F, unless otherwise stated.
- COIL**
Unit of inductance is μ 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 path
- This schematic diagram is the latest at the time of printing and is 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.

SCHEMA TECHNIQUE POUR MODELE TX-21AD2F (Euro-2 Chassis)

REMARQUE IMPORTANTE POUR LA SÉCURITÉ

Les éléments portant la marque  possèdent des caractéristiques de sécurité spéciales. Lors du remplacement de l'une quelconque de ces pièces n'utiliser que celles spécifiées par la fabricant.

Nota :

- RESISTOR**
Toutes les résistances sont des résistances au carbone 1/4W, sauf indication contraire par les indications suivantes
L'unité de résistance est l'OHM (Ω) (K=1,000, M=1,000,000).
- CONDENSATEUR**
Toutes les condensateurs sont des condensateurs céramique 50V, sauf indication contraire par les indications suivantes :
L'unité de capacité est le μ F, sauf indication contraire.
- BOBINE**
L'unité d'inductance est le μ H, sauf indication contraire
- Les composants entourés de pointillés, sur le schéma, représentent des éléments non câblés.
- POINT D'ESSAI**
 Position du point d'essai
- SYMBOL DE TERRE**
:Terre du châssis (froid) :Terre de ligne (chaud)
- MESURE DE TENSION**
La tension est mesurée avec un voltmètre c.c.
Les conditions de mesure sont les suivantes:
Source d'alimentation CA 220V-240V, 50Hz
Signal de réception Signal barre couleur (RF)
Toutes les commandes utilisateur, Position maximum
-  :Vidéo
 :Audio
 : Vertical / Horizontal
- Ce schéma est à jour moment de l'impression et modifiable sans préavis.

Remarque

- Le circuit d'alimentation contient une zone de qui utilise une alimentation séparée pour isoler la connexion à la terre. Le circuit est défini par les indications chaud (HOT) et froid (COLD) dans le diagramme schématique. Prendre les précautions suivantes. Tous les circuits, sauf le circuit d'alimentation, sont froids.

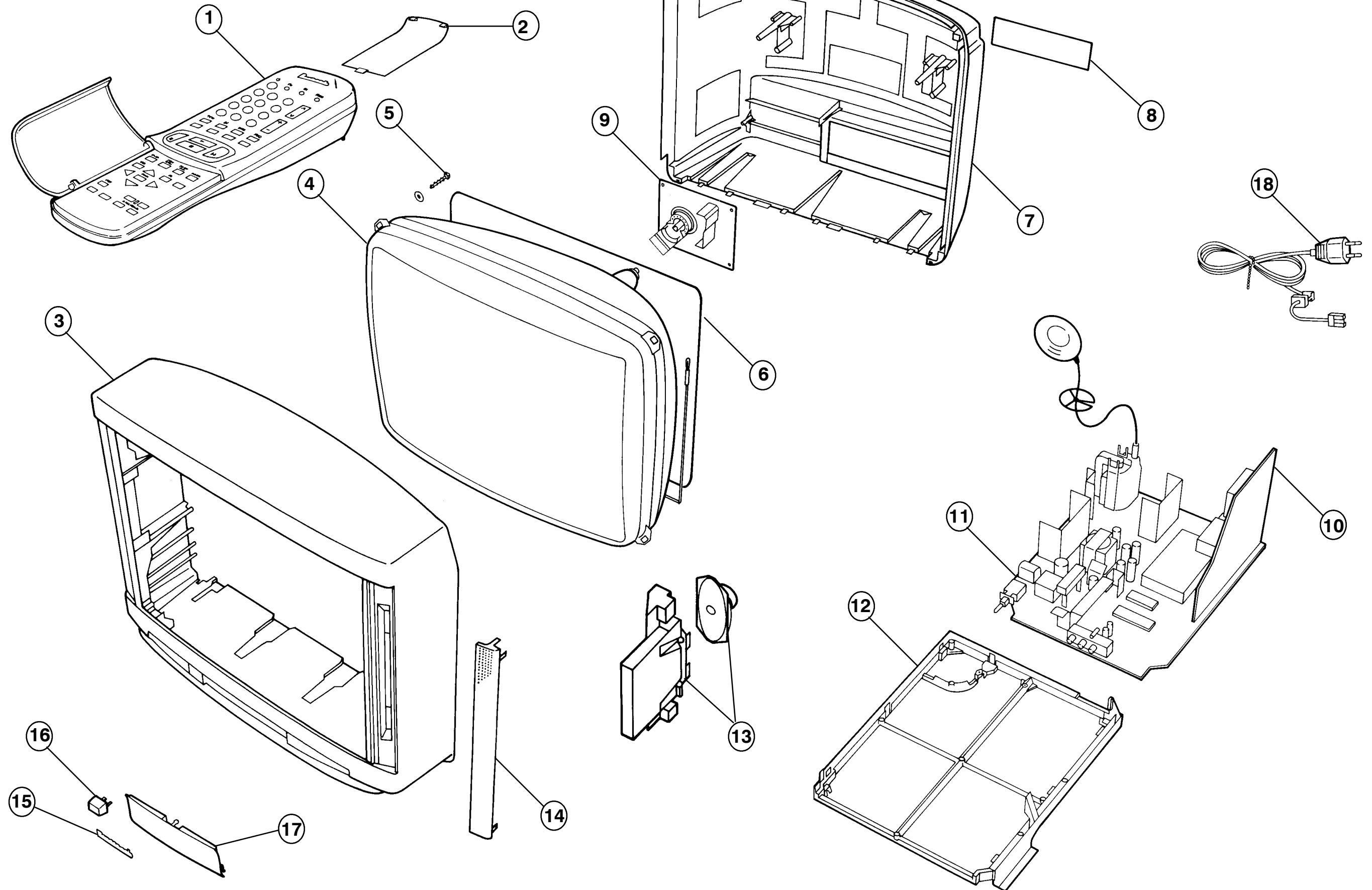
Précautions

- Ne pas toucher la partie chaude ou en même temps les parties chaud et froide. Cela présente un risque de décharge électrique.
- Ne pas court-circuiter les circuits chaud et froid car un fusible peut sauter et des pièces se casser.
- Ne pas raccorder un instrument, comme un oscilloscope, simultanément aux circuits chaud et froid car un fusible peut sauter. Raccorder la terre des instruments à la connexion de terre du circuit mesuré.
- Toujours débrancher la fiche d'alimentation avant de déposer le châssis.

PARTS LOCATION

NOTE :

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



REMARQUE :

Les numéros sur les pièces mécaniques indiquent les NO. de réf. de la liste des pièces de rechange.

REPLACEMENT PARTS LIST

Important Safety Notice

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

LISTE DES PIÈCES DE RECHANGE

Remarque importante pour la sécurité

Les éléments portant la indication Δ possèdent des caractéristiques de sécurité spéciales. Lors du remplacement de l'une quelconque de ces pièces, n'utiliser que celles spécifiées par la fabricant.

Ref No.	Part No.	Description	
MISCELLANEOUS COMPONENTS			
1)	EUR51920	REMOTE CONTROL	
2)	UR51EC780	BATTERY COVER (REMOTE)	
3)	TKY8E090	CABINET	Δ
4)	A51EAL155X01	CRT	Δ
5)	VP15005-35	CRT FIXING SCREW	Δ
6)	TLK8E05117	DEGUASS COIL	Δ
7)	TKU8E00240	BACK COVER	Δ
8)	TBM8E1590	MODEL LABEL	
9)	TNP117069AC	Y P.C.B.	Δ
10)	TNP8EB006AB	B P.C.B.	Δ
11)	TNP197091BA	E P.C.B.	Δ
12)	TMX8E013	CHASSIS FRAME	
13)	EAGG1218D2	SPEAKER	
14)	TKP8E1139	SPEAKER NET	
15)	TBM153022	PANASONIC BADGE	
16)	TBX8E030	POWER BUTTON	
17)	TKP8E1138AD2	DOOR LID	
18)	TSX8E0020	POWER CORD	Δ
	EXCELD35V	COIL	
	F9-4-220	RELAY	
	TBM8E1535	BLANKING LABEL	
	TBM8E1605	PRESET LABEL	
	ENV578F5G3J	TUNER	Δ
	TEK6935	LID SWITCH	
	TKP8E1140	LED TUBE	
	TMW8E022	LED HOLDER	
	TPC8E4537-1	OUTER CARTON	
	TPD8E562	CUSHION	
	TQB8E2137-A	GERMAN INST BOOK	Δ
	TQB8E2137-B	DUTCH INST BOOK	Δ
	TQB8E2137-C	ITALIAN INST BOOK	Δ
	TQB8E2137-D	FRENCH INST BOOK	Δ
	TQB8E2137-E	SPANISH INST BOOK	Δ
	UM-3DEP-2P	BATTERY	
	ERC12GK825	SOLID 0.5W 10% 8M2 Ω	
CAPACITORS			
C.206	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0 Ω	
C001	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C002	ECA1HMR33GB	ELECT 50V 0.33 μ F	
C003	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C004	ECA1CM221GB	ELECT 16V 220pF	
C005	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C007	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C009	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C100	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C101	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C102	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C103	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C104	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C105	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C106	ECUV1H100CCX	S.M.CAP 50V 10pF	
C107	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C108	ECUV1H104ZFX	S.M.CAP 50V 100nF	

Ref No.	Part No.	Description	
C109	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C110	ECUV1H102KBX	S.M.CAP 50V 1nF	
C111	ECEA1CKA470	ELECT 16V 47 μ F	
C116	ECA1CM100GB	ELECT 16V 10pF	
C117	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C118	ECUY1H563KBX	S.M.CAP 50V 56nF	
C119	ECUV1C224KBX	S.M.CAP 16V 220nF	
C120	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C121	ECUV1H070DTX	S.M.CAP 50V 70pF	
C122	ECEA1HKA2R2	ELECT 50V 2.2 μ F	
C123	ECEA1HKA2R2	ELECT 50V 2.2 μ F	
C124	ECA1CM470GB	ELECT 16V 47 μ F	
C125	ECUV1H471JCX	S.M.CAP 50V 470pF	
C128	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C130	ECEA1HKA2R2	ELECT 50V 2.2 μ F	
C131	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C132	ECUV1H102KBX	S.M.CAP 50V 1nF	
C133	ECUV1H102KBX	S.M.CAP 50V 1nF	
C134	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C135	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C136	ECA1CM100GB	ELECT 16V 10pF	
C137	ECA1EM100GB	ELECT 25V 0.1 μ F	
C138	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C140	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C141	ECUV1H151JCX	S.M.CAP 50V 150pF	
C142	ECUV1H151JCX	S.M.CAP 50V 150pF	
C143	ECA1CM470GB	ELECT 16V 47 μ F	
C145	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C146	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C148	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C149	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C150	ECEA1CKA100	ELECT 16V 10 μ F	
C151	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C153	ECUV1H151JCX	S.M.CAP 50V 150pF	
C154	ECUV1H151JCX	S.M.CAP 50V 150pF	
C155	ECUV1H080DCX	S.M.CAP 50V 80pF	
C158	ECUV1H104ZFX	S.M.CAP 50V 100nF	
C159	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C160	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C162	ECUV1H120JCX	S.M.CAP 50V 12pF	
C165	ECA1CM470GB	ELECT 16V 47 μ F	
C170	ECCR1H331J	CERAMIC 50V 330pF	
C201	ECUV1H070DCX	S.M.CAP 50V 7pF	
C202	ECUV1H070DCX	S.M.CAP 50V 7pF	
C203	ECUV1H470JX	S.M.CAP 50V 47pF	
C204	ECUV1H560JCX	S.M.CAP 50V 56pF	
C205	ECUV1H560JCX	S.M.CAP 50V 56pF	
C207	ECUV1H560JCX	S.M.CAP 50V 56pF	
C210	ECUV1H103ZFX	S.M.CAP 50V 10nF	
C251	ECA1EM100GB	ELECT 25V 0.1 μ F	
C252	ECUY1H563KBX	S.M.CAP 50V 56nF	
C253	ECA1HM4R7GB	ELECT 50V 4.7 μ F	
C254	ECQM1H104J	FILM 50V 100nF	
C255	ECEA1EGE101	ELECT 25V 100 μ F	
C256	ECUY1H563KBX	S.M.CAP 50V 56nF	
C257	ECA1HM4R7GB	ELECT 50V 4.7 μ F	
C258	ECA1EM100GB	ELECT 25V 0.1 μ F	
C259	ECQM1H104J	FILM 50V 100nF	
C260	ECA1VM102GE	ELECT 35V 1nF	
C261	ECA1VM102GE	ELECT 35V 1nF	
C262	ECQM1H474J	FILM 50V 470nF	

Ref No.	Part No.	Description		
C263	ECA1HM010GB	ELECT	50V	1pF
C264	ECEA1HGE222	ELECT	50V	2200 μ F
C265	ECQM1H474J	FILM	50V	470nF
C266	ECA1HM010GB	ELECT	50V	1pF
C267	ECUV1H104ZFX	S.M.CAP	50V	100nF
C268	ECUV1H104ZFX	S.M.CAP	50V	100nF
C269	ECA1CM100GB	ELECT	16V	10pF
C271	ECUV1H561KBX	S.M.CAP	50V	560pF
C301	ECA1CM470GB	ELECT	16V	47 μ F
C302	ECUV1H104ZFX	S.M.CAP	50V	100nF
C303	ECUV1H104ZFX	S.M.CAP	50V	100nF
C310	ECUV1H104ZFX	S.M.CAP	50V	100nF
C354	ECQM2104KZ	FILM	250V	100nF
C355	ECUV1H222JCX	S.M.CAP	50V	2.2nF
C356	ECUV1H222JCX	S.M.CAP	50V	2.2nF
C357	ECUV1H222JCX	S.M.CAP	50V	2.2nF
C358	ECQM1H224J	FILM	50V	220nF
C360	ECKC3D152J	CERAMIC	2KV	1.5nF
C361	ECA1HMR47GB	ELECT	50V	0.47 μ F
C451	ECUV1H102JX	S.M.CAP	50V	1nF
C452	ECUV1H473ZFX	S.M.CAP	50V	47nF
C453	ECUV1H472KBX	S.M.CAP	50V	4.7nF
C454	ECUV1H104ZFX	S.M.CAP	50V	100nF
C455	ECA1VM222GE	ELECT	35V	2.2nF
C456	ECEA1HGE221	ELECT	50V	220 μ F
C457	ECUV1H103KBX	S.M.CAP	50V	10nF
C458	ECQM1H154J	FILM	50V	150nF
C459	ECQM1H154J	FILM	50V	150nF
C460	ECQV1H105JZ	FILM	50V	1 μ F
C462	ECEA1VGE332	ELECT	35V	3300 μ F
C463	ECQB1H222J	FILM	50V	2200pF
C501	ECA1AM330GB	ELECT	10V	33pF
C506	ECUV1H103ZFX	S.M.CAP	50V	10nF
C508	ECQV1H105JZ	FILM	50V	1 μ F
C509	ECEA1HGE101	ELECT	50V	100 μ F
C510	ECUV1H104ZFX	S.M.CAP	50V	100nF
C511	ECQM2683JZ	FILM	250V	68nF
C551	ECWH12H272J	CERAMIC	1250V	2.7nF
C552	ECWH12H102J	FILM	1250V	1nF
C555	ECWH12H103J	FILM	1250V	10nF
C556	ECQF4273JZH	FILM	400V	0.027 μ F
C559	ECWF2H474J	FILM	500V	470nF
C562	ECKC2H101J	CERAMIC	500V	100pF
C563	ECEA2EU220	ELECT	250V	22 μ F
C564	ECEA2AU2R2	ELECT	100V	2.2 μ F
C565	ECQP1H273J	FILM	100V	2700 μ F
C601	ECUV1H271JCX	S.M.CAP	50V	270pF
C602	ECUV1H121JCX	S.M.CAP	50V	120pF
C603	ECUV1H471JCX	S.M.CAP	50V	470pF
C604	ECA0JM102GB	ELECT	6.3V	1nF
C605	ECUV1H103ZFX	S.M.CAP	50V	10nF
C606	ECUV1H040CCX	S.M.CAP	50V	4pF
C607	ECUV1H040CCX	S.M.CAP	50V	4pF
C608	ECUV1H683ZFX	S.M.CAP	50V	68nF
C609	ECA1CM470GB	ELECT	16V	47 μ F
C610	ECUV1H683ZFX	S.M.CAP	50V	68nF
C611	ECUV1H104ZFX	S.M.CAP	50V	100nF
C612	ECUV1H103ZFX	S.M.CAP	50V	10nF
C613	ECUV1H102JCX	S.M.CAP	50V	1nF
C614	ECUV1H104ZFX	S.M.CAP	50V	100nF
C615	ECUV1H103ZFX	S.M.CAP	50V	10nF
C616	ECUV1H103ZFX	S.M.CAP	50V	10nF
C618	ECUV1H473ZFX	S.M.CAP	50V	47nF
C619	ECUV1H104ZFX	S.M.CAP	50V	100nF
C620	ECUV1H104ZFX	S.M.CAP	50V	100nF
C621	ECA1CM100GB	ELECT	16V	10pF
C622	ECA1CM100GB	ELECT	16V	10pF
C623	ECUV1H104ZFX	S.M.CAP	50V	100nF
C624	ECUV1H103ZFX	S.M.CAP	50V	10nF
C625	ECEA1HNR47	ELECT	50V	0.47 μ F
C626	ECA0JM102GB	ELECT	6.3V	1nF
C627	ECUV1H100DCX	S.M.CAP	50V	10pF

Ref No.	Part No.	Description		
C628	ECUV1H470JCX	S.M.CAP	50V	47pF
C629	ECUV1H101JCX	S.M.CAP	50V	100pF
C630	ECUV1H104ZFX	S.M.CAP	50V	100nF
C631	ECUV1H104ZFX	S.M.CAP	50V	100nF
C632	ECUV1H104ZFX	S.M.CAP	50V	100nF
C633	ECUV1H102JCX	S.M.CAP	50V	1nF
C636	ECUV1H101JCX	S.M.CAP	50V	100pF
C637	ECUV1H102KBX	S.M.CAP	50V	1nF
C638	ECUV1H181JCX	S.M.CAP	50V	180pF
C639	ECUV1H561KBX	S.M.CAP	50V	560pF
C701	ECEA1HU101	ELECT	50V	100 μ F
C702	ECUV1H103KBX	S.M.CAP	50V	10nF
C703	ECA1HM100GB	ELECT	50V	10pF
C704	ECQB1H223K	FILM	50V	22nF
C705	ECQB1H152K	FILM	50V	1.5nF
C801	ECUV1H101JCX	S.M.CAP	50V	100pF
C802	ECQE6104K	FILM	600V	100nF
C803	ECUV1H560JX	S.M.CAP	50V	56pF
C804	ECA1HM101GB	ELECT	50V	100pF
C805	ECUV1H104ZFX	S.M.CAP	50V	100nF
C806	ECEA1HU101	ELECT	50V	100 μ F
C807	ECEA1EGE101	ELECT	25V	100 μ F
C808	ECQB1H103J	FILM	50V	10nF
C809	ECQB1H103J	FILM	50V	10nF
C810	ECQU2A224MN	FILM	250V	220nF
C811	ECEA1HN010	ELECT	50V	1 μ F
C815	ECKC2H472J	CERAMIC	500V	4.7nF
C816	ECKC3D222JB	CERAMIC	2KV	2200pF
C817	ECQB1H223K	FILM	50V	22nF
C818	ECKC2H472J	CERAMIC	500V	4.7nF
C820	ECOS2GA151CB	ELECT	400V	150pF
C821	ECKWNA332MECC	CERAMIC	250V	3.3nF
C851	ECKC2H681J	CERAMIC	500V	680pF
C852	ECEA1HU102	ELECT	50V	1000 μ F
C853	ECEA1EGE222	ELECT	25V	2200 μ F
C854	ECEA1HGE102	ELECT	50V	1000 μ F
C855	ECKC3D471JB	CERAMIC	2KV	470pF
C856	ECEA1EGE222	ELECT	25V	2200 μ F
C857	ECA2CM101E	ELECT	160V	100 μ F
C858	ECUV1H103ZFX	S.M.CAP	50V	10nF
C859	ECUV1H103ZFX	S.M.CAP	50V	10nF
C860	ECA1CM471GB	ELECT	16V	470pF
C861	ECA2CGE221	ELECT	160V	220 μ F
C862	ECA1CM471GB	ELECT	16V	470pF
C1051	ECA0JM101G	ELECT	6.3V	100pF
C1052	ECUV1H104ZFX	S.M.CAP	50V	100nF
C1201	ECUV1H332KBX	S.M.CAP	50V	3.3nF
C1202	ECUV1H332KBX	S.M.CAP	50V	3.3nF
C1203	ECUV1H332KBX	S.M.CAP	50V	3.3nF
C1204	ECUV1H332KBX	S.M.CAP	50V	3.3nF
C1205	ECUV1H103ZFX	S.M.CAP	50V	10nF
C1206	ECA1HM4R7GB	ELECT	50V	4.7 μ F
C1207	ECUV1H472KBX	S.M.CAP	50V	4.7nF
C1208	ECUV1H390JCX	S.M.CAP	50V	39pF
C1209	ECUV1H390JCX	S.M.CAP	50V	39pF
C1210	ECUV1H103ZFX	S.M.CAP	50V	10nF
C1211	ECUV1H470JCX	S.M.CAP	50V	47pF
C1212	ECA1CM470GB	ELECT	16V	47 μ F
C1213	ECUV1H103ZFX	S.M.CAP	50V	10nF
C1214	ECA1CM470GB	ELECT	16V	47 μ F
C1215	ECUV1H103ZFX	S.M.CAP	50V	10nF
C1217	ECUV1H104ZFX	S.M.CAP	50V	100nF
C1219	ECA1CM471GB	ELECT	16V	470pF
C1220	ECUV1H103ZFX	S.M.CAP	50V	10nF
C1221	ECA0JM102GB	ELECT	6.3V	1nF
C1222	ECUV1H104ZFX	S.M.CAP	50V	100nF
C1223	ECA1HM101GB	ELECT	50V	100pF
C1224	ECA0JM222GB	ELECT	6.3V	2.2nF
C1225	ECA0JM472GE	ELECT	6.3V	4.7nF
C1226	ECA1HM101GB	ELECT	50V	100pF
C2102	ECUV1H391KBX	S.M.CAP	50V	390pF
C2103	ECUV1H102KBX	S.M.CAP	50V	1nF

Ref No.	Part No.	Description
C2104	ECUV1H102KBX S.M.CAP	50V 1nF
C2105	ECUV1H102KBX S.M.CAP	50V 1nF
C2106	ECUV1H102KBX S.M.CAP	50V 1nF
C2107	ECUV1H391KBX S.M.CAP	50V 390pF
C2108	ECA1HM101GB ELECT	50V 100pF
C2110	ECA1CM100GB ELECT	16V 10pF
C2111	ECUV1H104ZFX S.M.CAP	50V 100nF
C2112	ECA1CM100GB ELECT	16V 10pF
C2113	ECUV1H102KBX S.M.CAP	50V 1nF
C2114	ECUV1H104ZFX S.M.CAP	50V 100nF
C2115	ECUV1H471KBX S.M.CAP	50V 470pF
C2116	ECA1HM3R3GB ELECT	50V 3.3μF
C2117	ECUV1H471KBX S.M.CAP	50V 470pF
C2118	ECUV1H104ZFX S.M.CAP	50V 100nF
C2119	ECA1CM100GB ELECT	16V 10pF
C2120	ECUV1H104ZFX S.M.CAP	50V 100nF
C2121	ECUV1H104ZFX S.M.CAP	50V 100nF
C2122	ECQM1H334J FILM	50V 330nF
C2123	ECA1CM100GB ELECT	16V 10pF
C2124	ECUV1H104ZFX S.M.CAP	50V 100nF
C2125	ECUV1H030CCX S.M.CAP	50V 30pF
C2126	ECUV1H030CCX S.M.CAP	50V 30pF
C2127	ECA1CM100GB ELECT	16V 10pF
C2128	ECUV1H683ZFX S.M.CAP	50V 68nF
C2307	ECA1CM470GB ELECT	16V 47μF
C2308	ECA1CM470GB ELECT	16V 47μF
C2309	ECA1HM101GB ELECT	50V 100pF
C2310	ECA1CM470GB ELECT	16V 47μF
C2312	ECUV1H104ZFX S.M.CAP	50V 100nF
C2313	ECUV1H103KBX S.M.CAP	50V 10nF
C2314	ECUV1H104ZFX S.M.CAP	50V 100nF
C2315	ECUV1H103KBX S.M.CAP	50V 10nF
C2316	ECUV1H103ZFX S.M.CAP	50V 10nF
C2317	ECA1CM470GB ELECT	16V 47μF
C2318	ECUV1H222KBX S.M.CAP	50V 2.2nF
C2319	ECUV1H222KBX S.M.CAP	50V 2.2nF
C2651	ECUV1H103KBX S.M.CAP	50V 10nF
C2652	ECUV1H103KBX S.M.CAP	50V 10nF
C3001	ECA1HMR47GB ELECT	50V 0.47μF
C3002	ECA1HMR47GB ELECT	50V 0.47μF
C3003	ECA1EM4R7GB ELECT	25V 4.7μF
C3004	ECA1HM4R7GB ELECT	50V 4.7μF
C3005	ECA1HM4R7GB ELECT	50V 4.7μF
C3006	ECUV1H473ZFX S.M.CAP	50V 47nF
C3007	ECA1HM470GB ELECT	50V 47μF
C3011	ECUV1H473ZFX S.M.CAP	50V 47nF
C3012	ECA1CM470GB ELECT	16V 47μF
C3013	ECUV1H104ZFX S.M.CAP	50V 100nF
C3014	ECUV1H104ZFX S.M.CAP	50V 100nF
C3017	ECEA1CN470 ELECT	16V 47μF
C3018	ECUV1H102KBX S.M.CAP	50V 1nF
C3019	ECUV1H102KBX S.M.CAP	50V 1nF
C3020	ECCF1H070DC CERAMIC	50V 7pF
C3021	ECUV1H102KBX S.M.CAP	50V 1nF
C3023	ECA1CM470GB ELECT	16V 47μF
C3024	ECUV1H473ZFX S.M.CAP	50V 47nF
C3025	ECUV1H102KBX S.M.CAP	50V 1nF
C3026	ECA1CM470GB ELECT	16V 47μF
C3027	ECA1CM470GB ELECT	16V 47μF
C3028	ECUV1H221JX S.M.CAP	50V 220pF
C3029	ECUV1H221JX S.M.CAP	50V 220pF
C3030	ECUV1H221JX S.M.CAP	50V 220pF
C3031	ECUV1H221JX S.M.CAP	50V 220pF
C3032	ECA1HMR47GB ELECT	50V 0.47μF
C3033	ECA1HMR47GB ELECT	50V 0.47μF
C3034	ECUV1H221JX S.M.CAP	50V 220pF
C3035	ECUV1H221JX S.M.CAP	50V 220pF
C3036	ECUV1H561JCX S.M.CAP	50V 560pF
C3037	ECUV1H561JCX S.M.CAP	50V 560pF
C3038	ECA1CM470GB ELECT	16V 47μF
C3039	ECA1CM470GB ELECT	16V 47μF
C3040	ECA1HMR47GB ELECT	50V 0.47μF

Ref No.	Part No.	Description
C3041	ECA1HMR47GB ELECT	50V 0.47μF
C3042	ECA1CM220GB ELECT	16V 22μF
C3043	ECA1HM4R7GB ELECT	50V 4.7μF
C3045	ECUV1H104ZFX S.M.CAP	50V 100nF
C3049	ECUV1H222KBX S.M.CAP	50V 2.2nF
C3050	ECUV1H222KBX S.M.CAP	50V 2.2nF
C3050	ECUV1H561JCX S.M.CAP	50V 560pF
C3051	ECUV1H222KBX S.M.CAP	50V 2.2nF
C3052	ECUV1H561JCX S.M.CAP	50V 560pF
C3053	ECUV1H561JCX S.M.CAP	50V 560pF
C3056	ECUV1H101JCX S.M.CAP	50V 100pF
C3062	ECUV1H104ZFX S.M.CAP	50V 100nF
C3071	ECUV1H104ZFX S.M.CAP	50V 100nF
C3151	ECUV1H561JCX S.M.CAP	50V 560pF
C3152	ECUV1H561JCX S.M.CAP	50V 560pF
C3501	ECUV1H104ZFX S.M.CAP	50V 100nF
C3502	ECA1HM101GB ELECT	50V 100pF
C3503	ECUV1H103ZFX S.M.CAP	50V 10nF
C3504	ECUV1H102JCX S.M.CAP	50V 1nF
C3505	ECUV1H104ZFX S.M.CAP	50V 100nF
C3506	ECA1CM470GB ELECT	16V 47μF
C3507	ECA1CM470GB ELECT	16V 47μF
C3508	ECUV1H473ZFX S.M.CAP	50V 47nF
C3509	ECUV1H103ZFX S.M.CAP	50V 10nF
C3510	ECA0JM102GB ELECT	6.3V 1nF
C3511	ECUV1H103ZFX S.M.CAP	50V 10nF

DIODES

D100	BA582	DIODE
D101	BA582	DIODE
D102	MA3020TX	DIODE
D103	MA3020TX	DIODE
D251	MA2180TP	DIODE
D252	MA165TA5	DIODE 1SS133T-77
D253	MA700TA5	DIODE
D254	MA700TA5	DIODE
D310	MA165TA5	DIODE 1SS133T-77
D311	MA29TA5	DIODE
D312	MA29TA5	DIODE
D354	ERA22-04V1	DIODE
D355	ERA22-04V1	DIODE
D356	ERA22-04V1	DIODE
D357	MA165TA5	DIODE 1SS133T-77
D358	MA165TA5	DIODE 1SS133T-77
D359	MA165TA5	DIODE 1SS133T-77
D360	MA4150	DIODE
D451	MA165TA5	DIODE 1SS133T-77
D452	MA165TA5	DIODE 1SS133T-77
D454	ERA15-02V3	DIODE
D456	MA2160BLFS	DIODE
D501	MA165TA5	DIODE 1SS133T-77
D502	EU02	DIODE
D551	ERD07-15L7	DIODE
D552	TVSRU2AM	DIODE
D554	AU02V0	DIODE
D556	MA166TA5	DIODE
D601	MA165TA5	DIODE 1SS133T-77
D602	MA165TA5	DIODE 1SS133T-77
D604	MA165TA5	DIODE 1SS133T-77
D605	MA165TA5	DIODE 1SS133T-77
D606	MA165TA5	DIODE 1SS133T-77
D609	MA167TA5	DIODE
D701	MA165TA5	DIODE 1SS133T-77
D702	MA4056	DIODE
D801	MA165TA5	DIODE 1SS133T-77
D802	MA165TA5	DIODE 1SS133T-77
D803	MA165TA5	DIODE 1SS133T-77
D804	ERA15-02V3	DIODE
D805	EU02	DIODE
D806	RBV4-08	DIODE

Ref No.	Part No.	Description
D807	EU02	DIODE
D808	PC120FY	DIODE
D809	MA165TA5	DIODE 1SS133T-77
D851	EU02	DIODE
D852	ERD32-02L7	DIODE
D853	FML22SLF610	DIODE
D854	RU4AMLF-M1	DIODE
D855	RU4BLF-L1	DIODE
D856	MA4047	DIODE
D857	MA4300	DIODE
D858	MA29TA5	DIODE
D1201	LN81RPHL	DIODE
D1203	MA4082	DIODE
D1204	TVSS1WBS20	DIODE
D1205	MA165TA5	DIODE 1SS133T-77
D1207	MA165TA5	DIODE 1SS133T-77
D1208	MA165TA5	DIODE 1SS133T-77
D1209	MA165TA5	DIODE 1SS133T-77
D1210	1SS254T-77	DIODE
D2303	MA165TA5	DIODE 1SS133T-77
D2304	MA4091	DIODE
D3001	MA4120	DIODE
D3003	MA4082	DIODE
D3004	MA4100	DIODE
D3005	MA4120	DIODE
D3006	MA4120	DIODE
D3007	MA4120	DIODE
D3008	MA4082	DIODE
D3009	MA4082	DIODE
D3010	MA4082	DIODE
D3011	MA4082	DIODE
D3012	MA4120	DIODE
D3013	MA4120	DIODE
D3014	MA4120	DIODE
D3015	MA4120	DIODE
D3016	MA4120	DIODE
D3018	MA165TA5	DIODE 1SS133T-77
D3019	MA165TA5	DIODE 1SS133T-77
D3501	MA165TA5	DIODE 1SS133T-77

FUSES

F801	19181-3.15	FUSE	△
F851	TR5-T1250	FUSE	△
F852	TR5-T2000	FUSE	△
F853	TR5-T2000	FUSE	△
F8011	EYF52BC	FUSE HOLDER	
F8012	EYF52BC	FUSE HOLDER	

SOCKETS

H1202	832AG11D-ESL	I.C.SOCKET
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INTEGRATED CIRCUITS

IC100	TSA5514AT/C2	A.F.C.CONTROL
IC102	TDA9814TV3	VIF
IC103	L78M12MRB	12V REGULATOR
IC1051	RPM-637CBRL	LED RECEIVER
IC1201	CCU30001-05	CENTRAL CONTROL UNIT
IC1202	27C010A-AD2	EPROM
IC1203	X24C0801EF	EAROM
IC1205	MN1280R	RESET
IC1206	L78M05MRB	5V REGULATOR
IC2101	MSP3410BPPF7	AUDIO PROCESSOR
IC2301	AN78L08TA	8V REGULATOR
IC251	LA4280-TV	AUDIO OUTPUT
IC3001	TEA6415C	VIDEO SWITCH
IC3501	UD61256DC-08	DYNAMIC RAM

Ref No.	Part No.	Description
IC3502	TPU3040-20	TEXT PROCESSOR
IC351	TDA6103Q-N3	R.G.B.AMPLIFIER
IC451	TDA8175-3	VERTICAL OUTPUT
IC601	VDP3108APPA1	VIDEO PROCESSOR
IC701	TEA2031A	HORIZONTAL OUTPUT
IC801	TDA4601	POWER SUPPLY
IC851	L78M12MRB	12V REGULATOR

TERMINALS AND LINKS

JA.1	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.1	ERJ8GEY0R00	S.M.CAR	.125W	5%	0Ω
JA.10	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.11	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.11	ERJ8GEY0R00	S.M.CAR	.125W	5%	0Ω
JA.12	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.12	ERJ8GEY0R00	S.M.CAR	.125W	5%	0Ω
JA.13	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.14	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.14	ERJ8GEY0R00	S.M.CAR	.125W	5%	0Ω
JA.15	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.15	ERJ8GEY0R00	S.M.CAR	.125W	5%	0Ω
JA.16	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.16	ERJ8GEY0R00	S.M.CAR	.125W	5%	0Ω
JA.17	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.17	ERJ8GEY0R00	S.M.CAR	.125W	5%	0Ω
JA.18	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.19	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.2	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.2	ERJ8GEY0R00	S.M.CAR	.125W	5%	0Ω
JA.20	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.21	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.22	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.22	ERJ8GEY0R00	S.M.CAR	.125W	5%	0Ω
JA.23	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.24	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.25	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.25	ERJ8GEY0R00	S.M.CAR	.125W	5%	0Ω
JA.26	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.27	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.28	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.29	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.3	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.3	ERJ8GEY0R00	S.M.CAR	.125W	5%	0Ω
JA.30	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.31	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.32	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.33	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.34	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.35	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.36	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.37	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.38	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.39	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.4	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.4	ERJ8GEY0R00	S.M.CAR	.125W	5%	0Ω
JA.41	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.42	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.5	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.6	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.6	ERJ8GEY0R00	S.M.CAR	.125W	5%	0Ω
JA.7	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.7	ERJ8GEY0R00	S.M.CAR	.125W	5%	0Ω
JA.8	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JA.9	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JK2301	TJB18644	AV TERMINAL			
JK3001	TJS8E007	21PIN TERMINAL			
JK3101	TJS8E007	21PIN TERMINAL			
JK3102	TJB16673	AV TERMINAL			
JSB.5	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
JSB8	EXCELSA35T	COIL			
JSE011	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω

Ref No.	Part No.	Description
JSE012	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
JSE013	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
JSE014	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
JSE015	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
JSE016	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
JSE031	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
JSE032	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
JSE035	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
JSE037	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
J107	EXCELSA35T	COIL
J108	EXCELSA35T	COIL
J115	EXCELSA35T	COIL

COILS

L001	TLT100K991R	COIL
L002	TSC925-4	CHOKE
L100	TLT181K991R	COIL
L104	EQV7EN203B	COIL
L105	TLT068K991R	COIL
L108	ELB5A077	COIL
L109	ELESNR22KA	COIL
L111	TLT102K991R	COIL
L125	ELESNR39KA	COIL
L201	EFCA6R5MB3	FILTER
L202	ELEV6R8KA	COIL
L251	EXCELSA35T	COIL
L301	TLT047K991R	COIL
L302	EXCEMT101BT	COIL
L303	EXCEMT101BT	COIL
L304	EXCEMT101BT	COIL
L552	ELH5L429	COIL
L601	TLT047K991R	COIL
L602	EXCELD35V	COIL
L603	TLT047K991R	COIL
L604	EXCELD35V	COIL
L606	TLT015K991R	COIL
L607	EXCELSA35T	COIL
L701	ELC10D006	COIL
L801	EXCELSA24T	COIL
L802	TLT022K991R	COIL
L803	ELF18D490F	COIL
L804	ELESN4R7KA	COIL
L805	298-82858001	COIL
L851	EXCELD35V	COIL
L852	EXCELSA35T	COIL
L853	ELEIE470KA	COIL
L854	ELEIN470KA	COIL
L855	ELEIN470KA	COIL
L856	ELEIN470KA	COIL
L1051	TLT331K991R	COIL
L1201	TLT047K991R	COIL
L1202	TLT047K991R	COIL
L1203	TLT047K991R	COIL
L1204	EXCELD35V	COIL
L2101	TLT100K991R	COIL
L2102	TLT039K991R	COIL
L3151	EXCEMT101BT	COIL
L3152	EXCEMT101BT	COIL
L3153	EXCEMT101BT	COIL
L3154	EXCEMT101BT	COIL
L3155	ELEBT6R8KA	COIL
L3156	ELEBT6R8KA	COIL
L3158	EXCELSA39V	COIL
L3501	EXCELD35V	COIL
L3502	EXCELD35V	COIL
L3503	ELESN4R7KA	COIL
L3504	EXCELSA35T	COIL

Ref No.	Part No.	Description
TRANSISTORS		
Q100	BC847B	TRANSISTOR OR 2SD601ATX
Q101	BC847B	TRANSISTOR OR 2SD601ATX
Q102	BC847B	TRANSISTOR OR 2SD601ATX
Q103	BC847B	TRANSISTOR OR 2SD601ATX
Q105	BC847B	TRANSISTOR OR 2SD601ATX
Q106	BF799E6327	CHIP TRANSISTOR
Q251	2SD1328STX	TRANSISTOR
Q252	2SD1328STX	TRANSISTOR
Q253	BC847B	TRANSISTOR OR 2SD601ATX
Q301	BC857B	TRANSISTOR OR 2SB709ATX
Q302	BC847B	TRANSISTOR OR 2SD601ATX
Q303	BC857B	TRANSISTOR OR 2SB709ATX
Q304	BC847B	TRANSISTOR OR 2SD601ATX
Q305	BC857B	TRANSISTOR OR 2SB709ATX
Q306	BC847B	TRANSISTOR OR 2SD601ATX
Q307	BC847B	TRANSISTOR OR 2SD601ATX
Q308	BC847B	TRANSISTOR OR 2SD601ATX
Q309	BC847B	TRANSISTOR OR 2SD601ATX
Q310	BC847B	TRANSISTOR OR 2SD601ATX
Q311	BC847B	TRANSISTOR OR 2SD601ATX
Q351	2SA1767	TRANSISTOR
Q352	2SA1767	TRANSISTOR
Q353	2SA1767	TRANSISTOR
Q451	BC847B	TRANSISTOR OR 2SD601ATX
Q501	BC847B	TRANSISTOR OR 2SD601ATX
Q502	BC847B	TRANSISTOR OR 2SD601ATX
Q503	2SD836-AL	TRANSISTOR
Q504	BC847B	TRANSISTOR OR 2SD601ATX
Q551	BU2506DXLB	TRANSISTOR
Q552	2SC1473-RN	TRANSISTOR
Q701	BC857B	TRANSISTOR OR 2SB709ATX
Q801	2SC1573	TRANSISTOR
Q802	S2000NLBMA	TRANSISTOR
Q851	2SD1273PLB	TRANSISTOR ALT2SD2396/JM3
Q852	TFD312SOF632	DIODE
Q1201	BC847B	TRANSISTOR OR 2SD601ATX
Q1202	BC847B	TRANSISTOR OR 2SD601ATX
Q1205	BC847B	TRANSISTOR OR 2SD601ATX
Q1206	BC847B	TRANSISTOR OR 2SD601ATX
Q1207	BC847B	TRANSISTOR OR 2SD601ATX
Q1208	BC857B	TRANSISTOR OR 2SB709ATX
Q2101	BC860B	TRANSISTOR
Q2102	BC860B	TRANSISTOR
Q2301	BC857B	TRANSISTOR OR 2SB709ATX
Q2302	BC857B	TRANSISTOR OR 2SB709ATX
Q2305	2SD1328STX	TRANSISTOR
Q2306	2SD1328STX	TRANSISTOR
Q2307	BC860B	TRANSISTOR
Q2308	BC857B	TRANSISTOR OR 2SB709ATX
Q2309	BC860B	TRANSISTOR
Q2310	BC860B	TRANSISTOR
Q3001	2SC1318-S	TRANSISTOR
Q3004	BC847B	TRANSISTOR OR 2SD601ATX
Q3005	BC847B	TRANSISTOR OR 2SD601ATX
Q3006	2SC1318-S	TRANSISTOR
Q3011	BC857B	TRANSISTOR OR 2SB709ATX
Q3012	2SD1328STX	TRANSISTOR
Q3013	2SD1328STX	TRANSISTOR

RESISTOR

R.107	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
R.108	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
R.109	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
R.112	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
R.114	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
R.136	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
R.138	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
R.142	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω
R.143	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω

Ref No.	Part No.	Description			
R.153	ERJ6GEY0R00	S.M.CARB 0.1W	5%	0Ω	
R.604	ERJ6GEY0R00	S.M.CARB 0.1W	5%	0Ω	
R.622	ERJ6GEY0R00	S.M.CARB 0.1W	5%	0Ω	
R001	ERJ6GEYJ223	S.M.CARB 0.1W	5%	22KΩ	
R002	ERJ6GEYJ101	S.M.CARB 0.1W	5%	100Ω	
R003	ERJ6GEYJ101	S.M.CARB 0.1W	5%	100Ω	
R004	ERJ6GEYJ101	S.M.CARB 0.1W	5%	100Ω	
R100	ERJ6GEYJ103	S.M.CARB 0.1W	5%	10KΩ	
R101	ERJ6GEYJ331	S.M.CARB 0.1W	5%	330Ω	
R102	ERJ6GEYJ103	S.M.CARB 0.1W	5%	10KΩ	
R103	ERJ6GEYJ331	S.M.CARB 0.1W	5%	330Ω	
R104	ERJ6GEYJ103	S.M.CARB 0.1W	5%	10KΩ	
R105	ERJ6GEYJ561	S.M.CARB 0.1W	5%	560Ω	
R110	ERJ6GEYJ331	S.M.CARB 0.1W	5%	330Ω	
R111	ERJ6GEYJ680	S.M.CARB 0.1W	5%	68Ω	
R113	ERJ6GEYJ473	S.M.CARB 0.1W	5%	47KΩ	
R115	ERJ6GEYJ123	S.M.CARB 0.1W	5%	12KΩ	
R116	ERJ6GEYJ182	S.M.CARB 0.1W	5%	1K8Ω	
R117	ERJ6GEYJ563	S.M.CARB 0.1W	5%	56KΩ	
R118	ERJ6GEYJ181	S.M.CARB 0.1W	5%	180Ω	
R119	ERJ6GEYJ393	S.M.CARB 0.1W	5%	39KΩ	
R120	ERJ6GEYJ151	S.M.CARB 0.1W	5%	150Ω	
R121	ERJ6GEYJ151	S.M.CARB 0.1W	5%	150Ω	
R122	ERJ6GEYJ223	S.M.CARB 0.1W	5%	22KΩ	
R123	ERJ6GEYJ181	S.M.CARB 0.1W	5%	180Ω	
R124	ERJ6GEYJ512	S.M.CARB 0.1W	5%	5K1Ω	
R126	EVNDXAA03B24	CONTROL		20KΩ	
R127	ERJ6GEYJ122	S.M.CARB 0.1W	5%	1K2Ω	
R129	ERJ6GEYJ103	S.M.CARB 0.1W	5%	10KΩ	
R130	ERJ6GEYJ103	S.M.CARB 0.1W	5%	10KΩ	
R131	ERJ6GEYJ122	S.M.CARB 0.1W	5%	1K2Ω	
R132	ERJ6GEYJ154	S.M.CARB 0.1W	5%	150KΩ	
R137	ERJ6GEY0R00	S.M.CARB 0.1W	5%	0Ω	
R139	ERJ6GEYJ330	S.M.CARB 0.1W	5%	33Ω	
R141	ERJ6GEYJ123	S.M.CARB 0.1W	5%	12KΩ	
R150	ERJ6GEYJ223	S.M.CARB 0.1W	5%	22KΩ	
R151	ERJ6GEYJ103	S.M.CARB 0.1W	5%	10KΩ	
R154	ERJ6GEYJ154	S.M.CARB 0.1W	5%	150KΩ	
R155	ERJ6GEYJ122	S.M.CARB 0.1W	5%	1K2Ω	
R158	ERJ6GEYJ561	S.M.CARB 0.1W	5%	560Ω	
R159	ERJ6GEYJ152	S.M.CARB 0.1W	5%	1K5Ω	
R160	ERJ6GEYJ101	S.M.CARB 0.1W	5%	100Ω	
R161	ERJ6GEYJ223	S.M.CARB 0.1W	5%	22KΩ	
R162	ERJ6GEYJ122	S.M.CARB 0.1W	5%	1K2Ω	
R163	EVNDXAA03B24	CONTROL		20KΩ	
R201	ERJ6GEYJ471	S.M.CARB 0.1W	5%	470Ω	
R203	ERJ6GEYJ101	S.M.CARB 0.1W	5%	100Ω	
R251	ERJ6GEYJ181	S.M.CARB 0.1W	5%	180Ω	
R252	ERJ6GEYJ222	S.M.CARB 0.1W	5%	2K2Ω	
R253	ERJ6GEYJ103	S.M.CARB 0.1W	5%	10KΩ	
R254	ERJ6GEYJ181	S.M.CARB 0.1W	5%	180Ω	
R255	ERJ6GEYJ103	S.M.CARB 0.1W	5%	10KΩ	
R256	ERJ6GEYJ471	S.M.CARB 0.1W	5%	470Ω	
R257	ERJ6GEYJ560	S.M.CARB 0.1W	5%	56Ω	
R258	ERJ6GEYJ222	S.M.CARB 0.1W	5%	2K2Ω	
R259	ERJ6GEYJ560	S.M.CARB 0.1W	5%	56Ω	
R260	ERJ6GEYJ103	S.M.CARB 0.1W	5%	10KΩ	
R261	ERJ6GEYJ471	S.M.CARB 0.1W	5%	470Ω	
R262	ERJ6GEYJ103	S.M.CARB 0.1W	5%	10KΩ	
R263	ERJ6GEYJ104	S.M.CARB 0.1W	5%	100KΩ	
R264	ERJ6GEYJ473	S.M.CARB 0.1W	5%	47KΩ	
R265	ERD25TJ2R2	CARBON 0.25W	5%	2R2Ω	
R266	ERD25TJ2R2	CARBON 0.25W	5%	2R2Ω	
R267	ERF7ZK4R7	WOUND 7W	10%	4R7Ω	Δ
R268	ERJ6GEYJ103	S.M.CARB 0.1W	5%	10KΩ	
R269	ERJ6GEYJ273	S.M.CARB 0.1W	5%	27KΩ	
R271	ERJ6GEYJ103	S.M.CARB 0.1W	5%	10KΩ	
R272	ERF7ZK3R9	WOUND 7W	10%	3R9Ω	Δ
R273	ERD25TJ273	CARBON 0.25W	5%	27KΩ	
R301	ERJ6GEYJ750	S.M.CARB 0.1W	5%	75Ω	
R302	ERJ6GEYJ471	S.M.CARB 0.1W	5%	470Ω	
R303	ERJ6GEYJ471	S.M.CARB 0.1W	5%	470Ω	

Ref No.	Part No.	Description			
R304	ERJ6GEYJ471	S.M.CARB 0.1W	5%	470Ω	
R305	ERJ6GEYJ750	S.M.CARB 0.1W	5%	75Ω	
R306	ERJ6GEYJ471	S.M.CARB 0.1W	5%	470Ω	
R307	ERJ6GEYJ471	S.M.CARB 0.1W	5%	470Ω	
R308	ERJ6GEYJ471	S.M.CARB 0.1W	5%	470Ω	
R309	ERJ6GEYJ750	S.M.CARB 0.1W	5%	75Ω	
R310	ERJ6GEYJ471	S.M.CARB 0.1W	5%	470Ω	
R311	ERJ6GEYJ471	S.M.CARB 0.1W	5%	470Ω	
R312	ERJ6GEYJ471	S.M.CARB 0.1W	5%	470Ω	
R313	ERJ6GEYJ101	S.M.CARB 0.1W	5%	100Ω	
R314	ERJ6GEYJ332	S.M.CARB 0.1W	5%	3K3Ω	
R315	ERJ6GEYJ332	S.M.CARB 0.1W	5%	3K3Ω	
R316	ERJ6GEYJ332	S.M.CARB 0.1W	5%	3K3Ω	
R321	ERJ6GEYJ473	S.M.CARB 0.1W	5%	47KΩ	
R322	ERJ6GEYJ473	S.M.CARB 0.1W	5%	47KΩ	
R323	ERJ6GEYJ103	S.M.CARB 0.1W	5%	10KΩ	
R324	ERJ6GEYJ104	S.M.CARB 0.1W	5%	100KΩ	
R351	ERJ6GEYJ222	S.M.CARB 0.1W	5%	2K2Ω	
R352	ERJ6GEYJ222	S.M.CARB 0.1W	5%	2K2Ω	
R353	ERJ6GEYJ222	S.M.CARB 0.1W	5%	2K2Ω	
R354	ERJ6GEYJ102	S.M.CARB 0.1W	5%	1KΩ	
R355	ERJ6GEYJ102	S.M.CARB 0.1W	5%	1KΩ	
R356	ERJ6GEYJ102	S.M.CARB 0.1W	5%	1KΩ	
R357	ERG1FJ563	METAL 1W	5%	56KΩ	Δ
R358	ERG2FJ563	METAL 2W	5%	56KΩ	Δ
R359	ERG1FJ563	METAL 1W	5%	56KΩ	Δ
R363	ERDS1TJ103	CARBON 0.5W	5%	10KΩ	
R364	ERDS1TJ103	CARBON 0.5W	5%	10KΩ	
R365	ERDS1TJ103	CARBON 0.5W	5%	10KΩ	
R366	ERDS1TJ152	CARBON 0.5W	5%	1K5Ω	
R367	ERDS1TJ152	CARBON 0.5W	5%	1K5Ω	
R368	ERDS1TJ152	CARBON 0.5W	5%	1K5Ω	
R369	ERD25TJ223	CARBON 0.25W	5%	22KΩ	
R370	ERD25TJ103	CARBON 0.25W	5%	10KΩ	
R372	ERQ12AJ121	FUSIBLE 0.5W	5%	120Ω	Δ
R373	ERJ6GEYJ220	S.M.CARB 0.1W	5%	22Ω	
R374	ERDS1TJ274	CARBON 0.5W	5%	270KΩ	
R375	ERJ6GEYJ684	S.M.CARB 0.1W	5%	680KΩ	
R376	ERJ6GEYJ183	S.M.CARB 0.1W	5%	18KΩ	
R377	ERQ12HJ1R2	METAL 0.5W	5%	1R2Ω	Δ
R378	ERJ6GEY0R00	S.M.CARB 0.1W	5%	0Ω	
R379	ERJ6GEY0R00	S.M.CARB 0.1W	5%	0Ω	
R380	ERJ6GEY0R00	S.M.CARB 0.1W	5%	0Ω	
R451	ERJ6GEYJ223	S.M.CARB 0.1W	5%	22KΩ	
R452	ERJ6GEYJ472	S.M.CARB 0.1W	5%	4K7Ω	
R453	ERJ6GEYJ104	S.M.CARB 0.1W	5%	100KΩ	
R455	ERJ6GEYJ472	S.M.CARB 0.1W	5%	4K7Ω	
R456	ERJ6GEYJ103	S.M.CARB 0.1W	5%	10KΩ	
R457	ERJ6GEYJ682	S.M.CARB 0.1W	5%	6K8Ω	
R458	ERD25TJ1R5	CARBON 0.25W	5%	1R5Ω	
R459	ERJ6GEYJ470	S.M.CARB 0.1W	5%	47Ω	
R460	ERJ6GEYJ183	S.M.CARB 0.1W	5%	18KΩ	
R461	ERDS1TJ471	CARBON 0.5W	5%	470Ω	
R462	ERJ6GEYJ472	S.M.CARB 0.1W	5%	4K7Ω	
R463	ERJ6GEYJ472	S.M.CARB 0.1W	5%	4K7Ω	
R464	ERW12PK1R5	WIRE 12W	10%	1R5Ω	
R465	ERJ6GEYJ101	S.M.CARB 0.1W	5%	100Ω	
R466	ERO25CKF1801	METAL 0.25W	1%	1K8Ω	Δ
R467	ERO25CKF1201	METAL 0.25W	1%	1K2Ω	Δ
R471	ERDS1TJ102	CARBON 0.5W	5%	1KΩ	
R472	ERDS1TJ4R7	CARBON 0.5W	5%	4R7Ω	
R501	ERJ6GEYJ331	S.M.CARB 0.1W	5%	330Ω	
R502	ERJ6GEYJ560	S.M.CARB 0.1W	5%	56Ω	
R503	ERJ6GEYJ273	S.M.CARB 0.1W	5%	27KΩ	
R504	ERJ6GEYJ101	S.M.CARB 0.1W	5%	100Ω	
R506	ERD25TJ560	CARBON 0.25W	5%	56Ω	
R507	ERQ14AJ3R3	METAL 0.25W	5%	3R3Ω	Δ
R509	ERDS1TJ152	CARBON 0.5W	5%	1K5Ω	
R510	ERDS1TJ152	CARBON 0.5W	5%	1K5Ω	
R511	ERJ6GEYJ104	S.M.CARB 0.1W	5%	100KΩ	
R512	ERJ6GEYJ472	S.M.CARB 0.1W	5%	4K7Ω	

Ref No.	Part No.	Description	
R513	ERJ6GEYJ123	S.M.CARB 0.1W 5% 12KΩ	
R514	ERJ6GEYJ123	S.M.CARB 0.1W 5% 12KΩ	
R551	ERW2PKR47	WIREWOUND2W 10%0R47Ω	Δ
R553	ERG1SJ152	METAL 1W 5% 1K5Ω	
R558	ERDS1TJ124	CARBON 0.5W 5% 120KΩ	
R561	ERJ6GEYJ563	S.M.CARB 0.1W 5% 56KΩ	
R562	ERJ6GEYJ225	S.M.CARB0.125W 5% 2.2MΩ	
R563	ERJ6GEYJ225	S.M.CARB0.125W 5% 2.2MΩ	
R564	ERJ6GEYJ623	S.M.CARB0.125W 5% 62KΩ	
R566	ERJ6GEYJ473	S.M.CARB 0.1W 5% 47KΩ	
R567	ERJ6GEYJ274	S.M.CARB 0.1W 5% 270KΩ	
R601	ERJ6GEYJ151	S.M.CARB 0.1W 5% 150Ω	
R602	ERJ6GEYJ151	S.M.CARB 0.1W 5% 150Ω	
R603	ERJ6GEYJ750	S.M.CARB 0.1W 5% 75Ω	
R605	ERJ6GEYJ183	S.M.CARB 0.1W 5% 18KΩ	
R606	ERJ6GEYJ472	S.M.CARB 0.1W 5% 4K7Ω	
R607	ERJ6GEYJ103	S.M.CARB 0.1W 5% 10KΩ	
R608	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R609	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R610	ERJ6GEYJ473	S.M.CARB 0.1W 5% 47KΩ	
R611	ERJ6GEYJ102	S.M.CARB 0.1W 5% 1KΩ	
R612	ERJ6GEYJ123	S.M.CARB 0.1W 5% 12KΩ	
R613	ERJ6GEYJ271	S.M.CARB 0.1W 5% 270Ω	
R614	ERJ6GEYJ470	S.M.CARB 0.1W 5% 47Ω	
R615	ERJ6GEYJ333	S.M.CARB 0.1W 5% 33KΩ	
R616	ERJ6GEYJ153	S.M.CARB 0.1W 5% 15KΩ	
R618	ERJ6GEYJ151	S.M.CARB 0.1W 5% 150Ω	
R619	ERJ6GEYJ472	S.M.CARB 0.1W 5% 4K7Ω	
R623	ERJ6GEYJ821	S.M.CARB 0.1W 5% 820Ω	
R701	ERQ12AJ101	FUSIBLE 0.5W 5% 100Ω	Δ
R702	ERQ12HJ330	METAL 0.5W 5% 33Ω	Δ
R703	ERG2FJ821	METAL 2W 5% 820Ω	Δ
R704	ERJ6GEYJ563	S.M.CARB 0.1W 5% 56KΩ	
R705	ERJ6GEYJ104	S.M.CARB 0.1W 5% 100KΩ	
R706	ERJ6GEYJ272	S.M.CARB 0.1W 5% 2K7Ω	
R707	ERJ6GEYJ122	S.M.CARB 0.1W 5% 1K2Ω	
R708	ERJ6GEYJ393	S.M.CARB 0.1W 5% 39KΩ	
R709	ERJ6GEYJ393	S.M.CARB 0.1W 5% 39KΩ	
R710	ERJ6GEYJ273	S.M.CARB 0.1W 5% 27KΩ	
R711	ERJ6GEYJ681	S.M.CARB 0.1W 5% 680Ω	
R712	ERJ6GEYJ472	S.M.CARB 0.1W 5% 4K7Ω	
R713	ERG1SJ101	METAL 1W 5% 100Ω	
R801	ERG3FJ682H	METAL 3W 5% 6K8Ω	Δ
R802	ERG2FJ472	METAL 2W 5% 4K7Ω	Δ
R803	ERX12SJWR47	METAL 12W 5% R47	
R804	ERJ6GEYJ682	S.M.CARB 0.1W 5% 6K8Ω	
R805	ERJ6GEYJ221	S.M.CARB 0.1W 5% 220Ω	
R806	ERG1SJ823	METAL 1W 5% 820Ω	
R807	ERO25CKF1201	METAL 0.25W 1% 1K2Ω	Δ
R808	232266296319	THERMISTOR	
R809	ERO25CKF1302	METAL 0.25W 1% 13KΩ	Δ
R810	ERD25TJ103	CARBON 0.25W 5% 10KΩ	
R811	EVMEASA00B33	CONTROL 3KΩ	
R812	ERDS1TJ220	CARBON 0.5W 5% 22Ω	
R813	ERD50FJ274	CARBON 0.5W 5% 270KΩ	
R814	ERF7ZK2R7	WOUND 7W 20% 2R7Ω	Δ
R815	ERDS1TJ563	CARBON 0.5W 5% 56KΩ	
R817	ERG3FJ470	METAL 3W 5% 47Ω	Δ
R818	ERD50FJ104	CARBON 0.5W 5% 100KΩ	
R819	ERD50FJ184	CARBON 0.5W 5% 180KΩ	
R820	ERD75TAJ825	CARBON 0.75W 5% 8M2Ω	Δ
R852	ERJ6GEYJ271	S.M.CARB 0.1W 5% 270Ω	
R853	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R854	ERDS1TJ474	CARBON 0.5W 5% 470KΩ	
R855	ERG2FJ223	METAL 2W 5% 22KΩ	Δ
R856	ERJ6GEYJ102	S.M.CARB 0.1W 5% 1KΩ	
R1201	ERJ6GEYJ271	S.M.CARB 0.1W 5% 270Ω	
R1202	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R1203	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R1204	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R1205	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	

Ref No.	Part No.	Description	
R1206	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R1207	ERD25TJ331	CARBON 0.25W 5% 330Ω	
R1208	ERJ6GEYJ223	S.M.CARB 0.1W 5% 22KΩ	
R1209	ERJ6GEYJ472	S.M.CARB 0.1W 5% 4K7Ω	
R1210	ERJ6GEYJ472	S.M.CARB 0.1W 5% 4K7Ω	
R1212	ERJ6GEYJ103	S.M.CARB 0.1W 5% 10KΩ	
R1213	ERJ6GEYJ103	S.M.CARB 0.1W 5% 10KΩ	
R1214	ERJ6GEYJ472	S.M.CARB 0.1W 5% 4K7Ω	
R1215	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R1216	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R1217	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R1218	ERJ6GEYJ472	S.M.CARB 0.1W 5% 4K7Ω	
R1219	ERJ6GEYJ472	S.M.CARB 0.1W 5% 4K7Ω	
R1220	ERJ6GEYJ472	S.M.CARB 0.1W 5% 4K7Ω	
R1221	ERJ6GEYJ103	S.M.CARB 0.1W 5% 10KΩ	
R1222	ERJ6GEYJ103	S.M.CARB 0.1W 5% 10KΩ	
R1224	ERJ6GEYJ103	S.M.CARB 0.1W 5% 10KΩ	
R1225	ERJ6GEYJ472	S.M.CARB 0.1W 5% 4K7Ω	
R1226	ERJ6GEYJ472	S.M.CARB 0.1W 5% 4K7Ω	
R1227	ERJ6GEYJ472	S.M.CARB 0.1W 5% 4K7Ω	
R1229	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω	
R1230	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω	
R1231	ERJ6GEYJ472	S.M.CARB 0.1W 5% 4K7Ω	
R1232	ERJ6GEYJ103	S.M.CARB 0.1W 5% 10KΩ	
R1233	ERJ6GEYJ472	S.M.CARB 0.1W 5% 4K7Ω	
R1235	ERJ6GEYJ103	S.M.CARB 0.1W 5% 10KΩ	
R1236	ERJ6GEYJ472	S.M.CARB 0.1W 5% 4K7Ω	
R1237	ERJ6GEYJ103	S.M.CARB 0.1W 5% 10KΩ	
R1238	ERJ6GEYJ393	S.M.CARB 0.1W 5% 39KΩ	
R1239	ERJ6GEYJ392	S.M.CARB 0.1W 5% 3K9Ω	
R1240	ERJ6GEYJ392	S.M.CARB 0.1W 5% 3K9Ω	
R1241	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R1242	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R1244	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω	
R1245	ERJ6GEYJ222	S.M.CARB 0.1W 5% 2K2Ω	
R1246	ERJ6GEYJ103	S.M.CARB 0.1W 5% 10KΩ	
R1247	ERJ6GEYJ103	S.M.CARB 0.1W 5% 10KΩ	
R1249	ERJ6GEYJ472	S.M.CARB 0.1W 5% 4K7Ω	
R1250	ERJ6GEYJ103	S.M.CARB 0.1W 5% 10KΩ	
R1251	ERJ6GEYJ393	S.M.CARB 0.1W 5% 39KΩ	
R1252	ERX1SJ3R3	METAL 1W 5% 3R3Ω	
R1253	ERJ6GEYJ103	S.M.CARB 0.1W 5% 10KΩ	
R1254	ERJ6GEYJ104	S.M.CARB 0.1W 5% 100KΩ	
R1255	ERJ6GEYJ104	S.M.CARB 0.1W 5% 100KΩ	
R1256	ERJ6GEYJ102	S.M.CARB 0.1W 5% 1KΩ	
R1257	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R1258	ERJ6GEYJ472	S.M.CARB 0.1W 5% 4K7Ω	
R1260	ERDS1FJ121	CARBON 0.5W 5% 120Ω	Δ
R2101	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω	
R2102	ERJ6GEYJ561	S.M.CARB 0.1W 5% 560Ω	
R2103	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R2104	ERJ6GEY0R00	S.M.CARB 0.1W 5% 0Ω	
R2105	ERJ6GEYJ561	S.M.CARB 0.1W 5% 560Ω	
R2106	ERJ6GEYJ102	S.M.CARB 0.1W 5% 1KΩ	
R2107	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R2108	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R2109	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R2110	ERJ6GEYJ103	S.M.CARB 0.1W 5% 10KΩ	
R2111	ERJ6GEYJ473	S.M.CARB 0.1W 5% 47KΩ	
R2301	ERJ6GEYJ222	S.M.CARB 0.1W 5% 2K2Ω	
R2302	ERJ6GEYJ222	S.M.CARB 0.1W 5% 2K2Ω	
R2303	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R2304	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R2313	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R2314	ERJ6GEYJ101	S.M.CARB 0.1W 5% 100Ω	
R2315	ERJ6GEYJ473	S.M.CARB 0.1W 5% 47KΩ	
R2316	ERJ6GEYJ104	S.M.CARB 0.1W 5% 100KΩ	
R2318	ERJ6GEYJ104	S.M.CARB 0.1W 5% 100KΩ	
R2321	ERJ6GEYJ103	S.M.CARB 0.1W 5% 10KΩ	
R2322	ERJ6GEYJ471	S.M.CARB 0.1W 5% 470Ω	
R2323	ERJ6GEYJ103	S.M.CARB 0.1W 5% 10KΩ	

Ref No.	Part No.	Description			
R2324	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2325	ERJ6GEYJ273	S.M.CARB	0.1W	5%	27KΩ
R2326	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2327	ERJ6GEYJ471	S.M.CARB	0.1W	5%	470Ω
R2328	ERJ6GEYJ473	S.M.CARB	0.1W	5%	47KΩ
R2329	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2Ω
R2330	ERJ6GEYJ222	S.M.CARB	0.1W	5%	2K2Ω
R2331	ERJ6GEYJ223	S.M.CARB	0.1W	5%	22KΩ
R2332	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
R2333	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R2334	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R2338	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
R2651	ERG2FJ221	METAL	2W	5%	220Ω ▲
R2652	ERG2FJ221	METAL	2W	5%	220Ω ▲
R2653	ERDS1TJ151	CARBON	0.5W	5%	150Ω
R2654	ERDS1TJ151	CARBON	0.5W	5%	150Ω
R3001	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3002	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3003	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3004	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3005	ERJ6GEYJ470	S.M.CARB	0.1W	5%	47Ω
R3006	ERJ6GEYJ470	S.M.CARB	0.1W	5%	47Ω
R3007	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3008	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ
R3009	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ
R3010	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3011	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3012	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3013	ERJ6GEYJ121	S.M.CARB	0.1W	5%	120Ω
R3015	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
R3016	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3017	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ
R3019	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3020	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3022	ERD2FCG560	CARBON	2W	2%	56Ω
R3024	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3025	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3026	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3027	ERJ6GEYJ680	S.M.CARB	0.1W	5%	68Ω
R3029	ERJ6GEYJ680	S.M.CARB	0.1W	5%	68Ω
R3030	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3032	ERJ6GEYJ680	S.M.CARB	0.1W	5%	68Ω
R3034	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3036	ERJ6GEYJ220	S.M.CARB	0.1W	5%	22Ω
R3037	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3038	ERD2FCG100	CARB	2W	2%	10Ω
R3039	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3040	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3041	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3042	ERJ6GEYJ682	S.M.CARB	0.1W	5%	6K8Ω
R3043	ERD2FCG100	CARB	2W	2%	10Ω
R3044	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3045	ERJ6GEYJ221	S.M.CARB	0.1W	5%	220Ω
R3046	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3047	ERJ6GEYJ680	S.M.CARB	0.1W	5%	68Ω
R3048	ERJ6GEYJ102	S.M.CARB	0.1W	5%	1KΩ
R3049	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3050	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3051	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3052	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3053	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3054	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3055	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3056	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3057	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω

Ref No.	Part No.	Description			
R3058	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3059	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3060	ERJ6GEYJ470	S.M.CARB	0.1W	5%	47Ω
R3062	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3063	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3064	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3065	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ
R3066	ERJ6GEYJ104	S.M.CARB	0.1W	5%	100KΩ
R3067	ERJ6GEYJ273	S.M.CARB	0.1W	5%	27KΩ
R3068	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3069	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3070	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3071	ERJ6GEYJ221	S.M.CARB	0.1W	5%	220Ω
R3150	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3151	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3152	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3153	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3154	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3155	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3156	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3157	ERJ6GEYJ153	S.M.CARB	0.1W	5%	15KΩ
R3158	ERJ6GEYJ750	S.M.CARB	0.1W	5%	75Ω
R3502	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3504	ERJ6GEYJ101	S.M.CARB	0.1W	5%	100Ω
R3505	ERJ6GEY0R00	S.M.CARB	0.1W	5%	0Ω
R3508	ERJ6GEYJ183	S.M.CARB	0.1W	5%	18KΩ
R3511	ERJ6GEYJ103	S.M.CARB	0.1W	5%	10KΩ
R3512	ERJ6GEYJ472	S.M.CARB	0.1W	5%	4K7Ω

SWITCHES

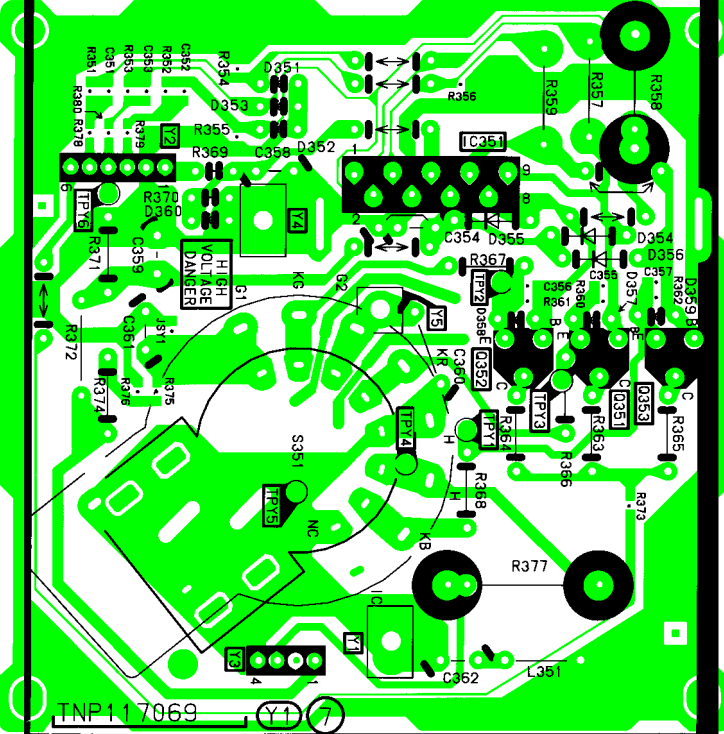
S351	0330550049	CRT SOCKET
S801	ESB91232A	SWITCH ▲
S1201	EVQ23405R	SWITCH
S1202	EVQ23405R	SWITCH
S1203	EVQ23405R	SWITCH
S1204	EVQ23405R	SWITCH
S1205	EVQ23405R	SWITCH

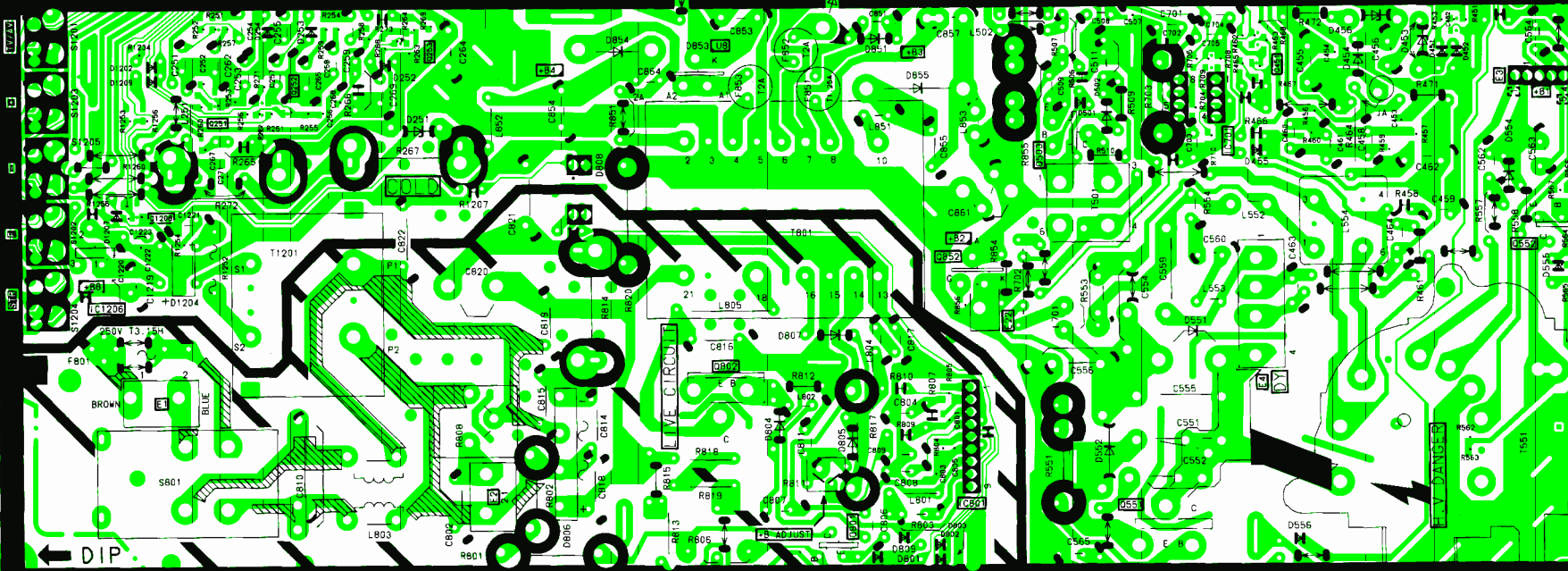
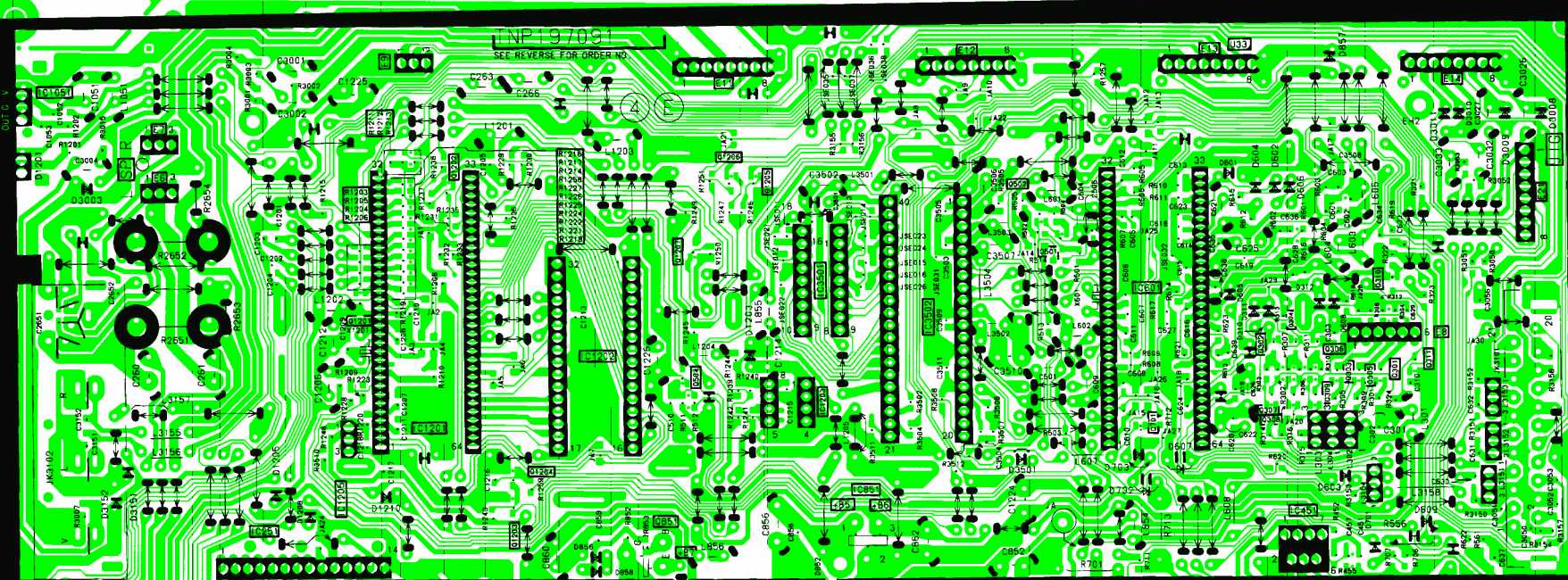
TRANSFORMERS

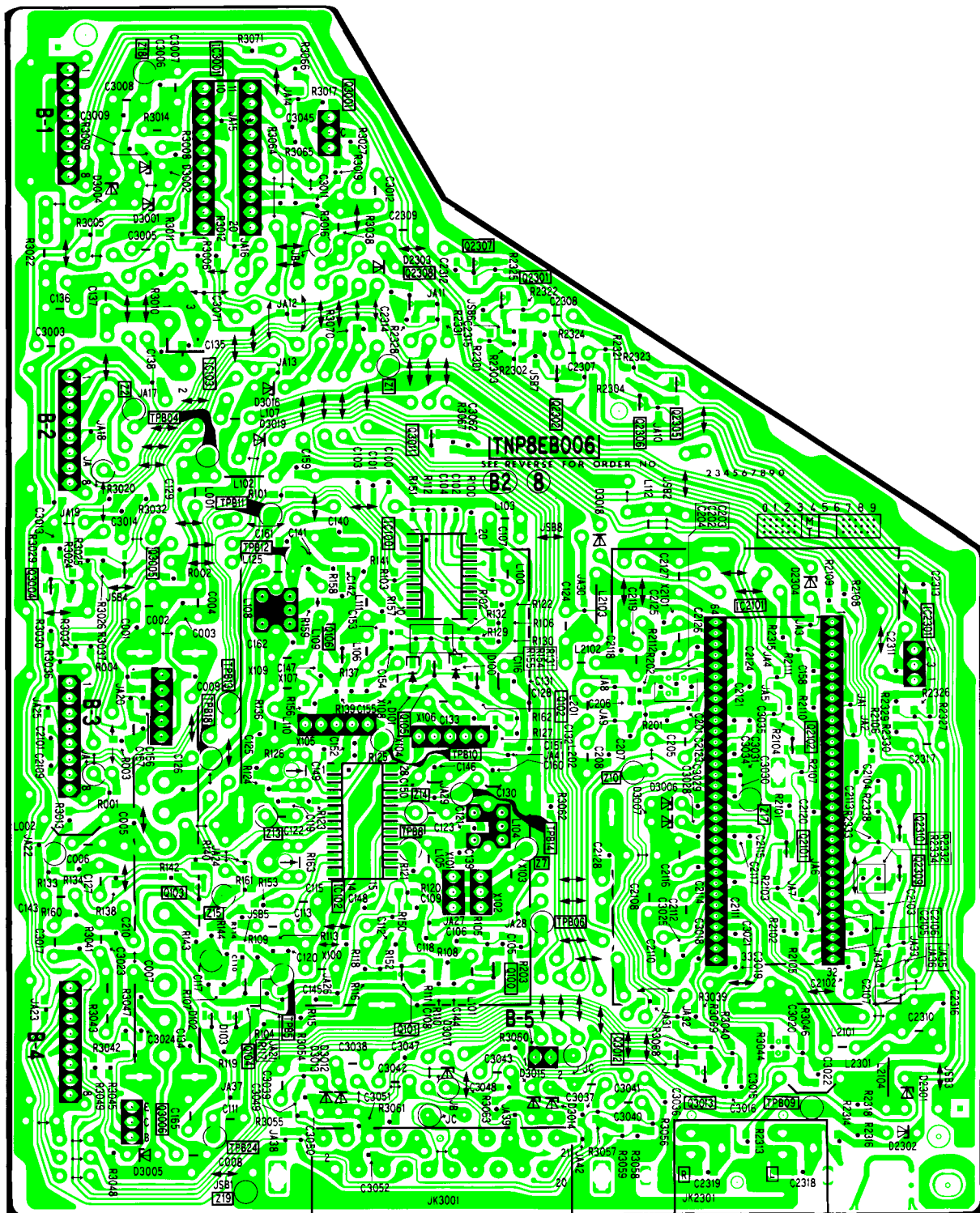
T501	5270103200	TRANSFORMER ▲
T551	ZTFH44007A	F.B.T. ▲
T801	TLP8E1003	CHOPPER TRANSFORMER
T1201	ETP35KAN61ZU	TRANSFORMER

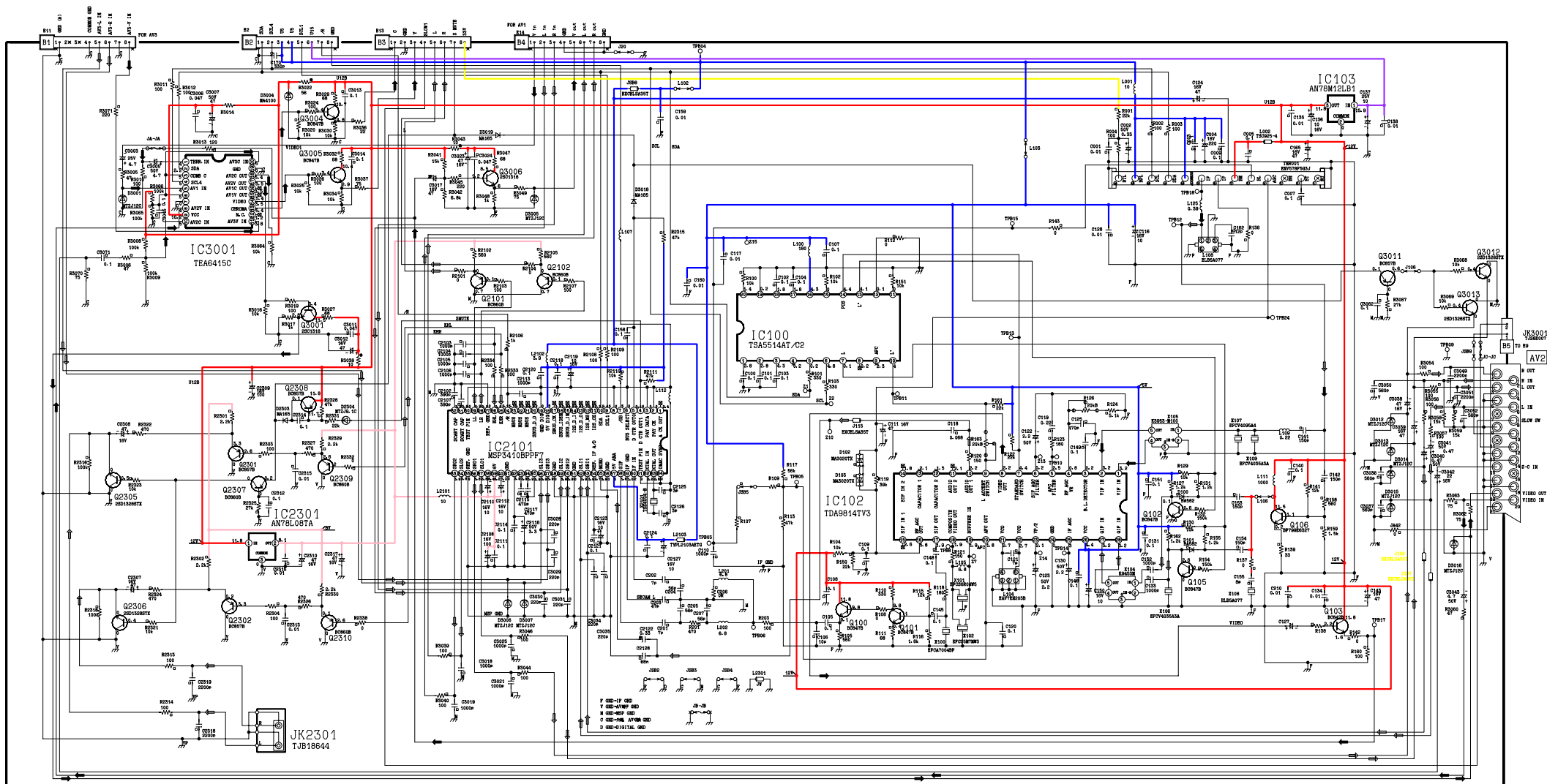
FILTERS

X100	EFCA7004BF	FILTER
X101	EFCS6R0MW5	FILTER
X102	EFCS5M7MW3	CERAMIC FILTER
X104	K9453M	SAW FILTER
X105	K3953—M100	SAW FILTER
X106	EFCV4035A3A	CRYSTAL
X107	EFCV4095A4	CERAMIC FILTER
X108	ELB5A077	COIL
X109	EFCV4035A3A	CRYSTAL
X601	TSS2169—B	CRYSTAL
X1201	TSS120M2	CRYSTAL
X2101	TSS4004—B	CRYSTAL









JK3102
TJ616673

AV3

AC_CORD

JK3101
TJ388007

AV1

* VOLTAGES MAY VARY

