

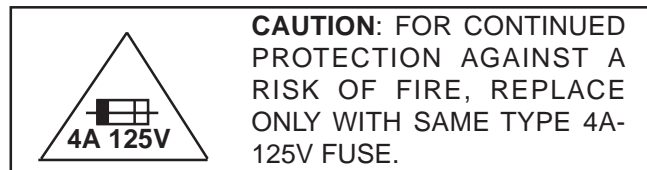


## IMPORTANT SERVICE SAFETY PRECAUTION

- **Service work should be performed only by qualified service technicians who are thoroughly familiar with all safety checks and the servicing guidelines which follow:**

### WARNING

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC power before servicing.
3. Semiconductor heat sinks are potential shock hazards when the chassis is operating.
4. The chassis in this receiver has two ground systems which are separated by insulating material. The non-isolated (hot) ground system is for the B+ voltage regulator circuit and the horizontal output circuit. The isolated ground system is for the low B+ DC voltages and the secondary circuit of the high voltage transformer.  
To prevent electrical shock use an isolation transformer between the line cord and power receptacle, when servicing this chassis.



### SERVICING OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

**When servicing the high voltage system, remove the static charge by connecting a 10k ohm resistor in series with an insulated wire (such as a test probe) between the picture tube ground and the anode lead. (AC line cord should be disconnected from AC outlet.)**

1. Picture tube in this receiver employs integral implosion protection.
2. Replace with tube of the same type number for continued safety.
3. Do not lift picture tube by the neck.
4. Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage anode completely.

### X-RADIATION AND HIGH VOLTAGE LIMITS

1. Be sure all service personnel are aware of the procedures and instructions covering X-radiation. The only potential source of X-ray in current solid state TV receivers is the picture tube. However, the picture tube does not emit measurable X-Ray radiation, if the high voltage is as specified in the "High Voltage Check" instructions.  
It is only when high voltage is excessive that X-radiation is capable of penetrating the shell of the picture tube including the lead in the glass material. The important precaution is to keep the high voltage below the maximum level specified.
2. It is essential that servicemen have available at all times an accurate high voltage meter.  
The calibration of this meter should be checked periodically.
3. High voltage should always be kept at the rated value –no higher. Operation at higher voltages may cause a failure of the picture tube or high voltage circuitry and;also, under certain conditions, may produce radiation in exceeding of desirable levels.
4. When the high voltage regulator is operating properly there is no possibility of an X-radiation problem. Every time a colour chassis is serviced, the brightness should be tested while monitoring the high voltage with a meter to be certain that the high voltage does not exceed the specified value and that it is regulating correctly.
5. Do not use a picture tube other than that specified or make unrecommended circuit modifications to the high voltage circuitry.
6. When trouble shooting and taking test measurements on a receiver with excessive high voltage, avoid being unnecessarily close to the receiver.  
Do not operate the receiver longer than is necessary to locate the cause of excessive voltage.

# IMPORTANT SERVICE SAFETY PRECAUTION

## (Continued)

### BEFORE RETURNING THE RECEIVER

#### (Fire & Shock Hazard)

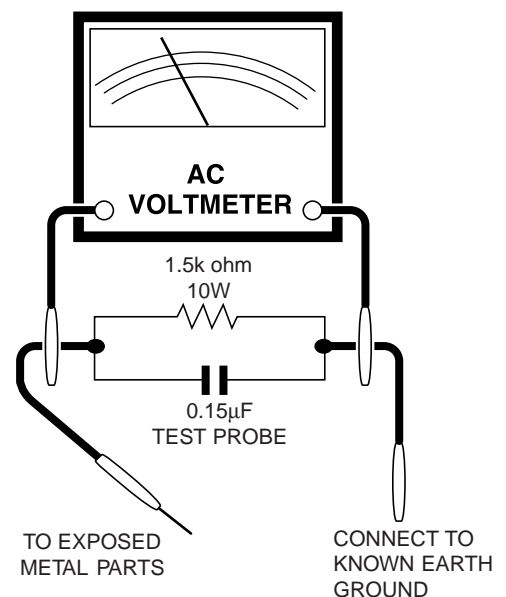
Before returning the receiver to the user, perform the following safety checks.

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.
2. Inspect all protective devices such as non-metallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators, etc.
3. To be sure that no shock hazard exists, check for leakage current in the following manner.
  - Plug the AC cord directly into a 120 volt AC outlet, (Do not use an isolation transformer for this test).
  - Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15 $\mu$ F capacitor in series with all exposed metal cabinet parts and a known earth ground, such as electrical conduit or electrical ground connected to earth ground.
  - Use an AC voltmeter having with 5000 ohm per volt, or higher, sensitivity to measure the AC voltage drop across the resistor.

- Connect the resistor connection to all exposed metal parts having a return to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor.

All checks must be repeated with the AC ine cord plug connection reversed. (If necessary, a non-polarized adapter plug must be used only for the purpose of completing these check.)

Any current measured must not exceed 0.5 milliamp. Any measurements not within the limits outlined above indicate of a potential shock hazard and corrective action must be taken before returning the instrument to the customer.



### SAFETY NOTICE

Many electrical and mechanical parts in television receivers have special safety-related characteristics. These characteristics are often not evident from visual inspection, nor can protection afforded by them be necessarily increased by using replacement components rated for higher voltage, wattage, etc.

Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by "⚠" and shaded areas in the Replacement Parts Lists and Schematic Diagrams.

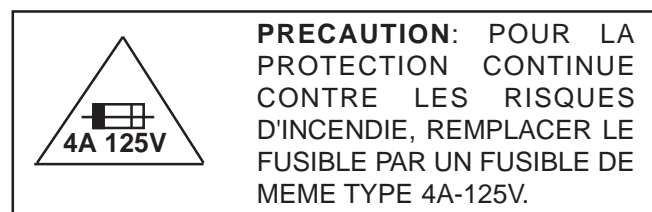
For continued protection, replacement parts must be identical to those used in the original circuit. The use of substitute replacement parts which do not have the same safety characteristics as the factory recommended replacement parts shown in this service manual, may create shock, fire, X-radiation or other hazards.

## PRECAUTIONS A PRENDRE LORS DE LA REPARATION

- **Ne peut effectuer la réparation qu' un technicien spécialisé qui s'est parfaitement accoutumé à toute vérification de sécurité et aux conseils suivants.**

### AVERTISSEMENT

1. N'entreprendre aucune modification de tout circuit. C'est dangereux.
2. Débrancher le récepteur avant toute réparation.
3. Les déversoirs thermiques à semi-conducteurs peuvent présenter un danger de choc électrique lorsque le récepteur est en marche.
4. Le châssis de ce récepteur possède deux systèmes de masse qui sont séparées par du matériel d'isolation. Le système de masse non-isolée (sous tension) est pour le circuit du régulateur de tension B+ et le circuit de sortie horizontale. Le système de masse isolée est pour les tensions DC B+ basses et le circuit secondaire du transformateur haute tension. Pour éviter tout risque d'électrocution lors de l'entretien de ce châssis, utiliser un transformateur d'isolation entre le cordon de ligne et la prise de courant.



### REPARATION DU SYSTEME A HAUTE TENSION ET DU TUBE-IMAGE

**Lors de la réparation de ce système, supprimer la charge statique en branchant une résistance de 10 k $\Omega$  en série avec un fil isolé (comme une sonde d'essai) entre la mise à la terre du tube-image et le fil d'anode. (Le cordon d'alimentation doit être retiré de la prise murale.)**

1. Le tube image dans ce récepteur emploie une protection intégrée contre l'implosion.
2. Par mesure de sécurité, changer le tube-image pour un tube du même numéro de type.
3. Ne pas lever le tube-image par son col.
4. Ne manipuler le tube-image qu'en portant des lunettes incassables et qu'après avoir déchargé totalement la haute tension.

### LIMITES DES RADIATIONS X ET DE LA HAUTE TENSION

1. Tout le personnel réparateur doit être instruit des instructions et procédés relatifs aux radiations X. Le tube-image, seule source de rayons X dans les téléviseurs transistorisés, n'émet pourtant pas de rayons mesurables si la haute tension est maintenue à un niveau préconisé dans la section "Vérification de la haute tension". C'est seulement quand la haute tension est excessive que les rayons X peuvent entrer dans l'enveloppe du tube-image y compris le conducteur de verre. Il est important de maintenir la haute tension en-dessous du niveau spécifié.
2. Il est essentiel que le réparateur ait sous la main un voltmètre à haute tension qui doit être périodiquement étalonné.
3. La haute tension doit toujours être maintenue à la valeur de régime -et pas plus haute. L'opération à des tensions plus élevées peut entraîner une panne du tube-image ou du circuit à haute tension et, dans certaines conditions, peut entraîner une radiation dépassant les niveaux prescrits.
4. Quand le régulateur à haute tension fonctionne correctement, il n'y a aucun problème de radiation X. Chaque fois qu'un châssis couleurs est réparé, la luminosité doit être examinée tout en contrôlant la haute tension à l'aide d'un voltmètre pour s'assurer que la haute tension ne dépasse pas la valeur spécifiée et qu'elle soit correctement réglée.
5. Ne pas utiliser un tube-image autre que celui spécifié et ne pas effectuer de modifications déconseillées du circuit à haute tension.
6. Lors de la recherche des pannes et des mesures d'essai sur un récepteur qui présente une haute tension excessive, éviter de s'approcher inutilement du récepteur.  
Ne pas faire fonctionner le récepteur plus longtemps que nécessaire pour localiser la cause de la tension excessive.

# PRECAUTIONS A PRENDRE LORS DE LA REPARATION

(Suite)

## VERIFICATIONS CONTRE L'INCENDIE ET LE CHOC ELECTRIQUE

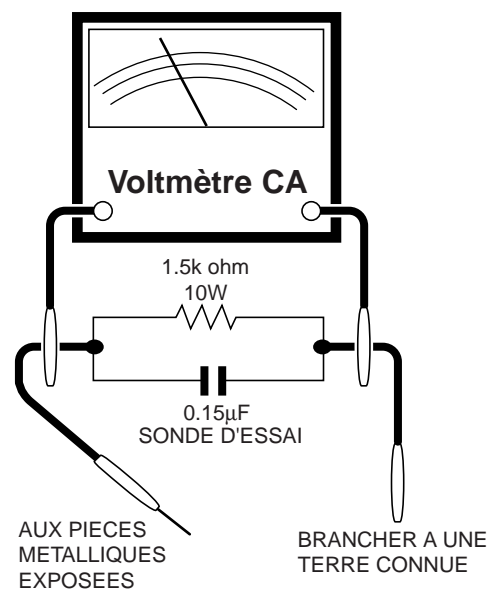
**Avant de rendre le récepteur à l'utilisateur, effectuer les vérifications suivantes.**

1. Inspecter tous les faisceaux de câbles pour s'assurer que les fils ne soient pas pincés ou qu'un outil ne soit pas placé entre le châssis et les autres pièces métalliques du récepteur.
2. Inspecter tous les dispositifs de protection comme les boutons de commande non-métalliques, les isolants, le dos du coffret, les couvercles ou blindages de réglage et de compartiment, les réseaux de résistance-capacité, les isolateurs mécaniques, etc.
3. S'assurer qu'il n'y ait pas de danger d'électrocution en vérifiant la fuite de courant, de la façon suivante:
  - Brancher le cordon d'alimentation directement à une prise de courant de 120V. (Ne pas utiliser de transformateur d'isolation pour cet essai).
  - A l'aide de deux fils à pinces, brancher une résistance de 1,5 k $\Omega$  10 watts en parallèle avec un condensateur de 0,15 $\mu$ F en série avec toutes les pièces métalliques exposées du coffret et une terre connue comme une conduite électrique ou une prise de terre branchée à la terre.
  - Utiliser un voltmètre CA d'une sensibilité d'au moins 5000 $\Omega$ /V pour mesurer la chute de tension en travers de la résistance.

- Toucher avec la sonde d'essai les pièces métalliques exposées qui présentent une voie de retour au châssis (antenne, coffret métallique, tête des vis, arbres de commande et des boutons, écusson, etc.) et mesurer la chute de tension CA en-travers de la résistance. Toutes les vérifications doivent être refaites après avoir inversé la fiche du cordon d'alimentation. (Si nécessaire, une prise d'adaptation non polarisée peut être utilisée dans le but de terminer ces vérifications.)

Tous les courants mesurés ne doivent pas dépasser 0,5 mA.

Dans le cas contraire, il y a une possibilité de choc électrique qui doit être supprimée avant de rendre le récepteur au client.



## AVIS POUR LA SECURITE

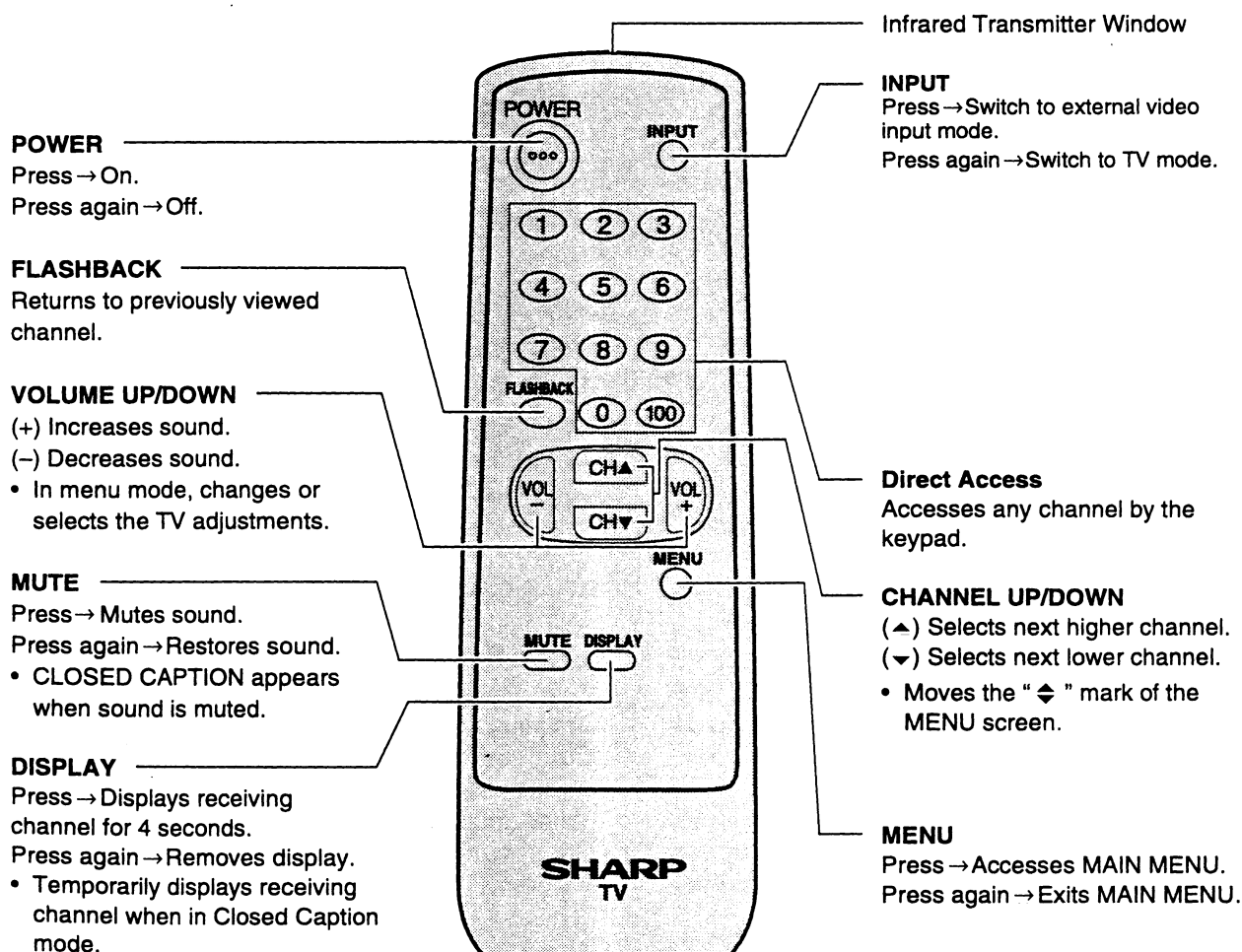
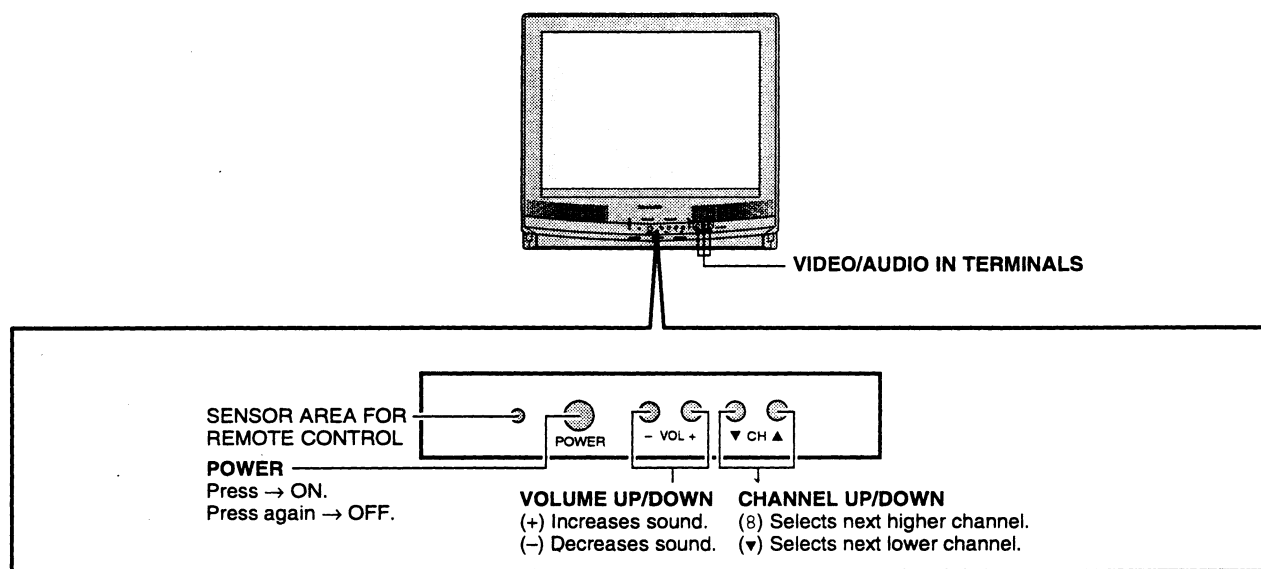
De nombreuses pièces, électriques et mécaniques, dans les téléviseurs présentent des caractéristiques spéciales relatives à la sécurité, qui ne sont souvent pas évidentes à vue. Le degré de protection ne peut pas être nécessairement augmentée en utilisant des pièces de remplacement étalonnées pour haute tension, puissance, etc.

Les pièces de remplacement qui présentent ces caractéristiques sont identifiées dans ce manuel; les pièces électriques qui présentent ces particularités sont

identifiées par la marque "⚠" et hachurées dans la liste des pièces de remplacement et les diagrammes schématiques.

Pour assurer la protection, ces pièces doivent être identiques à celles utilisées dans le circuit d'origine. L'utilisation de pièces qui n'ont pas les mêmes caractéristiques que les pièces recommandées par l'usine, indiquées dans ce manuel, peut provoquer des électrocutions, incendies, radiations X ou autres accidents.

## LOCATION OF USER'S CONTROL





# INSTALLATION AND SERVICE INSTRUCTIONS

- Note:** (1) When performing any adjustments to resistor controls and transformers use non-metallic screwdrivers or TV alignment tools.  
(2) Before performing adjustments, the TV set must be on at least 15 minutes.

## CIRCUIT PROTECTION

The receiver is protected by a 4.0A fuse (F701), mounted on PWB-A, wired into one side of the AC line input.

## X-RADIATION PROTECTOR CIRCUIT TEST

After service has been performed on the horizontal deflection system, high voltage system, B+ system, test the X-Radiation protection circuit to ascertain proper operation as follows:

- 1) Apply 120V AC using a variac transformer for accurate input voltage.
- 2) Allow for warm up and adjust all customer controls for normal picture and sound.
- 3) Receive a good local channel.
- 4) Connect a digital voltmeter to TP653 and make sure that the voltmeter reads  $22.2 \pm 1.5V$ .
- 5) Apply external 28.9V DC at TP653 by using an external DC supply, TV must be shut off.
- 6) To reset the protector, unplug the AC cord and make a short circuit between TP651 and TP652. Now make sure that normal picture appears on the screen.
- 7) If the operation of the horizontal oscillator does not stop in step 5, the circuit must be repaired before the set is returned to the customer.

## HIGH VOLTAGE CHECK

High voltage is not adjustable but must be checked to verify that the receiver is operating within safe and efficient design limitations as specified checks should be as follows:

1. Connect an accurate high voltage meter between ground and anode of picture tube.
2. Operate receiver for at least 15 minutes at 120V AC line voltage, with a strong air signal or a properly tuned in test signal.
3. Enter the service mode and select the service adjustment "S19" and Bus data "01" (Y-mute on).
4. The voltage should be approximately, 27.0kV (at zero beam).

If a correct reading cannot be obtained, check circuitry for malfunctioning components. After the voltage test, make Y-mute off to the normal mode.

For adjustments of this model, the bus data is converted to various analog signals by the D/A converter circuit.

**Note:** There are still a few analog adjustments in this series such as focus and master screen voltage. Follow the steps below whenever the service adjustment is required. See "Table-B" to determine, if service adjustments are required.

### 1. Service mode

Before putting unit into the service mode, check that customer adjustments are in the normal mode. Use the reset function in the video adjustment menu to ensure customer controls are in their proper (reset) position.

### 2. Service number selection

Once in the service mode, press the Ch-up or Ch-down button on the remote controller or at the set. The service adjustment number will vary in increments of one, from "S01" to "OP". Select the item you wish to adjust.

### 3. Data number selection

Press the Vol-up or down button to adjust the data number.

### To enter the service mode and exit service mode.

While pressing the Vol-up and Ch-up buttons at the sametime, plug the AC cord into a wall socket. Now the TV set is switched on and enters the service mode.

To exit the service mode, turn the television off by pressing the power button.

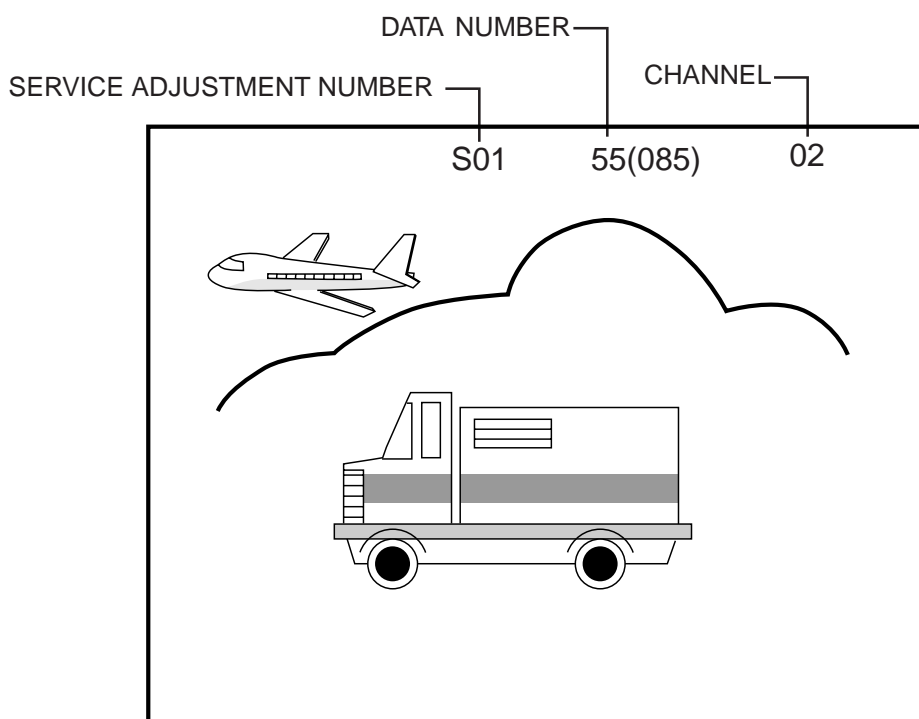


Figure A.



SERVICE NUMBER	ADJUSTMENT ITEM	DATA		ADJUSTMENT CONTENTS
		INITIAL VALUE	RANGE	
S01	PICTURE	55	00-7F	Must be set to "24" Must be set to "00" ~ "03"
S02	TINT	46	00-7F	
S03	COLOR	32	00-7F	
S04	BRIGHTNESS	40	00-7F	
S05	SHARPNESS	28	00-3F	
S06	VERTICAL PHASE	00	00-07	
S07	HORIZONTAL PHASE	12	00-1F	
S08	RF-AGC	2A	00-3F	
S09	VERTICAL AMP	20	00-3F	
S10	VCO	2C	00-7F	
S11	R CUT-OFF	00	00-FF	
S12	G CUT -OFF	00	00-FF	
S13	B CUT-OFF	00	00-FF	
S14	G GAIN	7F	00-FF	
S15	B GAIN	7F	00-FF	
S16	TRAP(3.58MHz)	00	00 or 01	
S17	BALANCE	20	00-3F	
S18	C.C.POSITION	18	00-7F	
S19	Y-MUTE	00	00,01,03	
OP	OPTION (Set to each model)	20	00-FF	"00" = NORMAL, "01" = No Y, "03" = No VERTICAL
M01	MTS LEVEL	0A	00-F	
M02	STERO-VCO	20	00-3F	
M03	FILTER	1C	00-3F	
M04	LOW SEPARATION	20	00-3F	
M05	HIGH SEPARATION	1B	00-3F	

Table - A

Holding down both the CH-up/down buttons on the TV set at service mode for more than 2 seconds will automatically write the above initial values into IC2101.

PART REPLACED	ADJUSTMENT		NOTES
	NECESSARY	UNNECESSARY	
IC2001		X	Data is stored in IC2101.
IC201	X		The adjustment is needed to compensate for characteristics of parts including IC201.
IC2101	X		Holding down both the CH-up/down buttons on the TV set in the service mode for more than 2 seconds will automatically write the above initial values into IC2101.
CRT	X		Adjust items related to picture tube only.

Table - B

## ■ SERVICE ADJUSTMENT

### VCO Adjustment

1. Connect a digital voltmeter between pin (44) of IC201 and ground.
2. Receive a good local channel.
3. Enter the service mode and select the service adjustment "S10".
4. Adjust the data so that digital voltmeter reads 2.2V.
5. Adjustment is completed, remove the voltmeter, return to "normal" mode.

### RF AGC Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "S08".
3. Set the data value to point where no noise or beat appears.
4. Select another channel to confirm that no noise or beat appears.

**Note 1 :** You will have to come out of the service mode to select another channel.

**Note 2 :** Setting the data to "00" will produce a black raster.

### Screen Adjustment

1. Connect a digital voltmeter between TP852 and TP853 on the CRT Unit.

**Note:** These test points may not be provided.

Then connect the voltmeter to both ends of R852 located near Q852 on the foil side.

2. Receive a good local channel.
3. Enter the service mode and select the service adjustment "S03" and set the data value to "00" to set the color level to minimum. (Record original data code under adjustment "S03" before changing) You may skip this step, if you selected a B/W picture or monoscope pattern.
4. Select the service adjustment "S19" and adjust the data value to "01", this turn off the luminance signal (Y-mute).
5. Select the service adjustment "S04" and adjust data value to obtain 0.17 volts on the digital voltmeter.
6. Adjust the master screen control until the raster darkens to the point where raster is barely seen.
7. Adjust the service adjustments "S11" red, "S12" green and "S13" blue to obtain a good grey scale with normal whites at low brightness level.
8. Select the service adjustment "S19" and reset data to "00". Select the service adjustment "S03" and reset data to obtain normal color level.
9. Remove digital voltmeter, and reset the master screen control to obtain normal brightness range.

### White Balance Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "S03" and set to "00" (minimum color)(Record original data code under adjustment "S03" before changing). "S03" does not have to be adjusted, if you selected a B/W picture or monoscope pattern.
3. Alternately adjust the service adjustment data of "S14" and "S15" until a good grey scale with normal whites is obtained.
4. Select the service adjustment "S03" and adjust data to obtain normal color level.

### Sub-Picture Adjustment

1. Receive a good local channel.
2. Make sure the customer picture control is set to maximum.
3. Enter the service mode and select the service adjustment "S01".
4. Adjust the data value to achieve normal contrast range.

### Sub-Tint Adjustment

1. Receive a good local channel.
2. Set customer tint control to center of it's range.
3. Enter the service mode and select the service adjustment "S02".
4. Adjust "S02" data value to obtain normal flesh tones.

### Sub-Color Adjustment

1. Receive a good local channel.
2. Make sure the customer color control is set to center position .
3. Enter the service mode and select service adjustment "S03".
4. Adjust "S03" data value to obtain normal color level.

### Sub-Brightness Adjustment

1. Receive a good local channel.
2. Make sure the customer brightness control is set to center position.
3. Enter the service mode and select the service adjustment "S04".
4. Adjust "S04" data value to obtain normal brightness level.

### Vertical-Size Adjustments

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "S09".
3. While observing the top and bottom of the screen, adjust "S09" data value to proper vertical size.

### Vertical Phase Adjustment

1. Enter the service mode and select the service adjustment "S06".
2. Adjust data value to "00" ~ "03".

**Note:** This must be set "00" ~ "03" when changed data retrace line will appear.

### Horizontal Position Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "S07".
3. Adjust "S07" data value so that picture is centered.

### Caption Position Adjustment (Horizontal)

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "S18".
3. A black text box appears on the screen. (see **Figure B** below)
4. Adjust "S18" data value so that text box is positioned in the center of the screen.

### 3.58MHz Trap Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "S16".
3. This is a two position adjustment, "00" is ON, "01" is OFF.
4. Adjust data value to "00" for normal viewing.

### Sharpness and Audio Balance Adjustments

1. Receive a good local channel.
2. Enter the service mode and select the service adjustments "S05" for sharpness and "S17" for balance.
- **Sharpness Adjustment**
3. Adjust data value to "24"(center of data range) for sharpness adjustment.
- **Audio Balance Adjustment**
4. Adjust data value to "20"(center of data range) for Audio balance adjustment.

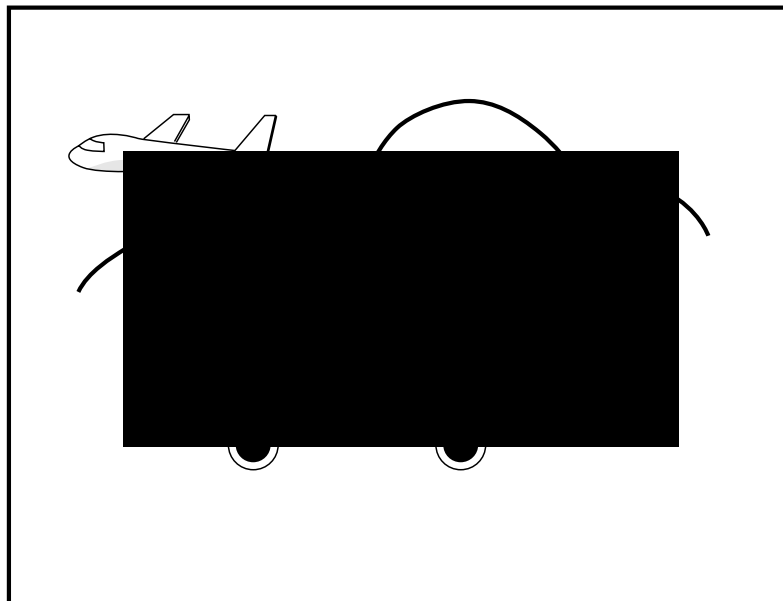


Figure B.

## ■ MTS ADJUSTMENT

### MTS Level Adjustment

1. Feed the following monaural signal to pin (14) of IC3001.  
Monaural signal : 300Hz, 245mVrms
2. Connect the rms voltmeter to pin (39) of IC3001.
3. Enter the service mode and select the service adjustment "M01".
4. Adjust the data so that the rms voltmeter reads.  
 $490 \pm 10\text{mVrms}$ .

### MTS VCO Adjustment

1. Keep the unit in no-signal state.
2. Connect the frequency counter to pin (39) of IC3001.
3. Connect a capacitor (100 $\mu$ F, 50V) in between positive(+) side of C3005 and ground.
4. Enter the service mode and select the service adjustment "M02"
5. Adjust the data so that the frequency counter reads.  
 $62.94 \pm 0.75\text{kHz}$ .

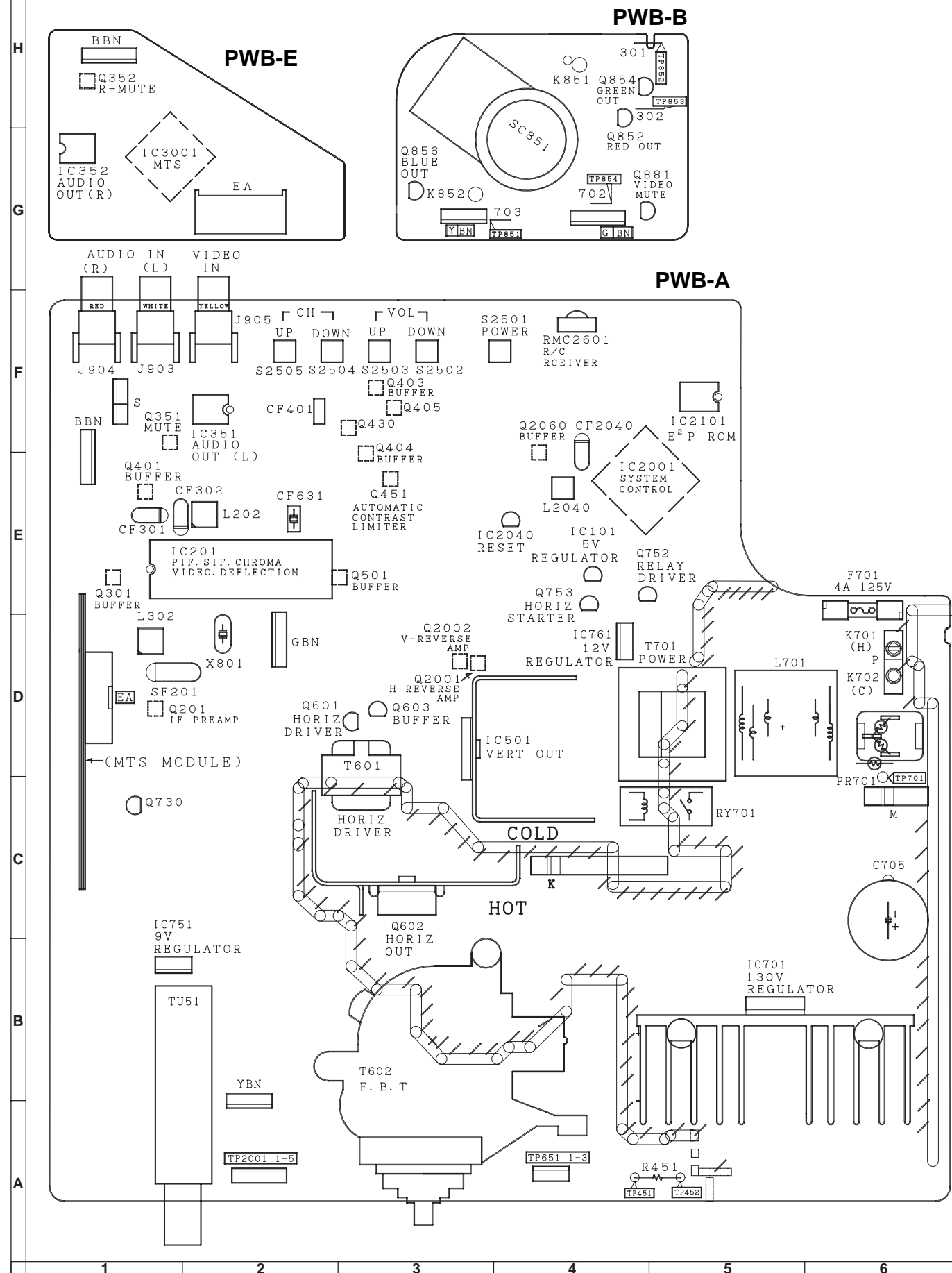
### Filter Adjustment

1. Feed the following stereo pilot signal to pin (14) of IC3001 .  
Stereo pilot signal: 9.4kHz, 600mVrms.
2. Enter the service mode and select the service adjustment "M03".
3. Adjust the data at the point where "OK" appears on the screen. The "OK" represents the approximate center of the adjustable range of the data.

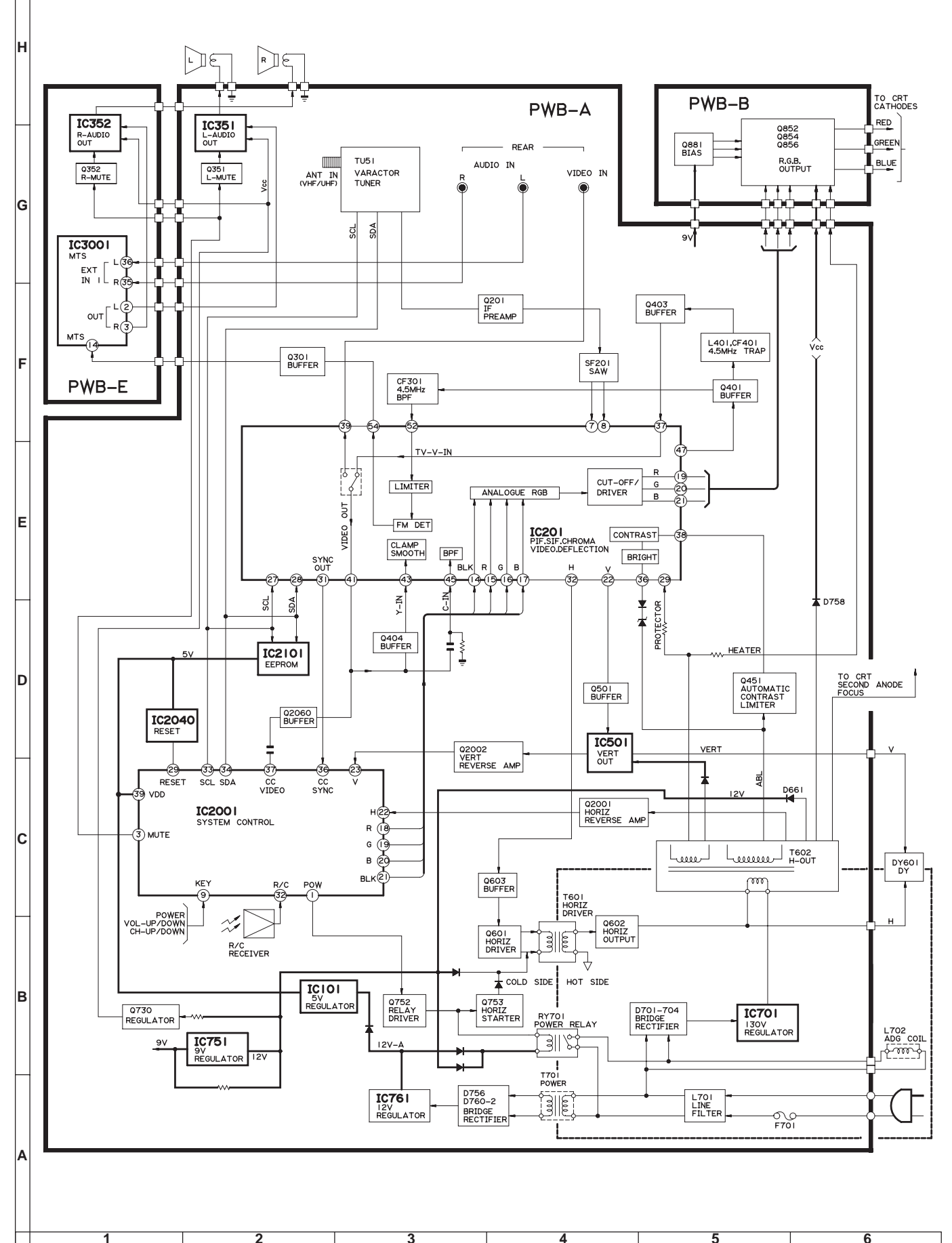
### Separation Adjustment

1. Connect the rms voltmeter to pin (39) of IC3001.
2. Receive the following composite stereo signal 1.  
Composite stereo signal: 30% modulation, left channel only, noise reduction on, 300Hz
3. Enter the service mode and select the service adjustment "M04".
4. Adjust the data until the AC voltage reading of the rms voltmeter is minimum.
5. Receive the following composite stereo signal 2.  
Stereo signal: 30% modulation, left channel only, noise reduction on, 3kHz
6. Enter the service mode and select the service adjustment "M05".
7. Adjust the data until the AC voltage reading of the rms voltmeter is minimum.
8. Take the above steps 1 thru 7 again for fine adjustment.

## CHASSIS LAYOUT



## BLOCK DIAGRAM



## DESCRIPTION OF SCHEMATIC DIAGRAM


**NOTES:**

1. The unit of resistance "ohm" is omitted.  
( $K=k\Omega=1000\Omega$ ,  $M=M\Omega$ )
2. All resistors are 1/8 watt, unless otherwise noted.
3. All capacitors are  $\mu F$ , unless otherwise noted.  
( $P=pF=\mu\mu F$ )
4. (G) indicates  $\pm 2\%$  tolerance may be used.
5.  $\underline{\quad}$  indicates line isolated ground.
6.  $\nabla$  indicates hot ground.

**VOLTAGE MEASUREMENT CONDITIONS:**

1. All DC voltages are measured with DVM connected between points indicated and chassis ground, line voltage set at 120V AC and all controls set for normal picture unless otherwise indicated.
2. All voltages measured with 1000 $\mu$  V B & W or Color signal.

**WAVEFORM MEASUREMENT CONDITIONS:**

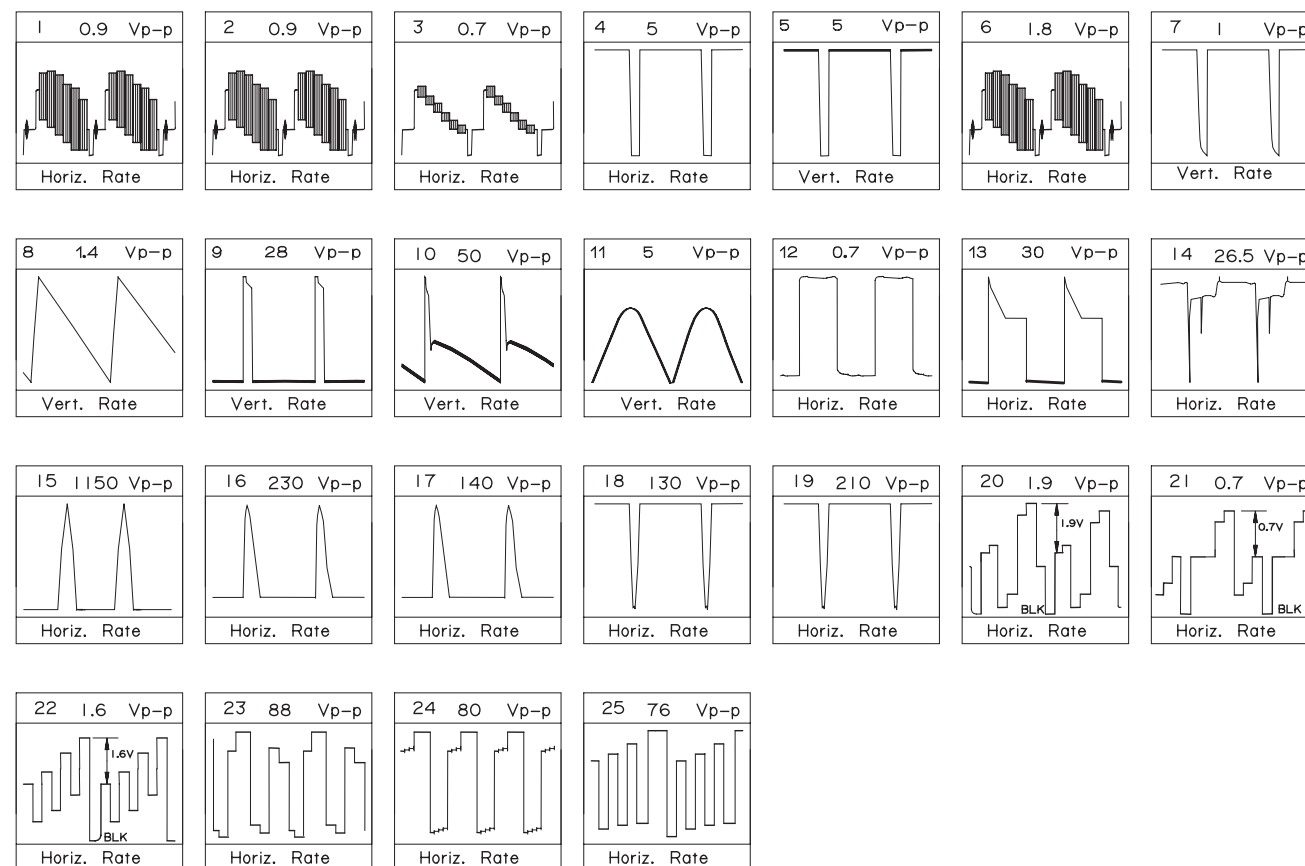
1. Photographs taken on a standard gated color bar signal, the tint setting adjusted for proper color. The wave shapes at the red, green and blue cathodes of the picture tube depend on the tint, color level and picture control.
2.  indicates waveform check points (See chart, waveforms are measured from point indicated to chassis ground.)

⚠ AND SHADED ( ) COMPONENTS  
= SAFETY RELATED PARTS.  
▲ MARK= X-RAY RELATED PARTS.

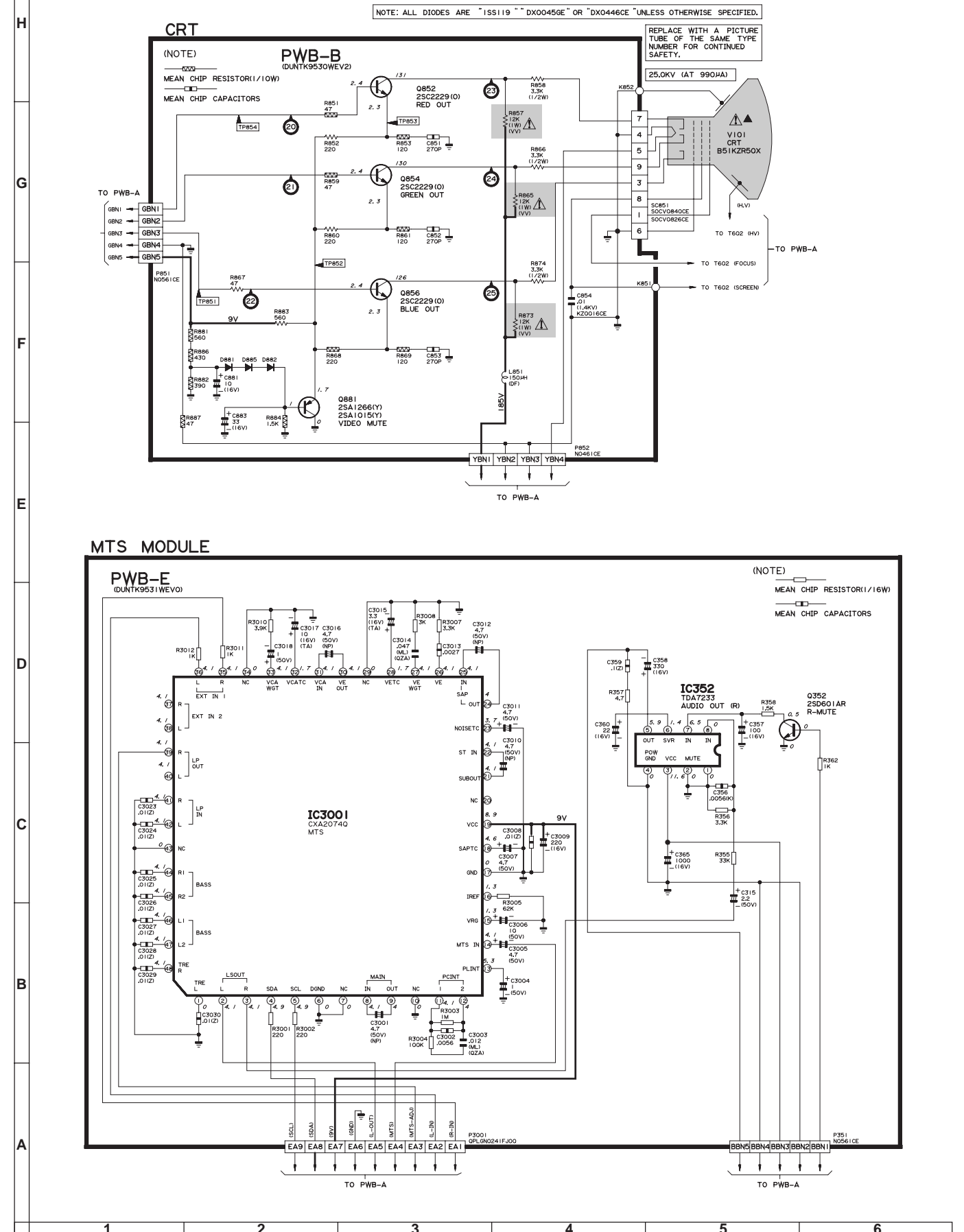
**DRGANNES MARQUES ▲ ET HACHRES (■):**  
**PIECES RELATIVES A LA SECURITE.**  
**MARQUE ▲ : PIECS RELATIVE AUX RAYONS X.**

*This circuit diagram is a standard one, printed circuits may be subject to change for product improvement without prior notice.*

# WAVE FORMS

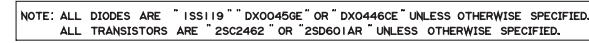


### SCHEMATIC DIAGRAM: CRT and MTS MODULE Unit



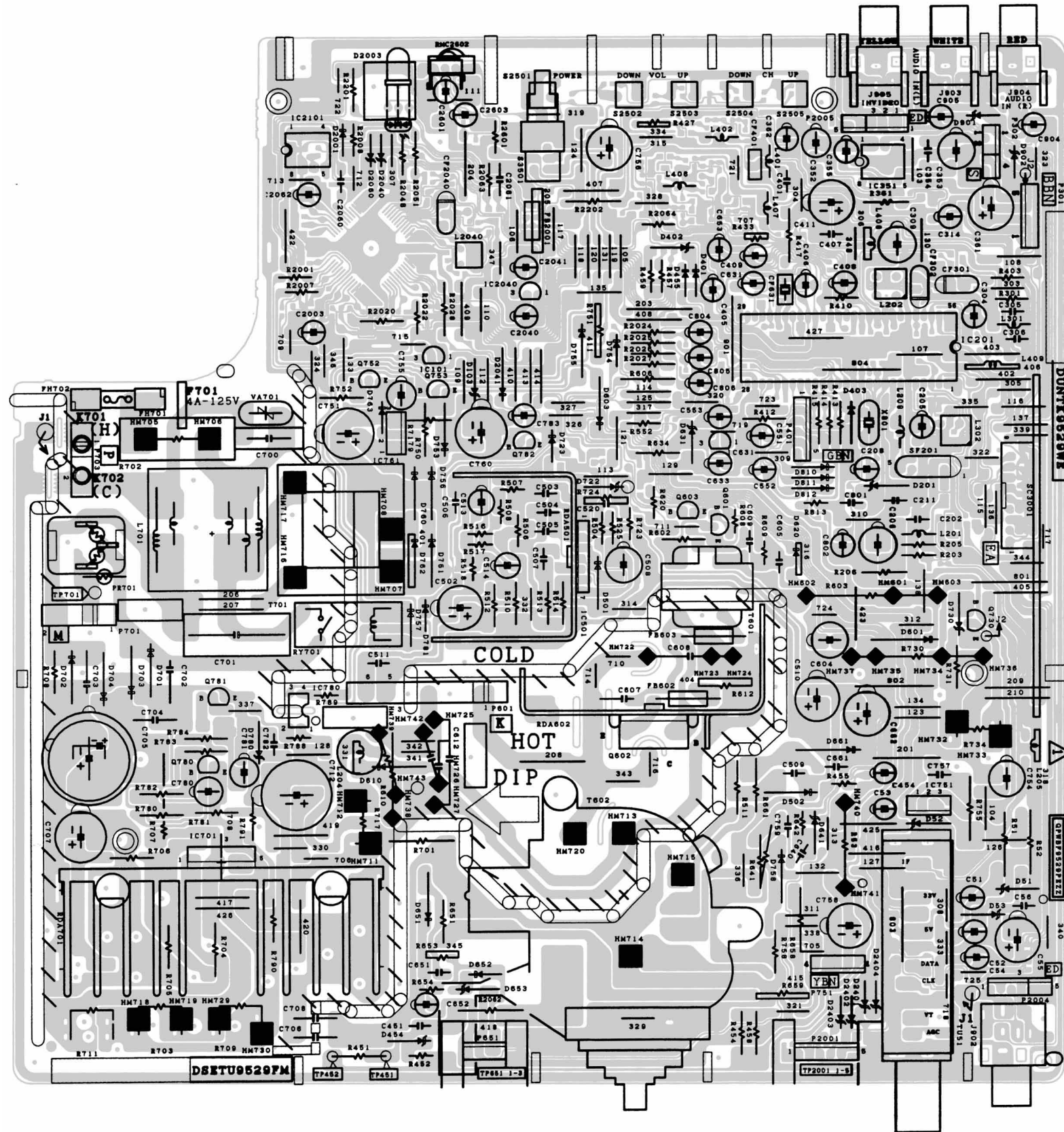


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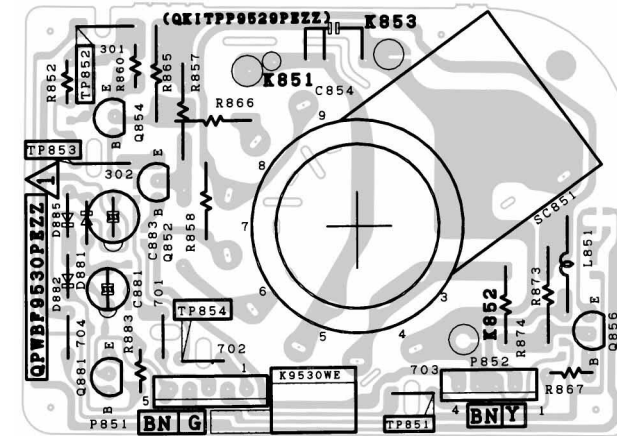




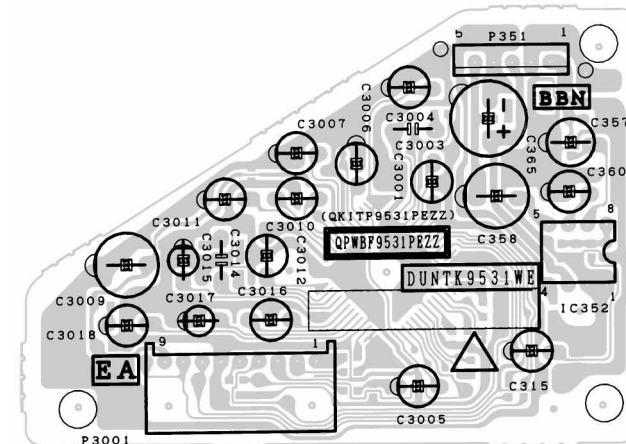
PRINTED WIRING BOARD ASSEMBLIES



PWB-A: MAIN Unit (Wiring Side)



PWB-B: CRT Unit (Wiring Side)

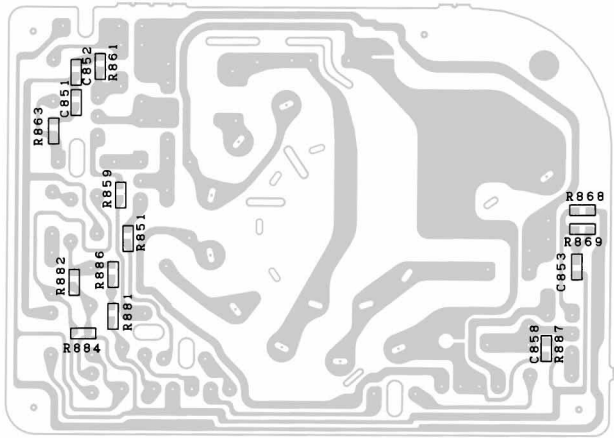


PWB-E: MTS MODULE Unit (Wiring Side)

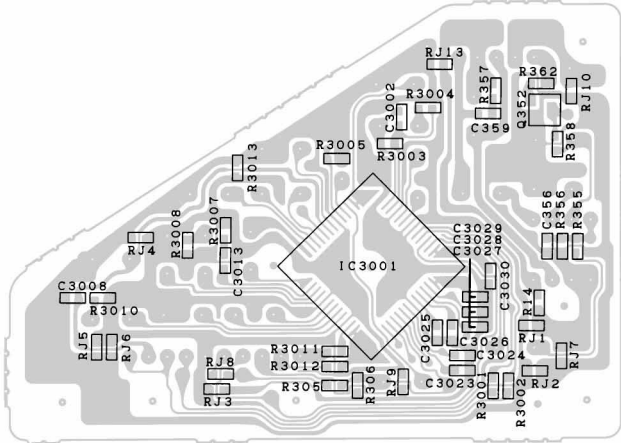


H  
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A

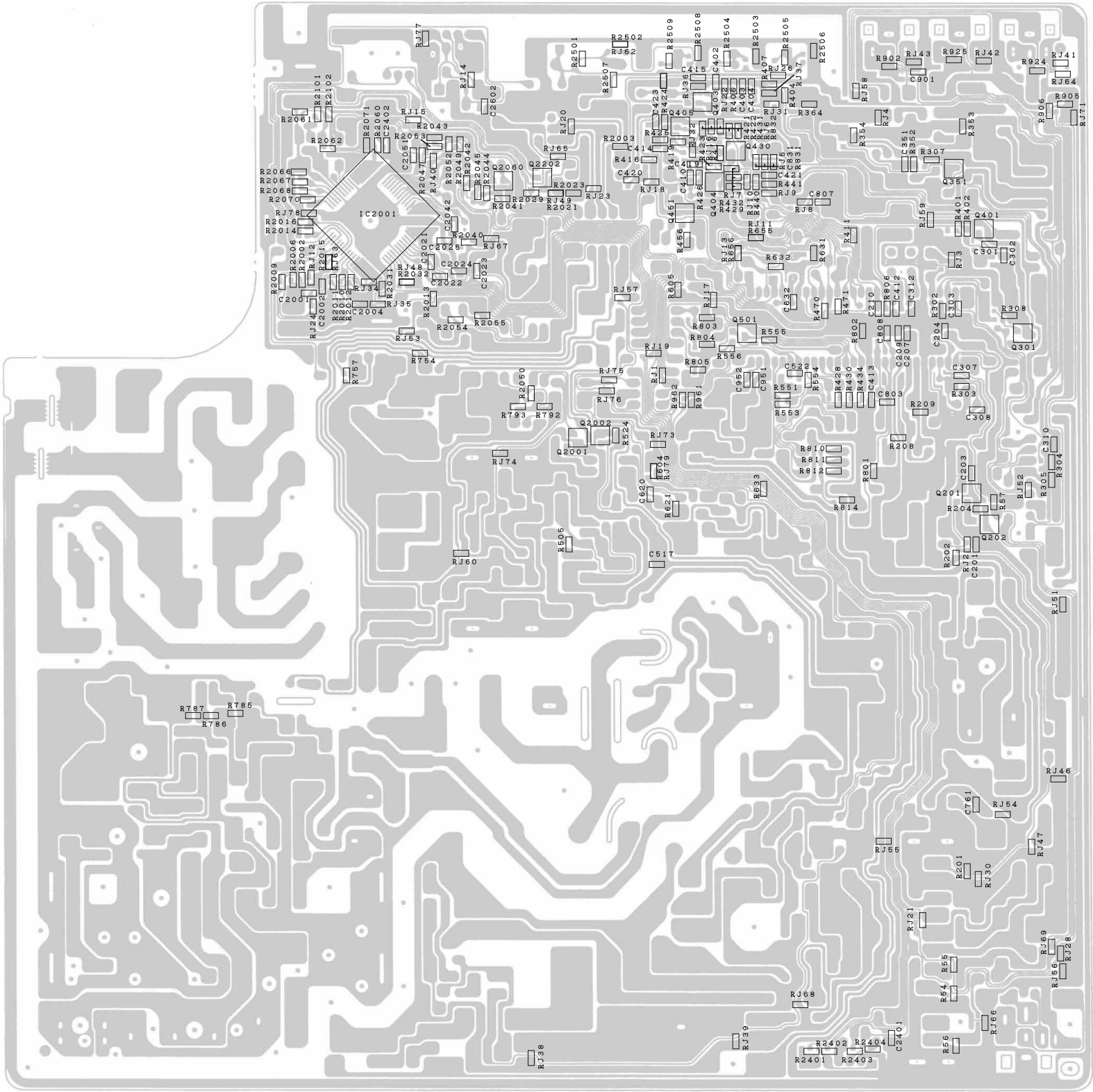
1 2 3 4 5 6 7 8 9 10 11 12



PWB-B: CRT Unit (Chip Parts Side)




PWB-E: MTS MODULE Unit (Chip Parts Side)



PWB-A: MAIN Unit (Chip Parts Side)

# PARTS LIST

## PARTS REPLACEMENT

Replacement parts which have these special safety characteristics identified in this manual; electrical components having such features are identified by  and shaded areas in the Replacement Parts Lists and Schematic Diagrams. The use of a substitute replacement part which dose no have the same safety characteristic as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

### "HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION

in **USA**: Contact your nearest SHARP Parts Distributor to order.  
For location of SHARP Parts Distributor, Please call Toll-Free; 1-800-BE-SHARP

MARK★: SPARE PARTS-DELIVERY SECTION				
▲ MARK : X- RAY RELATED PARTS				
Ref. No.	Part No.	★	Description	Code

## PICTURE TUBE


▲▲ V101	VB51KZR50X/*S	M	Picture Tube	CC
▲▲ DY601	RCiLH0105MEZZ	M	Deflection Yoke	AY
▲ L702	RCiLG0017MEZZ	M	Degaussing Coil	AM
	MSPRT0002MEZZ	M	Spring for CRT	AA
	PMAGF3006CEZZ	M	Magnet Ass'y	AF
	QEARC2002MEZZ	M	Ground Part	AF

### PRINTED WIRING BOARD ASSEMBLIES (NOT REPLACEMENT ITEM)

PWB-A	DUNTK9529WEV2	—	MAIN Unit (20K-S100)	—
PWB-A	DUNTK9529WEV6	—	MAIN Unit (CK20S10)	—
PWB-A	DUNTK9529WEV9	—	MAIN Unit (21MK50)	—
PWB-B	DUNTK9530WEV2	—	CRT Unit	—
PWB-E	DUNTK9531WEV0	—	MTS MODULE Unit	—

# LISTE DES PIECES

## CHANGE DES PIECES

Les pi`eces de rechange qui pr`e`esentent ces caract`e`eristiques sp`e`cieales de s`e`curit`e`le, sont identifi`e`lees dans ce manuel : les pi`eces `e`lectriques qui pr`e`esentent ces particularit`e`les, sont rep`e`ler`e`lees par la marque  et sont hachur`e`lees dans les listes de pi`eces et dans les diagrammes sch`e`lematiques.  
La substitution d'une pi`ece de rechange par une autre qui ne pr`e`lesente pas les m`e`oemes caract`e`eristiques de s`e`curit`e`le que la pi`ece recommand`e`lees par l'usine et dans ce manuel de service, peut provoquer une `e`lectrocution, un incendie ou toutautre sinistre.

### "COMMENT COMMANDER LES PIECES DE RECHANGE"

Pour que votre commande soit rapidement et correctement remplie, veuillez fournir les renseignements suivants.

1. NUMERO DU MODELE
2. NO. DE REF
3. NO. DE PIECE
4. DESCRIPTION

in **CANADA**: Contact SHARP Electronics of Conada Limited  
Phone (416) 890-2100

★MARQUE: SECTION LIVRAISON DES PIECES DE RECHANGE				
▲ MARQUE : PIECES RELATIVE AUX RAYONS X				
Ref. No.	Part No.	★	Description	Code

### PWB-A : DUNTK9529WEV2 (20K-S100) PWB-A : DUNTK9529WEV6 (CK20S10) PWB-A : DUNTK9529WEV9 (21MK50)

#### MAIN UNIT

##### TUNER

*THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMBLY  
BUT NOT INDEPENDETLY*

▲ TU51	VTUVTST6UF78/	J	Tuner	BD
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#### INTEGRATED CIRCUITS

IC101	VHiKA78S05P-1	J	KA78S05P	AD	
	or				
	VHiTA7805S/-1			AN	
▲△ IC201	RH-iX2933CEZZ	J	TA1268N	AX	
	IC351	VHiTDA7233/-1	J	TDA7233	AF
△ IC501	VHiTA8403K/-1	J	TA8403K	AL	
▲△ IC701	VHiSTR301301E	J	STR30130	AP	
△ IC751	VHiKA7809Pi-1	R	KA7809PI	AE	
	or				
	VHiTA7809S/-1				
△ IC761	VHiKA7812Pi-1	R	KA7812PI	AE	
	or				
	VHiTA7812S/-1				
IC2001	RH-iX3088CEN2	M	I.C.	AS	
IC2040	VHiPST994C/-1	J	PST994C	AD	
IC2101	RH-iX2447CEN1	J	ST24C01B6	AL	
	or				
	RH-iX2448CEN1			AN	

#### TRANSISTORS

You can substitute "VS2SD601AR/-1" for "VS2SC2462-C-1".

Q201	VS2SC2735//1E	J	2SC2735	AC
Q301	VS2SD601AR/-1	J	2SD601 AR	AC

Ref. No.	Part No.	★	Description	Code
PWB-A : DUNTK9529WEV2 (20K-S100) PWB-A : DUNTK9529WEV6 (CK20S10) PWB-A : DUNTK9529WEV9 (21MK50) MAIN UNIT (Continued)				
Q351	VS2SD601AR/-1	J	2SD601 AR	AC
Q401	VS2SD601AR/-1	J	2SD601 AR	AC
Q403	VS2SD601AR/-1	J	2SD601 AR	AC
Q404	VS2SB709AR/-1	J	2SB709 AR	AC
Q451	VS2SB709AR/-1	J	2SB709 AR	AC
Q501	VS2SD601AR/-1	J	2SD601 AR	AC
Q601	VS2SC2655Y/-1	J	2SC2655 (Y)	AE
▲ Q602	VS2SD2586//1E	J	2SD2586	AM
	or			
	VS2SD2095//1E	J	2SD2586	AN
Q603	VS2SC945AQ/-1	J	2SC945	AB
	or			
	VS2SC1815YW-1			
	or			
	VS2SC3198AQ-1			
Q730	VS2SD667D//1	J	2SD667	
Q752	VS2SC945AQ/-1	J	2SC945	AB
	or			
	VS2SC3198-Y-1			
Q753	VS2SA1013//1E	J	2SA1013	AD
Q2001	VS2SD601AR/-1	J	2SD601 AR	AC
Q2002	VS2SD601AR/-1	J	2SD601 AR	AC
Q2060	VS2SD601AR/-1	J	2SD601 AR	AC

#### DIODES

You can substitute "RH-DX0446CEZZ" for "VHD1SS119//-1" and "RH-DX0045GEZZ".

D51	RH-EX0611GEZZ	J	Zener Diode	AA
D52	RH-EX0676GEZZ	J	Zener Diode 32V	AA
	or			
	RH-EX0701GEZZ			AB
D53	RH-EX0611GEZZ	J	Zener Diode	AA
D401	VHD1SS119//-1	J	Diode	AB
D402	RH-EX0092CEZZ	J	Zener Diode 3.9V	AB
D454	RH-EX0103CEZZ	J	Zener Diode 5.6V	AB
D455	VHD1SS119//-1	J	Diode	AB
D501	RH-DX0441CEZZ	J	Diode	AC
	or			
	RH-DX0110CEZZ			AB
▲ D502	RH-DX0131CEZZ	J	Diode	AC
D601	RH-DX0441CEZZ	J	Diode	AC
	or			
	RH-DX0110CEZZ			AC
D603	RH-DX0441CEZZ	J	Diode	AC
	or			
	RH-DX0110CEZZ			AB
D631	RH-EX0630GEZZ	J	Zener Diode 9.1V	AA
D641	RH-EX0630GEZZ	J	Zener Diode 9.1V	AA
▲▲ D651	RH-DX0131CEZZ	J	Diode	AC
▲▲ D652	VHD1SS119//-1	J	Diode	AB
▲▲ D653	RH-EX0091CEZZ	J	Zener Diode 22V	AB
	or			
	RH-EX0660GEZZ			
	or			
	RH-EX1311CEZZ			

Ref. No.	Part No.	★	Description	Code
▲ D661	RH-DX0444CEZZ	J	Diode	AH
▲ D701	RH-DX0154CEZZ	J	Diode	AC
▲ D702	RH-DX0154CEZZ	J	Diode	AC
▲ D703	RH-DX0154CEZZ	J	Diode	AC
▲ D704	RH-DX0154CEZZ	J	Diode	AC
D730	RH-EX0636GEZZ	J	Zener Diode 11V	
	or			
	RH-EX0317CEZZ			
D753	VHD1SS119//-1	J	Diode	AB
D754	VHD1SS119//-1	J	Diode	AB
D755	RH-DX0441CEZZ	J	Diode	AC
	or			
	RH-DX0110CEZZ			
▲ D756	RH-DX0441CEZZ	J	Diode	AC
	or			
	RH-DX0110CEZZ			
D757	VHD1SS119//-1	J	Diode	AB
▲ D758	RH-DX0131CEZZ	J	Diode	AC
▲ D760	RH-DX0441CEZZ	J	Diode	AC
	or			
	RH-DX0110CEZZ			
▲ D761	RH-DX0441CEZZ	J	Diode	AC
	or			
	RH-DX0110CEZZ			
▲ D762	RH-DX0441CEZZ	J	Diode	AC
	or			
	RH-DX0110CEZZ			
D2001	VHD1SS119//-1	J	Diode	AB

#### PACKAGED CIRCUITS

▲ PR701	RMPTP0026CEZZ	J	Packaged Circuit	AF
X801	RCRSB0001PEZZ	R	Crystal, 3.58MHz	AL
	or			
	RCRSB0205CEZZ			AF

#### FILTERS

CF301	RFiLC0403CEZZ	J	Filter	AE
	or			
	RFiLC0029TAZZ			AD
CF302	RFiLC0404CEZZ	J	Filter	
	or			
	RFiLC0267CEZZ			
	or			
	RFiLC0007PEZZ			
CF401	RFiLC0013CEZZ	J	Filter	AE
	or			
	RFiLC0004PEZZ			AE
CF631	RFiLA0034CEZZ	J	Filter	AD
CF2040	RFiLC0121GEZZ	J	Filter	AD
SF201	RFiLC0405CEZZ	J	SAW Filter	AH

#### COILS

L201	VP-XF1R2K0000	J	Peaking 1.2μH	AB
L202	RCiLi0612CEZZ	J	IF Coil	AE
	or			
	RCiLi0588CEZZ			AF
L301	VP-XF8R2K0000	J	Peaking 8.2μH	AB
L302	RCiLi0613CEZZ	J	IF Coil	AE
	or			
	RCiLi0605CEZZ			AE

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
<b>PWB-A : DUNTK9529WEV2 (20K-S100)</b>									
<b>PWB-A : DUNTK9529WEV6 (CK20S10)</b>									
<b>PWB-A : DUNTK9529WEV9 (21MK50)</b>									
<b>MAIN UNIT (Continued)</b>									
L401	VP-XF120K0000	J	Peaking 12μH	AB	C409	VCEA0A1HW105M	J 1	50V EL.	AB
L402	VP-XF100K0000	J	Peaking 10μH	AB	C410	VCKYCY1EF104Z	J 0.1	25V Ceramic	AA
L406	VP-XF680K0000	J	Peaking 68μH	AB	C411	VCEAGA1CW108M	J 1000	16V EL.	AD
L408	VP-XF100K0000	J	Peaking 10μH	AB	C413	VCKYCY1HF103Z	J 0.01	50V Ceramic	AA
△ L701	RCiLF0029PEZZ	R	Coil (20K-S100, 21MK50)	AH	C414	VCKYCY1EF104Z	J 0.1	25V Ceramic	AA
	or				C419	VCCCCY1HH330J	J 33p	50V Ceramic	AA
	RCiF0087CEZZ				C420	VCCCCY1HH471J	J 470p	50V Ceramic	AA
	or				C451	RC-QZA563TAYK	J 0.056	50V Mylar	AB
	RCiLF0235CEZZ			AK	C454	VCEA0A1HW475M	J 4.7	50V EL.	AB
△ L701	RCiLF0090CEZZ	J	Coil (CK20S10)	AL	C502	VCEA0A1EW477M	J 470	25V EL.	AD
L2040	RCiLB0159CEZZ	J	Oscillation Coil	AE	C504	VCKYPA2HB391K	J 390p	500V Ceramic	AA
<b>TRANSFORMERS</b>					C505	VCQYTA1HM473K	J 0.047	50V Mylar	AB
△ T601	RTRNZ0168CEZZ	J	H-Driver	AH	C507	VCKYPA1HB102K	J 1000p	50V Ceramic	AA
△△ T602	RTRNF0149PEZZ	R	F.B.T.	BE	C508	VCEAGA1VW107M	J 100	35V EL.	AC
△ T701	RTRNP0527CEZZ	J	Power	AM	C509	VCKYPA2HB102K	J 1000p	500V Ceramic	AA
	or				C510	VCEAGA1VW477M	J 470	35V EL.	AD
	RTRNP0518CEZZ				C511	VCQYTA1HM473K	J 0.047	50V Mylar	AB
<b>CAPACITORS</b>					C513	VCEACA1HC225M	J 2.2	50V EL. (EU)	AC
[EL... Electrolytic, M-Poly... Metalized Polypro Film]					C514	VCEACA1HC225J	J 2.2	50V EL. (EU)	AC
C51	VCEA0A1CW476M	J 47	16V EL.	AB	C517	VCKYCY1HB102K	J 1000p	50V Ceramic	AA
C52	VCSATA1CE226K	J 22	16V Tantalum	AD	C522	VCKYCY1HF103Z	J 0.01	50V Ceramic	AA
C53	VCEA0A1HW105M	J 1	50V EL.	AB	C551	VCSATA1CE225K	J 2.2	16V Tantalum	AB
C54	VCEA0A1HW475M	J 4.7	50V EL.	AB	C552	VCEA0A1HW225M	J 2.2	50V EL.	AB
C55	VCEA0A1CW477M	J 470	16V EL.	AC	C604	VCEA0A1CW227M	J 220	16V EL.	AC
C201	VCKYCY1HF103Z	J 0.01	50V Ceramic	AA	△△ C608	VCFFPD3CA712H	J 7100p	1.6kV M-Poly	
C202	VCKYPA1HF103Z	J 0.01	50V Ceramic	AA	C609	RC-QZA223TAYK	J 0.022	50V Mylar	AB
C203	VCKYCY1HF103Z	J 0.01	50V Ceramic	AA	C612	VCFFPJ2EB564J	J 0.56	250V M-Poly	
C204	VCKYCY1HF103Z	J 0.01	50V Ceramic	AA	C631	VCEA0A1HW225M	J 2.2	50V EL.	AB
C205	VCEA0A1HW474M	J 0.47	50V EL.	AB	C632	VCKYCY1HF103Z	J 0.01	50V Ceramic	AA
C206	VCEA0A1CW227M	J 220	16V EL.	AC	C633	VCEA0A1HW105M	J 1	50V EL.	AB
C207	VCKYCY1HF103Z	J 0.01	50V Ceramic	AA	C652	VCEA0A1HW475M	J 4.7	50V EL.	AB
C208	VCEA0A1HW474M	J 0.47	50V EL.	AB	C653	VCEA0A1CW106M	J 10	16V EL.	AB
C209	VCKYCY1HB222K	J 2200p	50V Ceramic	AA	C661	VCKYPA2HB152K	J 1500p	500V Ceramic	AA
C210	VCKYCY1HB102K	J 1000p	50V Ceramic	AA	C662	VCEA0A1CW477M	J 470	16V EL.	AC
C302	VCCCCY1HH330J	J 33p	50V Ceramic	AA	△ C701	RC-FZ015SCEZZ	J 0.047	AC125V Plastic	AE
C303	VCCCCY1HH390J	J 39p	50V Ceramic	AA		or			
C305	VCKYPA1HB151K	J 150p	50V Ceramic	AA		RC-FZ002SCEZZ			
C306	VCKYPA1HF103Z	J 0.01	50V Ceramic	AA		or			
C308	VCKYCY1HB102K	J 1000p	50V Ceramic	AA		RC-FZ004SGEZZ			
C309	VCEA0A1CW227M	J 220	16V EL.	AC		or			
C312	VCKYCY1HF103Z	J 0.01	50V Ceramic	AA		RC-FZ027CUMZZ			
C314	VCEA0A1HW225M	J 2.2	50V EL.	AB		or			
C351	VCKYCY1HB562K	J 5600p	50V Ceramic	AA		RC-FZ059SCEZZ			
C352	VCEA0A1CW107M	J 100	16V EL.	AC		or			
C353	VCEA0A1CW337M	J 330	16V EL.	AC		RC-FZ0279CEZZ			
C354	RC-QZA104TAYK	J 0.1	50V Mylar	AB	C702	VCKYPB2HE103P	J 0.01	500V Ceramic	AB
C355	VCEA0A1CW226M	J 22	16V EL.	AB	C703	VCKYPB2HE103P	J 0.01	500V Ceramic	AB
C361	VCEAGA1CW108M	J 1000	16V EL.	AD	C704	VCKYPB2HE103P	J 0.01	500V Ceramic	AB
C362	VCEA0A1CW476M	J 47	16V EL.	AB	△ C705	RC-EZ0422CEZZ	J 470	200V EL.	AN
C403	VCCCCY1HH101J	J 100p	50V Ceramic	AA		or			
C404	VCCCCY1HH680J	J 68p	50V Ceramic	AA		RC-EZ0522CEZZ			
C405	VCEA0A1HW335M	J 3.3	50V EL.	AB	△ C706	RC-KZ0092GEZZ	J 3300p	AC125V Ceramic	AC
C406	VCEA0A1HW335M	J 3.3	50V EL.	AB		or			
C407	RC-QZA104TAYK	J 0.1	50V Mylar	AB		RC-KZ0311CEZZ			
C408	VCEA0A1CW106M	J 10	16V EL.	AB	C707	VCEAGA2CW226M	J 22	160V EL.	AD
					△ C712	RC-EZ0638CEZZ	J 33	160V EL.	AG
					C751	VCEA0A1VW477M	J 470	35V EL.	AB
					C754	VCEA0A1CW337M	J 330	16V EL.	AC
					C755	VCEA0A1CW107M	J 100	16V EL.	AC
					C756	VCEAGA1CW108M	J 1000	16V EL.	AD
					C757	RC-QZA104TAYK	J 0.1	50V Mylar	AB



Ref. No.	Part No.	★	Description	Code
<b>PWB-A : DUNTK9529WEV2 (20K-S100)</b>				
<b>PWB-A : DUNTK9529WEV6 (CK20S10)</b>				
<b>PWB-A : DUNTK9529WEV9 (21MK50)</b>				
<b>MAIN UNIT (Continued)</b>				
△ C758	VCEAGA2EW106M	J 10	250V EL.	AC
C759	VCKYPA2HB102K	J 1000p	500V Ceramic	AA
C760	VCEAGA1CW228M	M 2200	16V EL.	AS
C801	RC-QZA223TAYK	J 0.022	50V Mylar	AB
C802	VCEA0A1HW474M	J 0.47	50V EL.	AB
C803	VCCCCY1HH120J	J 12p	50V Ceramic	AA
C804	VCEA0A1HW104M	J 0.1	50V EL.	AB
C805	VCEA0A1HW104M	J 0.1	50V EL.	AB
C806	VCEA0A1HW104M	J 0.1	50V EL.	AB
C807	VCCCCY1HH820J	J 82p	50V Ceramic	AA
C901	VCKYCY1EF104Z	J 0.1	25V Ceramic	AA
C904	VCEA0A1HW335M	J 3.3	50V EL.	AB
C905	VCEA0A1HW335M	J 3.3	50V EL.	AB
C2001	VCCCCY1HH101J	J 100p	50V Ceramic	AA
C2002	VCCCCY1HH101J	J 100p	50V Ceramic	AA
C2021	VCCCCY1HH101J	J 100p	50V Ceramic	AA
C2022	VCCCCY1HH101J	J 100p	50V Ceramic	AA
C2023	VCCCCY1HH101J	J 100p	50V Ceramic	AA
C2024	VCCCCY1HH101J	J 100p	50V Ceramic	AA
C2040	VCEA0A1AW107M	J 100	10V EL.	AB
C2041	VCEA0A1HW105M	J 1	50V EL.	AB
C2051	VCCCCY1HH101J	J 100p	50V Ceramic	AA
C2060	RC-QZA104TAYK	J 0.1	50V Mylar	AB
C2061	VCKYD41HB101K	J 100p	50V Ceramic	AA
C2062	VCEA0A1AW107M	J 100	10V EL.	AB
C2402	VCCCCY1HH560J	J 56p	50V Ceramic	AA
C2601	VCEA0A1HW475M	J 4.7	50V EL.	AB
C2602	VCCCCY1HH101J	J 100p	50V Ceramic	AA

## RESISTORS

[M-Ox... Metal Oxide, M-Film... Metal Film]

RJ1	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ5	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ6	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ7	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ9	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ10	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ15	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ17	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ18	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ19	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ20	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ21	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ23	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ24	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ26	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ28	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ30	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ31	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ32	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ35	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ40	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ47	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ49	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ52	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ55	VRN-MD2AL000J	J 0	1/10W	M-Film	AA
RJ56	VRN-MD2AL000J	J 0	1/10W	M-Film	AA

Ref. No.	Part No.	★	Description	Code
RJ57	VRN-MD2AL000J	J 0	1/10W M-Film	AA
RJ59	VRN-MD2AL000J	J 0	1/10W M-Film	AA
RJ60	VRN-MD2AL000J	J 0	1/10W M-Film	AA
RJ62	VRN-MD2AL000J	J 0	1/10W M-Film	AA
RJ63	VRN-MD2AL000J	J 0	1/10W M-Film	AA
RJ66	VRN-MD2AL000J	J 0	1/10W M-Film	AA
RJ67	VRN-MD2AL000J	J 0	1/10W M-Film	AA
RJ68	VRN-MD2AL000J	J 0	1/10W M-Film	AA
RJ71	VRN-MD2AL000J	J 0	1/10W M-Film	AA
RJ75	VRN-MD2AL000J	J 0	1/10W M-Film	AA
RJ77	VRN-MD2AL000J	J 0	1/10W M-Film	AA
RJ78	VRN-MD2AL000J	J 0	1/10W M-Film	AA
RJ79	VRN-MD2AL000J	J 0	1/10W M-Film	AA
△ R51	VRS-VV3AB331J	J 330	1W M-Ox.	AA
△ R52	VRS-VV3DB470J	J 47	2W M-Ox.	AA
△ R53	VRS-VV3LB223J	J 22k	3W M-Ox.	AB
R54	VRN-MD2AL101J	J 100	1/10W M-Film	AA
R55	VRN-MD2AL101J	J 100	1/10W M-Film	AA
R56	VRN-MD2AL823J	J 82k	1/10W M-Film	AA
R57	VRN-MD2AL392J	J 3.9k	1/10W M-Film	AA
R201	VRN-MD2AL221J	J 220	1/10W M-Film	AA
R202	VRN-MD2AL122J	J 1.2k	1/10W M-Film	AA
R203	VRD-RA2BE682J	J 6.8k	1/8W Carbon	AA
R204	VRN-MD2AL270J	J 27	1/10W M-Film	AA
R205	VRD-RA2BE391J	J 390	1/8W Carbon	AA
R206	VRD-RA2EE151J	J 150	1/4W Carbon	AA
R208	VRN-MD2AL391J	J 390	1/10W M-Film	AA
R301	VRD-RA2BE222J	J 2.2k	1/8W Carbon	AA
R302	VRN-MD2AL102J	J 1k	1/10W M-Film	AA
R303	VRN-MD2AL103J	J 10k	1/10W M-Film	AA
R304	VRN-MD2AL102J	J 1k	1/10W M-Film	AA
R305	VRN-MD2AL152J	J 1.5k	1/10W M-Film	AA
R307	VRN-MD2AL333J	J 33k	1/10W M-Film	AA
R308	VRN-MD2AL333J	J 33k	1/10W M-Film	AA
R352	VRN-MD2AL332J	J 3.3k	1/10W M-Film	AA
R353	VRN-MD2AL4R7J	J 4.7	1/10W M-Film	AA
R354	VRN-MD2AL152J	J 1.5k	1/10W M-Film	AA
R361	VRD-RA2BE102J	J 1k	1/8W Carbon	AA
R364	VRN-MD2AL473J	J 47k	1/10W M-Film	AA
R401	VRN-MD2AL682J	J 6.8k	1/10W M-Film	AA
R403	VRD-RA2BE331J	J 330	1/8W Carbon	AA
R404	VRN-MD2AL391J	J 390	1/10W M-Film	AA
R407	VRN-MD2AL471J	J 470	1/10W M-Film	AA
R409	VRN-MD2AL471J	J 470	1/10W M-Film	AA
R410	VRD-RA2BE563J	J 56k	1/8W Carbon	AA
R411	VRN-MD2AL103J	J 10k	1/10W M-Film	AA
R412	VRD-RA2EE561J	J 560	1/4W Carbon	AA
R413	VRD-RA2BE470J	J 47	1/8W Carbon	AA
R414	VRD-RA2BE470J	J 47	1/8W Carbon	AA
R415	VRD-RA2BE470J	J 47	1/8W Carbon	AA
R416	VRN-MD2AL102J	J 1k	1/10W M-Film	AA
R417	VRD-RA2BE101J	J 100	1/8W Carbon	AB
R418	VRN-MD2AL152J	J 1.5k	1/10W M-Film	AA
R419	VRN-MD2AL472J	J 4.7k	1/10W M-Film	AA
R423	VRN-MD2AL222J	J 2.2k	1/10W M-Film	AA
R426	VRN-MD2AL271J	J 270	1/10W M-Film	AA
R440	VRN-MD2AL821J	J 820	1/10W M-Film	AA
△ R451	VRS-SV2HC103J	J 10k	1/2W M-Ox.	AA
R452	VRD-RA2BE152J	J 1.5k	1/8W Carbon	AA
R454	VRD-RA2BE274J	J 270k	1/8W Carbon	AA
R455	VRD-RA2BE392J	J 3.9k	1/8W Carbon	AA



Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code	
<b>PWB-A : DUNTK9529WEV2 (20K-S100)</b>					△ R730	VRN-VV3LB2R7J	M 2.7 3W	M-Film	AB	
<b>PWB-A : DUNTK9529WEV6 (CK20S10)</b>					R731	VRD-RA2EE330J	M 33 1/4W	Carbon	AA	
<b>PWB-A : DUNTK9529WEV9 (21MK50)</b>					△ R734	VRS-KA3NG330J	J 33 7W	M-Ox.		
<b>MAIN UNIT (Continued)</b>					R750	VRS-VV3AB561J	J 560 1W	M-Ox.	AA	
R456	VRN-MD2AL223J	J 22k	1/10W	M-Film	AA	R752	VRD-RA2BE562J	J 5.6k 1/8W	Carbon	AA
R457	VRD-RA2BE102J	J 1k	1/8W	Carbon	AA	R754	VRN-MD2AL471J	J 470 1/10W	M-Film	AA
R458	VRD-RA2BE474J	J 470k	1/8W	Carbon	AA	△ R755	VRS-VV3DB470J	J 47 2W	M-Ox.	AA
R459	VRD-RA2BE123J	J 12k	1/8W	Carbon	AA	R757	VRN-MD2AL472J	J 4.7k 1/10W	M-Film	AA
R504	VRD-RA2BE471J	J 470	1/8W	Carbon	AA	△ R758	VRS-SV2HC180J	J 18 1/2W	M-Ox.	
R505	VRN-MD2AL101J	J 100	1/10W	M-Film	AA	R801	VRN-MD2AL332J	J 3.3k 1/10W	M-Film	AA
R506	VRD-RA2BE683G	J 68k	1/8W	Carbon	AA	R802	VRN-MD2AL332J	J 3.3k 1/10W	M-Film	AA
R507	VRD-RA2BE104G	J 100k	1/8W	Carbon	AA	R803	VRN-MD2AL182J	J 1.8k 1/10W	M-Film	AA
R508	VRD-RA2BE473J	J 47k	1/8W	Carbon	AA	R804	VRN-MD2AL182J	J 1.8k 1/10W	M-Film	AA
R510	VRD-RM2HD1R5J	J 1.5	1/2W	Carbon	AA	R805	VRN-MD2AL182J	J 1.8k 1/10W	M-Film	AA
△ R511	VRN-SV2HB1R5J	J 1.5	1/2W	M-Film	AB	R806	VRN-MD2AL333J	J 33k 1/10W	M-Film	AA
R512	VRD-RM2HD681J	J 680	1/2W	Carbon	AA	R902	VRN-MD2AL750J	J 75 1/10W	M-Film	AA
R516	VRD-RA2BE683G	J 68k	1/8W	Carbon	AA	R905	VRN-MD2AL102J	J 1k 1/10W	M-Film	AA
R517	VRD-RA2BE103G	J 10k	1/8W	Carbon	AA	R906	VRN-MD2AL102J	J 1k 1/10W	M-Film	AA
R518	VRD-RA2BE154J	J 150k	1/8W	Carbon	AA	R924	VRN-MD2AL104J	J 100k 1/10W	M-Film	AA
R524	VRN-MD2AL332J	J 3.3k	1/10W	M-Film	AA	R925	VRN-MD2AL104J	J 100k 1/10W	M-Film	AA
R525	VRD-RA2BE473J	J 47k	1/8W	Carbon	AA	R961	VRN-MD2AL101J	J 100 1/10W	M-Film	AA
R552	VRD-RA2BE102J	J 1k	1/8W	Carbon	AA	R962	VRN-MD2AL101J	J 100 1/10W	M-Film	AA
R553	VRN-MD2AL273J	J 27k	1/10W	M-Film	AA	R2001	VRD-RA2BE102J	J 1k 1/8W	Carbon	AA
R554	VRN-MD2AL472J	J 4.7k	1/10W	M-Film	AA	R2002	VRN-MD2AL103J	J 10k 1/10W	M-Film	AA
R555	VRN-MD2AL102J	J 1k	1/10W	M-Film	AA	R2006	VRN-MD2AL103J	J 10k 1/10W	M-Film	AA
R556	VRN-MD2AL102J	J 1k	1/10W	M-Film	AA	R2008	VRD-RA2BE224J	J 220k 1/8W	Carbon	AA
R602	VRD-RA2EE820J	J 82	1/4W	Carbon	AA	R2009	VRN-MD2AL102J	J 1k 1/10W	M-Film	AA
△ R603	VRS-VV3LB220J	J 22	3W	M-Ox.	AB	R2010	VRN-MD2AL102J	J 1k 1/10W	M-Film	AA
R605	VRN-MD2AL332J	J 3.3k	1/10W	M-Film	AA	R2011	VRN-MD2AL821J	J 820 1/10W	M-Film	AA
R606	VRD-RA2BE102J	J 1k	1/8W	Carbon	AA	R2012	VRN-MD2AL471J	J 470 1/10W	M-Film	AA
R608	VRD-RA2BE101J	J 100	1/8W	Carbon	AB	R2020	VRD-RM2HD223J	J 22k 1/2W	Carbon	AA
R609	VRD-RA2BE331J	J 330	1/8W	Carbon	AA	R2022	VRD-RA2BE333J	J 33k 1/8W	Carbon	AA
△ R610	VRS-VV3DB391J	J 390	2W	M-Ox.	AA	R2024	VRD-RA2BE682J	J 6.8k 1/8W	Carbon	AA
R620	VRD-RA2BE473J	J 47k	1/8W	Carbon	AA	R2025	VRD-RA2BE682J	J 6.8k 1/8W	Carbon	AA
R621	VRN-MD2AL682J	J 6.8k	1/10W	M-Film	AA	R2026	VRD-RA2BE682J	J 6.8k 1/8W	Carbon	AA
R631	VRN-MD2AL391J	J 390	1/10W	M-Film	AA	R2027	VRD-RA2BE682J	J 6.8k 1/8W	Carbon	AA
R632	VRN-MD2AL152J	J 1.5k	1/10W	M-Film	AA	R2028	VRD-RA2BE102J	J 1k 1/8W	Carbon	AA
R633	VRN-MD2AL472J	J 4.7k	1/10W	M-Film	AA	R2029	VRN-MD2AL102J	J 1k 1/10W	M-Film	AA
R634	VRD-RM2HD121J	J 120	1/2W	Carbon	AA	R2031	VRN-MD2AL103J	J 10k 1/10W	M-Film	AA
△ R641	VRS-VV3AB682J	J 6.8k	1W	M-Ox.	AA	R2032	VRN-MD2AL471J	J 470 1/10W	M-Film	AA
R642	VRD-RA2BE821J	J 820	1/8W	Carbon	AA	R2040	VRN-MD2AL102J	J 1k 1/10W	M-Film	AA
▲△ R651	VRD-RM2HD1R0J	J 1	1/2W	Carbon	AA	R2041	VRN-MD2AL333J	J 33k 1/10W	M-Film	AA
▲△ R654	VRD-RA2BE154J	J 150k	1/8W	Carbon	AA	R2042	VRN-MD2AL101J	J 100 1/10W	M-Film	AA
▲△ R655	VRN-MD2AL104J	J 100k	1/10W	M-Film	AA	R2043	VRN-MD2AL101J	J 100 1/10W	M-Film	AA
▲△ R656	VRN-MD2AL473J	J 47k	1/10W	M-Film	AA	R2044	VRN-MD2AL683J	J 68k 1/10W	M-Film	AA
△ R659	VRN-VV3AB2R7J	J 2.7	1W	M-Film	AA	R2045	VRN-MD2AL101J	J 100 1/10W	M-Film	AA
△ R661	VRN-VV3ABR47J	J 0.47	1W	M-Film	AA	R2047	VRN-MD2AL221J	J 220 1/10W	M-Film	AA
△ R701	VRC-UA2HG275K	J 2.7M	1/2W	Solid	AA	R2048	VRD-RA2BE562J	J 5.6k 1/8W	Carbon	AA
			(20K-S100, 21MK50)			R2049	VRN-MD2AL333J	J 33k 1/10W	M-Film	AA
△ R701	VRC-UB2HG275K	J 2.7M	1/2W	Solid	AF	R2054	VRN-MD2AL222J	J 2.2k 1/10W	M-Film	AA
			(CK20S10)			R2055	VRN-MD2AL103J	J 10k 1/10W	M-Film	AA
△ R702	VRW-KP3HC1R8K	J 1.8	5W	Cement	AC	R2060	VRN-MD2AL221J	J 220 1/10W	M-Film	AA
△ R703	VRS-KA3NG681J	J 680	7W	M-Ox.	AF	R2061	VRN-MD2AL562J	J 5.6k 1/10W	M-Film	AA
R704	VRD-RM2HD123J	J 12k	1/2W	Carbon	AA	R2062	VRN-MD2AL183J	J 18k 1/10W	M-Film	AA
R705	VRD-RA2EE334J	J 330k	1/4W	Carbon	AA	R2063	VRD-RA2BE222J	J 2.2k 1/8W	Carbon	AA
R706	VRD-RM2HD470J	J 47	1/2W	Carbon	AA	R2064	VRD-RA2BE332J	J 3.3k 1/8W	Carbon	AA
△ R707	VRN-VV3DB1R5J	J 1.5	2W	M-Film	AB	R2066	VRN-MD2AL103J	J 10k 1/10W	M-Film	AA
△ R708	VRD-RM2HD824J	J 820k	1/2W	Carbon	AA	R2067	VRN-MD2AL103J	J 10k 1/10W	M-Film	AA
△ R709	VRS-KA3NG681J	J 680	7W	M-Ox.	AF	R2068	VRN-MD2AL103J	J 10k 1/10W	M-Film	AA
△ R711	VRS-KA3NG681J	J 680	7W	M-Ox.	AF	R2070	VRN-MD2AL103J	J 10k 1/10W	M-Film	AA
△ R717	VRS-KA3HG3R3K	J 3.3	5W	M-Ox.	AD	R2101	VRN-MD2AL101J	J 100 1/10W	M-Film	AA

Ref. No.	Part No.	★	Description	Code
<b>PWB-A : DUNTK9529WEV2 (20K-S100)</b> <b>PWB-A : DUNTK9529WEV6 (CK20S10)</b> <b>PWB-A : DUNTK9529WEV9 (21MK50)</b> <b>MAIN UNIT (Continued)</b>				
R2102	VRN-MD2AL101J	J	100 1/10W M-Film	AA
R2401	VRN-MD2AL101J	J	100 1/10W M-Film	AA
R2402	VRN-MD2AL101J	J	100 1/10W M-Film	AA
R2403	VRN-MD2AL101J	J	100 1/10W M-Film	AA
R2404	VRN-MD2AL101J	J	100 1/10W M-Film	AA
R2501	VRN-MD2AL123J	J	12k 1/10W M-Film	AA
R2503	VRN-MD2AL273J	J	27k 1/10W M-Film	AA
R2504	VRN-MD2AL123J	J	12k 1/10W M-Film	AA
R2505	VRN-MD2AL563J	J	56k 1/10W M-Film	AA
R2506	VRN-MD2AL563J	J	56k 1/10W M-Film	AA
R2507	VRN-MD2AL823J	J	82k 1/10W M-Film	AA
R2508	VRN-MD2AL153J	J	15k 1/10W M-Film	AA
R2509	VRN-MD2AL272J	J	2.7k 1/10W M-Film	AA
R2601	VRD-RA2BE331J	J	330 1/8W Carbon	AA
<b>SWITCHES</b>				
S2501	QSW-K0079GEZZ	J	Power	AB
S2502	QSW-K0079GEZZ	J	Vol-Down	AB
S2503	QSW-K0079GEZZ	J	Vol-Up	AB
S2504	QSW-K0079GEZZ	J	CH-Down	AB
S2505	QSW-K0079GEZZ	J	CH-Up	AB
<b>MISCELLANEOUS PARTS</b>				
△ RY701	RRLYU0036CEZZ	J	Relay	AM
	or			
	RRLYU0038CEZZ			
	or			
	RRLYJ0077CEZZ			
△ F701	QFS-B4023CEZZ	J	Fuse, 4A(125V)	AC
	or			
	QFS-B4021GEZZ			
FB602	RBLN-0037CEZZ	J	Ferrite Bead	AB
FB603	RBLN-0037CEZZ	J	Ferrite Bead	AB
FH701	QFSDH1013CEZZ	J	Fuse Holder	AC
FH702	QFSDH1014CEZZ	J	Fuse Holder	AC
J903	QJAKE0159CEZZ	J	Jack, Audio IN (L)	AF
J904	QJAKE0160CEZZ	J	Jack, Audio IN (R)	
J905	QJAKE0158CEZZ	J	Jack, Video IN	AF
P301	QPLGN0561CEZZ	J	Plug 5-pin (BBN)	AB
P302	QPLGN0461CEZZ	J	Plug 4-pin (S)	AB
P401	QPLGN0561CEZZ	J	Plug 5-pin (GBN)	AB
P601	QPLGN0603CEZZ	J	Plug 6-pin (K)	AB
P651	QPLGN0361CEZZ	J	Plug 3-pin	AB
P701	QPLGN0207CEZZ	J	Plug 2-pin (M)	AA
P751	QPLGN0461CEZZ	J	Plug 4-pin (YBN)	AB
P2001	QPLGN0561CEZZ	J	Plug 5-pin	AB
SC3001	QSOCN0258FJ00	J	Socket (EA)	
RMC2601	RRMCU0227CEZZ	J	R/C Receiver	AK
	or			
	RRMCU0222CEZZ			
RDA501	PRDAR0218PEFW	R	Heat Sink, IC501	AD
RDA602	PRDAR0216PEFW	R	Heat Sink, Q602	AE
RDA701	PRDAR0238PEFW	R	Heat Sink, IC701	AN
TP701	QLUGP0102PEZZ	R	Lug	AA
	PZETM0016CEZZ	J	Insulator	AB
	LHLDW1002PEZZ	R	Holder	AB
	LX-BZ3049GEFD	J	Screw	AA

Ref. No.	Part No.	★	Description	Code
<b>PWB-B : DUNTK9530WEV2</b> <b>CRT UNIT</b>				
<b>TRANSISTORS</b>				
Q852	VS2SC2229O/1E	J	2SC2229 (O)	AD
Q854	VS2SC2229O/1E	J	2SC2229 (O)	AD
Q856	VS2SC2229O/1E	J	2SC2229 (O)	AD
Q881	VS2SA1266-Y-1	J	2SA1266 (Y)	AA
	or			
	VS2SA1015-Y-1			
<b>DIODES</b>				
You can substitute "RH-DX0446CEZZ" for "VHD1SS119//-1" and "RH-DX0045GEZZ".				
D881	VHD1SS119//-1	J	Diode	AB
D882	VHD1SS119//-1	J	Diode	AB
D885	VHD1SS119//-1	J	Diode	AB
<b>COIL</b>				
L851	VP-DF151K0000	J	Peaking 150μH	AB
<b>CAPACITORS</b>				
<i>[EL... Electrolytic]</i>				
C851	VCCCCY1HH271J	J	270p 50V Ceramic	AA
C852	VCCCCY1HH271J	J	270p 50V Ceramic	AA
C853	VCCCCY1HH271J	J	270p 50V Ceramic	AA
C854	RC-KZ0016CEZZ	J	0.01 1.4kV Ceramic	AC
C881	VCEA0A1CW106M	J	10 16V EL.	AB
C883	VCEA0A1CW336M	J	33 16V EL.	AB
<b>RESISTORS</b>				
<i>[M-Ox... Metal Oxide, M-Film... Metal Film]</i>				
R851	VRN-MD2AL470J	J	47 1/10W M-Film	AA
R852	VRD-RA2BE221J	J	220 1/8W Carbon	AA
R853	VRN-MD2AL121J	J	120 1/10W M-Film	AA
△ R857	VRS-VV3AB123J	J	12k 1W M-Ox.	AA
R858	VRD-RM2HD332J	J	3.3k 1/2W Carbon	AA
R859	VRN-MD2AL470J	J	47 1/10W M-Film	AA
R860	VRD-RA2BE221J	J	220 1/8W Carbon	AA
R861	VRN-MD2AL121J	J	120 1/10W M-Film	AA
△ R865	VRS-VV3AB123J	J	12k 1W M-Ox.	AA
R866	VRD-RM2HD332J	J	3.3k 1/2W Carbon	AA
R867	VRD-RA2BE470J	J	47 1/8W Carbon	AA
R868	VRN-MD2AL221J	J	220 1/10W M-Film	AA
R869	VRN-MD2AL121J	J	120 1/10W M-Film	AA
△ R873	VRS-VV3AB123J	J	12k 1W M-Ox.	AA
R874	VRD-RM2HD332J	J	3.3k 1/2W Carbon	AA
R881	VRN-MD2AL561J	J	560 1/10W M-Film	AA
R882	VRN-MD2AL391J	J	390 1/10W M-Film	AA
R883	VRD-RA2BE561J	J	560 1/8W Carbon	AA
R884	VRN-MD2AL152J	J	1.5k 1/10W M-Film	AA
R886	VRN-MD2AL431J	J	430 1/10W M-Film	AA
R887	VRN-MD2AL470J	J	47 1/10W M-Film	AA
<b>MISCELLANEOUS PARTS</b>				
P851	QPLGN0561CEZZ	J	Plug 5-pin (GBN)	AB
P852	QPLGN0461CEZZ	J	Plug 4-pin (YBN)	AB
SC851	QSOCV0840CEZZ	J	CRT Socket	AK
	or			
	QSOCV0826CEZZ			

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
<b>PWB-E : DUNTK9531WEV0</b>									
<b>MTS MODULE UNIT</b>									
<b>INTEGRATED CIRCUITS</b>									
IC352	VHiTDA7233/-1	J	TDA7233	AF	R356	VRS-CY1JF332J	J	3.3k 1/16W M-Ox.	AA
IC3001	VHiCXA2074Q-1	J	CXA2074Q		R357	VRS-CY1JF4R7J	J	4.7 1/16W M-Ox.	AA
<b>TRANSISTOR</b>					R358	VRS-CY1JF152J	J	1.5k 1/16W M-Ox.	AA
Q352	VS2SD601AR/-1	J	2SD601AR	AC	R362	VRS-CY1JF102J	J	1k 1/16W M-Ox.	AA
<b>CAPACITORS</b>					R3001	VRS-CY1JF221J	J	220 1/16W M-Ox.	AA
<i>[EL.... Electrolytic]</i>					R3002	VRS-CY1JF221J	J	220 1/16W M-Ox.	AA
C315	VCEA0A1HW225M	J	2.2 50V	EL. AB	R3003	VRS-CY1JF105J	J	1M 1/16W M-Ox.	AA
C356	VCKYCY1HB562K	J	5600p 50V	Ceramic AA	R3004	VRS-CY1JF104J	J	100k 1/16W M-Ox.	AA
C357	VCEA0A1CW107M	J	100 16V	EL. AC	R3005	VRS-CY1JF623J	J	62k 1/16W M-Ox.	AA
C358	VCEA0A1CW337M	J	330 16V	EL. AC	R3007	VRS-CY1JF332J	J	3.3k 1/16W M-Ox.	AA
C359	VCKYCY1EF104Z	J	0.1 25V	Ceramic AA	R3008	VRS-CY1JF302J	J	3k 1/16W M-Ox.	AA
C360	VCEA0A1CW226M	J	22 16V	EL. AB	R3010	VRS-CY1JF392J	J	3.9k 1/16W M-Ox.	AA
C365	VCEAGA1CW108M	J	1000 16V	EL. AD	R3011	VRS-CY1JF102J	J	1k 1/16W M-Ox.	AA
C3001	VCE9GA1HW475M	J	4.7 50V	EL. (N.P) AB	R3012	VRS-CY1JF102J	J	1k 1/16W M-Ox.	AA
C3002	VCKYCY1HB562K	J	5600p 50V	Ceramic AA	<b>MISCELLANEOUS PARTS</b>				
C3003	RC-QZA123TAYK	J	0.012 50V	Mylar AB	P351	QPLGN0561CEZZ	J	Plug 5-pin (BBN)	AB
C3004	VCEA0A1HW105M	J	1 50V	EL. AB	P3001	QPLGN0241FJ00	J	Plug 9-pin (EA)	AB
C3005	VCEA0A1HW475M	J	4.7 50V	EL. AB					
C3006	VCEA0A1HW106M	J	10 50V	EL. AB					
C3007	VCEA0A1HW475M	J	4.7 50V	EL. AB					
C3008	VCKYCY1HF103Z	J	0.01 50V	Ceramic AA					
C3009	VCEA0A1CW227M	J	220 16V	EL. AC					
C3010	VCE9GA1HW475M	J	4.7 50V	EL. (N.P) AB					
C3011	VCEA0A1HW475M	J	4.7 50V	EL. AB					
C3012	VCE9GA1HW475M	J	4.7 50V	EL. (N.P) AB					
C3013	VCKYCY1HB272K	J	2700p 50V	Ceramic AA					
C3014	RC-QZA473TAYK	J	0.047 50V	Mylar AB					
C3015	VCSATA1CE335K	J	3.3 16V	Tantalum AC					
C3016	VCE9GA1HW475M	J	4.7 50V	EL. (N.P) AB					
C3017	VCSATA1CE106K	J	10 16V	Tantalum AD					
C3018	VCEA0A1HW105M	J	1 50V	EL. AB					
C3023	VCKYCY1HF103Z	J	0.01 50V	Ceramic AA					
C3024	VCKYCY1HF103Z	J	0.01 50V	Ceramic AA					
C3025	VCKYCY1HF103Z	J	0.01 50V	Ceramic AA					
C3026	VCKYCY1HF103Z	J	0.01 50V	Ceramic AA					
C3027	VCKYCY1HF103Z	J	0.01 50V	Ceramic AA					
C3028	VCKYCY1HF103Z	J	0.01 50V	Ceramic AA					
C3029	VCKYCY1HF103Z	J	0.01 50V	Ceramic AA					
C3030	VCKYCY1HF103Z	J	0.01 50V	Ceramic AA					
<b>RESISTORS</b>									
<i>[M-Ox.... Metal Oxide]</i>									
RJ2	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA					
RJ3	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA					
RJ4	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA					
RJ6	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA					
RJ7	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA					
RJ8	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA					
RJ9	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA					
R305	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA					
R355	VRS-CY1JF333J	J	33k 1/16W	M-Ox. AA					

Ref. No.	Part No.	★	Description	Code
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## MISCELLANEOUS PARTS

△	ACC701	QACCD3055CESA	M	AC Cord	
		or			
		QACCD3038CESA			
		or			
		QACCD3051CESA			
		or			
		QACCD3037CESA			
		or			
		QACCD3056CESA			
		or			
		QACCD3055CESB			
		QCNW-2110PEZZ	R	Connecting Cord	AG
		QCNW-2111PEZZ	R	Connecting Cord	AF
		QCNW-2116PEZZ	R	Connecting Cord	AF
		QCNW-2208PEZZ	R	Connecting Cord	
SP1		VSP0080PBK98A	M	Speaker (L)	AG
		or			
		VSP0080PBE98S			
SP2		VSP0080PBK98A	M	Speaker (R)	AG
		or			
		VSP0080PBE98S			

## SUPPLIED ACCESORRIES

	TGAN-1006MEZZ	M	Guarantee Card (20K-S100)	AA
	TiNS-6319MEZZ	M	Operation Manual (20K-S100)	
	TiNS-6355MEZZ	M	Operation Manual (CK20S10)	
	TiNS-6367MEZZ	M	Operation Manual (21MK50)	
	RRMCG1324CESA	M	Infrared R/C Unit (20K-S100, CK20S10)	AQ
	RRMCG1339CESA	M	Infrared R/C Unit (21MK50)	AP
	QANTR0051MEZZ	M	Dipole Antenna (21MK50)	AM
	RUNTK0165CEZZ	M	Antenna Adaptor (21MK50)	AG

## PACKING PARTS (NOT REPLACEMENT ITEM)

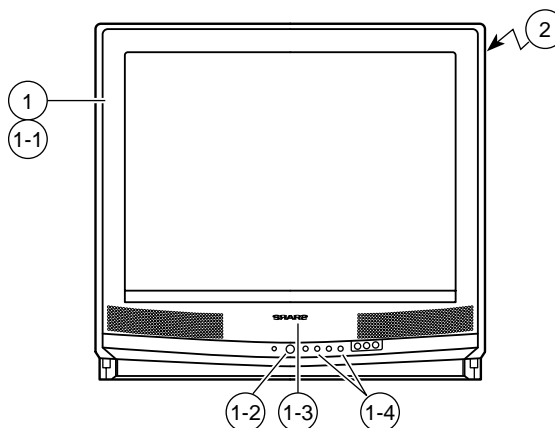
	SPAKC0595MEZZ	—	Packing Case (20K-S100, CK20S10)	—
	SPAKC0598MEZZ	—	Packing Case (21MK50)	—
	SPAKP0088PEZZ	—	Polyethylene Sack	—
	SPAKX0167MEZZ	—	Buffer Material	—
	SSAKA0004MEZZ	—	Polyethylene Sack	—

Ref. No.	Part No.	★	Description	Code
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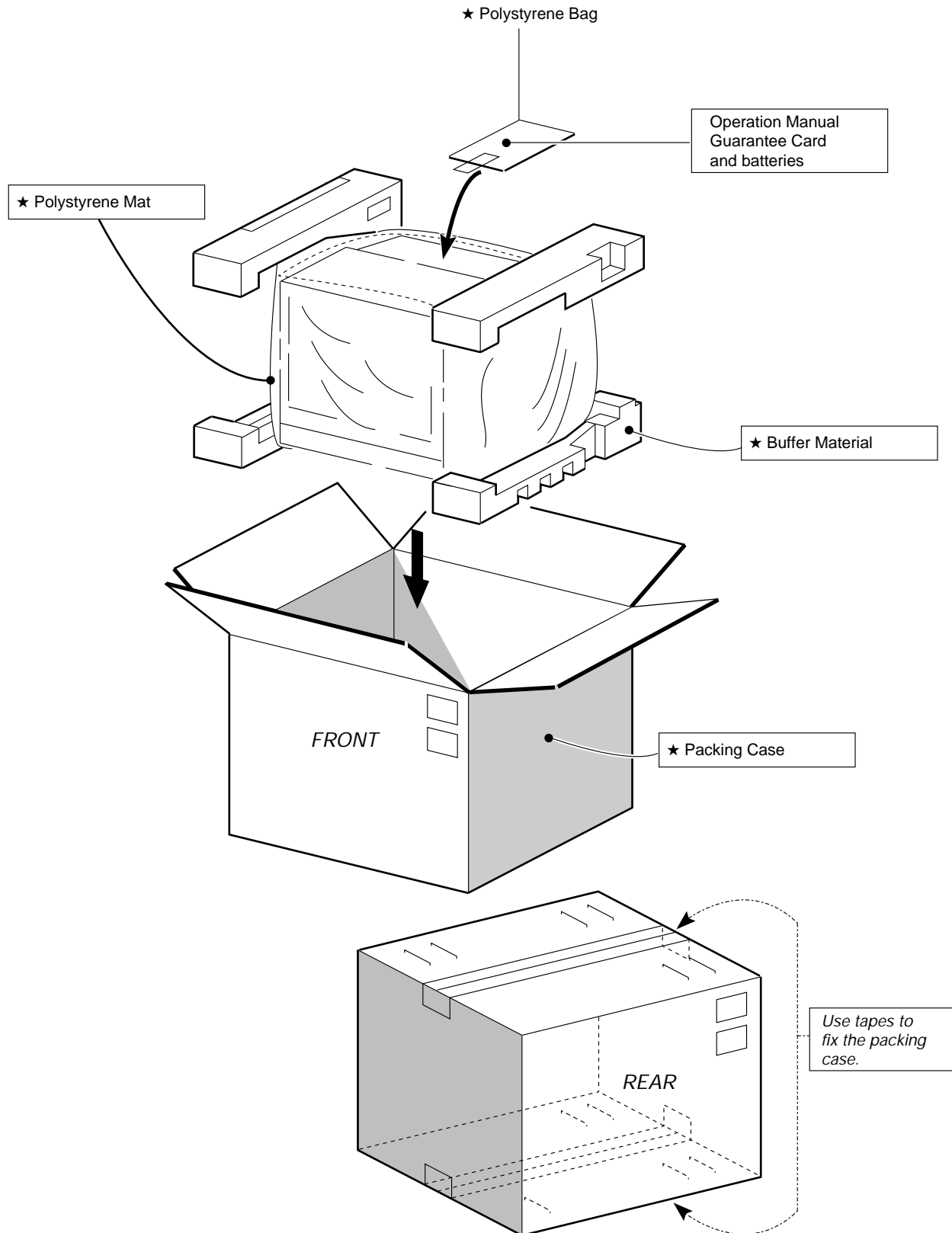
## CABINET PARTS

1	CCABA1310MES0	M	Cabinet Ass'y, Front	BB
1-1	Not Available	—	Front Cabinet	—
1-2	GCOVA1034MEKA	M	Cover for R/C	AC
1-3	HBDGB3009MESA	M	Badge, "SHARP"	AC
1-4	JBTN-1098MEKA	M	Button, Power, Vol/CH-up/down	AD
2	GCABB1126MEKA	M	Rear Cabinet	AX

## CABINET PARTS LOCATION



## PACKING OF THE SET



MARK ★ : Not Replacement Items.

# SHARP

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