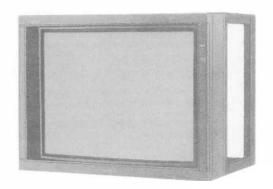
# **SERVICE MANUAL**

Model Canadian Model

Chassis No. SCC-D39A-A



Note: The service manuals for RM-785 have been issued separately.

Color system

NTSC system

Picture tube

32-inch Trinitron tube

Approx. 80 cm picture measured diagonally, 110-degree deflection,

AG pitch 0.9 mm

Resolution

VIDEO inputs: 650 TV lines S VIDEO inputs: 650 TV lines RGB inputs: 640 × 200 dots

(2000 characters)

Color temperature

Horizontal linearity Vertical linearity Line pull range

Less than ±8% Less than ±7% Horizontal: ±500 Hz Vertical: -8 Hz

Overscan of the picture

Input return loss Zooming

Less than +7%

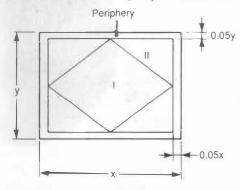
Within 5%

9300 K

Convergence

More than 35 dB up to 4 MHz

Zone I: within 1.3 mm Zone II: within 1.7 mm Periphery: within 2.2 mm



#### **SPECIFICATIONS**

Inputs

Video input:

LINE A/B: BNC connector

composite video, 1 Vp-p ±6 dB,

sync negative

automatic 75-ohm termination

VTR: 8-pin connector

1 Vp-p ±6 dB, sync negative,

75-ohm terminated

S video input:

Audio input:

LINE A/B: 4-pin MINI DIN connector

Y (luminance signal): 1 Vp-p

± 6dB, sync negative

C (chrominance signal): 0.286 Vp-p

+6dB (burst signal)

automatic 75-ohm termination ANALOG RGB: BNC connector

RGB input:

R,B 0.7 Vp-p ±6 dB G/Sync on G 0.7 Vp-p

1 Vp-p, sync negative

automatic 75-ohm termination

DIGITAL RGB: TTL D-sub 9-pin

LINE A/B: phono jack. -5 dBs. high impedance (stereo)

VTR: 8-pin connector, -5 dBs, high

impedance (monaural)

ANALOG RGB: phono jack, -5 dBs,

high impedance (stereo)

DIGITAL RGB: phono jack, -5 dBs.

high impedance (monaural)

External sync input:

**BNC** connector

4.0 Vp-p ±6 dB, negative

automatic 75-ohm termination

CONTROL S input: minijack. 5 Vp-p

- Continued on next page -





Outputs

Video output:

LINE A/B: BNC connector, loop-

through

S Video output:

LINE A/B: 4-pin MINI DIN connector,

loop-through

RGB output:

ANALOG RGB: BNC connector,

loop-through

Audio output:

LINE A/B: phono jack, loop-through ANALOG RGB: phono jack, loop-

through

External sync output: BNC connector, loop-through

CONTROL S output: minijack

Speaker output:

8 - 16 ohms (15 W + 15 W)

Power requirements

120 V AC, 50/60 Hz

Power consumption

3.0 A

Dimensions

Approx.  $814 \times 629 \times 595$  mm (w/h/d)

 $(32^{1}/8 \times 24^{5}/8 \times 23^{3}/8 \text{ inches})$ 

Weight

Approx. 84kg (185 lb 3 oz)

Supplied accessories Programmable Remote Commander

RM-785 (1)

Size AA batteries (4)

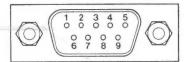
Optional accessories SS-X6A speaker system

APM-X5A speaker system

Design and specifications are subject to change without notice.

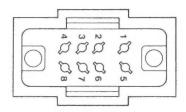
#### Pin assignment

#### DIGITAL RGB connector (9-pin)



Pin No.	Signal	Signal level		
1	GND (ground)	GND		
2	GND for the signal	GND		
3 Red inpu	Red input	Positive polarity (TTL level)		
4	Green input	1		
5	Blue input	1		
6	Intensity	1		
7	NC (no connection)	_		
8	H-SYNC	Positive or negative polarity (TTL level)		
9	V-SYNC	Same polarity as H-SYNC (TTL level)		

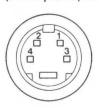
#### VTR connector (8-pin)



Pin No.	Signal	Description
1	Audio input	-5 dBs, high input impedance (more than 47 kilohms)
2	Video inpt	Composite 1 Vp-p, sync negative, 75 ohms
3	NC	_
4	NC	_
5 GND	GND	
6	GND	GND
7	NC	_
8	NC	_

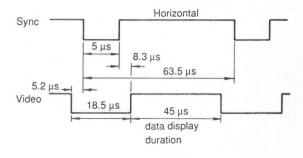
#### S VIDEO

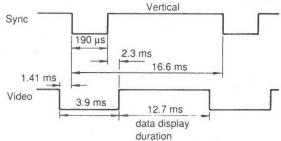
#### (Y/C separate) IN connector (4-pin)



Pin No.	Signal	Description
1	Y-input	1 Vp-p, sync negative, 75 ohms
2	CHROMA sub-carrier-input	0.286 Vp-p, burst 75 ohms
3 GND for Y-input		GND
4	GND for CHROMA-input	GND

#### **Timing chart**





#### TABLE OF CONTENTS

1.	GENERAL	5.	ELECTRICAL ADJUSTMENT
1-1.	Location and Function of Controls5	5-1.	
1-2.	System Connections ······ 10	5-2	
1-3.	Operation 15	5-3	
1-4.	Using the Programmable Remote Commander ······ 22	5-4.	. H3 Board Adjustment 42
2.	DISASSEMBLY	6.	DIAGRAMS
2-1.	Picture Tube Removal · · · · 29	6-1.	Block Diagrams
2-2.	Service Position · · · · 30	6-2	
		6-3	Printed Wiring Boards and Schematic Diagrams — Conductor Side —
3.	SET-UP ADJUSTMENTS	6-4	
3-1.	Beam Landing Adjustment ······ 31		
3-1-	1. Beam landing	7.	EXPLODED VIEWS
3-2.	Convergence Adjustment····· 32		
3-2-	Horizontal and vertical static convergence	7-1.	*
	at screen center adjustment (static convergence) ··· 32	7-2.	
3-2-2	Screen peripheral convergence     (dynamic convergence adjustment)	7-3.	Picture Tube 83
3-3.	Focus Adjustment		
3-4.	G2, White Balance Adjustment	8.	ELECTRICAL PARTS LIST 82
	1. G2 adjustment ······ 33	0.	
	2. White balance adjustment ······ 34		
	Distribution a depth and the section of well		

#### WARNING !!

SAFETY RELATED ADJUSTMENTS ...... 36

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.

THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

#### SAFETY-RELATED COMPONENT WARNING!

COMPONENTS IDENTIFIED BY SHADING AND MARK 

ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

#### ATTENTION!!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE.
LE CHÁSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

# ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!

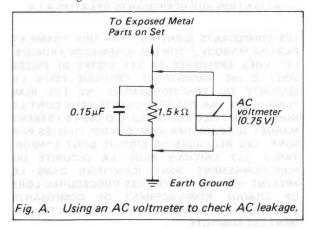
LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE IS SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

# SAFETY CHECK-OUT

(US Model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

- Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
- 2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
- 3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
- 4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
- Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
- Check the line cord for cracks and abrasion.
   Recommend the replacement of any such line cord to the customer.
- Check the condition of the monopole antenna (if any).
  - Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
- Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
- Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.



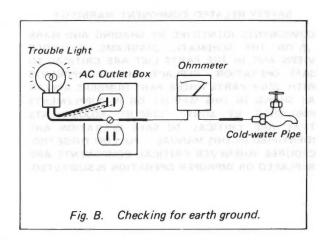
#### LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

- A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
- A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
- 3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

#### HOW TO FIND A GOOD EARTH GROUND

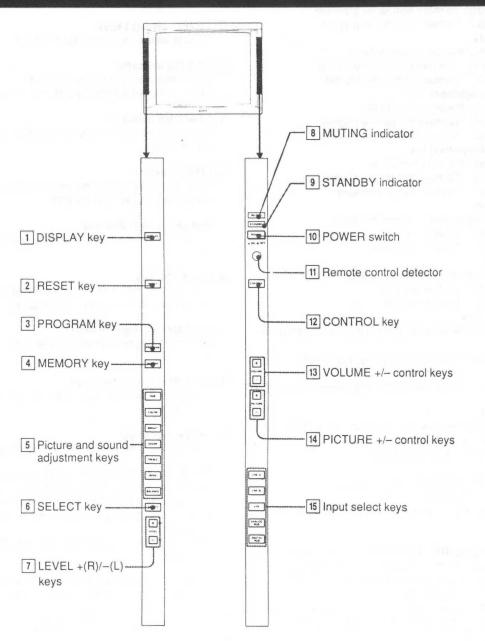
A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60–100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)



# SECTION 1 GENERAL

#### 1-1. LOCATION AND FUNCTION OF CONTROLS

# **Front Panel**



After the power is turned on, press the CONTROL key to illuminate the control keys or indicators.

The following control keys are effective only when MANUAL CONTROL switch on the rear panel is set to ON.

#### 1 DISPLAY key

Press repeatedly to display on the screen the current level of each control.

Press once to display: PICTURE/HUE/COLOR/BRIGHT/ SHARP/VOLUME/TREBLE/BASS/BALANCE

Press twice to display: SYNC/VNR/NOTCH/D.COL/INPUT ID

Press again to make the on-screen display disappear.

#### 2 RESET key

Press to reset the level of HUE/COLOR/BRIGHT/ SHARP/TREBLE/BASS/BALANCE to the standard setting. "STD" is displayed on the screen. RESET does not function on PICTURE and VOLUME levels.

#### 3 PROGRAM key

Used for storing the adjusted picture and sound levels in a program memory.

Press to recall the stored program.

#### 4 MEMORY key

Press to store the data in a program.

#### 5 Picture and sound adjustment keys

Press to adjust the picture and sound level. To adjust each item, first press the desired key, then change the level with the LEVEL +(R)/-(L) keys.

#### HUE\* key

Press to adjust the hue level.

LEVEL +(R): To make skin tones greenish LEVEL -(L): To make skin tones purplish

#### COLOR\* key

Press to adjust the color intensity level.

LEVEL +(R): To make color intensity vivid

LEVEL -(L): To make color intensity pale

# BRIGHT\* (brightness) key

Press to adjust the brightness level.

LEVEL +(R): To make the picture brighter

LEVEL –(L): To make the picture darker

#### SHARP\* (sharpness) key

Press to adjust the sharpness level.

LEVEL +(R): To make the picture sharper

LEVEL -(L): To make the picture softer

#### TREBLE\* key

Press to adjust the treble (high tone) level.

LEVEL +(R): To increase treble

LEVEL -(L): To decrease treble

#### BASS\* key

Press to adjust the bass (low tone) level.

LEVEL +(R): To increase bass LEVEL -(L): To decrease bass

#### **BALANCE\*** key

Press to adjust the balance of the right and left speakers' output.

LEVEL +(R): To emphasize the right speaker's volume

LEVEL -(L): To emphasize the left speaker's volume

#### 6 SELECT key

Press this button repeatedly until the on-screen display of the item you want to adjust appears.

The display will change as follows:

$$\begin{array}{c} \mathsf{SYNC} \to \mathsf{VNR} \to \mathsf{NOTCH} \to \mathsf{D}.\ \mathsf{COL} \end{array}$$

Press LEVEL +(R)/-(L) keys to adjust the selected item.

#### SYNC

Normally, set to **INT**. The monitor operates on the sync signal provided with the input signal. For ANALOG RGB signals, if a sync signal is provided on the G-signal, the monitor operates on this signal.

Set to EXT when operating the monitor on an external sync signal fed through the EXT SYNC connector on the rear panel.

#### VNR (Video noise reducer)

Normally set to **OFF**. For noise reduction, set the level to **LOW** or **HIGH**.

#### NOTCH (Notch filter)

Normally set to **OFF**. If dots or stripes appear while watching a picture from a composite video source, set to **ON**.

This control is not effective on the S video input signals.

#### D.COL (New dynamic color)

Normally set to **ON**, which makes it possible to obtain natural skin tone and "blueish white". To add a touch of red to the white part of the picture, set to OFF.

SELECT key is also used for INPUT ID function.

#### 7 LEVEL +(R)/-(L) kevs

Used to adjust the level of each control.

#### 8 MUTING indicator

Illuminates while the sound is muted.

Muting is controlled only by a Remote Commander.

#### 9 STANDBY indicator

Illuminates when the power is turned off by the Remote Commander.

#### 10 POWER switch

Press this switch to turn the monitor on  $( \square ON)$ . Press again to turn it off  $( \square OFF)$ .

#### 11 Remote control detector

The beam from the Remote Commander is received here.

#### 12 CONTROL key

Press this key to illuminate the keys and indicators on the front panel. Press again to extinguish them.

#### 13 VOLUME\* +/- control keys

Press the + key to raise the volume or the - key to lower it.

# 14 PICTURE\* +/- control keys

Press the + key to increase picture contrast or - to decrease it.

#### 15 Input select keys

Press to select the program to be monitored.

LINE A: for a signal from the LINE A connectors.

LINE B : for a signal from the LINE B connectors.

VTR: for a signal from the 8-pin VTR connector.

ANALOG RGB: for a signal from the ANALOG RGB connectors.

DIGITAL RGB : for a signal from the DIGITAL RGB connectors.

The picture and sound adjustment levels are digitally displayed on the screen. Each adjustment has a range as follows:

# HUE/COLOR/BRIGHT/SHARP/TREBLE:

MIN, -30, -29, ..., STD, ..., +30, +31, MAX

· BALANCE:

L MAX, L30, L29, ..., STD, ..., R30, R31, R MAX

• PICTURE/VOLUME:

MIN, 1, 2, ..., 61, 62, MAX

#### Note

When the input signal is ANALOG RGB, DIGITAL RGB, or S video, the following controls do not function.

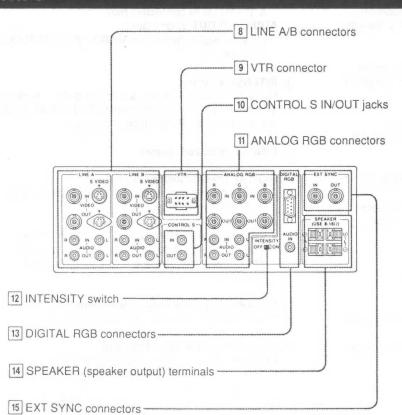
ANALOG RGB: HUE, COLOR, SHARP, VNR, NOTCH, and D COL

DIGITAL RGB: HUE, COLOR, SHARP, SYNC, VNR, NOTCH, and D.COL

S video: NOTCH

line is

# 1 SPEAKER OUT switch 2 NEW DYNAMIC PICTURE switch 3 V. HOLD control 4 H. CENTER (DIGITAL RGB) control 5 DEGAUSS button 6 REMOTE CONTROL switch 7 MANUAL CONTROL switch



#### 1 SPEAKER OUT switch

Normally set to ON. If this switch is set to OFF, the sound is not output from the speaker output.

#### 2 NEW DYNAMIC PICTURE switch

Normally set to ON for enhanced picture contrast. Set to OFF for less picture contrast and natural reproduction of the detail in dark area. This function is not effective on the RGB input signals.

#### 3 V. HOLD (vertical hold) control

When the picture rolls vertically, correct it with this control.

# 4 H. CENTER (DIGITAL RGB) (horizontal centering) control

When the picture of DIGITAL RGB input is distorted horizontally, correct it with this control.

#### 8 LINE A/B connectors

#### S VIDEO IN (4-pin)

Connect to the S video output of a video equipment.

#### S VIDEO OUT (4-pin)\*

Loop-through output of the S VIDEO OUT connector. Connect to the S video input of a video equipment or another monitor.

#### VIDEO IN (BNC type)

Connect to the video output of video equipment. For a loop-through connection, connect to the video output of another monitor.

#### VIDEO OUT (BNC type)

Loop-through output of the VIDEO IN connector. Connect to the video input of a video equipment or another monitor.

#### Note

The VIDEO IN connector is disconnected automatically when a cable is connected to the S VIDEO connector.

#### AUDIO L/R IN (phono jack)

Connect to the audio outputs of a video equipment.

#### AUDIO L/R OUT (phono jack)

Loop-through outputs of the AUDIO L/R IN jacks. Connect to the audio inputs of a video equipment or another monitor.

#### 9 VTR input connector (8-pin)

Connect to a VTR with an 8-pin connector.

#### 10 CONTROL S IN/OUT jacks (minijack)

Connect to the CONTROL S jacks of a VTR or several monitors.

It is then possible to control the system with a single Remote Commander.

#### 5 DEGAUSS button

Push this button to demagnetize the screen. Wait for about 10 minutes before activating this button again.

#### 6 REMOTE CONTROL switch

Set this switch to ON to control the monitor with a Remote Commander. If this switch is set to OFF, remote control detector does not function. However, when control S connection is made, remote control through other monitor or video equipment is possible.

#### 7 MANUAL CONTROL switch

Normally set to ON. To prevent manual control of the control keys on the front panel, set to OFF.

In this case, all indications on the front panel and displays on the screen are extinguished.

However, remote control is possible (except the SELECT, DISPLAY, and MEMORY buttons) if the REMOTE CONTROL switch is set to ON.

#### 11 ANALOG RGB connectors

#### R/G/B IN (BNC type)

Connect to the RGB outputs of a video equipment.

#### R/G/B OUT (BNC type)\*

Loop-through outputs of the R/G/B/ IN connectors. Connect to the RGB inputs of another monitor.

#### AUDIO L/R IN (phono jack)

Connect the audio outputs of the equipment connected to the R/G/B IN connectors here.

#### AUDIO L/R OUT (phono jack)

Loop-through output of the AUDIO L/R IN (ANALOG RGB) jacks.

#### 12 INTENSITY switch

Normally set to OFF. When a microcomputer provided with intensity output is connected to the DIGITAL RGB connector, set to ON for 16-color display.

#### 13 DIGITAL RGB connectors

#### **DIGITAL RGB connector** (9-pin)

Connect with a microcomputer having a digital (TTL level) RGB video output.

#### AUDIO IN jack (monaural)(phono jack)

Connect to the audio output of an audio source to listen to the sound from the connected audio source while viewing the picture from the DIGITAL RGB connector.

#### 14 SPEAKER (speaker output) terminals

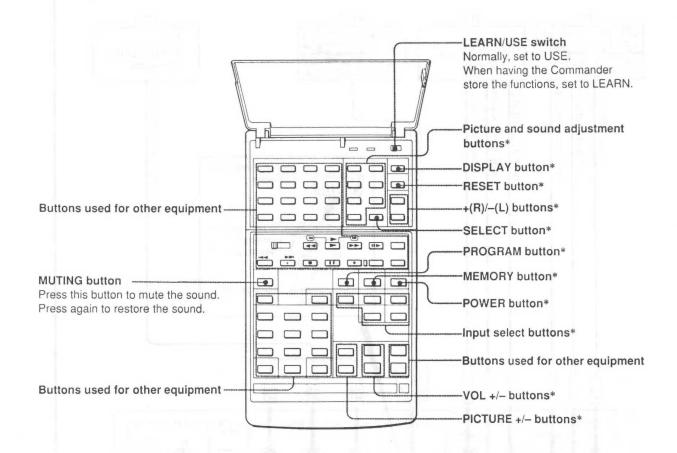
Connect to speakers with 8 to 16 ohms impedance.

#### 15 EXT SYNC connectors (BNC type)

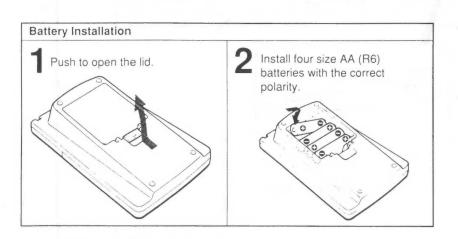
IN: Connect to the output of a sync generator.
To monitor the sync signal fed through this connector, set SYNC to EXT.

OUT\*: Loop-through output of the EXT SYNC IN connector. Connect to the SYNC input of a VTR or a video camera.

# **Programmable Remote Commander RM-785**

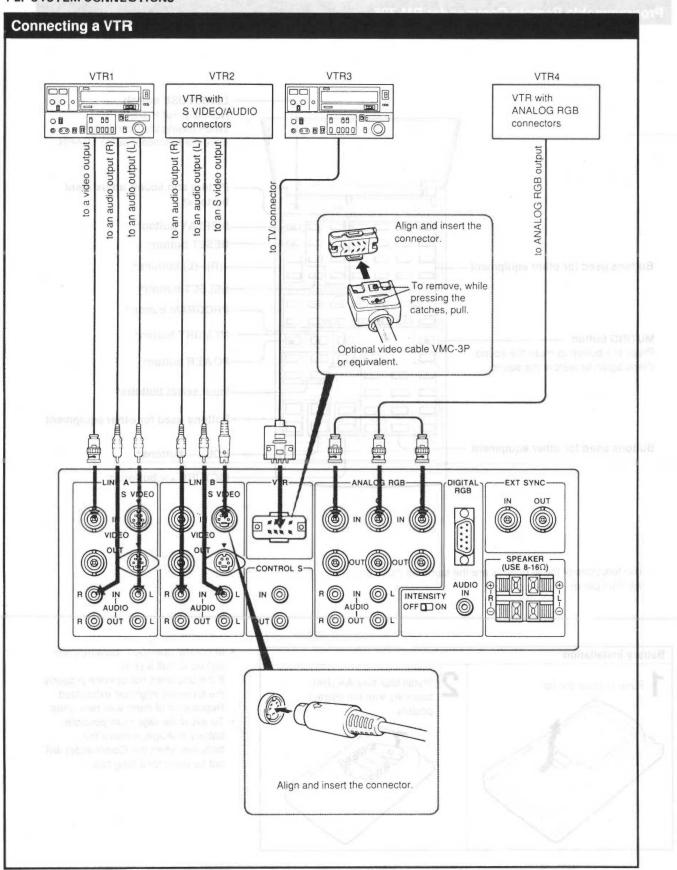


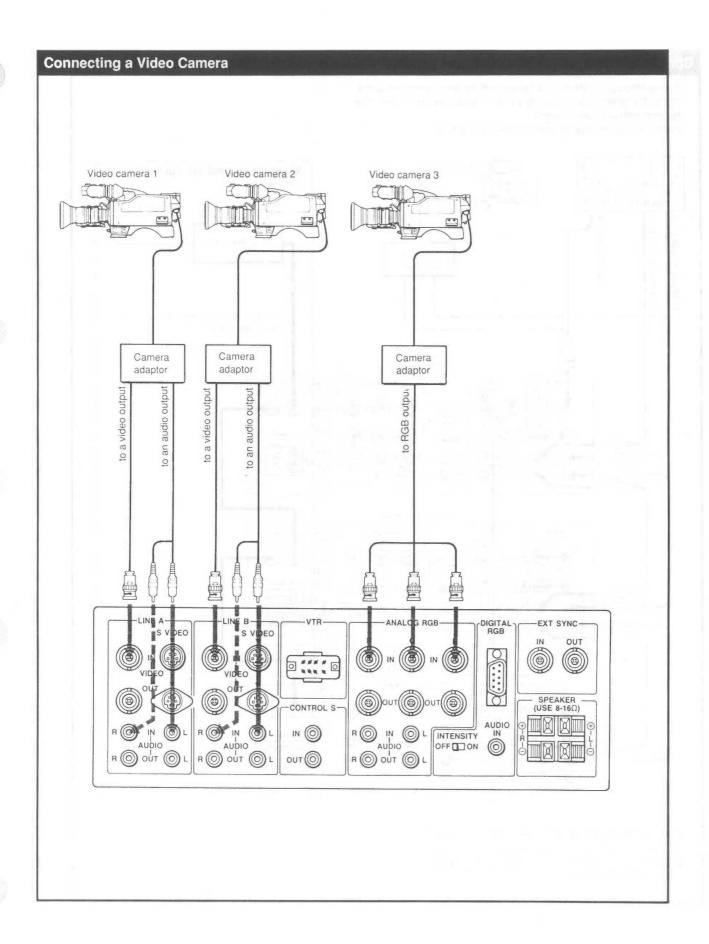
\* The functions of these buttons are the same as those on the front panel

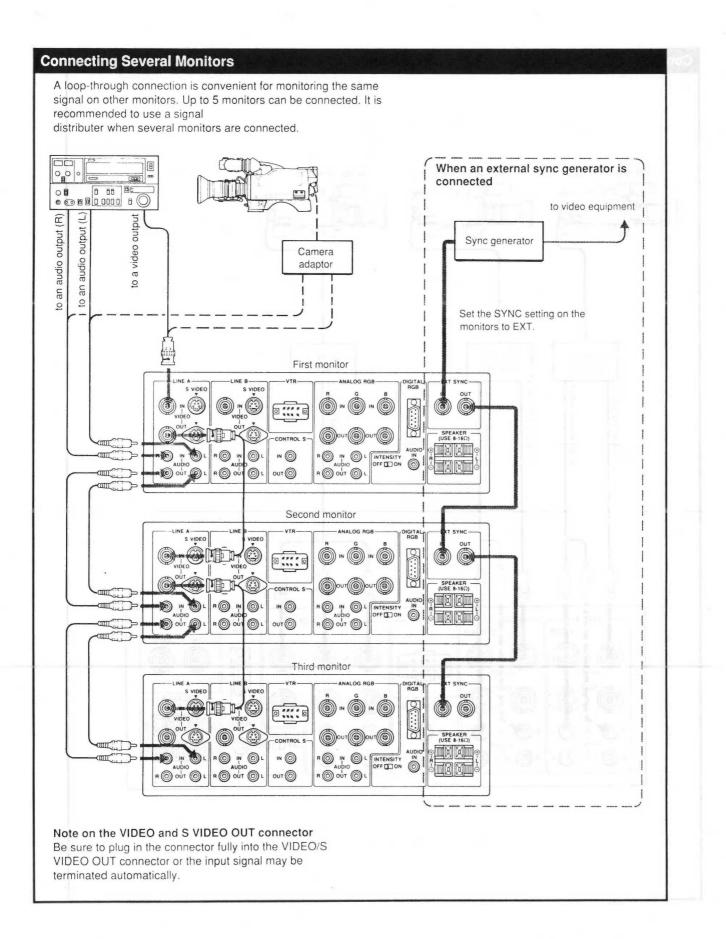


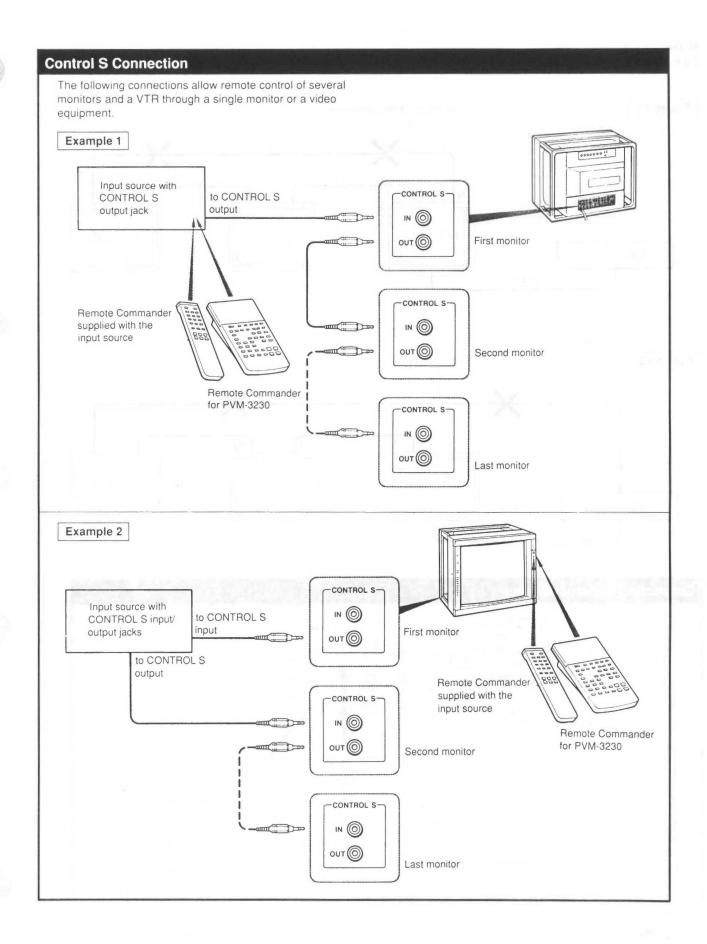
- In normal operation, batteries will last up to half a year.
   If the unit does not operate properly, the batteries might be exhausted.
   Replace all of them with new ones.
- To avoid damage from possible battery leakage, remove the batteries when the Commander will not be used for a long time.

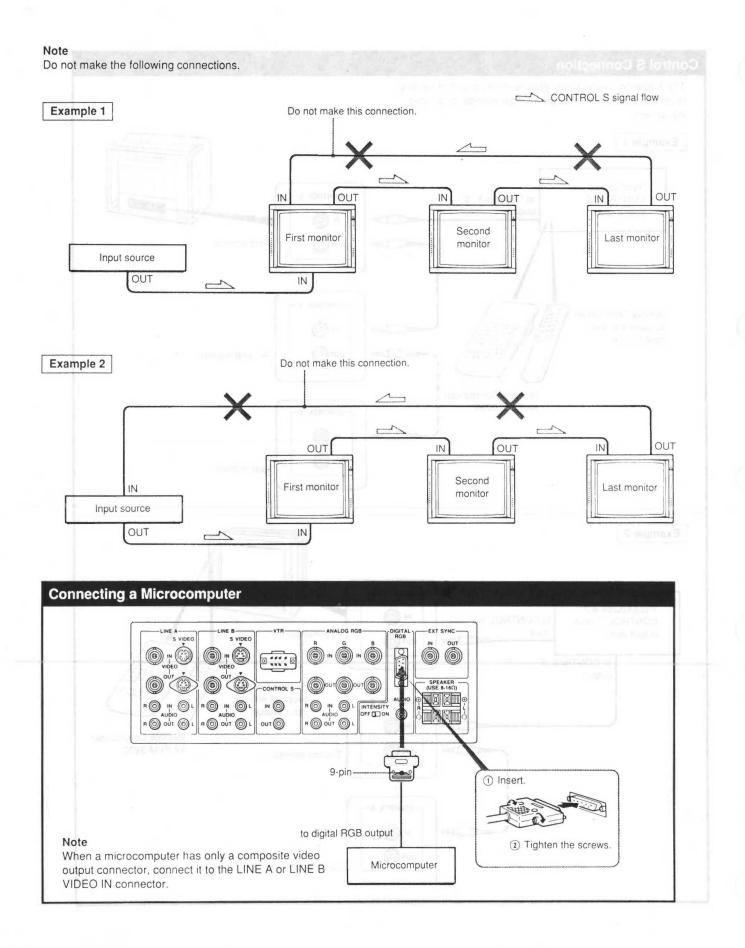
#### 1-2. SYSTEM CONNECTIONS



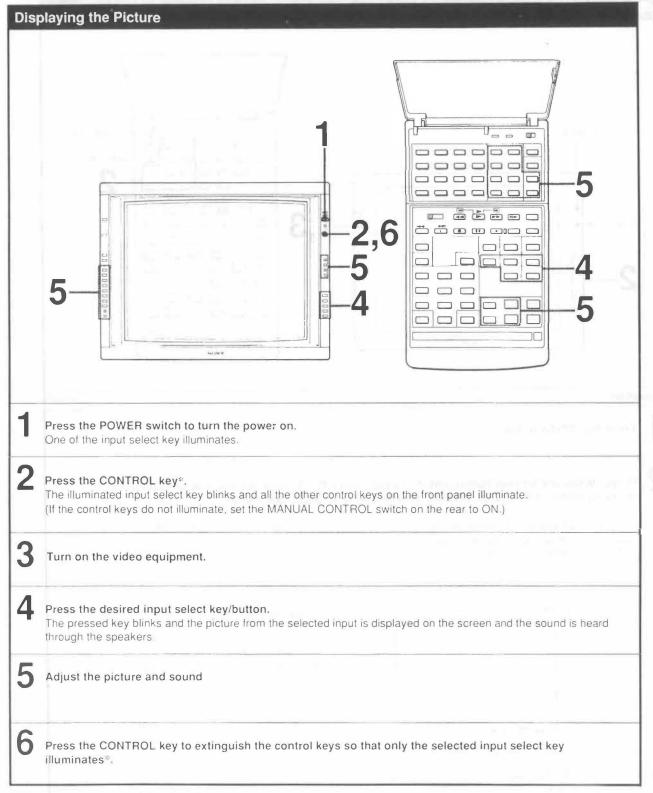








#### 1-3. OPERATION



Not necessary when operating with the Remote Commander.

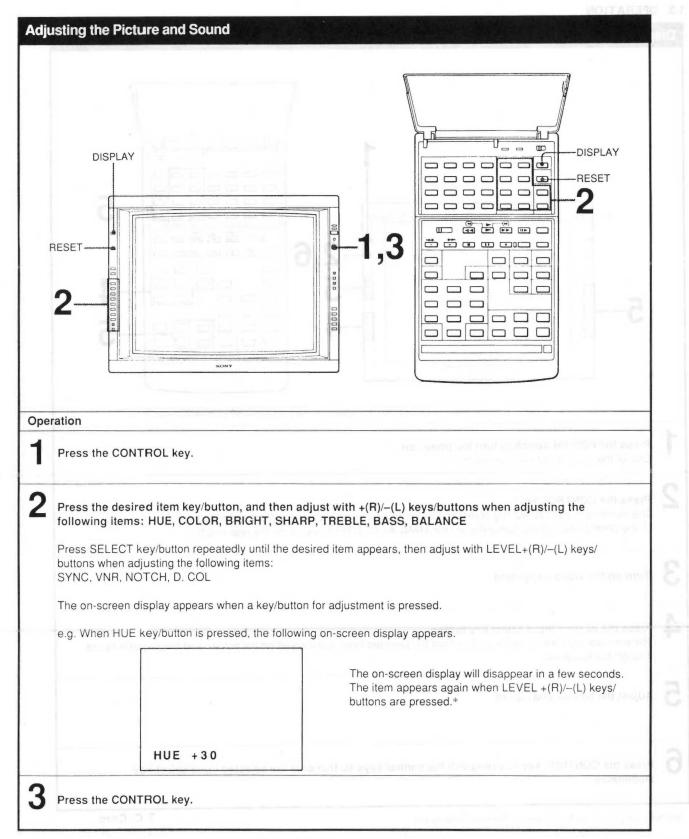
# To turn the power off

Press the POWER button on the Remote Commander to turn off the unit for short periods of time. The STANDBY indicator illuminates.

Turn the power off completely by pressing the POWER switch on the unit if is not going to be used for a long time.

#### Note

The color may be unstable for a few seconds after the power is turned on. This is caused by the CRT beam current feedback circuit, and is not a malfunction of the monitor.



Press the item button first, and then adjust with LEVEL +(R)/-(L) buttons on the Remote Commander when the MANUAL CONTROL switch is set to OFF.

#### Displaying all adjustment items on the screen

Press the DISPLAY key/button.

The adjustment items and their level appear on the screen.

Press once to display: PICTURE/HUE/COLOR/

BRIGHT/SHARP/ VOLUME/TREBLE/BASS/

BALANCE

PIC 30 VOL 14 HUE STD TRE STD COL +28 BAS +30 BRT -22 BAL STD SHP STD

Press twice to display: SYNC/VNR/NOTCH/

D.COL/INPUT ID

SYNC INT VNR OFF NOTCH ON D.COL OFF INPUT ID

Press again to make the on-screen display disappear.

Restoring the factory preset adjustment levels

Press RESET key/button.

The factory preset levels appear on the screen. (RESET does not function on PICTURE and VOLUME controls.)

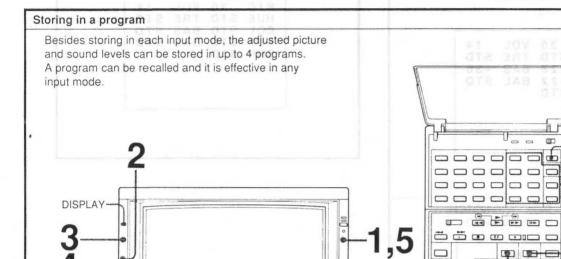
RESET
PIC 30 VOL 14
HUE STD TRE STD
COL STD BAS STD
BRT STD BAL STD
SHP STD

# Storing the Adjusted Picture and Sound Levels

#### Storing in each input mode

The picture and sound levels will be stored for each input mode (LINE A, LINE B, VTR, ANALOG RGB, or DIGITAL RGB) they were adjusted on.

The adjustment levels will be retained until they are adjusted again.



Press the CONTROL key to illuminate the control keys on the front panel.

Press the PROGRAM key/button repeatedly until the PROGRAM number in which to store the picture and sound levels appears.

Program number will change as follows:

PROGRAM 1 → PROGRAM 2 → PROGRAM 3 → PROGRAM 4

#### Note

When there is no indication on the screen, "PROGRAM 1" always appears first whenever the PROGRAM key/button is pressed.

PROGRAM 1

-DISPLAY

Adjust the picture and the sound levels. The following are the items which can be stored in a program. **PICTURE** SYNC HUE VNR NOTCH COLOR D.COL BRIGHT SHARP TREBLE BASS BALANCE To check the current level of each control, press DISPLAY key/button. Press the MEMORY key/button. PROGRAM indication turns red. After a few seconds, the indication will turn back to white, which confirms that storing was successfully completed. Press the CONTROL key.

To change the programmed adjustment levels
Press the PROGRAM key/button to choose the program
number to be changed. Readjust the picture and sound
levels. Be sure to press MEMORY after the adjustment is
done.

To restore the original picture and sound levels
Press the selected input select key/button again.
The levels are also restored when the power is turned off completely and then on with the POWER switch on the unit.

To check the programmed adjustment levels
Press the PROGRAM key/button to select the desired
program number, then press the DISPLAY key/button.

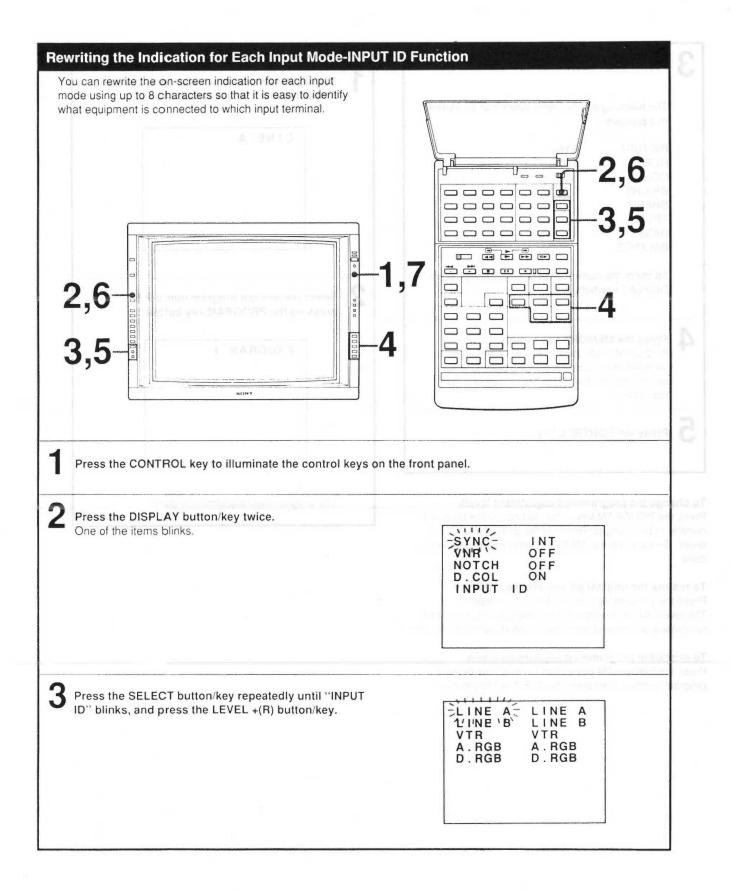
Display the desired input source by pressing one of the input select keys/buttons.

LINE A

Select the desired program number by pressing the PROGRAM key/button.

PROGRAM 1

The programmed adjustment is done.



4 Select the input mode you want to rewrite by pressing one of the input select keys/buttons.

The selected input mode blinks.

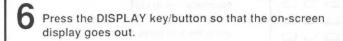
LINE AT LINE A
1/INE B LINE B
VTR VTR
A.RGB A.RGB
D.RGB D.RGB

Press the SELECT key/button, then the LEVEL +(R)/-(L) keys/buttons to select the first letter or number. The letters and numbers change as follows when the LEVEL +(R) is pressed:

$$A - Z \rightarrow 0 - 9 \rightarrow blank \rightarrow - (hyphen) \rightarrow .(period)$$

Press LEVEL -(L) for reverse direction.

After the desired letter or number is selected, press SELECT key/button to go on to the next position. Up to 8 characters can be stored.



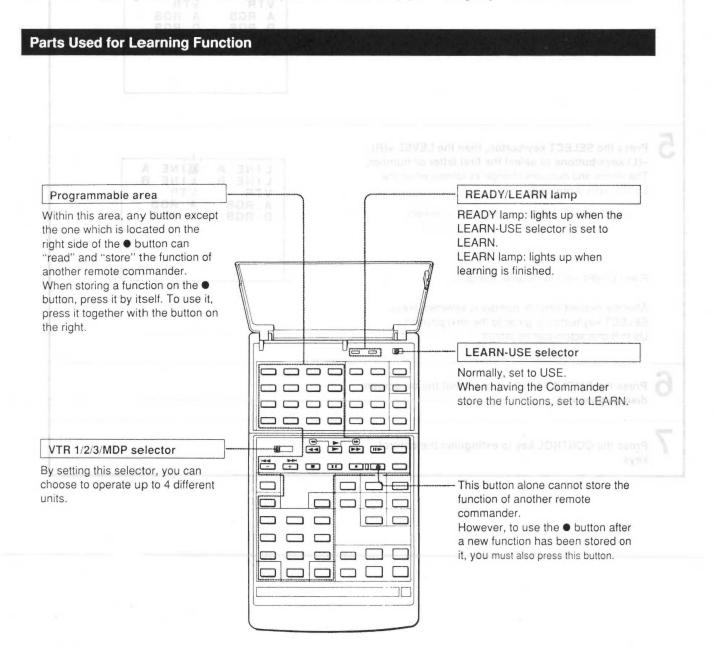
Press the CONTROL key to extinguish the control keys.

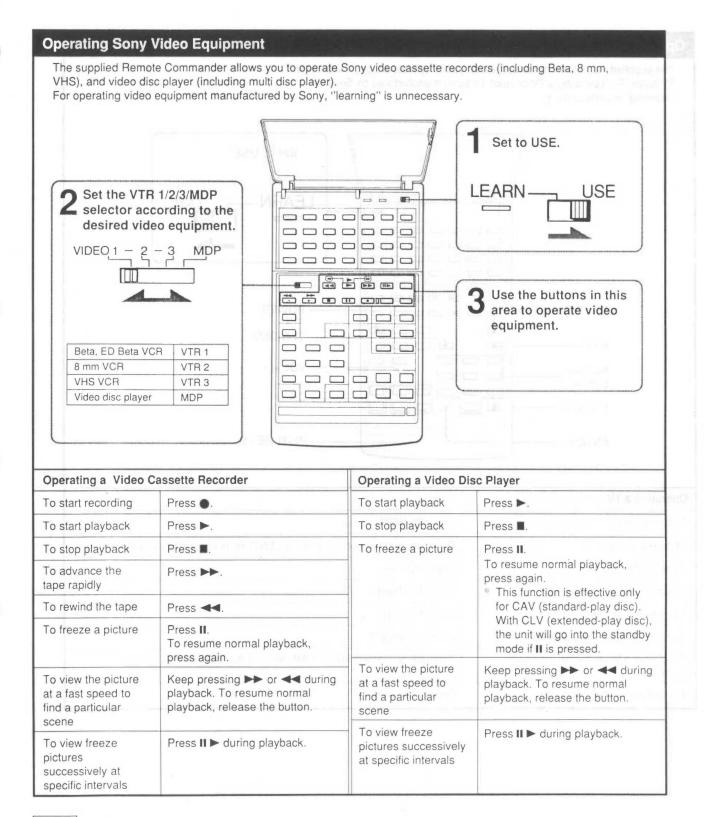
LINE A - HNE A LINE B LINE B VTR VTR A.RGB A.RGB D.RGB D.RGB

#### 1-4. USING THE PROGRAMMABLE REMOTE COMMANDER

The supplied RM-785 Remote Commander allows you to operate other Sony video equipment having an infrared remote control detector. Furthermore, it can "read" and "store" the functions of another remote commander having an infrared beam transmitter, not only those made by Sony but also those of other manufacturers as well.

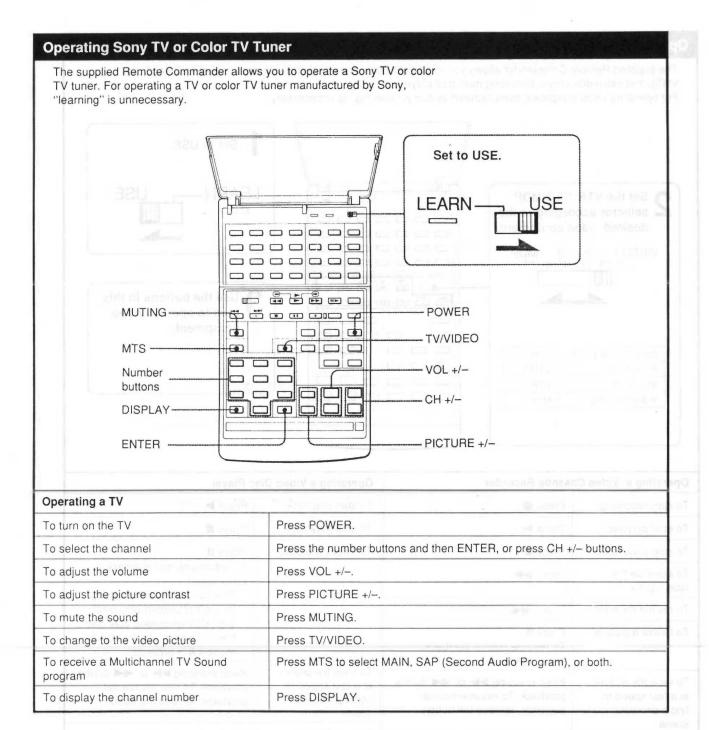
Thanks to this "learning" function, you can operate your audio and video equipment using only one Remote Commander.





#### Notes

- If your video equipment is furnished with a VTR selector, set the selector to the same position with the VTR 1/2/3/ MDP selector on the RM-785.
- If the equipment does not have a certain function, the corresponding button on the RM-785 is not effective.

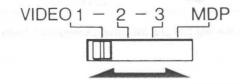


# Operating Audio Video Equipment of Other Manufactures, or Sony Audio Equipment

Within the programmable area, any button can store the function of the remote commander supplied with other manufacturer's equipment or Sony audio equipment.

A button can store a function having no relation to its name on the RM-785.

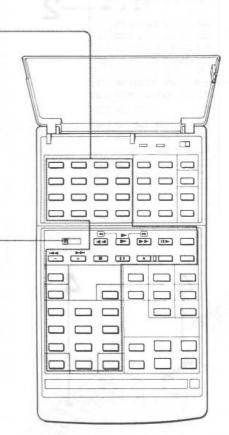




Up to four functions can be stored for each button by switching this selector.

For your convenience:

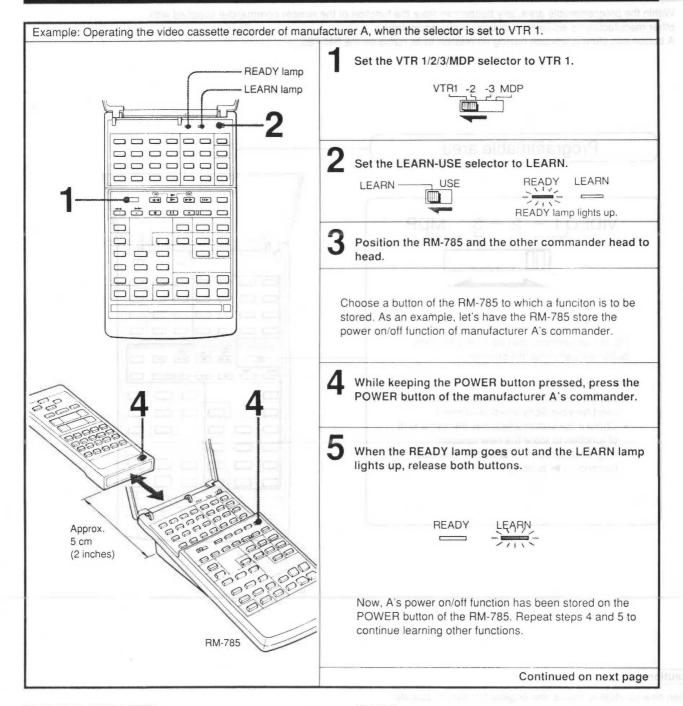
- Set the selector to the position which is not used for your Sony video equipment.
- Choose the button which has the same kind of function to store the new function.
   (e.g. Stop function → button, playback function → ▶ button.)



#### Caution

When new function is stored, the original function to operate Sony video equipment is cleared from the button. After you clear the stored function, the button functions for Sony equipment again.

# How to Use the Learning Function

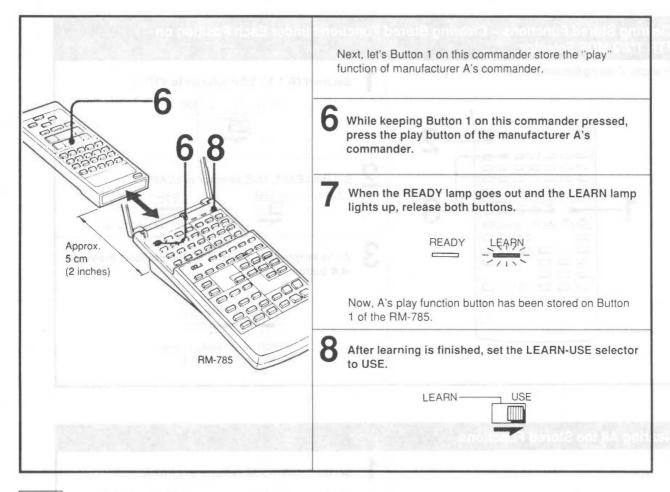


#### For accurate learning

- Be sure that these commanders are positioned head to head exactly aligned, and approx. 5 cm (2 inches) apart.
- Do not move the commanders during the learning process.

#### Note

Both READY and LEARN lamps light up if the function has not been stored. Try again from step 3.

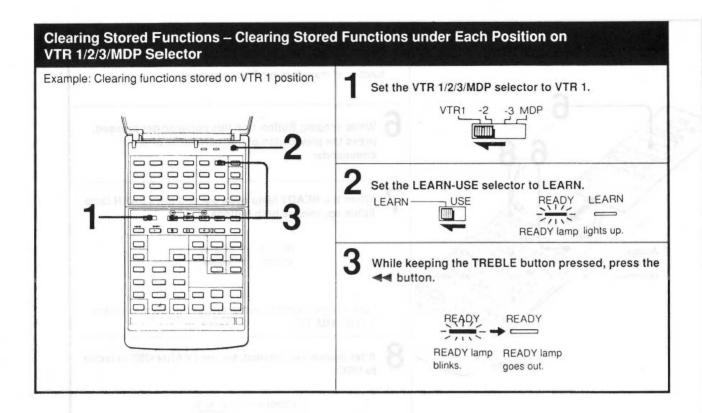


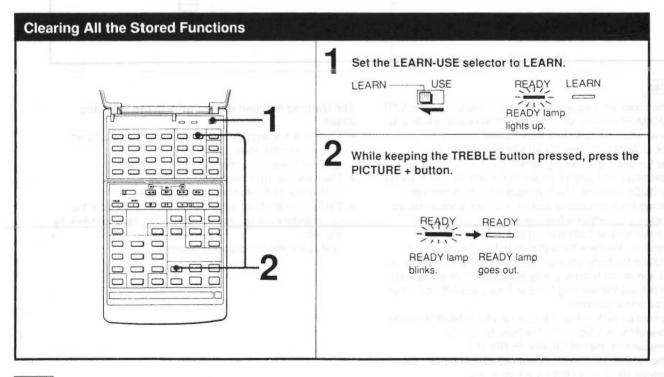
#### Notes

- When operating equipment with stored functions, the VTR 1/2/3/MDP selector should be set to the same position as it was when the functions were stored.
   The LEARN-USE selector should be set to USE.
- The functions of other equipment can be stored by repeating these steps for each of the positions of the VTR 1/2/3MDP selector. Use the supplied index sheets by placing them on buttons and writing the names of stored functions for further reference.
- The batteries will last about half a year with normal operation. Replace the batteries before they wear out.
- Replace the batteries within approximately 30 minutes. If not, the stored functions may be erased from the buttons.
- Do not use the learning function for equipment other than audio and video ones.
- Be sure to confirm that the functions have been stored as a few of the functions of other manufacturer's commanders are not storable on RM-785.
- When you have stored a new function on a button, the previous function is cleared automatically.

The learning function will not work in the following cases:

- There is a fluorescent lamp or equipment with infrared rays which emit noise.
  - → Move the commanders away from them.
- The batteries are exhausted.
  - → Replace all the batteries with new ones.
- There is an obstacle between the commanders, or the commanders are not positioned head to head and exactly aligned.
  - → Position the commanders properly.



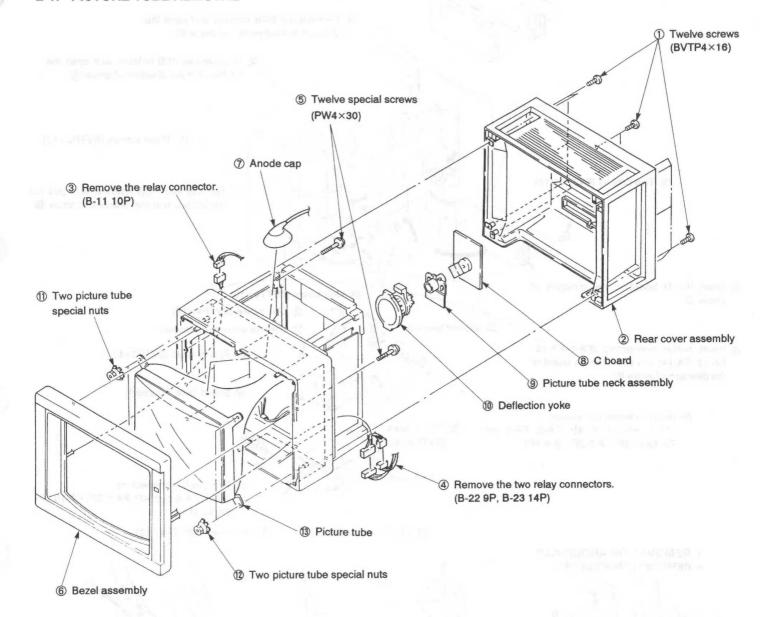


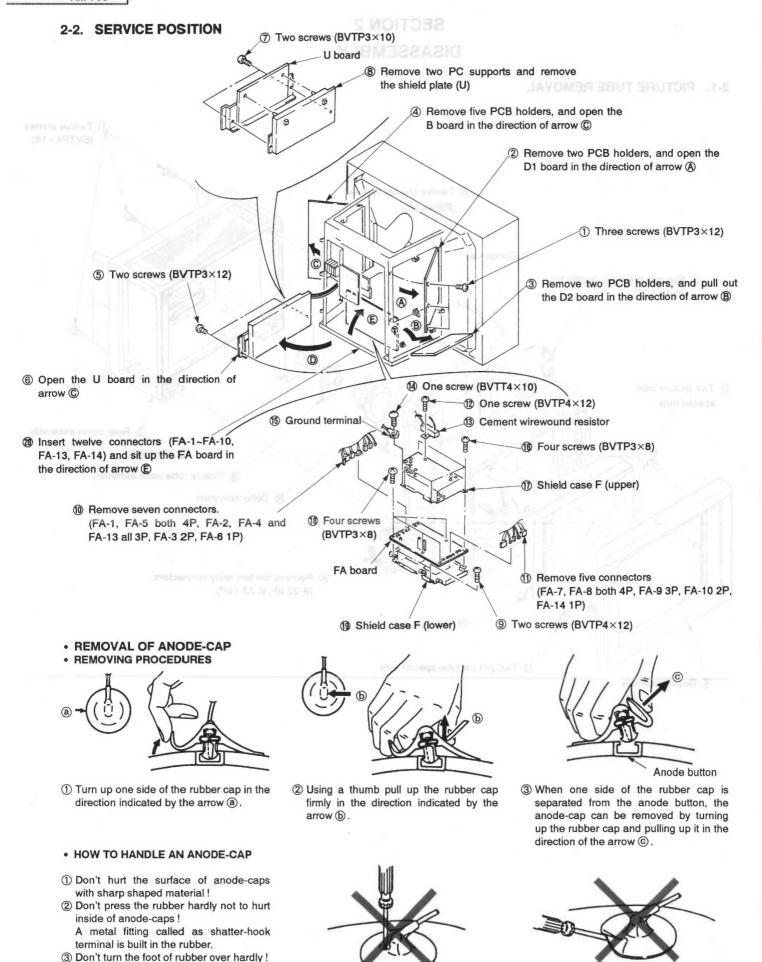
Note

After clearing stored functions, the buttons function for Sony video equipment again.

# SECTION 2 DISASSEMBLY

# 2-1. PICTURE TUBE REMOVAL





The shatter-hook terminal will stick out

or hurt the rubber.

# SECTION 3 SET-UP ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switches should be set as follows unless otherwise

PICTURE button ...... Standard BRIGHTNESS control ..... Standard

Perform the adjustments in order as follows:

- 3-1. Beam Landing Adjustment
- 3-2. Convergence Adjustment
- 3-3. Focus Adjustment
- 3-4. G2, White Balance Adjustment

Note: Test Equipment Required.

- 1. Color bar pattern generator
- 2. Degausser

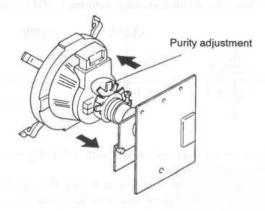
#### 3-1. BEAM LANDING ADJUSTMENT

#### Preparation:

- Direct the unit to the East or West to escape the influence of earthy magnetism.
- 2. Turn on the power and demagnetize with degausser.

#### 3-1-1. Beam Landing

- Receive an all white signal and set PICTURE button to maximum.
- 2. Position the neck assembly as shown in the figure. (Fig. 3-1.)
- 3. Adjust roughly the focus and horizontal convergence.
- 4. Loosen the deflection yoke bracket, and set purity control to the center. (Fig. 3-2.)
- 5. Set the pattern generator to all red signal.
- 6. Move the deflection yoke backward. Turn the purity magnets evenly so that red is in the center. (Fig. 3-3.)
- 7. Move the deflection yoke forward so that the entire screen becomes red. (In the same way of procedures, 5 through 7, adjust blue and green.)
- 8. When comer landing is not adjusted correctly, fine-adjust with magnets. (Fig. 3-4.)
- 9. When the deflection yoke position is adjusted correctly, tighten it with a bracket.



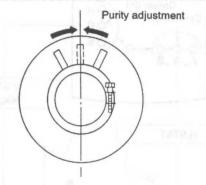


Fig. 3-1.

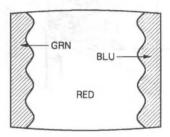


Fig. 3-2.

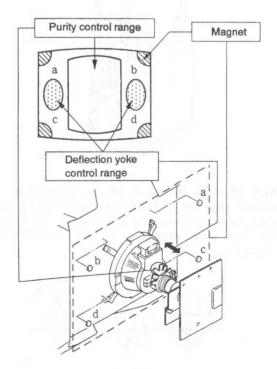
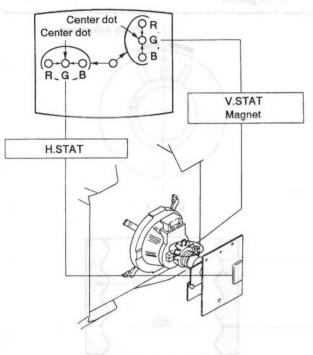


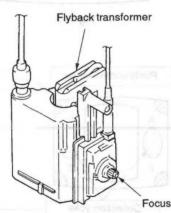
Fig. 3-3.

# 3-2. CONVERGENCE ADJUSTMENT

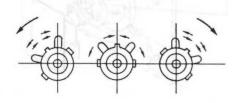
# 3-2-1. Horizontal and Vertical Static Convergence at Screen Center Adjustment (Static Convergence)

- 1. Receive a dot signal and set PICTURE button to standard.
- Overlap red, green and blue dots at the center of screen (horizontally) with H.STAT VR.
- Overlap red, green and blue dots at the center of screen (vertically) with H.STAT VR.

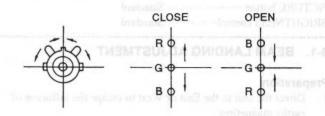




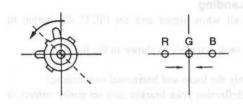
\* When horizontal movement dots do not coincide within variable range of H.STAT VR, use V.STAT magnet simultaneously while tracking tracking. (Tilt V.STAT magnet and adjust static convergence to open or close V.STAT magnet.)



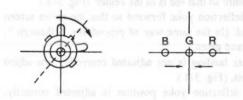
- 4. When the V.STAT magnet is moved in the direction of arrow, red, green and blue dots move as shown below.
- ① Movement when opening or closing V.STAT magnet.



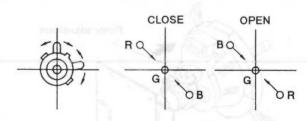
2 Movement when tilting V.STAT magnet to counterclockwise.



3 Movement when tilting V.STAT magnet to clockwise.

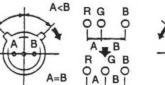


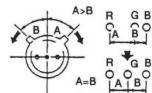
4 Movement when tilting, opening or closing V.STAT magnet.



- \* When blue dot does not overlap with red and green dots, correct with BMC magnet.
- 5. HMC and VMC correction with BMC (6-pole) magnet
- ① BMC magnet HMC (horizontal misconvergence) correction and electronic beam movement

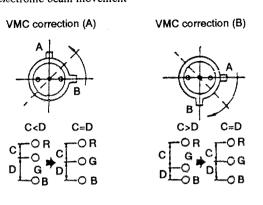
HMC correction (A)

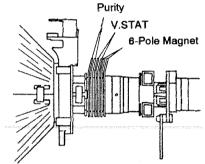




HMC correction (B)

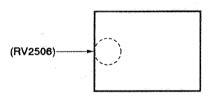
② BMC magnet VMC (vertical misconvergence) correction and electronic beam movement



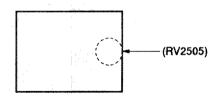


# 3-2-2. Screen Peripheral Convergence (Dynamic Convergence Adjustment)

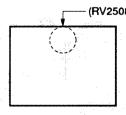
- 1. Confirm that horizontal convergence of screen center is adjusted. If not, adjust with H.STAT VR on the C board.
- 2. Adjust convergence of left screen center with L.A (RV2506) on the D2 board.



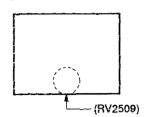
3. Adjust convergence of right screen center with R.A (RV2505) on the D2 board.



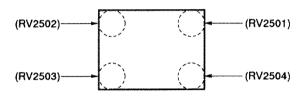
 Adjust convergence of upper screen center with U.Y.B (RV2508) on the D2 board.

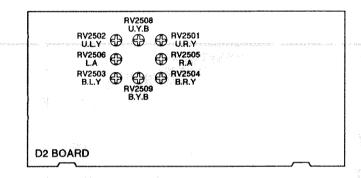


5. Adjust convergence of lower screen center with B.Y.B (RV2509) on the D2 board.



6. Adjust convergences of each screen corner with U.R.Y (RV2501), U.L.Y (RV2502), B.R.Y (RV2504) and B.L.Y (RV2503) on the D2 board.





# 3-3. FOCUS ADJUSTMENT

- 1. Receive on-air broadcast signal.
- 2. Set BRIGHTNESS and SHARPNESS controls to "RESET" position and PICTURE button to maximum.
- Adjust with FBT (T699) FOCUS VR on the FB board.
   (At this time, if adjust focus only at screen center, the magenta ring appears in the center. Adjust magenta ring not to be outstandingly visible.)

# 3-4. G2, WHITE BALANCE ADJUSTMENT

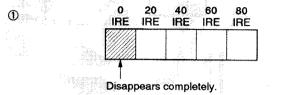
## 3-4-1. G2 Adjustment

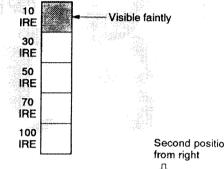
- 1. After remove the connector (C-2) on the C board, apply 170 Vdc to each cathode of Red, Green and Blue.
- 2. Adjust G2 VR (RV701) on the C board so that the flyback mostly disappears on the screen.

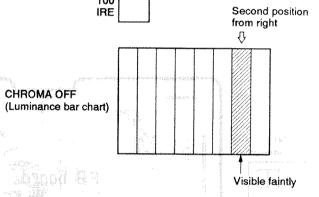
#### 3-4-2. White Balance Adjustment

- Receive the analog RGB signal. Set BRIGHTNESS control to "RESET" and PICTURE button to minimum.
   Adjust white balance with blue cut-off (RV703) and red
- cut-off (RV705).

  3. Set PICTURE button to 70%, and adjust white balance with
- Set PICTURE button to 70%, and adjust white balance with green and blue drive VRs (RV1401, RV1402).
- 4. Repeat from step 2 to step 3.
- 5. Receive a video signal and set to all white pattern. Then press control key and set D.COL (dynamic color) on the control key panel to "OFF".
- 6. Set BRIGHTNESS control to "RESET" and PICTURE button to minimum.
- 7. Adjust Green Black control (RV454) and Blue Black control (RV455) so that the color temperature becomes optimum (9300 °K).
- 8. Set PICTURE button to maximum and set S-BRT VR (RV709) on the C board to mid-rotation.
- Adjust G.GAIN ADJ VR (RV456) and B.GAIN ADJ VR (RV457) so that the color temperature becomes optimum (9300°K).
- 10. Repeat from step 7 to step 9.
- 11. Receive a monoscope signal, and set PICTURE button to minimum and BRIGHTNESS control to "RESET".
- 12. Adjust S-BRT VR (RV709) on the C board so that 0 IRE portion is cut-off and 10 IRE portion obtains the faintly visible raster.









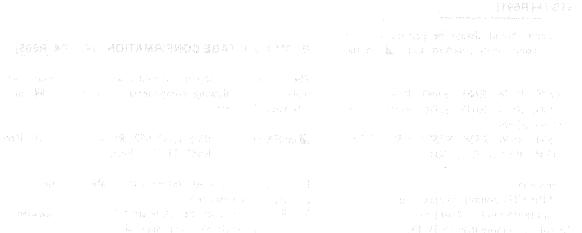












Fig. 1. In anti-professor, who will be a simple considerable that in the same of the considerable considerabl

ti di kulu ka da kangarangan kuluka da kata da kata da kana da kata ka

PVM-3230

# **SECTION 4 SAFETY RELATED ADJUSTMENTS**

CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS (PR691)

The following adjustments should always be performed when replacing the following components (marked with on the schematic diagram).

✓ on FB BOARD: R675, R676, R688, R690, R691, R692, R693, R694, R695, R696, R697, D698, O699, IC699

on D1 BOARD: R534, R536, R538, R1570, C509, D503, D508, D552, IC501, IC504

- 1. Input a monoscope signal.
- 2. Set PICTURE and BRIGHT controls to maximum.
- 3. Connect a digital multimeter to Pin (2) of FB-4 connector.
- 4. Confirm that the voltage is more than 15.3V DC.
- 5. Apply an external DC voltage gradually to TP1 on the FB board, and when the voltage of Pin (2) of FB-4 connector becomes  $18.95^{+0}_{-0.1}$  V DC, confirm the HOLD DOWN circuit operates immediately and raster disappears.
- When the HOLD DOWN circuit starts operating, switch OFF the Power of the set immediately.
- 6. Turn the POWER switch ON, and apply an external DC voltage gradually to TP1, and when the voltage of Pin 2 of FB-4 connector becomes  $17.50^{+0.1}_{-0}$  V DC, confirm the HOLD DOWN circuit does not operate.
- If the HOLD DOWN circuit operate, switch OFF the Power of the set immediately.
- 7. Input a dot signal.
- 8. Set PICTURE and BRIGHT controls to minimum.
- 9. Apply DC voltage to TP1, and when the voltage of Pin (2) of FB-4 connector becomes 19.85 <sup>+0</sup>, V DC, confirm the HOLD DOWN circuit operates immediately and raster disappears.
- When the HOLD DOWN circuit starts operating, switch OFF the Power of the set immediately.
- 10. Turn the POWER switch ON, and apply DC voltage to TP1, and when the voltage of Pin 2 of FB-4 connector becomes 18.40  $^{+0.1}_{-0}$  V DC, confirm the HOLD DOWN circuit does not operate.
- If the HOLD DOWN circuit operate, swithch OFF the Power of the set immediately.
- 11. Input a dot signal.
- 12. Set PICTURE and BRIGHT controls to minimum.
- 13. Confirm that the voltage of TP502 on the D1 Board is more than 133.0V DC.
- 14. Apply an external DC voltage to TP502, and when the voltage becomes 141.68 ± 0.5V DC, confirm the HOLD DOWN circuit operates immediately and raster disappears. When the HOLD DOWN circuit starts operating, switch OFF the Power of the set immediately.
- 15. Turn the POWER switch ON, and when the voltage becomes  $138.50 \pm 0.5 \text{V}$  DC, confirm the HOLD DOWN circuit does not operate.
- If the HOLD DOWN circuit operate, switch OFF the Power of the set immediately.

16. When step 4 to 10 is not satisfied, readjustment should be performed by altering the resistance value of R691 on the FB Board.

# B+ MAX VOLTAGE CONFIRMATION ( R684, R685)

The following adjustments should always be performed when replacing the following components (marked with 
on the schematic diagram).

on FA BOARD: RV651, RV652, R664, R665, R670, R684. R685, TH651, D663, IC602

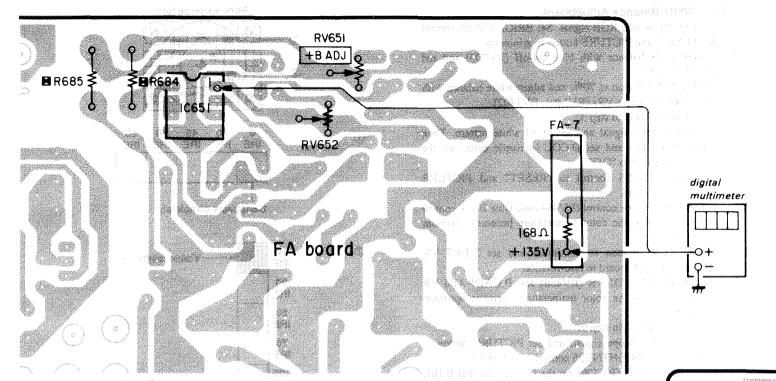
- 1. Supply 130 +2 V AC, 60 Hz with variable auto-transformer.
- 2. Input a monoscope signal.
- 3. Rotate RV651 on the FA board fully counterclockwise (B+ up), and set RV652 to mechanical center.
  - Connect the regulated load to the following power supply
- +B (135V) line: FA-7 Pin (1). 800 mA (168Ω) ...highlight.
- 4. Select temporarily R684 so that B+ voltage becomes about 135V DC.
- 5. Select R685 so that the voltage on Pin (1) of IC651 becomes nearly 3.2 V DC (less than 3.3V DC).
- 6. Rotate RV652 fully clockwise (B+ up).
- 7. Select R684 so that B+ voltage becomes  $137 \pm 1$ V DC.

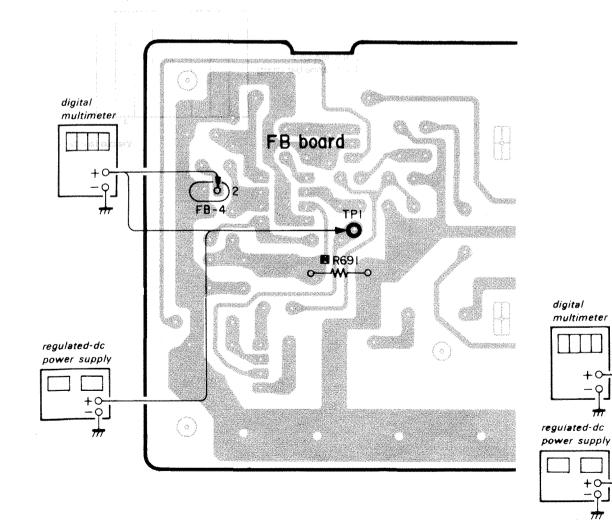
#### B+ ADJUSTMENT (FA BOARD)

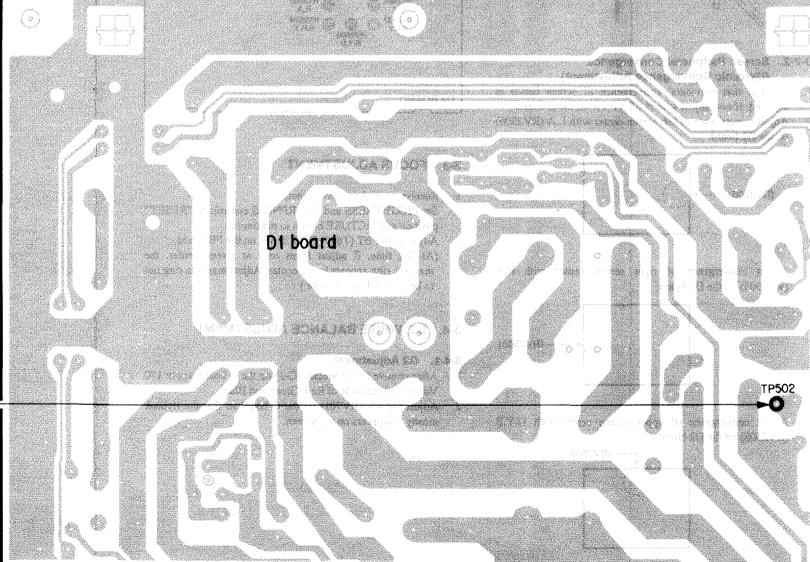
- 1. Adjust RV651 so that B+ becomes  $135 \pm 1V$ .
- 2. Adjust RV652 so that the level at Pin (1) of IC651 becomes
- 3. Repeat the adjustment until both (1) and (2) meet the respective specifications.
- 4. After adjustment, fix RV652 with epoxy resin to lock confirmly.

# CONFIRMATION WHEN REPLACING HVR

Confirm that the voltage of Pin 2 of FB-4 connector is more than 15.3V DC when replacing HVR.



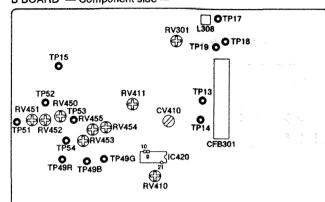




# **SECTION 5 ELECTRICAL ADJUSTMENT**

#### 5-1. B BOARD ADJUSTMENT

#### B BOARD — Component side —

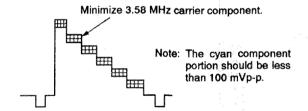


# Y.Level (RV301)

- Receive contained 100 IRE and set BRIGHTNESS control and PICTURE button to standard.
- 2. Connect an oscilloscope to TP15 (Y.IN) and adjust Y.level VR (RV301) so that the voltage value of 100 IRE portion becomes  $800 \pm 15 \text{ mV}$ .

# Notch (L308)

- 1. Receive a color bar signal and set BRIGHTNESS control and PICTURE button to standard.
- 2. Set the notch to "ON" with the keyboard.
- 3. Connect an oscilloscope to TP17 (notch output) and adjust Notch VR (L308) so that 3.58 MHz component becomes
- 4. Set Notch VR to "OFF" after adjustment.

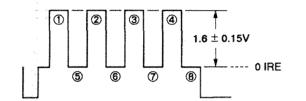


#### CW (14.3 MHz) fo (CV410)

- Receive a color bar signal and set BRIGHTNESS control and PICTURE button to standard.
- 2. Short-circuit Pins (9) and (10) of IC420 (TA7193P) and connect 22 kΩ resistance to Pin ② and ground.
- 3. Adjust the position so that the color bar disappears and the hue change stops with CW VR (CV410).
- 4. Remove jumper wire and resistor connected in step 2.

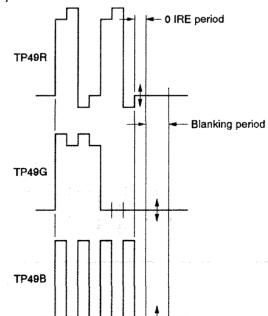
#### ACC, Hue (RV410, RV411)

- Receive a color bar signal.
- Set PIC to MAX.
- 3. Set the color and hue to standard with control keyboard and set new dynamic color (D.COL) to "OFF".
- 4. Short-circuit TP18 and TP19 and release the gamma
- 5. Connect an oscilloscope to TP49B (blue output) and adjust COLOR VR (RV410) and HUE VR (RV411) so that the waveform is as shown in the figure.
- 6. Confirm that the TP49B voltage is 1.6 ± 0.15 Vp-p and remove jumper wire from TP18 and TP19.



## Black Level (RV450, RV454, RV455)

- Receive a color bar signal, and set PICTURE button to minimum and dynamic color (D.COL) to "OFF" with the keyboard of control panel.
- 2. Adjust the voltage of 0 IRE portion with red/black level VR (RV450) (R.BLACK ADJ) so that the voltage levels of TP49R red output (R.OUT) 0 IRE portion and the voltage of blanking period become the same.
- 3. Adjust the voltage of blanking period with green/black level VR (RV454) (G.BLACK ADJ) so that the voltage levels of TP49G green output (G.OUT) 0 IRE portion and the voltage of blanking period become the same.
- 4. Adjust the voltage of blanking period with blue/black level VR (RV455) (B.BLACK ADJ) so that the voltage levels of TP49B blue output (B.OUT) 0 IRE portion and the voltage of blanking period become the same.
- 5. Return to step 2 again, and if the voltage of blanking period is not equal to that of 0 IRE portion, repeat from step 2 to

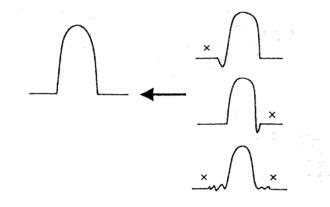


#### New Dynamic Color (RV451, RV452, RV453)

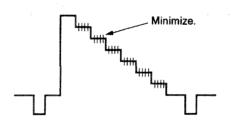
- Receive a color bar signal.
- 2. Set D.COLOR to "ON" and PICTURE button to minimum.
- 3. Adjust respective G.DC ADJ (RV451) and B.DC ADJ (RV452) so that the 0 IRE portions of TP51 (G.DC), TP52 (B.DC) and TP54 (R.DC-1) become the same.
- 4. Adjust R.DC ADJ (RV453) so that DC level of TP53 (R.DC-2) and TP54 (R.DC-1) 0 IRE portion become the

# CCD (Charge Coupled Device) Comb Filter

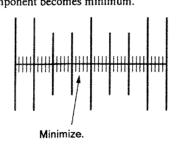
- Receive 2T pulse signal.
- 2. Connect an oscilloscope to TP14 (Y.OUT1).
- 3. Adjust PADJ1 and PADJ2 in the CFB301 pack so that the 2T pulse becomes the clearest waveform.



- 4. Receive a color bar signal and connect an oscilloscope to TP14 (Y.OUT1).
- 5. Adjust Y ADJ1 and Y ADJ2 in the CFB301 pack so that the chroma component on Y signal becomes minimum.

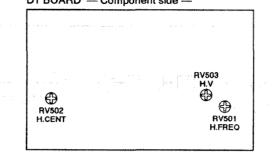


- 6. Receive a color bar signal and connect an oscilloscope to TP13 (Y.OUT2).
- 7. Adjust CADJ1 and CADJ2 in the CFB301 pack so that the chroma component becomes minimum.



#### 5-2. D1 BOARD ADJUSTMENT

D1 BOARD — Component side —



# H.Freq (RV501)

- . Set the unit in no signal input.
- 2. Connect the frequency counter to Pin 4 of D1-4 connector. 3. Ground Pin 3 of D1-2 connector with electrolytic capacitor (22  $\mu$ F/16V).
- 4. Adjust the horizontal frequency (H.FREO) VR (RV501) so that the frequency counter value become  $15.75 \pm 0.05$  kHz.

## H.Center (RV502)

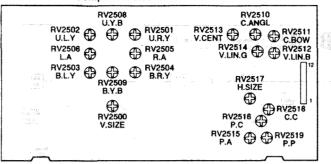
. Adjust horizontal centering VR (RV502) so that the screen becomes the horizontal center.

# H.V (RV503)

- 1. Connect a digital voltmeter at the junction of Q515 base/R589 and ground.
- 2. Turn RV503 so that the high tension load current flows at 1.7 mA, and set the indication of digital voltmeter to 1V  $\pm$
- 3. Confirm that the high tension indication is 27.4 kV  $\pm$  0.5

# 5-3. D2 BOARD ADJUSTMENT

#### D2 BOARD — Component side -

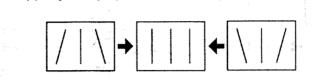


# V.Deflection Block (RV2500, RV2512, RV2513, RV2514)

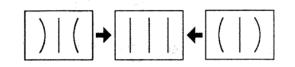
- 1. Receive a monoscope signal. Set PICTURE button to maximum and BRIGHTNESS button to standard.
- 2. Set V.HOLD VR (vertical sync control) at the rear control panel to the mechanical center within the synchronizing
- 3. Set vertical amplitude VR (RV2500), V.LIN.G VR (RV2514), V.LIN.B VR (RV2512) so that the vertical screen becomes optimum. Adjust vertical amplitude for 11.9 + 0.1 division.
- 4. Adjust vertical centering VR (RV2513) so that the screen becomes the vertical center.
- 5. Turn V.HOLD VR control and confirm that the screen rolls up/down. After the confirmation, set it to the mechanical center.

# H.Deflection Block (RV2510, RV2511, RV2515, RV2516, RV2517, RV2518, RV2519)

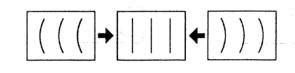
Receive monoscope signal and adjust with each VR. (1) Adjust the pin phase with RV2519. (PIN PHASE)



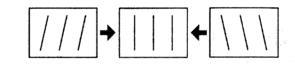
(2) Adjust pin amplification with RV2515. (PIN AMP)



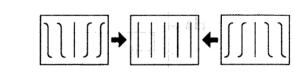
(3) Correct bow with RV2511. (C BOW)



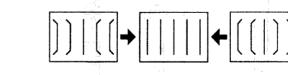
(4) Adjust vertical angle with RV2510. (C ANGLE)



(5) Adjust upper and lower pincushions balance with RV2516. (PIN CORRECT)

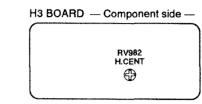


(6) Adjust upper and lower pincushions amplification with RV2518. (C CORRECT)



2. Adjust horizontal amplitude VR (RV2517) for 15.8  $\pm$  0.1

# 5-4. H3 BOARD ADJUSTMENT



# H.Center (D.RGB, RV982)

- 1. Set H.CENT VR (RV981) for user control to click position.
- 2. Supply  $+5V \pm 0.1V$  to Pin (2) (5V) of H3-3 connector.
- 3. Apply a waveform to Pin (1) (H.CENT1) of H3-3 connector as shown in Fig. 1.
- 4. After comparing waveforms at Pin (4) (H.CENT2) and Pin (1) of H3-3 connector, adjust SUB H.CENT VR (RV982) so that the phase difference at 1 Vdc (falling waveform) is within  $\pm 0.1 \ \mu s$ .

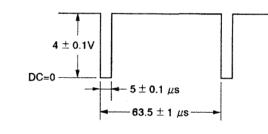
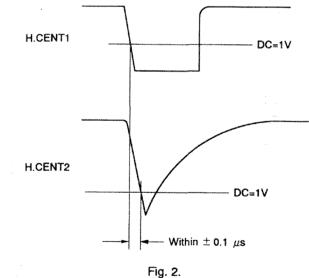


Fig. 1. H.CENT1

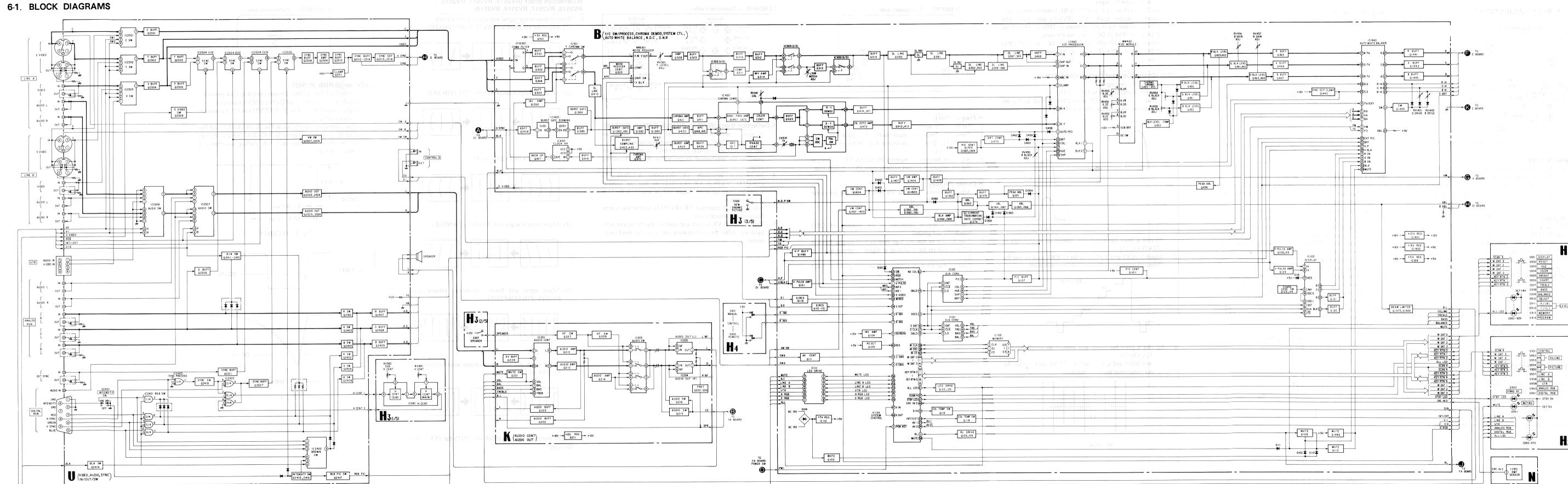


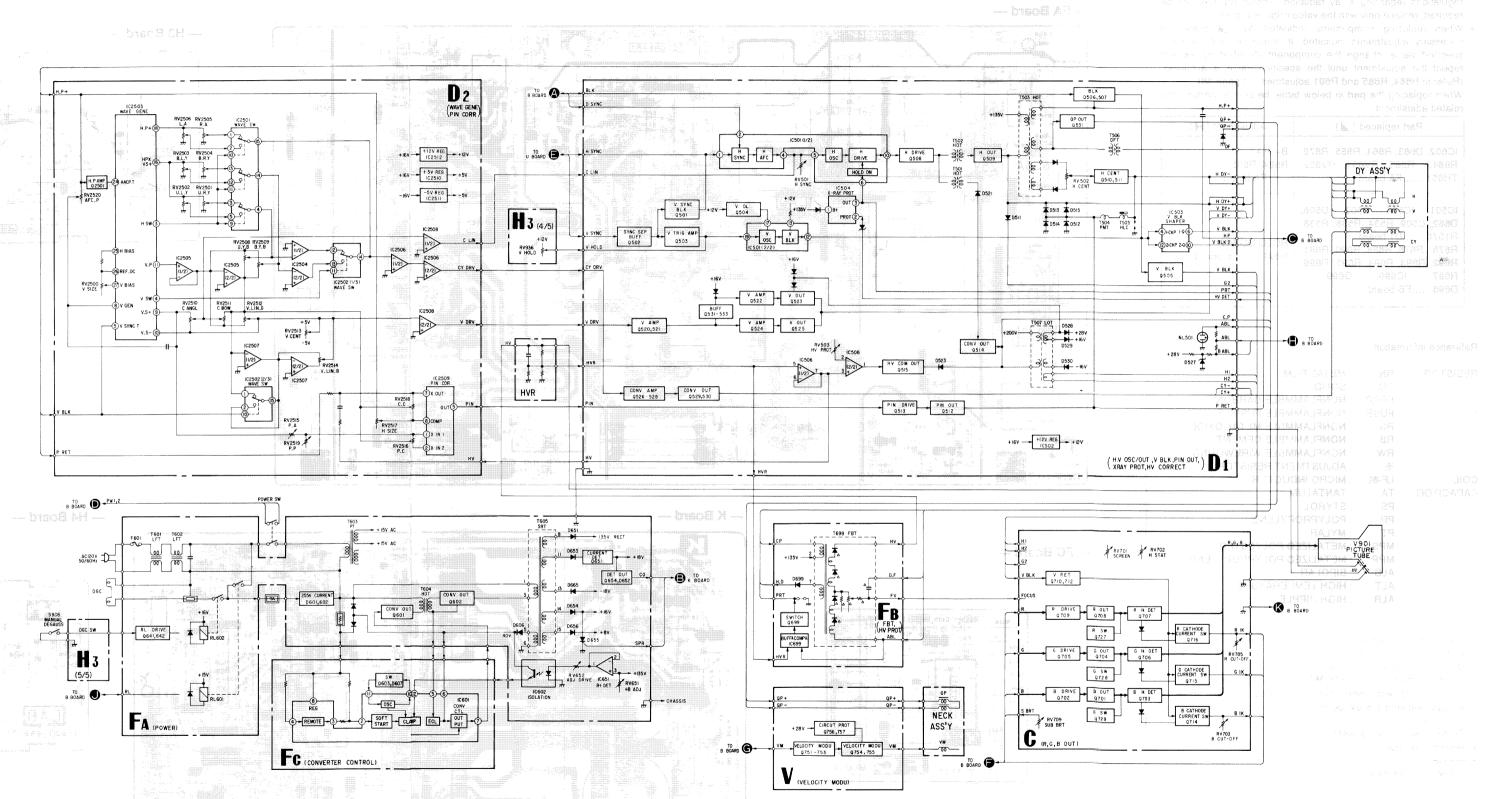
PVM-3230 RM-785

PVM-3230

SECTION 6

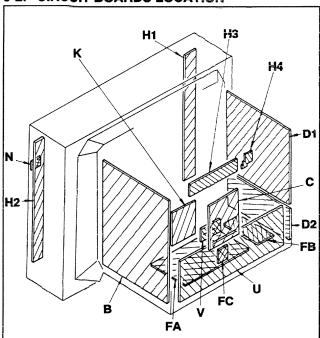
**DIAGRAMS** 





PVM-3230 PVM-3230 RM-785 RM-785

### 6-2. CIRCUIT BOARDS LOCATION



# 6-3. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS — Conductor Side —

Note: The components identified by shading and mark extstyle ex

Note: Les composants identifiés par un tramé et une marque 🛧 sont critiques pour la sécurité. Ne les remplacer que par une piece portant le numéro spécifié.

#### Note:

- All capacitors are in  $\mu F$  unless otherwise noted. p:  $\mu \mu F$  50 WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms.
- $k\Omega = 1000\Omega$  .  $M\Omega = 1000K\Omega$
- All electrolytics are in 50V unless otherwise noted.
- Indication of resistance, which does not have one for rating electrical power is as follows.

Pitch: 5 mm Rating electrical power: 1/4W

- METAL FILM (:RN) resistors are in 1%, 1/6W unless otherwise
- m : nonflamable resistor.
- fusible resistor.
- △: internal component.
- \_\_\_\_: panel designation or adjustment for repair.
- All variable and adjustable resistors have charactristic curve B, unless otherwise noted.

- The components indentified by in this manual have been carefully factory-selected for each set in order to satisty regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

When replacing the part in below table, be sure to perform the related adjustment.

Part replaced (☑)	Adjustment (►)
IC602, D663, R664, R665, R670, R684, R685, RV651, RV652, TH651FA board	B+ MAX R684, R685 FA board
IC501, IC504, D503, D508, D552, C509, R534, R536, R538, R1570D1 board R675, R676, R688, R690, R691, R692, R693, R694, R695, R696, R697, IC699, Q699, D698FB board	HOLD DOWN R691FB board

#### Reference information

RESISTOR : METAL FILM RN RC : SOLID : NONFLAMMBLE CARBON : NONFLAMMBLE FUSIBLE FUSE : NONFLAMMBLE METAL OXIDE : NONFLAMMBLE CEMENT : NONFLAMMBLE WIREWOUND : ADJUSTMENT RESISTOR LF-8L : MICRO INDUCTOR CAPACITOR TA : TANTALUM : STYROL : POLYPROPYLENE : MYLAR : METALIZED POLYESTER : METALIZED POLYPROPYLENE ALB : BIPOLAR

· Readings are taken with a color-bar signal input.

ALT

ALR

 As to the voltage value shown by the mark \* on the Schematic Diagram, see the another list.

: HIGH RIPPLE

: HIGH TEMPERATURE

- Readings are taken with a 10  $M\Omega$  digital maltimeter.
- Voltage are dc with respect to ground unless otherwise noted.
- Voltage variations may be neted due to normal production tolerances.
- Circled numbers are waveform references.
- mmmmm ; B+ bus.
- .... : B- bus.
- signal path.

FA (POWER SUPPLY)

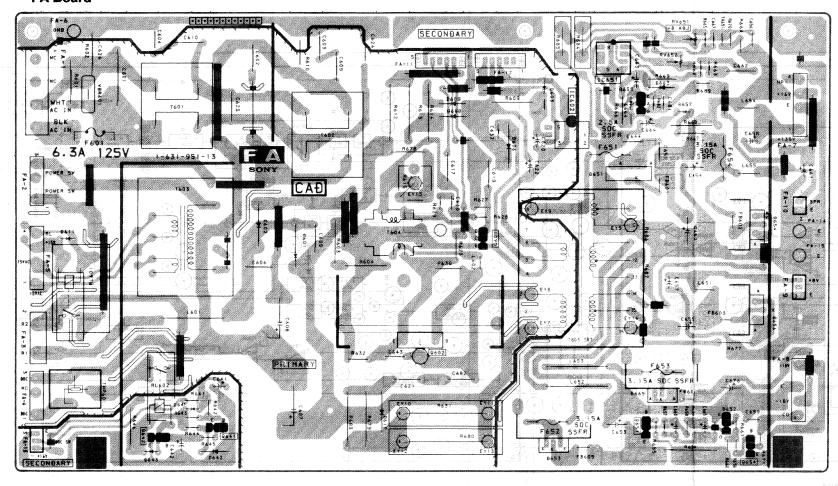
(CONVERTER CONTROL)

H3 (REAR PANEL CONTORL 1)

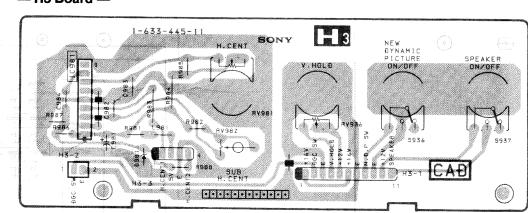
(REAR PANEL CONTROL 2)

(AUDIO OUT CONTROL

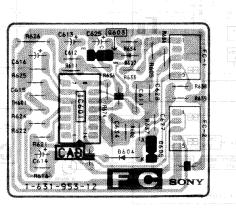
### - FA Board -

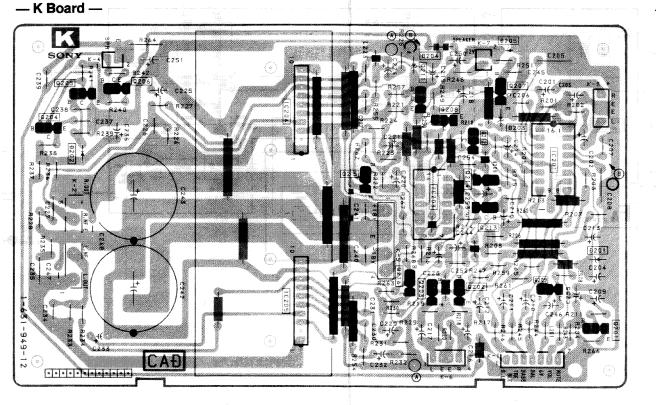


### --- H3 Board ---

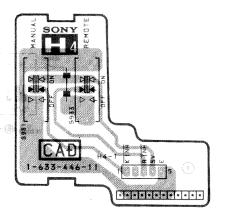


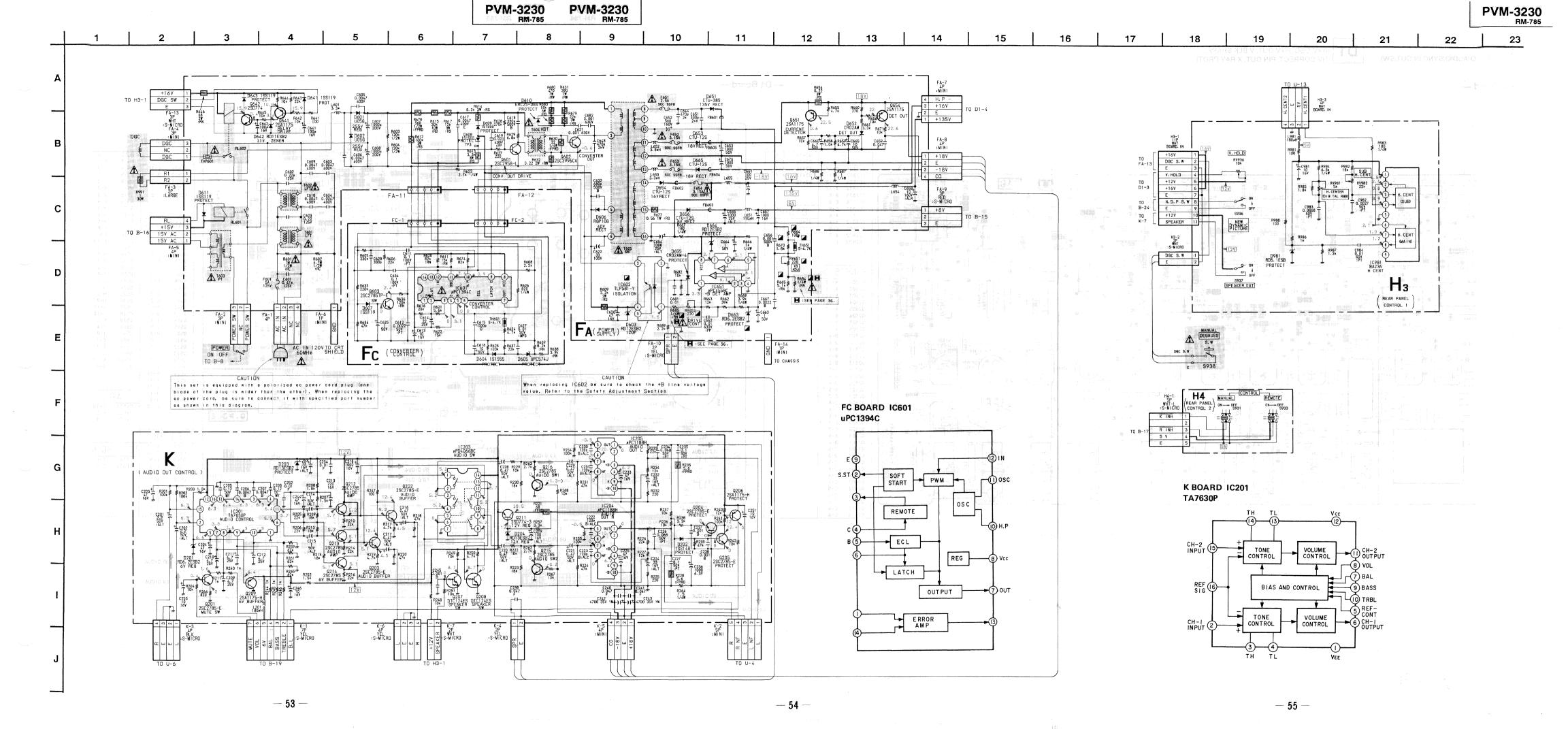
### - FC Board -





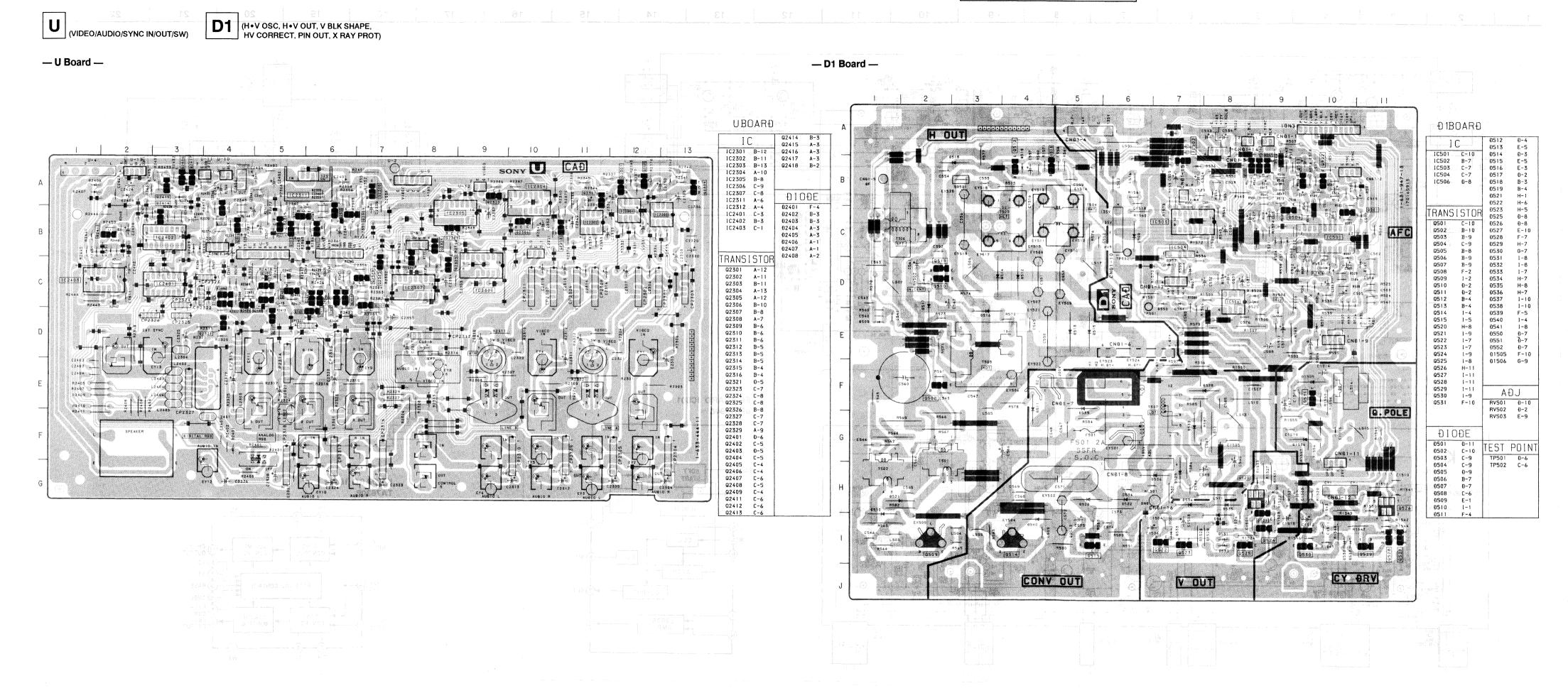
#### - H4 Board -

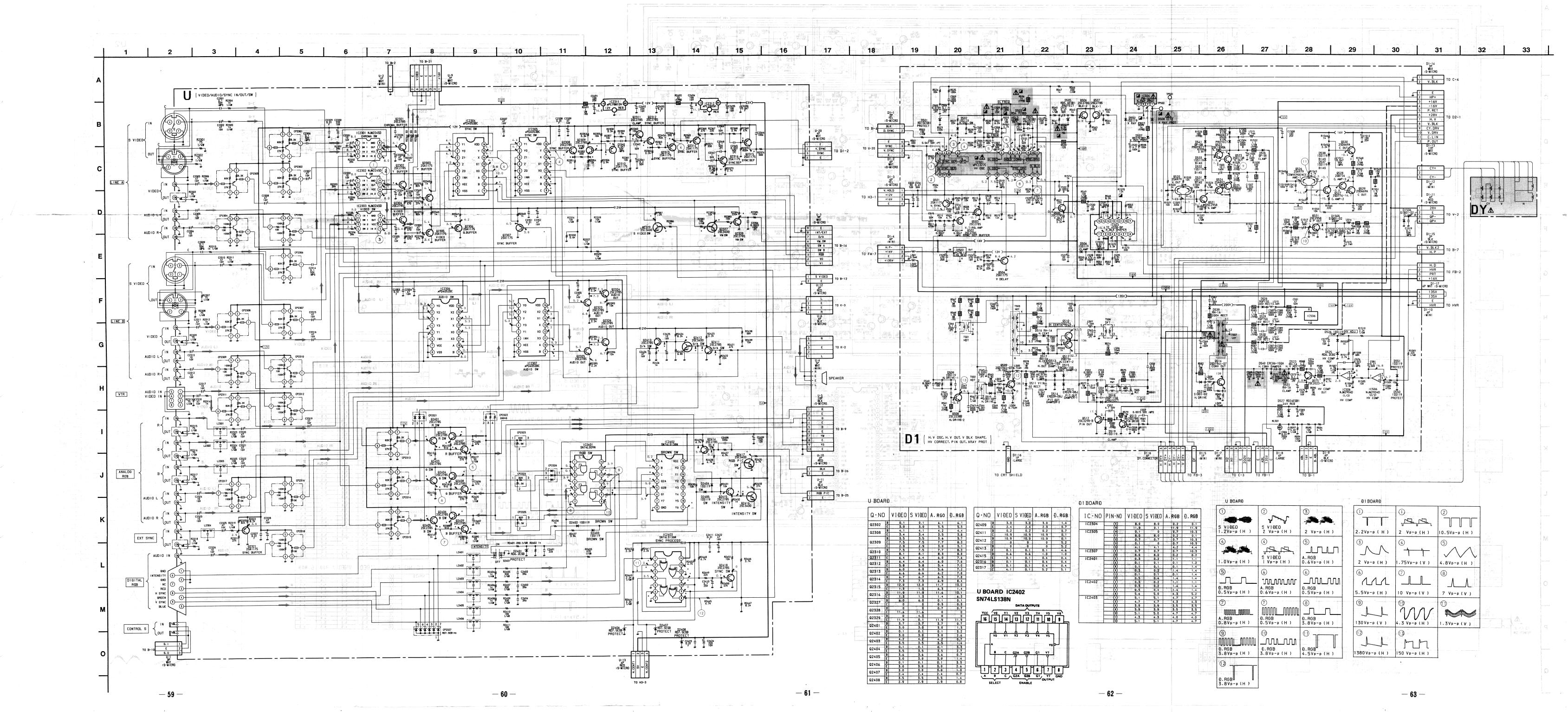


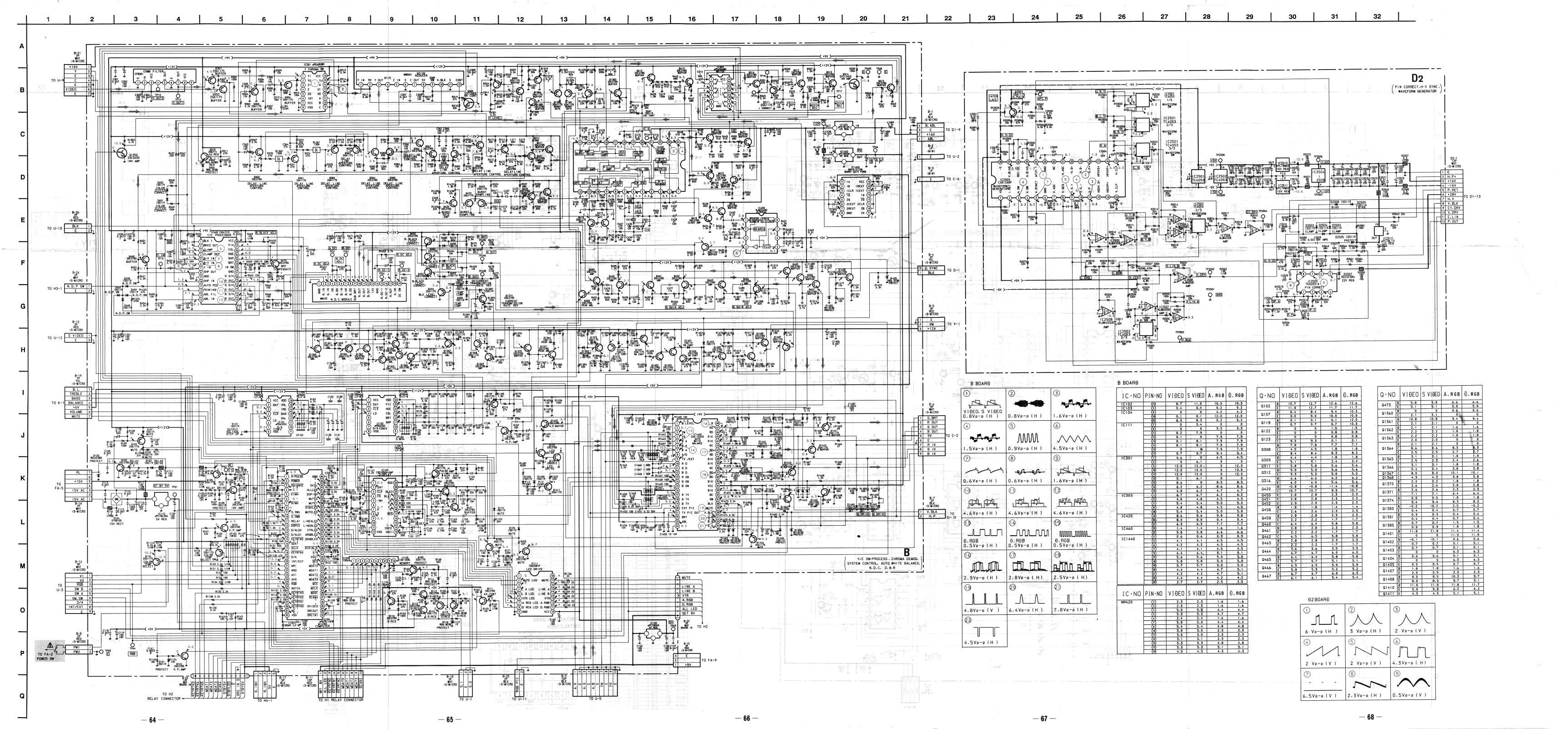


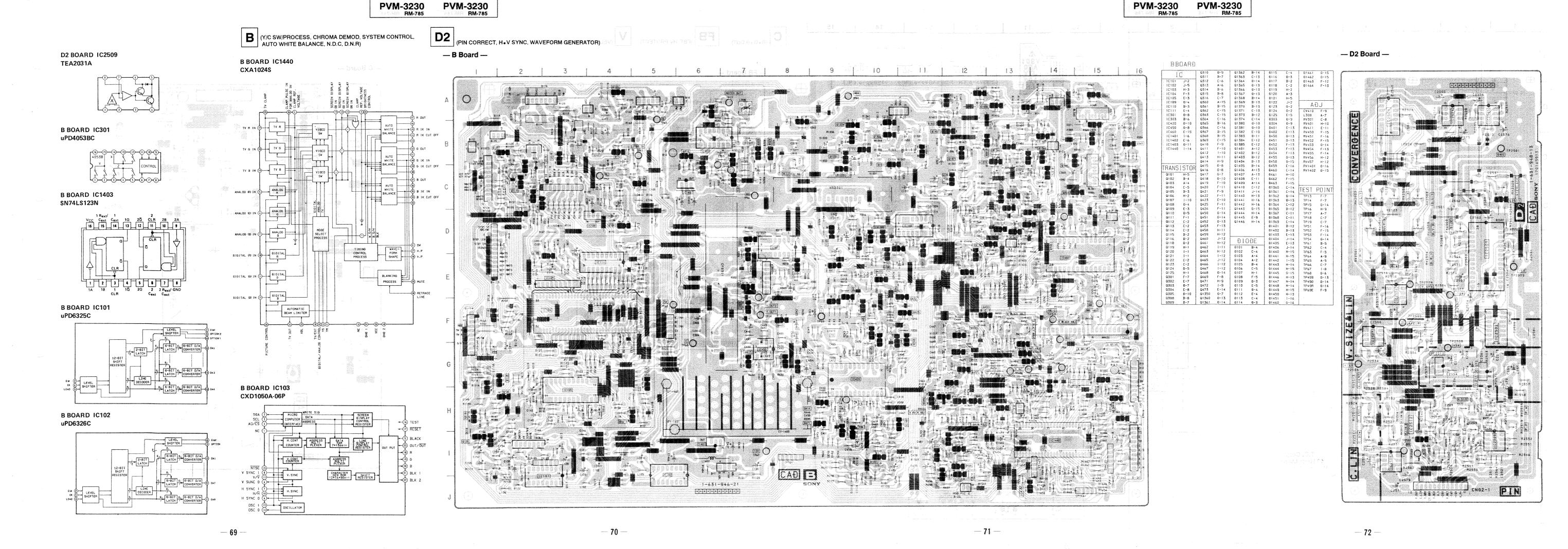
PVM-3230 RM-785

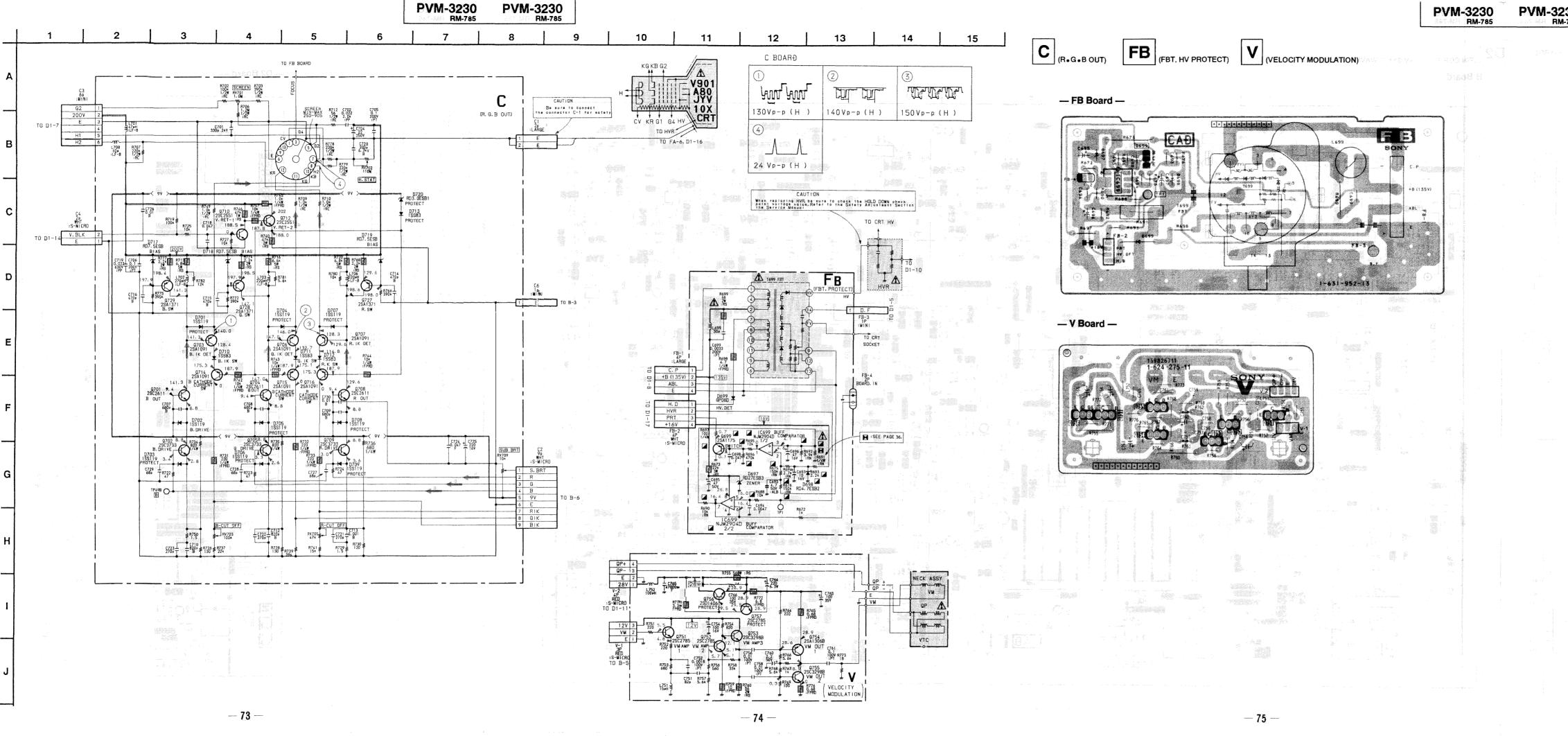
PVM-3230 PVM-3230 RM-785



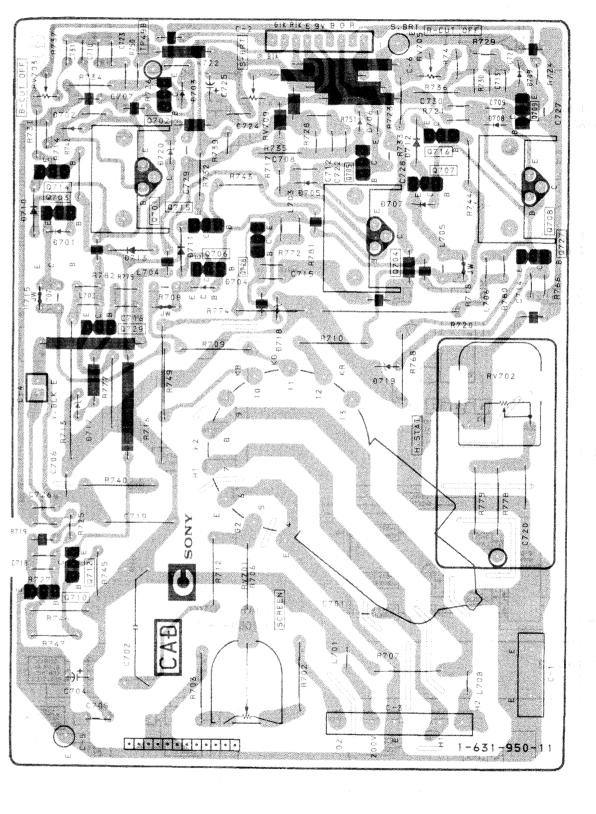


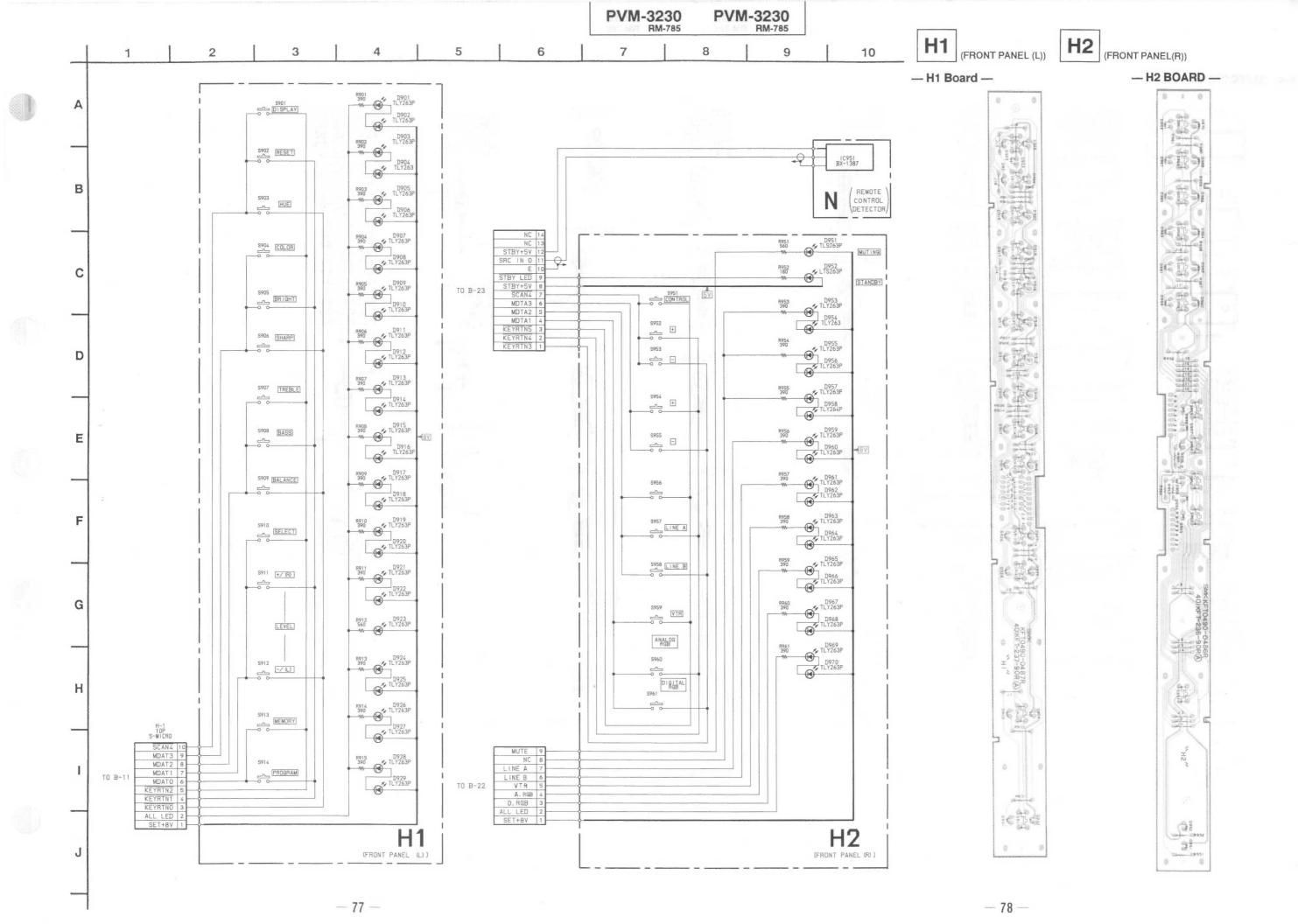




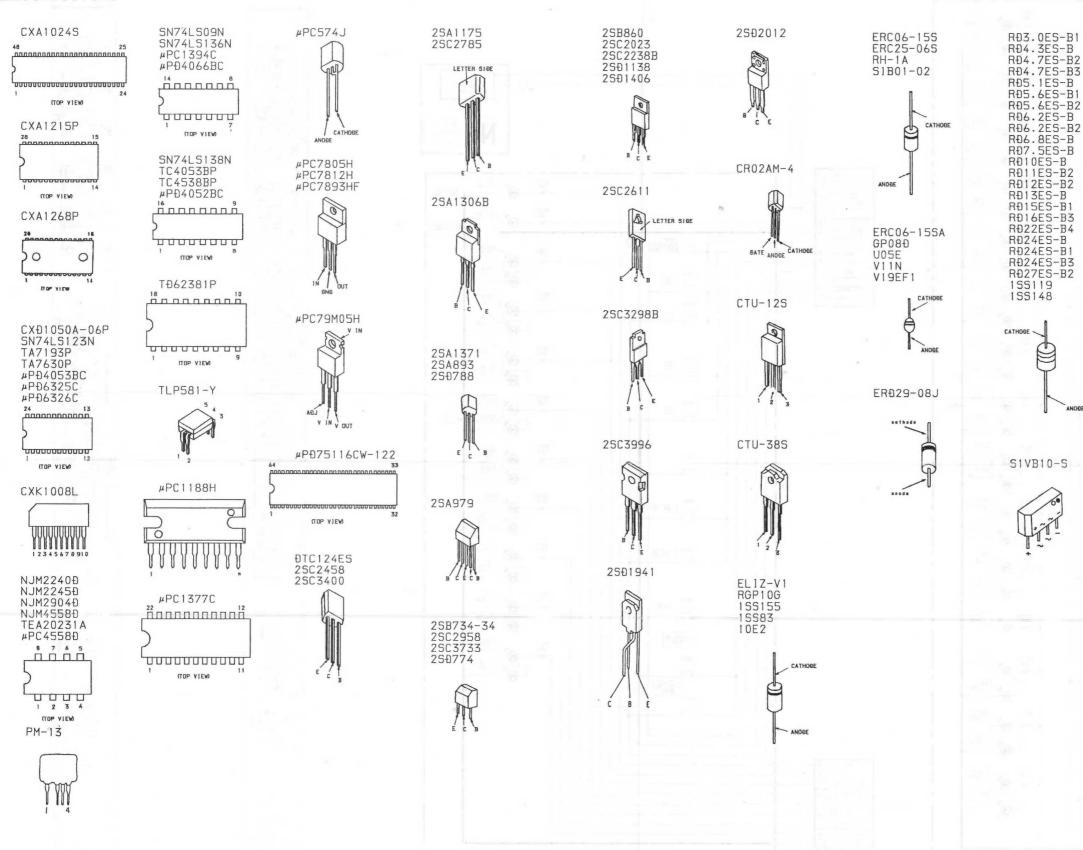








### 6-4. SEMICONDUCTORS



### SECTION 7 **EXPLODED VIEWS**

NOTE:

- · Items with no part number and no description are not stocked because they are seldom required for routine service.

  The construction parts of an assembled part are indicated with a collation
- number in the remark column.

  Items marked " \* are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark A are critical for safety.

Replace only with part number specified.

Les composants identifies par une trame et une marque A sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

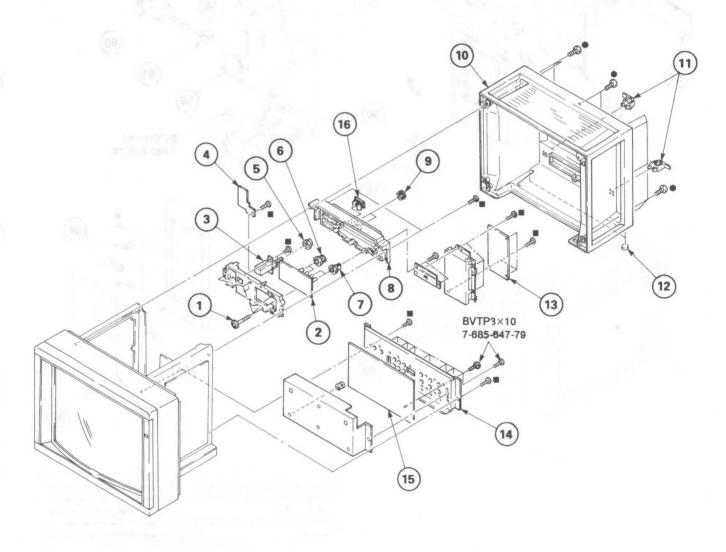
### 7-1. CONTROL BLOCK

BVTP4×16

7-685-663-79

BVTP3×12

7-685-648-79



REMARK REF. NO. PART NO. DESCRIPTION REMARK | REF. NO. PART NO. DESCRIPTION 4-319-520-11 \*1-633-445-11 SCREW, SPECIAL (+PW4X30) H3 BOARD 4-371-181-01 X-4385-975-2 4-371-181-01 CAP
X-4385-975-2 COVER ASSY, REAR
4-316-003-00 HOLDER, CORD
4-392-860-01 CUSHION (B)
\*A-1380-246-A K BOARD, COMPLETE
\*4-397-714-01 BRACKET, TERMINAL BOARD
\*A-1373-224-A U BOARD, COMPLETE
4-371-176-01 CAP, SQUARE 10 3 ₾. 1-570-757-11 SWITCH, PUSH (MANUAL DEGAUSS) (1 KEY) 11 12 13 \*1-633-446-11 H4 BOARD BUTTON, DEGAUSSING KNOB (A), CONTROL KNOB (B), CONTROL PANEL, CONTROL 4-381-168-01 4-381-166-01 4-381-167-01 4-382-005-71 14 6

### 7-2. CHASSIS

BVTP4×16 7-685-663-79
 BVTP3×12 7-685-648-79
 BVTP4×12 7-685-661-14
 BVTP3×8 7-685-646-79

57 58 60 61 61 7-685-660-79 55 63 63

The components identified by shading and mark  $\triangle$  are critical for safety.

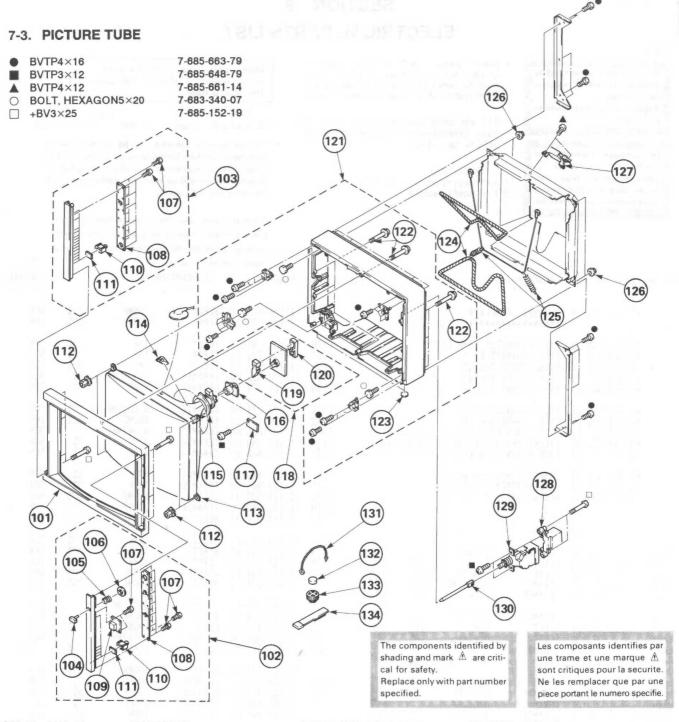
Replace only with part number specified.

Les composants identifies par une trame et une marque A sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

REMARK

58

REF.N	O. PART NO.	DESCRIPTION	REMARK	REF.NO. PART NO.	DESCRIPTION
51 52 53 54 55 56	*4-313-732-00	D2 BOARD, COMPLETE CLIP, HINGE, CIRCUIT BOARD D1 BOARD, COMPLETE HOLDER, PCB FB BOARD TRANSFORMER ASSY, FLYBACK (NX-230 RES, CEMENT WIREWOUND 1 5%	2) 306 F	60 A .1-574-443-21 61 A *4-371-185-02 62 *A-1135-631-A	FA BOARD, COMPLETE CORD, POWER (WITH NOISE FILTER)



1		PART NO.	DESCRIPTION	REMARK	REF.N	O. PART NO.	DESCRIPTION	REMARK
	101	X-4385-973-2 1-466-327-11	BEZEL ASSY KEY BOARD UNIT (B)	104-111	118	*A-1331-078-A *4-379-167-01	C BOARD, COMPLETE COVER (MAIN), CV	119,120
	103 104 105	1-466-225-11 9-990-899-01 9-990-902-01	KEY BOARD UNIT (A) 107,108, KEY TOP SPRING, COMPRESSION	110,111	120 121 122	*4-379-160-01 X-4385-974-2 4-319-520-11	COVER (REAR LID), CV CABINET ASSY SCREW, SPECIAL (+PW4X30)	122,123
	106 107 108	9-990-900-01 9-990-894-01 1-554-303-21	STOPPER BYTP 2X6 MT SWITCH (KEY BOARD SWITCH)		123 124 125	4-392-861-01 <b>A.</b> 1-426-497-11 4-369-318-00	CUSHION (A) COIL, DEMAGNETIZATION SPRING, TENSION	
	109 110 111	8-741-138-70 9-990-891-01 9-990-892-01	IC BX-1387 (DETECTOR) REFLECTOR A ILLUMINATOR A		126 127 128	4-306-034-00 <b>A.</b> 1-237-614-12 *4-371-183-01	FLANGE NUT, (B) 5MM RESISTOR ASSY, HIGH-VOLTAGE COVER, MAIN SWITCH	
	112 113 A	4-387-204-01 3-733-721-05 3-703-961-01	NUT, SPECIAL, PICTURE TUBE PICTURE TUBE (A80JYVIOX) SPACER, DY		129 130 131	<b>A.</b> 1-554-966-12 *4-371-182-01 4-308-870-00	SWITCH, PUSH (AC POWER) (1 KEY) SHAFT CLIP, LEAD WIRE	
	116	\$\frac{1-451-315-21}{\$\triangle 1-452-468-11} \ \*1-624 \ 275-11	DEFLECTION YOKE (Y34FXA) NECK ASSY, PICTURE TUBE (NA321) V BOARD		132 133 134	I-452-032-00 1-452-094-00 X-4306-312-0	MAGNET, DISK: LOMM ¢ MAGNET, ROTATABLE DISK; 15MM ¢ PERMALLOY ASSY, CONVERGENCE	



# SECTION 8 ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark  $\triangle$  are critical for safety.

Replace only with part number specified.

Les composants identifies par une trame et une marque A sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS

- · All resistors are in ohms
- F : nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS COILS . WF :  $\mu$ F, PF :  $\mu$ F . MMH :  $\mu$ H, UH :  $\mu$ H

- The components identified by in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
   Should replacement be required, replace only with the value originally used.
- There are some cases the reference number on one board overlaps on the other board. Therefore, when ordering parts by the reference number, please include the board name.

							include the	board name.			
REF. NO. PART	NO.	DESCRIPTION			REMARK	REF.NO.	PART NO.	DESCRIPTION			REMARK
*A-113	5-631-A	B BOARD, COM				C134 C135	1-126-101-11 1-126-101-11	ELECT ELECT	100MF 100MF	20% 20%	16V 16V
*1-564 *1-564 *1-564	-505-11 -506-11	PIN, CONNECT PLUG, CONNEC PLUG, CONNEC PLUG, CONNEC PLUG, CONNEC	TOR 2P TOR 3P TOR 4P	CH) 1P		C136 C137 C138 C139 C140	1-124-791-11 1-124-791-11 1-124-791-11 1-102-822-00 1-102-971-00	ELECT ELECT ELECT CERAMIC CERAMIC	1MF 1MF 1MF 390PF 82PF	20% 20% 20% 5% 5%	50V 50V 50V 50V 50V
*1-564 *1-564 *4-341	-512-11 -513-11 -752-01	PLUG, CONNEC PLUG, CONNEC PLUG, CONNEC EYELET (EY14 CASE (MAIN),	TOR 9P TOR 10P 01.EY1402.E		Y1404)	C141 C142 C143 C144 C145	1-102-121-00 1-126-101-11 1-101-006-00 1-101-880-00 1-101-880-00	CERAMIC ELECT CERAMIC CERAMIC CERAMIC	0.0022MF 100MF 0.047MF 47PF 47PF	10% 20% 5% 5%	50V 16V 50V 50V 50V
*4-376		CASE (UPPER) CASE (BOTTOM SCREW (3X8),	), SHIELD			C146 C147 C148 C149 C150	1-101-880-00 1-102-963-00 1-124-927-11 1-102-980-00 1-124-927-11	CERAMIC CERAMIC ELECT CERAMIC ELECT	47PF 33PF 4.7MF 270PF 4.7MF	5% 5% 20% 5% 20%	50V 50V 50V 50V 50V
C102 1-126 C103 1-130 C104 1-102	-006-00 -101-11 -487-00 -125-00 -880-00	CERAMIC ELECT MYLAR CERAMIC CERAMIC	0.047MF 100MF 0.022MF 0.0047MF 47PF	20% 5% 10% 5%	50 V 16 V 50 V 50 V	C152 C153 C154 C155 C156	1-123-356-00 1-123-356-00 1-123-356-00 1-126-101-11 1-126-101-11	ELECT ELECT ELECT ELECT ELECT	10MF 10MF 10MF 100MF 100MF	20% 20% 20% 20% 20%	16V 16V 16V 16V 16V
C106 1-101 C107 1-124 C108 1-124 C109 1-101	-006-00 -963-11 -902-00 -006-00 -446-11	CERAMIC ELECT ELECT CERAMIC ELECT	0.047MF 33MF 0.47MF 0.047MF	20% 20% 20%	50V 16V 50V 50V	C157 C158 C159 C160 C161		CERAMIC ELECT ELECT CERAMIC ELECT	0.047MF 330MF 100MF 0.047MF 10MF	20% 20%	50V 10V 10V 50V 16V
C111 1-124 C112 1-101 C113 1-101 C114 1-101	-443-00 -006-00		100MF 0.047MF		10 <b>V</b>	C162 C163 C164 C165 C166	1-124-443-00 1-102-973-00 1-102-973-00 1-101-361-00 1-102-965-00		100MF 100PF 100PF 150PF 39PF	20% 5% 5% 5% 5%	10V 50V 50V 50V 50V
C116 1-136 C117 1-124 C118 1-101 C119 1-124	-153-00 -443-00 -006-00 -443-00 -361-00	MYLAR ELECT CERAMIC ELECT CERAMIC	0.01MF 100MF 0.047MF 100MF 150PF	10% 20% 20%	50V 10V 50V 10V 50V	C167 C301 C302 C303 C304	1-101-006-00 1-126-101-11 1-126-101-11	ELECT CERAMIC ELECT ELECT CERAMIC	10MF 0.047MF 100MF 100MF 0.047MF	20% 20% 20%	16V 50V 16V 16V 50V
C121 1-102 C122 1-101 C123 1-101 C124 1-124	-976-00 -006-00 -006-00 -446-11 -978-00	CERAMIC CERAMIC CERAMIC ELECT CERAMIC	180PF 0.047MF 0.047MF 47MF 220PF	5% 20% 5%	50V 50V 50V 10V 50V	C305 C306 C307 C308 C309	1 · 101 · 006 · 00 1 · 123 · 356 · 00 1 · 101 · 006 · 00 1 · 124 · 443 · 00 1 · 101 · 006 · 00	ELECT CERAMIC ELECT	0.047MF 10MF 0.047MF 100MF 0.047MF	20% 20%	50V 16V 50V 10V 50V
C126	-356-00 -074-00 -101-11 -101-11 -791-11	ELECT CERAMIC ELECT ELECT ELECT	10MF 0.001MF 100MF 100MF 1MF	20% 10% 20% 20% 20%	16V 50V 16V 16V 50V	C310 C311 C312 C313 C314	1-126-101-11 1-102-945-00 1-101-884-00 1-123-356-00 1-124-791-11	ELECT CERAMIC CERAMIC ELECT ELECT	100MF 8PF 56PF 10MF 1MF	20% 0.5PF 5% 20% 20%	16V 50V 50V 16V 50V
C131 1-124 C132 1-124	-791-11 -791-11 -791-11	ELECT ELECT ELECT	1MF 1MF 1MF	20% 20% 20% 20%	50V 50V 50V	C315 C316 C317 C318	1-123-356-00 1-123-356-00 1-101-006-00 1-102-947-00	ELECT ELECT CERAMIC CERAMIC	10MF 10MF 0.047MF 10PF	20% 20% 0.5PF	16V 16V 50V 50V



REF.NO. PART NO.	DESCRIPTIO	N -		REMARK	REF.NO.	PART NO.	DESCRIPTION			REMARK
C319 1-102-947 C320 1-123-356 C363 1-126-101 C364 1-102-961 C365 1-102-971	-00 CERAMIC -00 ELECT -11 ELECT -00 CERAMIC -00 CERAMIC	10PF 10MF 100MF 27PF 82PF	0.5PF 20% 20% 5% 5%	50V 16V 16V 50V 50V	C464 C473 C474 C475	1-126-101-11 1-101-004-00 1-102-949-00 1-123-356-00 1-123-356-00		0.01MF 12PF 10MF		16V 50V 50V 16V 16V
C366 1-126-101 C367 1-126-101 C368 1-101-006 C369 1-124-927 C370 1-102-971	-11 ELECT -11 ELECT -00 CERAMIC -11 ELECT -00 CERAMIC	100MF 100MF 0.047MF 4.7MF 82PF	20% 20% 20% 5%	16V 16V 50V 50V 50V	C477 C478 C480	1-102-949-00 1-123-356-00 1-102-949-00 1-123-356-00 1-124-963-11 1-102-960-00	ELECT	12PF	20%	16V 50V 16V 16V
C409 1-101-004 C411 1-101-004 C412 1-102-961 C413 1-101-361 C414 1-124-791	-00 CERAMIC -00 CERAMIC -00 CERAMIC -00 CERAMIC -11 ELECT	0.01MF 0.01MF 27PF 150PF 1MF	5% 5% 20%		C484 C485 C486	1-102-960-00 1-101-004-00 1-101-004-00 1-123-330-00 1-124-963-11 1-102-971-00	CERAMIC CERAMIC ELECT	0.01MF 0.01MF 22MF	20%	50V 50V 50V 16V
	-00 ELECT -00 ELECT -00 CERAMIC -00 CERAMIC			50V 50V 50V 50V 50V	C1313 C1314 C1330	1-102-113-00 1-102-112-00 1-101-006-00 1-126-101-11 1-126-101-11	CERAMIC CERAMIC CERAMIC		10% 10%	50V 50V 50V 50V 16V
C421 1-102-960 C422 1-124-477 C423 1-124-477 C424 1-101-004 C425 1-102-953	-00 CERAMIC -00 CERAMIC -00 CERAMIC -11 ELECT -11 ELECT -00 CERAMIC	24PF 47MF 47MF 0.01MF	5% 20% 20%	50V 16V 16V 50V		1-123-356-00 1-123-382-00 1-126-529-11 1-124-477-11 1-101-006-00				16V 50V 50V 16V 50V
	-00 CERAMIC -00 CERAMIC -11 ELECT -00 CERAMIC -00 CERAMIC	15PF 100MF 0.047MF 56PF	5% 20% 5%	50V 16V 50V 50V	C1366 C1367	1-102-074-00 1-124-925-11 1-124-927-11 1-124-621-11 1-126-101-11	CERAMIC ELECT	0.001MF 2.2MF		50V 50V 50V 6.3V 16V
C431 1-102-820 C432 1-124-463 C433 1-124-463 C434 1-102-944	-00 CERAMIC -00 ELECT -00 ELECT -00 CERAMIC	0.1MF 7PF		50 V	C1371 C1401 C1402 C1403	1-123-356-00 1-124-791-11 1-101-006-00 1-126-320-11 1-130-483-00	ELECT ELECT CERAMIC			16 V 50 V 50 V 16 V 50 V
C436 1-101-004 C437 1-102-961 C438 1-136-157 C439 1-136-157	-00 ELECT -00 CERAMIC -00 CERAMIC -00 MYLAR -00 MYLAR	4.7MF 0.01MF 27PF 0.022MF 0.022MF	5% 10% 10%	50V	1	1-130-463-00 1-126-101-11 1-101-006-00 1-130-475-00 1-126-101-11 1-126-101-11		100MF 0.047MF 0.0022MF 100MF	20% 5% 20%	16V 50V 50V 16V
C443 1-101-004 C444 1-102-943	-00 CERAMIC -00 CERAMIC	0.01MF GPF	20% 10% 0.5PF	50V 50V 50V	C1410 C1411 C1412 C1413	1-101-006-00 1-126-101-11 1-126-101-11 1-101-006-00	CERAMIC ELECT ELECT CERAMIC	100MF 100MF 0.047MF	20% 20% 20%	16V 50V 16V 16V 50V
C446 1-124-477- C447 1-126-101- C448 1-101-004- C449 1-101-004-	-11 ELECT -00 CERAMIC -00 CERAMIC	0.01MF 47MF 100MF 0.01MF 0.01MF	20% 20%	50V 16V 16V 50V	C1440 C1441 C1442 C1443	1-101-004-00 1-126-101-11 1-101-006-00 1-102-129-00 1-124-268-00	CERAMIC ELECT CERAMIC CERAMIC ELECT	0.01MF 100MF 0.047MF 0.01MF 0.22MF	20% 10% 20%	16V 50V 50V 50V
C450 1-101-006- C451 1-126-101- C452 1-123-356- C453 1-124-463- C454 1-102-129-	-11 ELECT -00 ELECT -00 ELECT -00 CERAMIC	0.047MF 100MF 10MF 0.1MF 0.01MF	20% 20% 20% 10%	50V 16V 16V 50V 50V	C1445 C1446 C1447	1-124-268-00 1-124-268-00 1-124-791-11 1-124-791-11 1-124-791-11	ELECT ELECT ELECT ELECT ELECT	0.22MF 0.22MF 1MF 1MF 1MF	20% 20% 20% 20% 20%	50V 50V 50V 50V 50V
C455 1-102-947- C456 1-123-330- C457 1-101-006- C458 1-124-963- C459 1-124-463-	OO ELECT OO CERAMIC 11 ELECT	10PF 22MF 0.047MF 33MF 0.1MF	0.5PF 20% 20% 20%	50V 16V 50V 16V 50V	C1449 C1450 C1451 C1452	1-124-464-11 1-124-464-11 1-124-464-11	ELECT ELECT ELECT ELECT ELECT ELECT	0.22MF 0.22MF 0.22MF 10MF 10MF	20% 20% 20% 20% 20%	50V 50V 50V 16V 16V
C460 1-124-463- C461 1-124-463- C462 1-124-927- C463 1-101-006-	OO ELECT	0.1MF 0.1MF 4.7MF 0.047MF	20% 20% 20%	50V 50V 50V 50V	C1454 C1455	1-130-479-00 1-130-479-00 1-130-479-00	CERAMIC MYLAR MYLAR	0.047MF 0.0047MF 0.0047MF	10%	50V 50V



REF.NO. PAR	NO.	DESCRIPTION	<b>V</b>		REMARK	REF.NO.	PART NO.	DESCRIPTION		REMARK
C1457 1-1 C1458 1-1	36-153-00	MYLAR	0.0047MF 0.01MF	10%	50V 50V	1	8-719-911-19			
C1459 1-11 C1460 1-11 C1461 1-11	36-153-00	MYLAR MYLAR ELECT	0.01MF 0.01MF 33MF	10% 10% 20%	50V 50V 16V	D1361	8-719-911-19 8-719-911-19 8-719-911-19 8-719-911-19	DIODE 1SS119 DIODE 1SS119 DIODE 1SS119		
C1462 1-1 C1463 1-1 C1464 1-1		MYLAR MYLAR MYLAR	0.047MF 0.047MF 0.047MF	10% 10% 10%	50V 50V 50V	D1363	8-719-911-19 8-719-911-19	DIODE 188119		
C1465 1-1 C1466 1-1	23-356-00		10MF 100MF	20%	16V 25V	D1365 D1367 D1368	8-719-110-63	DIODE RD24ES-E DIODE 1SS119 DIODE 1SS119 DIODE 1SS119	B3	
		B PACK>				1	8-719-911-19			
CFB301 1-8	08-703-11	COMB PACK, (	CCD (CCP-2) CUIT BLOCK>			D1402 D1403 D1404	8-719-911-19 8-719-110-36 8-719-911-19	DIODE 1SS119 DIODE RD13ES-E DIODE 1SS119	B2	
						1		DIODE RD6.2ES-	-82	
CP1443 1-2			CIRCUIT BLOC			D1440 D1441	8-719-911-19 8-719-911-19 8-719-911-19 8-719-911-19	DIODE 188119 DIODE 188119		
CV410 1-1		CAP, TRIMMER				1	8-719-911-19			
	<010	DE>				D1445 D1446 D1447	8-719-911-19 8-719-911-19 8-719-911-19 8-719-110-17	DIODE 1SS119 DIODE RD10ES-E	B2	
D102 8-7	19-911-19	DIODE ISSII	9				8-719-110-17			
D104 8-7	19-911-19 19-511-40 19-911-19	DIODE 1SS119 DIODE S1VB40 DIODE 1SS119	9			D1450 D1451 D1460	8-719-911-19	DIODE RD10ES-I DIODE 1SS119	B2	
D107 8-7	19-109-93 19-911-19	DIODE RD6.21 DIODE 1SS119	Q			1	8-719-911-19			
D109 8-7	19-911-19	DIODE RD6.21 DIODE ISSII DIODE ISSII	9			D1462 D1463 D1464	8-719-911-19 8-719-110-17 8-719-110-17	DIODE RD10ES-I DIODE RD10ES-I	B2 B2	
	19-911-19 19-109-93	D10DE RD6.21	ES-B2				<del< td=""><td>AY LINE&gt;</td><td></td><td></td></del<>	AY LINE>		
D113 8-7 D114 8-7	19-911-19 19-109-74	DIODE ISSIIO DIODE RD4.3I DIODE ISSIIO	ES-B1			DL360 DL361	1-415-654-12 1-415-654-12	DELAY LINE DELAY LINE		
D117 8-7	19-109-96	DIODE RD6.21	ES-B1				<1C>			
D119 8-7	19-911-19	DIODE RD6.81	9				8-759-104-05 8-759-102-28	IC UPD6325C		
	19-110-63 19-911-19	D100F 155119	Ś-B3			10103	8-752-327-36	IC UPD6326C IC CXD1050A-0 IC UPD75116-C	6P W-122	
D122 8-7	19-911-19 19-911-19	DIODE 18811 DIODE 18811	9			10105	8-759-803-26	IC CXK1008L		
D124 8-7	19-911-19 19-911-19	DIODE ISSII	9			10110	8-759-604-29 8-759-982-21	IC RC78LO5A		
	19-109-89 19-109-93	DIODE RD5.61 DIODE RD6.21				10301	8-759-207-07 8-759-140-53 8-759-140-66	IC TD62381P IC UPD4053BC IC UPD4066BC		
D401 8-7	19-911-19 19-911-19	DIODE ISSII	9			10420	8-759-204-21	IC TA7193P		
D450 8-7	19-911-19	DIODE 18811				I C460	8-759-711-06 8-752-034-56	IC CXA1215P		
D452 8-7	19-911-19 19-911-19 19-911-19	DIODE 1SS119 DIODE 1SS119 DIODE 1SS119	9				8-759-982-13 8-759-142-04	IC RC7812FA IC UPC7893HF		
D454 8-7 D455 8-7	19-911-19 19-911-19	DIODE 188119	9			I C1403 I C1440	8-759-901-23 8-752-030-31	IC SN74LS123N IC CXA1024S		
D459 8-7	19-911-19 19-911-19	DIODE 1SS11	9				<c01< td=""><td>L&gt;</td><td></td><td></td></c01<>	L>		
D460 8-7 D461 8-7		DIODE 188119				L101	1-410-677-31	INDUCTOR	180UH	



		DESCRIPTION		 		DESCRIPTION		R	REMARK
L102 L103 L104 L105 L106	1-410-677-31 1-410-677-31 1-410-677-31 1-410-677-31 1-410-677-31	INDUCTOR INDUCTOR INDUCTOR INDUCTOR INDUCTOR INDUCTOR	180UH 180UH 180UH 180UH 180UH 15UH 4.7UH 180UH 18UH 4.7UH 22UH 68UH 470UH 470UH 82UH HOKE 3:3UH	Q314 Q315 Q316 Q360 Q361	8-729-900-36 8-729-119-78 8-729-119-78 8-729-119-78	TRANSISTOR DT TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	C2785-HFE C2785-HFE C2785-HFE		
L107 L108 L109 L110 L111	1-410-665-31 1-408-405-00 1-408-405-00 1-410-677-31 1-410-666-31	INDUCTOR INDUCTOR INDUCTOR INDUCTOR INDUCTOR	15UH 4.7UH 4.7UH 18OUH 18UH	Q362 Q363 Q364 Q365 Q366	8-729-119-76 8-729-119-76 8-729-119-78 8-729-119-78 8-729-119-78	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	A1175-HFE A1175-HFE C2785-HFE C2785-HFE		
L112 L301 L308 L411 L412	1-408-405-00 1-410-667-31 1-404-495-00 1-408-419-00 1-410-682-31	INDUCTOR INDUCTOR COIL INDUCTOR INDUCTOR	4.7UH 22UH 68UH 47OUH	Q367 Q368 Q369 Q410 Q411	8-729-119-78 8-729-119-78 8-729-119-78 8-729-119-78 8-729-119-78	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	C2785-HFE C2785-HFE C2785-HFE C2785-HFE		
L413 L415 L1402	1-410-682-31 1-410-674-31 1-408-159-00	INDUCTOR INDUCTOR COIL, SPOOK C	470UH 82UH HOKE 3.3UH	Q412 Q413 Q414 Q415 Q416	8-729-119-78 8-729-119-78 8-729-119-78 8-729-119-78 8-729-119-78	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	C2785-HFE C2785-HFE C2785-HFE		
NM420	1-236-150-11	MODULE, NEW D	YNAMIC COLOR	Q417 Q418	8-729-119-76 8-729-119-76 8-729-119-78	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	A1175-HFE A1175-HFE C2785-HFE		
NRB301	1-466-179-11 <tra 8-729-119-78</tra 	NR PACK (NRP- NSISTOR> TRANSISTOR 2S	2M) C2785-HFE	Q426	8-729-119-76 8-729-119-78 8-729-119-78	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	A1175-HFE C2785-HFE C2785-HFE		
Q102 Q103 Q104 Q105	8-729-119-76 8-729-119-78 8-729-119-76 8-729-119-76	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	A1175-HFE C2785-HFE C2785-HFE A1175-HFE	Q451 Q452 Q453 Q458	8-729-119-78 8-729-119-78 8-729-119-76 8-729-119-78	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	C2785-HFE C2785-HFE A1175-HFE C2785-HFE		
Q107 Q108 Q109 Q110	8-729-119-76 8-729-119-76 8-729-119-76 8-729-119-78	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	A1175-HFE A1175-HFE A1175-HFE C2785-HFE	Q460 Q461 Q462 Q463	8-729-119-78 8-729-119-78 8-729-119-78 8-729-119-78	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	C2785-HFE C2785-HFE C2785-HFE C2785-HFE		
Q111 Q112 Q113 Q114 Q115	8-729-119-78 8-729-119-78 8-729-119-76	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S		Q464 Q465 Q466 Q467 Q468	8-729-119-78	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	C2785-HFE C2785-HFE C2785-HFE		
Q116 Q118 Q119 Q120 Q121	8-729-119-78 8-729-119-76 8-729-119-76 8-729-119-78 8-729-119-78	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	A1175-HFE A1175-HFE C2785-HFE	Q469 Q471 Q472 Q473	8-729-119-78 8-729-119-78 8-729-119-78 8-729-119-78	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	C2785-HFE C2785-HFE C2785-HFE C2785-HFE		
Q122 Q123 Q124 Q125 Q301	8-729-119-78 8-729-209-15 8-729-119-78 8-729-119-76 8-729-119-76	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	D2012 C2785-HFE A1175-HFE	Q1363	8-729-900-36 8-729-119-78 8-729-119-76 8-729-119-78 8-729-119-76	TRANSISTOR 2S TRANSISTOR 2S	C2785-HFE A1175-HFE C2785-HFE A1175-HFE		
4302 4303 4304 4305 4308	8-729-119-76 8-729-119-76 8-729-119-76 8-729-900-36 8-729-119-76	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR DT TRANSISTOR 2S	A1175-HFE A1175-HFE C124ES	Q1364 Q1365 Q1366 Q1367 Q1368	8-729-119-78 8-729-119-78 8-729-119-76	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	A1175-HFE C2785-HFE C2785-HFE A1175-HFE		
Q309 Q310 Q311 Q312 Q313	8-729-140-96 8-729-119-76 8-729-119-78	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	D774-34 A1175-HFE C2785-HFE		8-729-119-78 8-729-119-78 8-729-119-78 8-729-119-76 8-729-119-78	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	C2785-HFE C2785-HFE A1175-HFE		



RE	F.NO.	PART NO.	DESCRIPTIO	N -			REMARK	REF.NO.	PART NO.	DESCRIPTION				REMARK
QQQ	1383	8-729-119-76 8-729-119-76 8-729-119-76 8-729-119-78	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR	2SA1175-Н 2SA1175-Н 2SC2785-Н	FE FE FE			R141 R142 R143	1-249-433-11 1-249-405-11 1-249-441-11	CARBON CARBON	22K 100 100K 2.2K	5% 5% 5%	1/4W 1/4W 1/4W	
QQQ	1385 1401 1402	8-729-119-76 8-729-119-78 8-729-119-76 8-729-119-78 8-729-119-78	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR	2SC2785-H 2SA1175-H 2SC2785-H	FE FE FE			R144 R145 R146 R147 R148	1-249-421-11	CARBON CARBON CARBON CARBON CARBON	2.2K 2.2K 2.2K 2.2K 2.2K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W	
Q	1404 1404 1405 1406 1407	8-729-119-78 8-729-119-78 8-729-119-78 8-729-119-76	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR	2SC2785-H 2SC2785-H 2SC2785-H 2SA1175-H	FE FE FE			R149 R150 R151 R152 R153	1-247-717-11	CARBON CARBON CARBON CARBON CARBON	22K 2.2K 100 2.2K 2.2K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
QQQ	1411	8-729-119-78 8-729-119-78 8-729-119-76 8-729-119-76 8-729-119-78	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR	2SC2785-H 2SA1175-H 2SA1175-H	FE FE			R154 R155 R156 R157 R158	1-249-441-11 1-249-433-11	CARBON	100K 330 100K 22K 47K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
99 99	1441 1442 1443 1444	8-729-119-76 8-729-119-76	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR	2SA1175-H 2SA1175-H 2SA1175-H 2SC2785-H	FE FE FE			R159 R160 R161 R162 R163	1-249-437-11 1-249-441-11 1-249-441-11 1-249-429-11 1-249-429-11	CARBON CARBON CARBON CARBON CARBON	47K 100K 100K 10K 10K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
Q	1446	8-729-119-76	TRANSISTOR	2SA1175-H	FE	1/4W		R164 R165 R166 R167 R168	1-247-725-11 1-249-413-11 1-249-421-11 1-249-425-11 1-249-414-11	CARBON CARBON CARBON CARBON CARBON CARBON	10K 470 2.2K 4.7K 560	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R R R	102 103 104 105	1-249-433-11 1-249-425-11 1-249-465-11 1-249-437-11	CARBON CARBON CARBON CARBON	22K 4.7K 47K 47K	5% 5% 5%	1/4W 1/4W 1/4W 1/4W		R169 R170 R171 R172	1-249-433-11 1-249-437-11 1-247-887-00 1-249-405-11	CARBON CARBON CARBON CARBON	22K 47K 220K 100	5% 5% 5%	1/4W 1/4W 1/4W 1/4W	
R R R	106 107 108 109 110	1-249-433-11 1-249-441-11 1-249-433-11 1-249-441-11 1-247-717-11	CARBON CARBON CARBON CARBON CARBON	100K 22K 100K 2.2K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W		R173 R174 R175 R176 R177	1-249-425-11 1-249-434-11 1-249-435-11 1-247-864-11 1-249-429-11	CARBON CARBON CARBON CARBON CARBON CARBON	4.7K 27K 33K 24K 10K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R R R	111 114 115 116 117	1-249-435-11 1-249-425-11 1-249-421-11 1-249-382-11 1-247-739-11	CARBON CARBON CARBON CARBON CARBON	100	5% 5% 5%		F F	R178 R179 R180 R181 R182	1-249-435-11 1-249-438-11 1-249-434-11 1-247-881-00 1-249-438-11	CARBON CARBON CARBON CARBON CARBON	33K 56K 27K 120K 56K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R R R	118 119 120 121 122	1-247-700-11 1-247-700-11 1-247-717-11 1-247-717-11 1-249-405-11	CARBON CARBON CARBON CARBON CARBON	100 100 2.2K 2.2K 100	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W		R183 R184 R185 R186	1-249-425-11 1-249-421-11 1-249-421-11 1-249-421-11	CARBON CARBON CARBON CARBON	4.7K 2.2K 2.2K 2.2K		1/4W 1/4W 1/4W 1/4W	
R R R	123 124 125 126 127	1-249-405-11 1-247-704-11 1-249-421-11 1-249-421-11 1-249-437-11	CARBON CARBON CARBON CARBON CARBON	220 2.2K 2.2K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W		R187 R188 R189 R190 R191	1-249-433-11 1-249-433-11 1-249-425-11 1-249-413-11 1-249-423-11	CARBON CARBON CARBON CARBON CARBON	22K 22K 4.7K 470 3.3K	5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R R R	128 129 130 131 132	1-249-421-11 1-249-427-11 1-249-414-11 1-249-414-11 1-247-713-11	CARBON CARBON CARBON CARBON CARBON	2.2K 6.8K 560 560	5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	F _dc	R192 R193 R194 R195 R199	1-249-409-11 1-249-409-11 1-249-413-11 1-249-413-11 1-249-441-11	CARBON CARBON CARBON CARBON CARBON	220 220 220 470 100K	5% 5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R R R	133 134 135 136	1-249-421-11 1-249-417-11 1-249-417-11 1-249-417-11	CARBON CARBON CARBON CARBON	2.2K 1K 1K 1K	5% 5% 5%	1/4W 1/4W 1/4W 1/4W		R301 R302 R303 R304	1-249-441-11 1-249-441-11 1-249-421-11 1-249-430-11	CARBON CARBON CARBON CARBON	100K 100K 2.2K 12K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W	
R	137 138 140	1-247-713-11 1-249-417-11 1-249-417-11	CARBON CARBON CARBON		5% 5% 5%	1/4W 1/4W 1/4W		R305 R306 R307	1-249-431-11 1-249-441-11 1-249-405-11	CARBON CARBON CARBON	15K 100K 100	5% 5% 5%	1/4W 1/4W 1/4W	



REF.NO. PART NO.	DESCRIPTION		REMARK	REF.NO.	PART NO.	DESCRIPTION				REMARK
R308 1-249-430-11 R309 1-249-431-11 R310 1-249-441-11 R311 1-249-413-11 R312 1-249-412-11	CARBON         12K           CARBON         15K           CARBON         100K           CARBON         470           CARBON         390	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		R388 R389 R390 R391 R392	1-249-417-11 1-247-822-11 1-249-420-11 1-249-421-11 1-249-427-11	CARBON CARBON	1K 430 1.8K 2.2K 6.8K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R313 1-249-423-11 R314 1-249-423-11 R315 1-249-429-11 R316 1-249-421-11 R317 1-249-427-11 R318 1-249-435-11	CARBON 3.3K CARBON 3.3K CARBON 10K CARBON 2.2K CARBON 6.8K CARBON 33K	5% 1/4W 5% 1/4W 5% 1/4W	1 1 1 1 1 1 1 1 1	R393 R394 R395 R396 R397 R398	1-249-425-11 1-249-421-11 1-249-415-11 1-249-415-11 1-249-435-11 1-249-417-11	CARBON CARBON CARBON CARBON	4.7K 2.2K 680 680 33K 1K	5% 5% 5% 5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R319 1-249-434-11 R320 1-249-437-11 R321 1-249-430-11 R322 1-249-417-11 R323 1-249-421-11	CARBON 27K CARBON 47K CARBON 12K CARBON 1K CARBON 2.2K	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		R399 R401 R403 R404 R405	1-247-891-00 1-249-417-11 1-249-413-11 1-249-413-11 1-247-893-11	CARBON CARBON	330K 1K 470 470 390K	5% 5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R324 1-249-417-11 R325 1-249-433-11 R326 1-249-430-11 R327 1-249-439-11 R328 1-249-433-11 R329 1-249-423-11	CARBON         1K           CARBON         22K           CARBON         12K           CARBON         68K           CARBON         22K           CARBON         3.3K	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		R406 R407 R408 R409 R411	1-249-423-11 1-215-413-00 1-249-415-11 1-249-415-11 1-249-414-11	METAL CARBON CARBON	3.3K 470 680 680 560	5% 1% 5% 5% 5%	1/4W 1/6W 1/4W 1/4W 1/4W	
R330 1-249-416-11 R331 1-249-409-11 R332 1-249-418-11 R333 1-249-429-11 R334 1-249-418-11	CARBON 820 CARBON 220 CARBON 1.2K  CARBON 10K CARBON 1.2K	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		R412 R413 R414 R415 R416	1-249-432-11 1-249-435-11 1-249-423-11 1-249-423-11 1-249-423-11	CARBON CARBON CARBON CARBON	18K 33K 3.3K 3.3K 3.3K	5% 5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R335 1-249-429-11 R336 1-249-421-11 R337 1-249-417-11 R338 1-249-409-11 R339 1-249-441-11	CARBON 10K CARBON 2.2K CARBON 1K  CARBON 220 CARBON 100K CARBON 100K	5% 1/4W 5% 1/4W 5% 1/4W		R417 R418 R419 R420 R421	1-249-421-11 1-215-443-00 1-249-441-11 1-249-425-11 1-215-423-00	METAL CARBON CARBON METAL	2.2K 8.2K 100K 4.7K 1.2K	5% 1%	1/4W 1/6W 1/4W 1/4W 1/6W	
R340 1-247-708-11 R341 1-249-413-11 R342 1-249-409-11 R343 1-249-419-11 R344 1-249-421-11 R345 1-249-421-11	CARBON 470 CARBON 470 CARBON 220  CARBON 1.5K CARBON 2.2K CARBON 2.2K CARBON 2.2K	5% 1/4W		R422 R423 R424 R425 R426	1-215-423-00 1-249-405-11 1-249-417-11 1-249-417-11 1-249-421-11 1-247-830-11	CARBON CARBON CARBON CARBON	1.2K 100 1K 1K 2.2K	1% 5% 5% 5% 5%	1/6W 1/4W 1/4W 1/4W 1/4W	
R346	CARBON 390 CARBON 2.2K  CARBON 20K CARBON 160K CARBON 680	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		R428 R429 R430 R431	1 249-416-11 1-249-412-11 1-249-419-11 1-215-436-00 1-249-421-11	CARBON CARBON CARBON METAL CARBON	820 390 1.5K 4.3K	5% 5% 5% 1%	1/4W 1/4W 1/4W 1/6W	
R367 1-249-424-11 R368 1-249-433-11 R369 1-249-421-11 R370 1-249-413-11 R371 1-249-413-11 R372 1-249-412-11	CARBON         3.9K           CARBON         22K           CARBON         2.2K           CARBON         470           CARBON         470           CARBON         390	5% 1/4W		R433 R434 R435 R436 R437 R438	1-249-433-11 1-249-429-11 1-215-425-00 1-249-417-11 1-249-409-11 1-215-431-00	CARBON CARBON METAL CARBON CARBON METAL	22K 10K 1.5K 1K 220 2.7K	5% 5% 1% 5% 5%	1/4W 1/4W 1/6W 1/4W 1/4W 1/6W	
R373 1-249-411-11  R374 1-249-413-11  R375 1-249-413-11  R376 1-249-421-11  R377 1-249-421-11	CARBON 330  CARBON 470  CARBON 470  CARBON 2.2K  CARBON 2.2K	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		R439 R440 R441 R442 R443	1-215-417-00 1-249-416-11 1-249-421-11 1-249-415-11 1-247-830-11	METAL CARBON CARBON CARBON CARBON	680 820 2.2K 680 910	1% 5% 5%	1/6W 1/4W 1/4W 1/4W	
R378 1-249-419-11 R379 1-249-418-11 R380 1-249-419-11 R381 1-249-414-11 R382 1-249-412-11	CARBON 1.5K  CARBON 1.2K  CARBON 1.5K  CARBON 560  CARBON 390	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		R444 R445 R446 R447 R448	1-247-830-11 1-247-830-11 1-249-417-11 1-249-415-11 1-215-413-00	CARBON CARBON CARBON CARBON METAL	910 910 1K 680 470	5% 5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W	
R383 1-249-412-11 R384 1-249-421-11 R385 1-249-431-11 R386 1-249-435-11 R387 1-249-421-11	CARBON 390  CARBON 2.2K  CARBON 15K  CARBON 33K  CARBON 2.2K	5% 1/4W 5% 1/4W	1	R449 R450 R451 R452 R453	1-215-415-00 1-249-433-11 1-249-417-11 1-249-419-11 1-249-422-11	METAL CARBON CARBON CARBON CARBON	560 22K 1K 1.5K 2.7K	1% 5% 5% 5%	1/6W 1/4W 1/4W 1/4W 1/4W	



REF.NO. PART NO.	DESCRIPTION			REMARK	REF.NO.	PART NO.	DESCRIPTION				REMARK
R454 1-249-421- R455 1-249-405- R456 1-249-405- R457 1-249-429- R458 1-249-429-	11 CARBON 11 CARBON 11 CARBON 11 CARBON	100 100 10K 10K	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		R1133 R1134 R1135 R1136	1-249-421-11 1-249-421-11 1-249-421-11 1-249-437-11 1-249-421-11	CARBON CARBON CARBON CARBON CARBON CARBON	2.2K 2.2K 2.2K 47K 2.2K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R460 1-247-725- R461 1-246-535-( R462 1-249-436- R463 1-249-431- R464 1-249-405-	OO CARBON 11 CARBON 11 CARBON 11 CARBON	390K 39K 15K 100	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		R1137 R1138 R1139 R1140 R1141 R1142	1-249-437-11 1-249-421-11 1-249-417-11 1-249-417-11 1-249-417-11 1-249-417-11	CARBON CARBON CARBON CARBON CARBON CARBON CARBON	47K 2.2K 1K 1K 1K 1K	5% 5% 5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W 1/4W	
R466 1-249-405- R467 1-247-872- R468 1-249-429- R469 1-247-862- R470 1-249-429-	11 CARBON 11 CARBON 11 CARBON 11 CARBON	100 51K 10K 20K	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		R1143 R1144 R1145 R1146 R1147	1-249-417-11 1-249-417-11 1-249-421-11 1-249-421-11 1-249-421-11	CARBON CARBON CARBON CARBON CARBON	1K 1K 2.2K 2.2K 2.2K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R471 1-249-430- R472 1-249-417- R473 1-249-440- R474 1-249-424- R475 1-249-426-	11 CARBON 11 CARBON 11 CARBON 11 CARBON 11 CARBON	12K 1K 82K 3.9K	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		R1148 R1149 R1150 R1151	1-249-421-11 1-249-421-11 1-249-421-11 1-249-421-11 1-249-409-11	CARBON CARBON CARBON CARBON CARBON	2.2K 2.2K 2.2K 2.2K 2.2K 220	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R476 1-249-432- R477 1-247-704- R478 1-247-704- R479 1-247-704- R480 1-249-431-	11 CARBON 11 CARBON 11 CARBON 11 CARBON 11 CARBON	18K 220 220 220 220	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		R1153 R1154 R1155 R1156 R1157	1-249-429-11 1-247-885-00 1-249-433-11 1-249-397-11 1-249-397-11	CARBON CARBON CARBON CARBON CARBON	10K 180K 22K 22 22	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R493 1-249-413- R494 1-249-416- R495 1-249-418- R496 1-249-416- R497 1-249-433-	11 CARBON 11 CARBON 11 CARBON 11 CARBON	820 1.2K 820 22K	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		R1158 R1159 R1160 R1161 R1162	1-249-397-11 1-249-397-11 1-249-397-11 1-249-397-11 1-249-397-11	CARBON CARBON CARBON CARBON CARBON	22 22 22 22 22 22	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R498 1-249-429- R499 1-249-413- R1101 1-249-411- R1102 1-249-435- R1103 1-249-441-	11 CARBON 11 CARBON 11 CARBON 11 CARBON	330 33K 100K	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		R1163 R1164 R1166 R1199 R1301	1-249-432-11 1-249-433-11 1-247-889-00 1-249-434-11 1-249-415-11	CARBON CARBON CARBON CARBON CARBON	18K 22K 270K 27K 680	5% 5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R1104 1-249-429- R1105 1-249-417- R1106 1-247-883-1 R1107 1-249-429- R1108 1-249-434-	11 CARBON DO CARBON 11 CARBON	1K 150K 10K	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		R1302 R1303 R1304 R1305 R1306	1-249-416-11 1-249-429-11 1-249-418-11 1-249-433-11 1-249-413-11	CARBON CARBON CARBON CARBON CARBON	820 10K 1.2K 22K 470	5% 5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R1109 1-249-440- R1110 1-249-427- R1111 1-249-435- R1112 1-247-868-	11 CARBON 11 CARBON 11 CARBON 11 CARBON	6.8K 33K 36K	5% 1/4W 5% 1/4W		R1307 R1308 R1309 R1310 R1311	1-249-415-11 1-249-416-11 1-249-418-11 1-249-433-11 1-249-429-11	CARBON CARBON CARBON CARBON CARBON	680 820 1.2K 22K 10K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R1114 1-249-428- R1115 1-249-435- R1116 1-349-432- R1117 1-249-435- R1118 1-249-429- R1119 1-249-435-	11 CARBON 11 CARBON 11 CARBON 11 CARBON	18K 33K	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		R1312 R1313 R1314 R1319 R1322	1-249-422-11 1-249-422-11 1-249-422-11 1-247-903-00 1-249-421-11	CARBON CARBON CARBON CARBON CARBON	2.7K 2.7K 2.7K 1M 2.2K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R1119 1-249-435- R1120 1-247-725- R1121 1-249-421- R1122 1-249-421- R1123 1-247-719- R1124 1-249-429-	11 CARBON 11 CARBON 11 CARBON 11 CARBON	2.2K 2.2K 3.3K	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		R1323 R1324 R1325 R1326 R1327	1-249-417-11 1-247-866-11 1-249-421-11 1-249-436-11 1-249-429-11	CARBON CARBON CARBON CARBON CARBON	1K 30K 2.2K 39K 10K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R1124 1-249-429- R1125 1-249-404- R1126 1-249-395- R1127 1-249-395- R1128 1-249-417- R1129 1-249-423-	OO CARBON 11 CARBON 11 CARBON	15 15 1K	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		R1328 R1353 R1360 R1361 R1362	1-249-433-11 1-249-425-11 1-249-441-11 1-247-887-00 1-249-417-11	CARBON CARBON CARBON CARBON CARBON	22K 4.7K 100K 220K 1K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R1130 1-249-429- R1131 1-249-421-	11 CARBON	10K	5% 1/4W 5% 1/4W		R1363 R1364	1-249-429-11 1-247-903-00	CARBON CARBON	10K 1M	5% 5%	1/4W 1/4W	



REF.NO.	PART NO.	DESCRIPTION				REMARK	REF.NO.	PART NO.	DESCRIPTION				REMARK
R1365 R1366 R1367 R1368 R1369	1-249-417-11 1-249-421-11 1-249-435-11 1-249-435-11 1-249-437-11	CARBON	1K 2.2K 33K 33K 47K	5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W		R1438 R1439 R1440 R1441	1-249-420-11 1-249-429-11 1-249-429-11 1-249-429-11 1-249-409-11	CARBON CARBON CARBON CARBON	10K 10K 220	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W	
R1370 R1371 R1372 R1373 R1374	1-247-844-11 1-249-427-11	CARBON	120K 1K 12K 3.6K 6.8K	5%	1/4W 1/4W 1/4W 1/4W 1/4W		R1442 R1443 R1444 R1445 R1446	1-249-409-11	CARBON CARBON CARBON	100 100 100 2.2K	5% 5%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%	1/4W 1/4W 1/4W 1/4W 1/4W 1/4W	
R1376 R1377 R1378 R1379	1-249-437-11 1-249-435-11 1-249-429-11 1-249-441-11 1-249-419-11		4.7K 47K 33K 10K 100K		1/4W 1/4W 1/4W 1/4W		R1448 R1449 R1450 R1451	1-249-405-11 1-249-405-11 1-249-405-11 1-249-405-11 1-249-405-11	CARBON CARBON CARBON CARBON	100 100 100 100 100	5% 5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W	
R1381 R1382 R1384 R1385 R1386 R1387	1-249-426-11 1-249-435-11 1-249-431-11 1-249-433-11	CARBON CARBON CARBON CARBON CARBON CARBON	1.5K 220 5.6K 33K 15K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W		R1454 R1455 R1456 R1457	1-249-430-11 1-249-429-11 1-249-433-11 1-249-429-11 1-249-438-11	CARBON CARBON CARBON CARBON	10K 22K 10K 56K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R1388 R1389 R1390 R1391 R1393	1-249-439-11 1-247-895-00 1-249-417-11 1-249-433-11 1-247-881-00	CARBUN	1 K	2/6	1/4W 1/4W 1/4W 1/4W 1/4W 1/4W		R1461	1-249-427-11 1-247-903-00 1-249-421-11 1-249-421-11 1-249-421-11	CARBON CARBON CARBON	6.8K 1M 2.2K 2.2K 2.2K	5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R1395 R1401 R1402 R1403	1-249-429-11 1-247-881-00 1-247-887-00 1-247-887-00	CARBON CARBON CARBON CARBON CARBON	22K 120K 15K 10K 120K 220K 220K	5%% 5%% 55%	1/4W 1/4W 1/4W 1/4W 1/4W		R1464 R1465 R1466 R1467	1-249-403-11 1-249-401-11 1-249-405-11 1-249-417-11 1-249-417-11	CARBON CARBON	68 47 100 1K 1K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R1404 R1405 R1406 R1407 R1408	1-249-437-11 1-249-437-11 1-249-417-11 1-249-429-11	CARBON CARBON CARBON CARBON CARBON	220K 220K 22K 47K 47K	5% 5%	1/4W 1/4W 1/4W 1/4W		R1469 R1470 R1471 R1472	1-249-417-11 1-247-903-00 1-247-903-00 1-247-903-00 1-247-887-00	CARBON CARBON CARBON	1K 1M 1M 1M 220K	5%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%	1/4W 1/4W 1/4W 1/4W 1/4W	
R1412 R1413	1-249-433-11 1-249-419-11 1-249-411-11 1-249-409-11	CARBON CARBON	330 220	5% 5% 5% 5%	1/ 44			1-249-421-11 1-249-421-11 1-249-421-11 1-249-421-11 1-249-423-11		2.2K 2.2K 2.2K 2.2K 3.3K	5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R1415 R1416 R1417 R1418	1-249-426-11 1-249-434-11 1-249-405-11 1-249-409-11 1-249-409-11	CARBON CARBON CARBON CARBON	5.6K 27K 100 2.2K 220	5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W		R1479 R1480 R1481 R1482	1-249-423-11 1-249-423-11 1-249-429-11 1-247-901-11 1-247-903-00	CARBON CARBON CARBON CARBON	10K 820K 1M	5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R1419 R1420 R1421 R1422 R1423 R1425	1-249-429-11 1-249-429-11 1-249-417-11 1-249-409-11 1-249-423-11 1-249-429-11	CARBON CARBON CARBON CARBON CARBON CARBON	10K 10K 1K 220 3.3K 10K	5% 5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W 1/4W		R1483 R1484 R1486 R1487 R1488	1-249-421-11 1-215-471-00 1-249-425-11 1-247-848-11 1-215-419-00 1-249-414-11	CARBON METAL CARBON CARBON METAL CARBON	2.2K 120K 4.7K 5.1K 820	5% 1% 5% 1%	1/4W 1/6W 1/4W 1/4W 1/6W	
R1426 R1427 R1428 R1429 R1430	1-249-423-11 1-249-423-11 1-216-399-00 1-249-429-11 1-249-414-11 1-249-429-11	CARBON METAL OXIDE CARBON CARBON CARBON	3.3K 6.8 10K 560 10K	5% 5% 5%	1/4W	F	R1490 R1491	1-249-414-11 1-249-429-11 1-247-848-11 1-249-435-11	CARBON CARBON CARBON CARBON TABLE RESISTO	560 10K 5.1K 33K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W	
R1431 R1432 R1433 R1434 R1435 R1436	1-249-435-11 1-249-433-11 1-247-889-00 1-249-429-11 1-249-433-11	CARBON CARBON CARBON CARBON CARBON CARBON	33K 22K 47K 270K 10K 22K	5% 5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W 1/4W		RV410 RV411 RV450	1-228-991-00 1-228-994-00 1-228-994-00 1-228-997-00 1-228-989-00	RES, ADJ, CARES, ADD, CARES, A	ARBON 10 ARBON 10 ARBON 10	K K OK		



Les composants identifies par une trame et une marque A sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie. The components identified by shading and mark A are critical for safety.

Replace only with part number specified.

					Pi	ece portain le main	ero specine.	specified.		
REF.NO. PART NO.	DESCRIPTION			REMARK	REF.NO.	PART NO.	DESCRIPTIO	N		REMARK
RV452 1-228-989-00 RV453 1-228-993-00 RV454 1-228-994-00 RV455 1-228-994-00 RV456 1-230-504-11	RES, ADJ, CA RES, ADJ, CA RES, ADJ, CA RES, ADJ, CA RES, ADJ, CA	RBON 4.7K RBON 10K RBON 10K			C676 C681	1-102-121-00 1-126-170-11 1-136-153-00 1-129-702-00	ELECT FILM	0.0022MF 1000MF 0.01MF	10% 20% 5%	50V 50V 50V
RV457 1-230-504-11 RV1401 1-228-991-00	RES, ADJ, CA RES, ADJ, CA	RBON 220 RBON 2.2K					DE>			
T101 1-404-733-11	ANSFORMER>	VS)			D601 D602 D603 D606	8-719-911-55 8-719-911-55 8-719-110-31 8-719-300-33 8-719-911-19	DIODE UOSG DIODE RD12E DIODE RU-3A	S-B2		
< CRV X410 1-567-505-11	YSTAL> OSCILLATOR,	CRYSTAL			D610 D611 D641 D642	8-719-911-19 8-719-300-33 8-719-911-19 8-719-911-19 8-719-110-22	DIODE 1SS11	9		
**************************************	FA BOARD, CO	MPLETE *****			D643 D651 D652 D653	8-719-911-19 8-719-300-53 8-719-000-28 8-719-300-59 8-719-300-59	DIODE 1SS11 DIODE CTU-3 THYRISTOR C DIODE CTU-1 DIODE CTU-1	88S RO2AM-8 2S		
*4-341-752-01	EY13,EY14,EY EYELET (EY6)	15)			D655 D656 D663 D664	8-719-000-28 8-719-300-59 8-719-109-93 8-719-110-31	THYRISTOR C DIODE CTU-1 DIODE RD6.2 DIODE RD12E	R02AM-8 2S ES-B2 S-B2		
C601 A. 1-136-311-71 C602 1-136-346-11 C603 1-162-599-12 C604 1-162-599-12 C605 1-162-599-12	FILM CERAMIC CERAMIC	0.47MF 0.22MF 0.0047MF 0.0047MF 0.0047MF	20% 20% 20% 20% 20%	125V 125V 400V 400V 400V		8-719-300-59 <fus 1-532-747-11</fus 	E>			
C606 1-162-599-12 C607 1-125-538-11 C608 1-125-538-11 C609 1-162-599-12	CERAMIC ELECT (BLOCK) ELECT (BLOCK) CERAMIC	0.0047MF 1000MF	20% 20% 20% 20%	400 V 200 V 200 V 400 V	F651 A. F652 A. F653 A.	1-533-146-00 1-532-780-21 1-532-781-21 1-532-781-21	HOLDER, FUSE, MICRO FUSE, MICRO FUSE, MICRO	E; F601 (SECONDARY) (SECONDARY) (SECONDARY)	2.5A/1 3.15A/ 3.15A/	25V 125V 125V
C610 1-162-599-12 C617 1-162-599-12 C618 1-102-030-00 C619 1-130-202-00 C620 1-124-126-00 C621 1-129-702-00	CERAMIC CERAMIC FILM ELECT	0.0047MF 0.0047MF 330PF 0.022MF 47MF 0.001MF	20% 20% 10% 10% 20% 10%	400V 400V 500V 400V 16V 630V	FA1 *	1-532-781-21 <con 1-568-106-11 1-508-765-00</con 	NECTOR>	(SECONDARY) TOR 4P		125V
C622 1-124-795-11 C623 1-136-346-11 C632 1-102-002-00 C641 1-126-101-11	ELECT FILM CERAMIC ELECT	33MF 0.22MF 680PF 100MF	20% 20% 10% 20%	100V 125V 500V 16V	FA3 FA4 FA5	1-506-371-00 1-508-765-00 1-508-766-00 1-508-784-00	PIN, CONNEC PIN, CONNEC PIN, CONNEC	TOR 2P TOR (5MM PI1 TOR (5MM PI1	TCH) 3P TCH) 4P	
C642 1-126-101-11 C643 1-162-134-11 C644 1-162-134-11 C651 1-162-115-00	ELECT CERAMIC CERAMIC CERAMIC	100MF 100MF 470PF 470PF 330PF	10% 10% 10% 10%	2KV 2KV 2KV 2KV	FA7 FA8 FA9	1-508-766-00 1-508-766-00 1-564-506-11 1-564-505-11	PIN, CONNEC	TOR (5MM PIT TOR (5MM PIT CTOR 3P	TCH) 4P	
C652 1-125-494-11 C653 1-126-170-11	ELECT(BLOCK) ELECT	560MF 1000MF	20% 20%	160V 50V 25V	FA12 *	1-564-529-11 1-564-529-11 1-564-506-11	CONNECTOR, PLUG, CONNE	BOARD TO BOA BOARD TO BOA CTOR 3P TOR (5MM PIT	ARD 5P	
C654 1-124-440-11 C655 1-124-557-11 C656 1-162-318-11 C657 1-124-360-00 C658 1-124-046-00	ELECT ELECT CERAMIC ELECT ELECT	3300MF 1000MF 0.001MF 1000MF 10MF	20% 20% 10% 20% 20%	25V 25V 500V 16V 160V			RITE BEAD>		icii/ Ir	
C659 1-101-006-00 C660 1-124-045-00 C661 1-123-333-00 C662 1-136-601-11 C663 1-124-791-11	FILM	0.047MF 4.7MF 100MF 0.01MF	20% 20% 5% 20%	50V 50V 25V 630V 50V	FB604	1-543-190-00 1-543-190-00 1-543-190-00 1-543-190-00 1-543-190-00	BEAD, FERRI BEAD, FERRI BEAD, FERRI BEAD, FERRI BEAD, FERRI	TE TE TE		
C664 1-124-791-11 C665 1-123-875-11		231 Ed 1	20% 20%	50V 50V	1	<1C>				

The components identified by shading and mark  $\hat{\mathbb{A}}$  are critical for safety.

Replace only with part number specified.

Les composants identifies par une trame et une marque A sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

 The components identified by in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
 Should replacement be required, replace only with the value originally used.



1	REF.NO.	PART NO.	DESCRIPTION				REMARK	REF.NO.	PART NO.	DESCRIPTION			REMARK
	10602 10651	8-719-802-22 8-759-945-58	DIODE TLP581- IC RC4558P	Y				R678		CARBON METAL OXIDE	0.56 5% 560 5% 22K 5%	1W 1/2W 3W	F F
		<c01< td=""><td></td><td></td><td></td><td></td><td></td><td>R680 R682</td><td>1-207-971-00 1-249-429-11</td><td>WIREWOUND CARBON</td><td>470 10% 10K 5%</td><td>7W 1/4W</td><td>F</td></c01<>						R680 R682	1-207-971-00 1-249-429-11	WIREWOUND CARBON	470 10% 10K 5%	7W 1/4W	F
	L601 L651 L652 L653 L654		COIL, SPOOK COIL (WITH CO COIL, SPOOK COIL, SPOOK COIL, SPOOK CORE COIL	RE) HOKE HOKE				R684 €	1-216-488-11 *1-506-371-00 *1-506-371-00	METAL PIN, CONNECTO METAL	OR 2P; R684	3W 1/4W 1/4W	F
	L655	1-459-215-00	CORE COIL					P686	1-240-447-11	CARRON	1 59	1/4W	
		<tra< td=""><td>NSISTOR&gt;</td><td></td><td></td><td></td><td></td><td>R687 R689</td><td>1-249-447-11 1-249-421-11</td><td>CARBON CARBON</td><td>1 5% 2.2K 5%</td><td>1/4W 1/4W</td><td></td></tra<>	NSISTOR>					R687 R689	1-249-447-11 1-249-421-11	CARBON CARBON	1 5% 2.2K 5%	1/4W 1/4W	
	Q601 Q602	8-729-195-82 8-729-820-96 4-365-216-00	TRANSISTOR 2S TRANSISTOR 2S SPACER, MICA; TRANSISTOR 2S TRANSISTOR 2S	C2958- C3996C Q602	L A			DI (01)	<rel< td=""><td>AY&gt;</td><td></td><td></td><td></td></rel<>	AY>			
	Q641 Q642	8-729-119-76	TRANSISTOR 2S	D774-3	4			RL602/		RELAY			
	Q651 Q654	8-729-119-76 8-729-119-76	TRANSISTOR 2S TRANSISTOR 2S	A1175-	HFE				<var< td=""><td>IABLE RESISTOR</td><td>?&gt;</td><td></td><td></td></var<>	IABLE RESISTOR	?>		
		<res< td=""><td>ISTOR&gt;</td><td></td><td></td><td></td><td></td><td>RV651</td><td>1-230-504-11 *3-710-578-01</td><td>RES, ADJ, CAR COVER, VOLUME</td><td>RBON 220 E. 6 MOLD: R</td><td>V651</td><td></td></res<>	ISTOR>					RV651	1-230-504-11 *3-710-578-01	RES, ADJ, CAR COVER, VOLUME	RBON 220 E. 6 MOLD: R	V651	
	R601	1-202-719-00	SOLID	1 M	10%	1/2W		RV652	1-230-504-11 *3-710-578-01	RES, ADJ, CAI	RBON 220		
	R603	1-214-915-00	CARBON	120K	5%	1/2W 1/2W		1	<tra< td=""><td>NSFORMER&gt;</td><td></td><td></td><td></td></tra<>	NSFORMER>			
	R604 R609	1-214-915-00 1-215-894-11	CARBON METAL OXIDE	120K 2.2K	5% 5%	1/2W 2W	F	T601 A	1-421-662-11 1-421-662-11	LFT			
	R613 R614	1-215-929-11 1-215-920-11 1-216-486-00 1-205-793-00	METAL OXIDE METAL OXIDE METAL OXIDE WIREWOUND	100K 3.3K 8.2K 30K	5% 5%	3W 3W 3W 10W	F	T603 A	2. 1-448-755-11 2. 1-437-079-11 3. 1-449-810-11	TRANSFORMER, TRANSFORMER.	POWER HORIZONTAL	DRIVE	
	R617	1-216-487-11	METAL OXIDE	12K	5%	3W	F		<the< td=""><td>RMISTOR&gt;</td><td></td><td></td><td></td></the<>	RMISTOR>			
	R623 R627 R628 R629 R630	1-247-718-11 1-249-409-11 1-247-889-00 1-249-427-11 1-247-692-11	CARBON CARBON CARBON CARBON CARBON	270K 6.8K	5% 5% 5%	1/4W		TH651 THP601	1-800-070-99 1-808-081-13	THERMISTOR,	POSITIVE		
	R631		WIREWOUND			7W			*1-631-953-11				
	R632 R641		CARBON		5%	2W 1/4W	F	1		******			
	R642 R643	1-249-429-11 1-249-433-11	CARBON	10K 22K	5% 5%	1/4W 1/4W			<cap< td=""><td>ACITOR&gt;</td><td></td><td></td><td></td></cap<>	ACITOR>			
	R644 R645 R646 R654 R655	1-249-429-11 1-249-429-11 1-215-885-00 1-216-381-11 1-249-425-11	CARBON CARBON METAL OXIDE METAL OXIDE CARBON	10K 10K 68 0.22 4.7K	5% 5% 5% 5%	1/4W 1/4W 2W 3W 1/4W	F	C611 C612 C613 C614 C615	1-108-638-11 1-108-796-11 1-123-356-00 1-123-330-00 1-102-074-00	MYLAR MYLAR ELECT ELECT CERAMIC	0.1MF 0.0022MF 10MF 22MF 0.001MF	10% 5% 20% 20% 10%	100V 50V 16V 25V 50V
	R656 R657 R658 R659	1-249-429-11 1-249-429-11 1-249-417-11 1-249-425-11	CARBON CARBON CARBON CARBON	10K 10K 1K 4.7K	5% 5% 5%	1/4W 1/4W 1/4W 1/4W		C616 C625 C627 C628	1-123-875-11 1-124-791-11 1-136-153-00 1-102-820-00	ELECT ELECT FILM CERAMIC	10MF 1MF 0.01MF 330PF	20% 20% 5% 5%	50V 50V 50V 50V
	R660	1-249-410-11	CARBON	270	5%	1/4W		C634	1-108-638-11	MYLAR	0.1MF	10%	100V
	R661 R662 R663 R664 R665	1-249-423-11 1-249-436-11 1-249-430-11 1-249-441-11 1-215-438-00	CARBON CARBON CARBON CARBON METAL	3.3K 39K 12K 100K 5.1K	5% 5% 5% 1%	1/4W 1/4W 1/4W 1/4W 1/6W		D604 D605 D607	<pre><dio 8-719-911-19="" 8-719-911-19<="" 8-759-157-40="" pre=""></dio></pre>				
	R666 R667 R669 R670 R671	1-247-713-11 1-247-703-11 1-247-720-11 1-249-420-11 1-249-429-11	CARBON CARBON CARBON CARBON CARBON	1K 180 3.9K 1.8K 10K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W				NECTOR>	OARD TO BOAF	D 5P	



 The components identified by in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
 Should replacement be required, replace only with the value originally used.

Les composants identifies par une trame et une marque A sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark A are critical for safety.

Replace only with part number specified.

REF. NO	. PART NO.	DESCRIPTIO	ON -			REMARK	REF.NO.	PART NO.	DESCRIPTION			REMARK
FC2	*1-562-516-11	CONNECTOR,	BOARD TO	BOARD	5P			<1C>				
	· 10>						10699	8-759-700-42	IC NJM2904D			
106012	A. 8-759-100-75	IC UPC13940	C VALEGY					<0011	L>			
	<tra< td=""><td>NS1STOR&gt;</td><td></td><td></td><td></td><td></td><td>L699 ▲</td><td>. 1-459-526-11</td><td>COIL, CHOKE</td><td></td><td></td><td></td></tra<>	NS1STOR>					L699 ▲	. 1-459-526-11	COIL, CHOKE			
Q603	8-729-178-55	TRANSISTOR	2SC2785-	E				<tra< td=""><td>NSISTOR&gt;</td><td></td><td></td><td></td></tra<>	NSISTOR>			
	<res< td=""><td>ISTOR&gt;</td><td></td><td></td><td></td><td></td><td>Q699</td><td>8-729-119-76</td><td>TRANSISTOR 25</td><td>SA1175-HFE</td><td></td><td></td></res<>	ISTOR>					Q699	8-729-119-76	TRANSISTOR 25	SA1175-HFE		
R605	1-247-891-00	CARBON	330K		1/4W			<res< td=""><td>ISTOR&gt;</td><td></td><td></td><td></td></res<>	ISTOR>			
R606 R608 R611 R616	1-249-433-11 1-249-421-11 1-215-449-00 1-247-862-11	CARBON CARBON METAL CARBON	22K 2.2K 15K 20K	5% 1%	1/4W 1/4W 1/6W 1/4W		R672 R673 R675	1-249-417-11 1-215-925-11 1-215-473-00	CARBON METAL OXIDE METAL	1K 5% 22K 5% 150K 1%	1/4W 3W 1/6W	F
R620 R621	1-215-467-00 1-249-426-11	METAL CARBON	82K 5.6K		1/6W 1/4W		R676 R688	1-215-473-00 1-249-429-11	METAL CARBON	150K 1% 10K 5%	1/6W 1/4W	
R622 R624 R625	1 - 249 - 431 - 11 1 - 249 - 425 - 11 1 - 249 - 441 - 11	CARBON CARBON CARBON	15K 4.7K 100K	5% 5%	1/4W 1/4W 1/4W		R690 ■R691 A	1-215-445-00 • 1-506-371-00	METAL PIN, CONNECTO	10K 1%	1/6W 1/4W	MILE A
R626	1-247-712-11	CARBON	820	5%	1/4W		R692 R693	1-215-435-00 1-249-421-11	METAL CARBON	3.9K 1% 2.2K 5%	1/6W 1/4W	
R633 R634 R636 R637	1-247-887-00 1-249-437-11 1-215-471-00 1-249-433-11	CARBON CARBON METAL CARBON	220K 47K 120K 22K	5% 5% 1%	1/4W 1/4W 1/6W 1/4W		R694 R695 R696	1-215-431-00 1-249-429-11 1-247-895-00	METAL CARBON CARBON	2.7K 1% 10K 5% 470K 5%	1/6W 1/4W 1/4W	
R638 R639	1-215-435-00 1-215-443-00	METAL METAL	3.9K 8.2K		1/6W 1/6W		R697 R698	1-247-700-11 1-249-455-11	CARBON CARBON	100 5% 4.7 5%	1/4W 1/4W	F
R674	1-249-440-11	CARBON	82K		1/4W		R699	1-215-885-00	METAL OXIDE	68 5%	2W	F
	<the< td=""><td>RMISTOR&gt;</td><td></td><td></td><td></td><td></td><td></td><td><tra< td=""><td>NSFORMER&gt;</td><td></td><td></td><td></td></tra<></td></the<>	RMISTOR>						<tra< td=""><td>NSFORMER&gt;</td><td></td><td></td><td></td></tra<>	NSFORMER>			
TH601	1-800-070-99	THERMISTOR	TH-4700				T699 <u>∧</u>	. 1-439-478-11	TRANSFORMER	ASSY, FLYBA	CK (NX-2	2302)
****	**********	********	*******	******	****	******					******	*******
	*1-631-952-11	FB BOARD						*A-1331-078-A	C BOARD, COM			
	*4-341-752-01	EYELET (EY	1,EY2)					*1-506-371-00 *1-508-768-00 *1-508-784-00 1-526-798-51 *1-564-505-11	PIN, CONNECTO PIN, CONNECTO SOCKET, PICTO	OR (5MM PIT OR (5MM PIT URE TUBE		
C693 C694	1-124-768-11 1-101-003-00	ELECT CERAMIC	4.7MF 0.0047	MF	20%	50V 50V	1	*1-564-512-11				
C695 C696 C697	1-124-910-11 1-123-332-00 1-123-356-00	ELECT ELECT ELECT	47MF 47MF 10MF	2 2	0% 20% 20%	50V 16V 16V		<cap< td=""><td>ACITOR&gt;</td><td></td><td></td><td></td></cap<>	ACITOR>			
	1-108-686-11	CERAMIC MYLAR			0%	50V 200V	C701 C702 C704 C705	1-136-101-00 1-123-948-00 1-106-391-12	CERAMIC FILM ELECT MYLAR	330PF 0.022MF 22MF 0.1MF	10% 3% 20% 10%	2KV 2KV 250V 200V
D/ 07		DE>	rc no				C706	1-106-391-12	MYLAR CERAMIC	0.1MF	10%	200V 50V
D697 D698 D699	8-719-110-67 8-719-109-81 8-719-911-55	DIODE RD4.	7ES-B2				C707 C708 C709 C710 C712	1-102-116-00 1-102-116-00 1-102-116-00 1-102-117-00 1-102-117-00	CERAMIC CERAMIC CERAMIC CERAMIC	680PF 680PF 680PF 820PF 820PF	10% 10% 10% 10% 10%	50V 50V 50V 50V
		NECTOR>					C713	1-102-074-00	CERAMIC	0.001MF	10%	50V
FB1 FB2 FB3	*1-506-348-99 *1-564-507-11 *1-508-784-00	PLUG, CONNI	ECTOR 4P	PITCH)	1P		C714 C715 C716 C718	1-102-114-00 1-102-114-00 1-102-114-00 1-101-006-00	CERAMIC CERAMIC CERAMIC CERAMIC	470PF 470PF 470PF 0.047MF	10% 10% 10%	50V 50V 50V 50V
							1					



REF.NO.	PART NO.	DESCRIPTION			REMARK	REF.NO.	PART NO.	DESCRIPTION				REMARK
C719 C720 C721 C722 C723	1-102-980-00	CERAMIC CERAMIC	330PF 270PF 270PF	10% 10% 5% 5%	630V 6.3KV 50V 50V	R702 R703 R706 R707	<pre></pre>	SOLID SOLID SOLID SOLID	100K 390K 1.2M	10% 10% 10%	1/2W 1/2W 1/2W 1/2W	
C724 C725 C726 C727 C728	1-101-006-00 1-124-120-11 1-102-129-00 1-101-888-00 1-101-888-00		19139		50V 16V 50V 50V 50V	R710 R712 R713	1-202-818-00 1-202-818-00 1-202-543-00 1-215-947-00 1-215-947-00	SOLID SOLID METAL OXIDE		10% 10% 10% 5%	1/2W 1/2W 1/2W 1/2W 5W 5W	F F
C729 C730	1-101-888-00 1-102-129-00	CERAMIC CERAMIC	68PF 0.01MF	5% 10%	50V 50V	1 R719	1-249-441-11	METAL OXIDE	100K 6.8K 47	5%	1/4W 5W 1/4W	F
D701 D702	<pre></pre>	DE> DIODE 1SS119				R723 R724 R725	1-249-401-11 1-249-401-11 1-249-429-11	CARBON CARBON	47 47 10K	5% 5% 5% 5%	1/4W 1/4W 1/4W	
D703 D704 D705	8-719-911-19 8-719-911-19 8-719-911-19	DIODE 1SS119 DIODE 1SS119 DIODE 1SS119 DIODE 1SS119				R726 R727 R728 R729 R730	1-247-810-11 1-249-429-11 1-247-810-11 1-249-383-11 1-249-406-11	CARBON CARBON CARBON	130 10K 130 1.5 120	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
D707 D708 D709 D710	8-719-911-19 8-719-911-19 8-719-911-19 8-719-901-83	DIODE 1SS119 DIODE 1SS119 DIODE 1SS119 DIODE 1SS83				R731 R732 R733 R734	1-247-704-11 1-247-704-11 1-247-704-11 1-247-712-11	CARBON CARBON CARBON CARBON	220 220 220 820	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W	F
D711 D712 D713 D717 D718	8-719-911-19 8-719-911-19 8-719-911-19 8-719-911-19 8-719-911-19 8-719-911-19 8-719-911-19 8-719-911-19 8-719-911-19 8-719-911-19 8-719-901-83 8-719-901-83 8-719-901-83 8-719-901-83 8-719-110-03 8-719-110-03 8-719-110-03 8-719-109-62	DIODE 1SS83 DIODE 1SS83 DIODE 1SS83 DIODE RD7.5E DIODE RD7.5E	S-B2 S-B2			R735 R736 R737 R739	1-247-712-11 1-247-711-11 1-249-433-11 1-249-436-11	CARBON CARBON CARBON	680 22K 39K	5% 5% 5% 5% 5% 5%	1/4W 1/4W 1/4W	
D719 D720	8-719-110-03 8-719-109-62	DIODE RD7.5E DIODE RD3.0E	S-B2 S-B1			R740 R741	1-215-902-11 1-249-431-11 1-247-725-11	CARBON	15K		2W 1/4W 1/4W	F
L701		L>	471111			R743 R744 R745 R746	1-247-725-11 1-247-725-11 1-247-713-11 1-215-902-11	CARBON	10K 10K 1K 47K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1W	F F F
L702 L703 L706 L708	1-408-426-00 1-408-425-00 1-408-425-00 1-410-663-31	INDUCTOR INDUCTOR INDUCTOR INDUCTOR	47UH 270UH 220UH 220UH 10UH			R747 R749 R750 R766	1-247-725-11 1-202-818-00 1-249-383-11 1-247-893-11	CARBON SOLID CARBON CARBON	10K 1K 1.5 390K	5% 10% 5% 5%	1/4W 1/2W 1/4W 1/4W	F
	<tra< td=""><td>NSISTOR&gt;</td><td></td><td></td><td></td><td>R768</td><td>1-215-894-11 1-247-893-11</td><td></td><td>2.2K</td><td></td><td>2W 1/4W</td><td>F</td></tra<>	NSISTOR>				R768	1-215-894-11 1-247-893-11		2.2K		2W 1/4W	F
Q701 Q702 Q703 Q704	8-729-326-11 *4-363-146-11 8-729-142-86 8-729-200-17 8-729-326-11	TRANSISTOR 2 HEAT SINK, V TRANSISTOR 2 TRANSISTOR 2 TRANSISTOR 2	. OUT; Q701 SC3733 SA1091-0			R774 R775 R777 R778	1-215-894-11 1-247-893-11 1-215-894-11 1-202-842-11	METAL OXIDE CARBON METAL OXIDE SOLID	2.2K 390K 2.2K 220K	5%	2W 1/4W 2W 1/2W	F
Q705 Q706 Q707 Q708	*4-363-146-11 8-729-142-86 8-729-200-17 8-729-200-17 8-729-326-11	HEAT SINK, V TRANSISTOR 2 TRANSISTOR 2 TRANSISTOR 2 TRANSISTOR 2	. OUT; Q704 SC3733 SA1091-0 SA1091-0			R779 R780 R781 R782	1-202-842-11 1-249-429-11 1-249-426-11 1-249-430-11	SOLID CARBON CARBON CARBON	12K	10% 5% 5% 5%	1/2W 1/4W 1/4W 1/4W	
Q709 Q710 Q712 Q714	*4-363-146-11 8-729-142-86 8-729-255-12 8-729-255-12 8-729-200-17	HEAT SINK, V TRANSISTOR 2 TRANSISTOR 2 TRANSISTOR 2 TRANSISTOR 2	SC3733 SC2551-0 SC2551-0			RV702	1-226-157-00 1-230-619-11 *4-379-160-01 *4-379-167-01	RES, ADJ, MET COVER (REAR L COVER (MAIN),	AL GLA AL GLA ID), C CV; R	ZE 110 V; RV7 V702		
Q715 Q716 Q727 Q728 Q729	8-729-200-17 8-729-200-17 8-729-803-76 8-729-803-76 8-729-803-76	TRANSISTOR 2 TRANSISTOR 2 TRANSISTOR 2 TRANSISTOR 2 TRANSISTOR 2	SA1091-0 SA1371-E SA1371-E			RV705 RV709	1-228-997-00 1-228-996-00 1-228-994-00	RES, ADJ, CAR	BON 47 BON 10	K K	*****	******
						1						



REF.NO.	PART NO.	DESCRIPTION	N		REMARK	REF.NO.	PART NO.	DESCRIPTION			REMARK
	*1-624-275-11					700					
		ACITOR>				100	<cap< td=""><td></td><td></td><td></td><td></td></cap<>				
C751 C752 C754 C756 C758	1-102-971-00 1-108-617-11 1-126-101-11 1-108-626-11 1-108-626-11		82PF 0.0018MF 100MF 0.01MF 0.01MF	5% 10% 20% 10%	50V 100V 16V 100V	C2502 C2503 C2504	1-123-356-00 1-136-153-00 1-124-791-11 1-124-791-11 1-130-483-00	FILM	10MF 0.01MF 1MF 1MF 0.01MF	5% 20% 20%	16V 50V 50V 50V 50V
C760 C761 C763 C764 C765	1-124-925-11 1-108-638-11 1-124-122-11 1-126-176-11 1-101-006-00	ELECT MYLAR ELECT ELECT CERAMIC	2.2MF 0.1MF 100MF	20% 10% 20% 20%	50V 100V 35V 6.3V 50V	C2507 C2508 C2509	1-108-816-11 1-124-927-11 1-136-165-00 1-130-483-00 1-130-481-00	MYLAR ELECT FILM MYLAR MYLAR	0.1MF 4.7MF 0.1MF 0.01MF 0.0068MF	5% 20% 5% 5% 5%	50V 50V 50V 50V 50V
C766	1-124-122-11	ELECT	100MF	20%	35V	C2512 C2520 C2521	1-124-791-11 1-102-947-00 1-130-471-00 1-136-161-00 1-123-356-00	CERAMIC	1MF 10PF 0.001MF 0.047MF 10MF	20% 0.5PF 5% 5% 20%	50V 50V 50V 50V 25V
L751 L752	1-408-411-00 1-410-482-31	I NDUCTOR I NDUCTOR	15UH 100UH			C2523 C2524	1-126-233-11 1-123-356-00 1-136-173-00 1-124-791-11 1-123-356-00	ELECT ELECT FILM ELECT ELECT	22MF 10MF 0.47MF 1MF 10MF	20% 20% 5% 20% 20%	25V 16V 50V 50V 25V
Q751 Q752 Q753 Q754 Q755	8-729-119-78 8-729-119-78 8-729-208-71 8-729-208-38 8-729-208-71		2SC2785-HFE 2SC3298B-0 2SA1306A-0			C2531	1-136-157-00 1-136-153-00 1-136-153-00 1-124-478-11 1-136-153-00	FILM	0.022MF 0.01MF 0.01MF 100MF 0.01MF	5% 5% 5% 20% 5%	50V 50V 50V 25V 50V
Q756 Q757	8-729-231-60 8-729-119-78	TRANSISTOR : TRANSISTOR :	2SC2785-HFE			C2552 C2553 C2554 C2555 C2556	1-124-477-11 1-126-101-11 1-136-153-00 1-123-356-00 1-123-356-00	ELECT	47MF 100MF 0.01MF 10MF 10MF	20% 20% 5% 20% 20%	16V 16V 50V 25V 25V
R751 R752 R753 R754 R755	1-249-409-11 1-249-409-11 1-249-415-11 1-249-416-11 1-216-431-11	CARBON CARBON CARBON CARBON METAL OXIDE	820 5%	1/4W 1/4W 1/4W 1/4W 1W	F	C2560	1-123-356-00 1-123-356-00 1-123-356-00 1-136-153-00 1-136-153-00	ELECT	10MF 10MF 10MF 0.01MF 0.01MF	20% 20% 20% 5%	25V 25V 25V 50V
R756 R757 R758 R759 R760	1-249-414-11 1-249-426-11 1-249-435-11 1-249-393-11 1-216-449-11	CARBON CARBON CARBON	10 5%	1/4W 1/4W 1/4W 1/4W 2W	F	C2571	1-123-356-00 1-124-478-11 1-136-153-00 1-124-477-11 1-126-101-11	FILM	10MF 100MF 0.01MF 47MF 100MF	20% 20% 5% 20% 20%	25V 25V 50V 16V 16V
R764 R765 R766 R767 R768	1-249-409-11 1-249-379-11 1-249-426-11 1-249-417-11 1-249-426-11	CARBON CARBON CARBON CARBON CARBON	220 5% 0.68 5% 5.6K 5% 1K 5% 5.6K 5%	1/4W 1/4W 1/4W 1/4W 1/4W	F	C2574 C2575 C2576 C2577 C2578	1-136-153-00 1-123-356-00 1-123-356-00 1-123-356-00 1-123-356-00	FILM ELECT ELECT ELECT ELECT	0.01MF 10MF 10MF 10MF 10MF	5% 20% 20% 20% 20%	50V 25V 25V 25V 25V
R769 R771 R772 R773 R776	1-249-405-11 1-249-423-11 1-249-391-11 1-249-396-11 1-249-379-11	CARBON CARBON CARBON CARBON CARBON	100 5% 3.3K 5% 6.8 5% 18 5% 0.68 5%	1/4W 1/4W 1/4W 1/4W 1/4W		C2579 C2580 C2581 C2582	1-123-356-00 1-136-153-00 1-136-153-00 1-123-356-00	ELECT FILM FILM ELECT	10MF 0.01MF 0.01MF 10MF	20% 5% 5% 20%	25V 50V 50V 25V
		NECTOR>					<d10< td=""><td></td><td></td><td></td><td></td></d10<>				
V2	*1-564-506-11 *1-564-507-11	PLUG, CONNEC	CTOR 3P CTOR 4P	******		D2502 D2503 D2504	8-719-911-19 8-719-911-19 8-719-911-19 8-719-911-19 8-719-911-19	DIODE 1SS119			
	*A-1345-864-A *1-564-515-11	********	*****			D2507 D2508 D2509	8-719-110-59 8-719-911-19 8-719-911-19				



REF.NO. PART NO.	DESCRIPTION				REMARK	REF.NO.	PART NO.	DESCRIPTION				REMARK
<10>						R2547 R2548 R2549	1-247-881-00 1-249-425-11 1-247-840-00	CARBON CARBON CARBON	120K 4.7K 2.4K	5% 5%	1/4W 1/4W 1/4W	
REF. NO. PART NO.  1C2501 8-759-240-53 1C2502 8-759-240-53 1C2503 8-752-033-68 1C2504 8-759-945-58 1C2505 8-759-945-58 1C2506 8-759-945-58 1C2507 8-759-945-58 1C2508 8-759-945-58 1C2509 8-759-942-16 1C2510 8-759-604-41 1C2512 8-759-604-35  1C2511 8-759-604-41 1C2512 8-759-982-26  CTRA  Q2501 8-729-119-76  RES  R2501 1-249-441-11 R2502 1-249-429-11 R2503 1-249-429-11 R2504 1-249-431-11 R2505 1-249-429-11 R2506 1-249-429-11 R2507 1-247-725-11 R2508 1-249-429-11 R2509 1-249-429-11 R2510 1-249-429-11 R2511 1-249-429-11 R2512 1-249-429-11 R2513 1-249-429-11 R2514 1-249-429-11 R2515 1-249-429-11 R2516 1-249-429-11 R2516 1-249-429-11 R2517 1-249-429-11	IC TC4053BP IC TC4053BP IC CXA1268P IC RC4558P IC RC4558P					R2550 R2551 R2552 R2553 R2554	1-215-886-11 1-249-433-11 1-249-435-11 1-249-441-11 1-249-434-11	METAL OXIDE CARBON CARBON CARBON CARBON	100 22K 33K 100K 27K	5% 5% 5% 5%	2W 1/4W 1/4W 1/4W 1/4W	F
IC2506 8-759-945-58 IC2507 8-759-945-58 IC2508 8-759-945-58 IC2509 8-759-942-16 IC2510 8-759-604-35	IC RC4558P IC RC4558P IC RC4558P IC TEA2031A IC M5F78M05					R2555 R2556 R2557 R2558 R2561	1-249-411-11 1-249-417-11 1-249-387-11 1-249-387-11 1-249-425-11	CARBON CARBON CARBON CARBON CARBON	330 1K 3.3 3.3 4.7K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	F
102511 8-759-604-41 102512 8-759-982-26	IC M5F79M05 IC RC78L12A					R2562 R2563	1-247-700-11 1-249-405-11	CARBON CARBON	100 100	5% 5%	1/4W 1/4W	
<tra< td=""><td>NSISTOR&gt;</td><td></td><td></td><td></td><td></td><td>R2570 R2571</td><td>1-249-441-11 1-215-862-11</td><td>METAL OXIDE</td><td>100K 68</td><td>5% 5%</td><td>1/4W 1W 1W</td><td>F</td></tra<>	NSISTOR>					R2570 R2571	1-249-441-11 1-215-862-11	METAL OXIDE	100K 68	5% 5%	1/4W 1W 1W	F
Q2501 8-729-119-76	TRANSISTOR 2SA	1175~	HFE			R2572	1-249-433-11	CARBON	22K	5%	1/4W	
<res< td=""><td>ISTOR&gt;</td><td>100K</td><td>5%</td><td>1 / A lal</td><td></td><td>R2573 R2574 R2575 R2580</td><td>1-249-433-11 1-249-429-11 1-249-418-11</td><td>CARBON CARBON CARBON CARBON</td><td>22K 10K 1.2K</td><td>5% 5% 5%</td><td>1/4W 1/4W 1/4W 1/4W</td><td></td></res<>	ISTOR>	100K	5%	1 / A lal		R2573 R2574 R2575 R2580	1-249-433-11 1-249-429-11 1-249-418-11	CARBON CARBON CARBON CARBON	22K 10K 1.2K	5% 5% 5%	1/4W 1/4W 1/4W 1/4W	
R2502 1-249-429-11 R2503 1-249-429-11 R2504 1-249-431-11 R2505 1-249-405-11	CARBON CARBON CARBON CARBON	10K 10K 15K 100	5% 5% 5%	1/4W 1/4W 1/4W 1/4W		R2581 R2582 R2583 R2584	1-247-903-00 1-249-441-11 1-249-429-11 1-247-883-00	CARBON CARBON CARBON CARBON	1M 100K 10K	5% 5% 5%	1/4W 1/4W 1/4W 1/4W	
R2506 1-249-427-11 R2507 1-247-725-11	CARBON CARBON	6.8K 10K	5% 5%	1/4W 1/4W		R2585	1-247-895-00	CARBON	470K	5%	1/4W	
R2508 1-249-429-11 R2509 1-249-429-11 R2510 1-249-429-11	CARBON CARBON	10K 10K 10K	5% 5% 5%	1/4W 1/4W 1/4W		R2586 R2587 R2588	1-249-423-11 1-249-437-11 1-249-437-11	CARBON CARBON CARBON	3.3K 47K 47K	5% 5% 5%	1/4W 1/4W 1/4W 1/4W	
R2511 1-249-429-11 R2512 1-249-462-11 R2513 1-249-433-11	CARBON CARBON CARBON	10K 22K	5% 5%	1/4W 1/4W		R2590	1-249-429-11	CARBON	10K	5% 5%	1/4W	
R2514 1-249-429-11 R2515 1-249-429-11	CARBON CARBON	10K 10K	5% 5%	1/4W 1/4W		12371	1 247 427 11	CHROON	1011	3.4	1/ 4#	
R2516 1-249-429-11	CARBON	10K	5%	1/4W		DUOFOO	< V A R	IABLE RESISTOR	) DOM: 10	ıV.		
R2517 1-249-429-11 R2518 1-249-429-11 R2519 1-249-429-11 R2520 1-249-433-11	CARBON	10K 10K 10K 22K	5% 5% 5%	1/4W 1/4W 1/4W 1/4W		RV2500 RV2501 RV2502 RV2503	1-228-994-00 1-228-994-00 1-228-994-00 1-228-994-00	RES, ADJ, CAR RES, ADJ, CAR RES, ADJ, CAR RES, ADJ, CAR RES, ADJ, CAR	BON 10 BON 10 BON 10 BON 10	K K K		
R2521 1-249-433-11 R2522 1-249-433-11	CARBON	22K	5%	1/4W		RV2505	1-228-994-00	RES, ADJ, CAR RES, ADJ, CAR	BON 10	K		
R2523 1-249-468-11 R2524 1-249-429-11 R2525 1-249-433-11	CARBON	82K 10K 22K	5% 5% 5%	1/4W 1/4W 1/4W		RV2508 RV2509	1-228-994-00 1-228-994-00	RES, ADJ, CAR RES, ADJ, CAR RES, ADJ, CAR	BON 10 BON 10	K		
R2526 1-249-437-11 R2527 1-247-891-00 R2528 1-249-427-11	CARBON	47K 330K 6.8K	5% 5% 5%	1/4W 1/4W 1/4W		RV2511	1-228-994-00 1-228-994-00		BON 10	K		
R2529 1-247-887-00 R2531 1-249-429-11	CARBON	220K 10K	5% 5%	1/4W 1/4W		RV2513 RV2514	1-228-994-00	RES, ADJ, CAR RES, ADJ, CAR RES, ADJ, CAR	BON 10 BON 10	K K		
R2532 1-249-441-11 R2533 1-249-429-11		100K 10K	5% 5%	1/4W 1/4W		RV2516	1-228-999-00	RES, ADJ, CAR	BON 47	ОК		
R2534 1-249-429-11 R2535 1-249-423-11 R2536 1-247-891-00	CARBON	10K 3.3K 330K	5% 5% 5%	1/4W 1/4W 1/4W		RV2518 RV2519	1-228-994-00	RES, ADJ, CAR RES, ADJ, CAR	BON 47 BON 10	OK K		
R2540 1-247-700-11 R2541 1-249-435-11		100 33K	5% 5%	1/4W 1/4W	F			RES, ADJ, CAR			*****	*******
R2542 1-249-435-11 R2543 1-249-439-11 R2544 1-249-433-11	CARBON CARBON	33K 68K 22K	5% 5% 5%	1/4W 1/4W 1/4W		i.		D1 BOARD, COM	PLETE			
R2545 1-249-417-11 R2546 1-249-432-11		1 K 18 K	5% 5%	1/4W 1/4W				PIN, CONNECTO PIN, CONNECTO		PITC	I) 3P	



Les composants identifies par une trame et une marque \( \begin{align\*} \Lambda \) sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark  $\triangle$  are critical for safety.

Replace only with part number specified.

REF.NO. PART NO.	DESCRIPTION	N 10		REMARK	REF.NO.	PART NO.	DESCRIPTION			REMARK
*1-508-766-00 *1-508-768-00 *1-508-784-00	PIN, CONNECT	OR (5MM PIT OR (5MM PIT	CH) 6P		C560 C561	1-130-473-00 1-125-494-11 1-126-101-11	ELECT (BLOCK) ELECT	0.0015MF 560MF 100MF	5% 20% 20%	50V 160V 16V
*1-564-505-11 *1-564-507-11 *1-564-515-11 *1-568-536-11 *4-341-751-01	PLUG, CONNEC	CTOR 4P CTOR 12P CURE DY) 6P			C564	1-126-101-11 1-106-393-00 1-108-704-11 1-102-820-00	MYLAR		20% 10% 10% 5%	16V 200V 200V 50V 160V
*4-341-752-01	EYELET PACITOR>				C567 C568 A C569 A	1-102-320-00 1-123-024-21 1-108-638-11 1-162-134-91 1-162-135-91 1-130-706-11 1-129-747-11	MYLAR	0.1MF 470PF 560PF 0.008MF	10%	100V 2KV 2KV 1.6KV
C501 1-130-491-00 C502 1-106-371-00 C503 1-162-117-00 C504 1-106-220-00 C505 1-123-330-00	MYLAR MYLAR CERAMIC MYLAR ELECT	0.047MF 0.015MF 100PF 0.1MF 22MF	5% 10% 10% 10% 20%	50V 100V 500V 100V 16V	1 (3/3	1-129-751-00 1-102-030-00 1-126-101-11	FILM CERAMIC ELECT	0.047MF 0.1MF 330PF 100MF	10% 20% 10% 20%	400V 400V 500V 16V
C506 1-106-367-00 C507 1-130-480-00	MYLAR	0.01MF 0.0056MF	10%	100V 50V	C576 C577	1-136-157-00 1-124-963-11	FILM	0.022MF 33MF	5% 20%	50V 16V
C508 1-124-925-11 C509 A. 1-124-477-91 C510 1-124-927-11	ELECT ELECT ELECT	2.2MF 47MF 4.7MF	20% 20% 20%	50V 25V 50V	C584	1-102-824-00 1-124-902-00 1-126-233-11 1-108-692-11	ELECT ELECT MYLAR	470PF 0.47MF 22MF 0.01MF	5% 20% 20% 10%	50V 50V 50V 200V 500V
C511 1-102-820-00 C512 1-124-120-11 C513 1-124-902-00 C514 1-124-902-00 C515 1-124-791-11	ELECT ELECT ELECT	330PF 220MF 0.47MF 0.47MF 1MF	5% 20% 20% 20% 20%	50V 16V 50V 50V 50V	C585 C586 C587 C588	1-102-038-00 1-102-038-00 1-102-038-00 1-126-105-11	CERAMIC CERAMIC ELECT	0.001MF 0.001MF 0.001MF 1000MF	20%	500V 500V 35V
C516 1-130-479-00 C517 1-130-479-00		0.0047MF 0.0047MF	5% 5%	50V 50V	C589 C590	1-124-557-11 1-124-557-11	ELECT ELECT	1000MF 1000MF	20% 20%	25V 25V
C518 1-124-902-00 C519 1-136-173-00 C520 1-126-103-11	FILM ELECT	0.47MF 0.47MF 470MF	20% 5% 20%	50V 50V 16V	C1501 C1502	1-124-910-11 1-124-006-11 1-102-973-00 1-102-978-00	CERAMIC CERAMIC	47MF 10MF 100PF 220PF	20% 20% 5% 5%	50V 25V 50V 50V
C521 1-136-161-00 C522 1-102-121-00 C523 1-126-233-11 C524 1-126-103-11 C525 1-124-480-11	CERAMIC ELECT ELECT ELECT	0.047MF 0.0022MF 22MF 470MF 470MF	5% 10% 20% 20% 20%	50V 50V 50V 16V 25V	C1504 C1505 C1506	1-124-046-00 1-102-030-00 1-106-381-12 1-123-267-00 1-108-698-11	MYLAR ELECT	330PF 0.039MF 2.2MF 0.033MF	20% 10% 10% 20% 10%	500V 200V 160V 200V
C527 1-124-963-11 C528 1-102-231-11 C529 1-136-153-00 C530 1-123-356-00 C531 1-136-163-00	CERAMIC FILM	33MF 47PF 0.01MF 10MF 0.068MF	20% 10% 5% 20% 5%	16V 500V 50V 25V 50V	C1508	1-108-038-11 1-124-478-11 1-102-973-00 1-136-161-00 1-124-478-11	ELECT	100MF 100PF 0.047MF 100MF	20% 5%	50V 50V 50V 25V
C532 1-123-932-00 C533 1-124-242-00			20%	160V 16V	C1513	1-124-478-11 1-123-369-00	ELECT	100MF 4.7MF	20% 20%	25V 25V
C534 1-124-465-00 C540 1-102-125-00 C541 1-106-375-12	ELECT CERAMIC MYLAR	0.47MF 0.0047MF 0.022MF	20% 10% 10%	50V 50V 100V	C1516 C1517	1-106-216-00 1-106-224-00 1-124-902-00 1-106-383-00	MYLAR MYLAR ELECT MYLAR	0.068MF 0.15MF 0.47MF 0.047MF	10% 10% 20% 10%	100V 100V 50V 100V
C542 1-102-978-00 C543 1-102-157-00 C544 1-102-038-00 C545 1-108-698-11 C546 1-102-820-00	CERAMIC CERAMIC CERAMIC MYLAR CERAMIC	220PF 560PF 0.001MF 0.033MF 330PF	5% 10% 10% 5%	50V 500V 500V 200V 50V	C1519	1-136-165-00 1-136-153-00	FILM	0.1MF 0.01MF	5% 5%	50V 50V
C547 1-162-115-00 C548 1-129-953-00 C549 1-162-115-00 C550 1-136-086-00 C551 1-129-722-00	CERAMIC FILM CERAMIC FILM FILM	330PF 0.068MF 330PF 0.017MF 0.047MF	10% 20% 10% 3% 5%	2KV 1.5KV 2KV 2KV 630V	D501 D502 D503 A D504 D505	8-719-110-39 8-719-911-19 .8-719-109-82 8-719-110-39 8-719-109-88	DIODE RD15ES DIODE 1SS119	S-B3 -B1		
C552 1-108-684-11 C553 1-136-597-11 C554 1-102-244-00 C555 1-162-318-11 C556 1-136-598-11	MYLAR FILM CERAMIC CERAMIC FILM	0.0022MF 0.89MF 220PF 0.001MF 3MF	10% 5% 10% 10% 5%	200V 200V 500V 500V 200V	D506 D507 D508 A	8-719-911-19 8-719-110-67 .8-719-302-43 8-719-911-19	DIODE 1SS119 DIODE RD27ES DIODE EL1Z DIODE 1SS119	-B2		
C557 1-124-927-11 C558 1-102-116-00	ELECT CERAMIC	4.7MF 680PF	20% 10%	50V 50V	D510 D511	8-719-200-02 8-719-901-19	DIODE VIIN			

The components identified by shading and mark  $\triangle$  are critical for safety.

Replace only with part number specified.

Les composants identifies par une trame et une marque A sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO. PART NO.	DESCRIPTION	REMARK
D512 D513 D514 D515 D516	8-719-945-80 8-719-900-26 8-719-945-80	DIODE ERD29-08J DIODE ERC06-15S DIODE ERD29-08J DIODE ERC06-15S DIODE RH-1A			N LAMP>	
D517 D518 D519 D521 D522	8-719-979-85	DIODE RH-1A DIODE EGP20G DIODE 1SS119 DIODE 10E2 DIODE RH-1A		0501 8-729-119-76	NSISTOR>	
D523 D525 D526 D527 D528	8-719-300-76 8-719-109-93 8-719-911-19 8-719-110-61 8-719-979-85	DIODE RH-1A DIODE RD6.2ES-B2 DIODE 1SS119 DIODE RD24ES-B1 DIODE EGP20G  DIODE EGP20G DIODE EGP20G DIODE EGP20G DIODE ISS119		Q502	TRANSISTOR 2SC2785-HFE TRANSISTOR 2SC2785-HFE TRANSISTOR 2SA1175-HFE TRANSISTOR 2SC2785-HFE TRANSISTOR 2SC2785-HFE	
D529 D530 D531 D532 D533	8-719-979-85 8-719-979-85 8-719-911-19 8-719-911-19 8-719-911-19	DIODE EGP20G DIODE EGP20G DIODE ISS119 DIODE ISS119 DIODE ISS119		1	TRANSISTOR 2SC2785-HFE TRANSISTOR 2SC2238B-0 TRANSISTOR 2SD1941-07 SPRING (D); Q509 TRANSISTOR 2SD774-24	
D534 D535 D536 D537	8-719-971-20 8-719-971-20 8-719-911-55 8-719-911-19	DIODE ERC38-06 DIODE ERC38-06 DIODE UO5G DIODE ISS119		0 7 1 0 7 20 1 40 07	TRANSISTOR 2SD774-34 TRANSISTOR 2SB734-34 TRANSISTOR 2SC3298B-0 TRANSISTOR 2SD788-5 TRANSISTOR 2SD1941-07	
D538 D539 D540 D541 D550	8-719-911-19 8-719-300-76 8-719-945-81 8-719-911-55 8-719-911-19	DIODE ISS119  DIODE RH-1A DIODE ERCO6-15SA DIODE UO5G DIODE ISS119 DIODE ISS119		4-381-907-01 *4-381-907-01	SPRING (D); Q514 TRANSISTOR 2SC2023-Y SPRING (D); Q515 INSULATOR (A); Q515. TRANSISTOR 2SA979-G	
D551 D552 D1505 D1506	0 117 711 17	DIODE 1SS119 DIODE 10E2		Q522 8-729-309-08 Q523 8-729-313-82 *4-381-905-01	TRANSISTOR 2SC2958-L TRANSISTOR 2SC1890A-E TRANSISTOR 2SD1138-C SPRING (D); Q523 INSULATOR (A); Q523	
F501 A	<fus< td=""><td>E&gt; FUSE, MICRO (SECONDARY) 2A/125V</td><td></td><td>9525 8-729-300-80 *4-381-905-01 *4-381-907-01</td><td>TRANSISTOR 2SA1175-HFE TRANSISTOR 2SB860 SPRING (D): Q525 INSULATOR (A): Q525 TRANSISTOR 2SA979-G</td><td></td></fus<>	E> FUSE, MICRO (SECONDARY) 2A/125V		9525 8-729-300-80 *4-381-905-01 *4-381-907-01	TRANSISTOR 2SA1175-HFE TRANSISTOR 2SB860 SPRING (D): Q525 INSULATOR (A): Q525 TRANSISTOR 2SA979-G	
10502 10503	<1C> * 8-759-100-60 * 8-759-982-26 * 8-759-345-38 * 1-808-839-11	IC UPC1377C IC RC78L12A IC HD14538BP		Q527 8-729-140-96 Q528 8-729-140-97 Q529 8-729-306-92 *4-381-905-01	TRANSISTOR 2SD774-34 TRANSISTOR 2SB734-34 TRANSISTOR 2SD669A-C SPRING (D); Q529 INSULATOR (A); Q529	
	8-759-700-42 <coi< td=""><td>IC NJM2904D</td><td></td><td>*4-381-907-01</td><td>TRANSISTOR 2SD669A-C SPRING (D); Q530 INSULATOR (A); Q530 TRANSISTOR 2SC2958-L</td><td></td></coi<>	IC NJM2904D		*4-381-907-01	TRANSISTOR 2SD669A-C SPRING (D); Q530 INSULATOR (A); Q530 TRANSISTOR 2SC2958-L	
L501 L502 L503	1-459-215-00 1-407-365-00	COIL, SPOOK CHOKE 3.3UH CORE COIL COIL, CHOKE		1	STOR>	
L504 L505	1-459-104-00	COIL, CHOKE COIL, CHOKE COIL, DUST CORE		R503 1-247-700-11 R504 1-249-430-11	CARBON 2.7K 5% CARBON 100 5% CARBON 12K 5%	1/4W 1/4W 1/4W 1/4W
L507 L508 L509 L510	1-459-123-00 1-407-365-00 1-407-365-00 1-408-159-00 1-408-159-00	COIL, DUST CORE (PAC) COIL, CHOKE COIL, CHOKE COIL, SPOOK CHOKE 3.3UH COIL, SPOOK CHOKE 3.3UH		R506 1-249-405-11 R507 1-249-429-11 R508 1-249-421-11	CARBON 100 5% CARBON 10K 5% CARBON 2.2K 5%	1/4W 1/4W 1/4W 1/4W 1/4W
L512 L513 L514 L515	1-408-159-00 1-459-060-00 1-443-012-00 1-459-060-00	COIL, SPOOK CHOKE 3.3UH COIL, DYNAMIC CONVERSION CHOKE TRANSFORMER, DYNAMIC CONVERSION COIL, DYNAMIC CONVERSION CHOKE		R510 1-249-429-11 R511 1-247-895-00 R512 1-249-435-11 R513 1-249-432-11	CARBON 10K 5%  CARBON 470K 5%  CARBON 33K 5%  CARBON 18K 5%	1/4W 1/4W 1/4W 1/4W
L516	1-408-247-00	INDUCTOR 33MMH		R514 1-249-431-11	CARBON 15K 5%	1/4W



Les composants identifies par une trame et une marque A sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark A are critical for safety.

Replace only with part number specified.

REF.NO. PART NO.	DESCRIPTION				REMARK	REF.NO.	PART NO.	DESCRIPTION				RE	MARK
R518 1-249-428-11	CARBON CARBON CARBON CARBON CARBON	12K 56K 3.9K 8.2K 33K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W		R586 R587 R588 R589 R590	1-249-444-11 1-249-444-11 1-249-382-11 1-247-700-11 1-216-424-11	CARBON CARBON CARBON CARBON METAL OXIDE	0.56 0.56 1.2 100 39	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W	4444	
R520 1-249-435-11 R521 1-249-409-11 R522 1-249-421-11 R523 1-247-887-00 R524 1-249-435-11	CARBON CARBON CARBON CARBON CARBON	33K 220 2.2K 220K 33K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W		R591 R592 R593 R594 R595	1-249-425-11 1-247-717-11 1-247-706-11 1-249-425-11 1-247-725-11	CARBON CARBON CARBON CARBON CARBON	4.7K 2.2K 330 4.7K 10K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W	F	
R525 1-249 441-11 R527 1-249-433-11 R528 1-249-433-11 R529 1-247-881-00 R530 1-249-440-11	CARBON CARBON CARBON CARBON	100K 22K 22K 120K 82K	5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W		R596 R597 R598 R599 R1501 R1504	1-249-469-11 1-247-722-11 1-249-441-11 1-249-417-11 1-249-462-11 1-249-429-11	CARBON CARBON CARBON CARBON CARBON CARBON CARBON	100K 5.6K 100K 1K 22K 10K	5% 5% 5% 5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	F	
R531 1-247-850-11 R532 1-249-439-11 R533 1-215-448-00 R534 1-247-879-91 R536 1-249-417-91 R537 1-249-435-11	CARBON CARBON METAL CARBON CARBON	6.2K 68K 13K 100K 1K	5% 1% 5% 5%	1/4W 1/4W 1/6W 1/4W 1/4W	F	R1504 R1505 R1506 R1507 R1508 R1510	1-249-429-11 1-249-426-11 1-202-727-00 1-249-439-11 1-247-717-11	CARBON CARBON SOLID CARBON CARBON	10K 5.6K 4.7M 68K 2.2K	5% 5% 10% 5%	1/4W 1/4W 1/2W 1/4W 1/4W		
R538 A. 1-246-493-75 R539 1-247-701-11 R540 1-247-725-11 R541 1-249-427-11 R542 1-249-417-11	CARBON CARBON CARBON CARBON	6.8K 120 10K 6.8K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W	F	R1511 R1520 R1521 R1522 R1523	1-249-422-11 1-249-417-11 1-249-429-11 1-247-840-00 1-249-408-11	CARBON CARBON CARBON CARBON CARBON	2.7K 1K 10K 2.4K 180	5%% 5%% 5%% 5%%	1/4W 1/4W 1/4W 1/4W 1/4W		
R545 1-249-429-11 R546 1-247-704-11 R547 1-249-417-11	CARBON CARBON CARBON CARBON	470 10K 10K 220	5% 5%	1/4W 1/4W 1/4W 1/4W		R1524 R1525 R1526 R1527 R1528	1-247-697-11 1-247-840-00 1-249-405-11 1-247-725-11 1-249-448-11	CARBON CARBON CARBON CARBON CARBON	56 2.4K 100 10K 1.2	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	F	
R550 1-249-435-11 R551 1-249-439-11 R552 1-249-431-11	CARBON	8.2K 100 33K 68K	5% 5% 5%	1/4W 1/4W 1/4W 1/4W	F	R1529 R1530 R1531 R1532 R1533	1-249-448-11 1-215-866-11 1-216-351-00 1-249-448-11 1-249-430-11	CARBON METAL OXIDE METAL OXIDE CARBON CARBON	1.2 330 1.5 1.2 12K	5% 5% 5% 5%	1/4W 1W 1W 1/4W 1/4W	FFF	
R553	CARBON CARBON CARBON CARBON	330 470K 100 1K		1/4W	F	R1540 R1541 R1542 R1543 R1544	1-249-417-11 1-249-429-11 1-249-417-11 1-249-425-11 1-249-409-11	CARBON CARBON CARBON CARBON CARBON	1K 10K 1K 4.7K 220	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W		
R565 1-249-385-11 R566 1-216-482-11 R567 1-215-918-00	METAL OXIDE CARBON CARBON METAL OXIDE METAL OXIDE	56 2.2 1.8K 1.5K	5% 5% 5% 5%	1/4W 1/4W 3W	F F F	R1545 R1546 R1547 R1548 R1549	1-249-421-11 1-249-417-11 1-249-452-11 1-249-452-11 1-215-864-00	CARBON CARBON CARBON CARBON METAL OXIDE	2.2K 1K 2.7 2.7 150	5% 5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1W	FFF	
R568 1-216-482-11 R569 1-215-918-00 R570 1-249-448-11 R571 1-249-448-11 R572 1-249-385-11	METAL OXIDE METAL OXIDE CARBON CARBON	1.8K 1.5K 1.2 1.2	5% 5% 5% 5% 5%	1/4W 1/4W	F F F	R1550 R1551 R1555 R1558 R1559	1-249-429-11 1-216-351-00 1-249-448-11 1-216-350-11 1-249-417-11	CARBON METAL OXIDE CARBON METAL OXIDE CARBON	10K 1.5 1.2 1.2	5% 5% 5% 5% 5%	1/4W 1W 1/4W 1W 1/4W	F	
R573 1-249-385-11 R574 1-215-880-00 R575 1-215-868-00 R576 1-216-424-11 R577 1-246-545-00		2.2 10 680 39	5% 5% 5% 5% 5%	2W 1W 1W	F	R1560 R1561 R1570 R1571 R1572	1-247-694-11 1-249-411-11 1-249-430-11 1-249-417-11 1-249-423-11	CARBON CARBON CARBON CARBON CARBON	33 330 12K 1K 3.3K	5%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%	1/4W 1/4W 1/4W 1/4W 1/4W		
R578 1-216-434-11 R579 1-215-919-11 R580 1-249-411-11 R581 1-249-429-11	METAL OXIDE METAL OXIDE CARBON CARBON	1.8K 2.2K 330 10K	5% 5% 5%	1/4W	F	R1573 R1574	1-249-411-11 1-249-417-11	CARBON CARBON	330 1K	5% 5%	1/4W 1/4W		
R582 1-216-374-00 R583 1-247-697-11 R584 1-249-448-11 R585 1-249-448-11	METAL OXIDE CARBON CARBON CARBON	2.7 56 1.2 1.2	5% 5% 5%		F	RV501 RV502	1-228-993-00	RES, ADJ, CAR RES, ADJ, CAR RES, ADJ, CAR	BON 4.				

The components identified by shading and mark  $\triangle$  are critical for safety.

Replace only with part number specified.

Les composants identifies par une trame et une marque A sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.



REF.NO. PART NO.	DESCRIPTION			REMARK	REF.NO.	PART NO.	DESCRIPTI	ON		REMARK
RV503 1-228-990-00	RES, ADJ, CARI	BON 1K			C2325	1-124-589-11	ELECT	47MF	20%	16V
RV503 1-228-990-00 <spa SG501 1-519-063-99</spa 	RK GAP>	AP			C2326 C2327 C2328 C2329 C2330	1-126-157-11 1-101-004-00 1-124-589-11 1-101-004-00 1-124-120-11	ELECT CERAMIC ELECT CERAMIC ELECT	10MF 0.01MF 47MF 0.01MF 220MF	20% 20% 20%	16V 50V 16V 50V 16V
<tra< td=""><td>NSFORMER&gt;</td><td></td><td></td><td></td><td>C2331</td><td>1-126-157-11</td><td>ELECT</td><td>10MF</td><td>20%</td><td>16V</td></tra<>	NSFORMER>				C2331	1-126-157-11	ELECT	10MF	20%	16V
T501 1-437-089-00 T502 1-437-089-00 T503 1-439-356-11	TRANSFORMER, I TRANSFORMER, I HOT	HORIZONTAL DI	RIVE		C2332 C2333 C2334 C2335	1-124-589-11 1-126-157-11 1-124-589-11 1-124-589-11	ELECT ELECT ELECT ELECT	47MF 10MF 47MF 47MF	20% 20% 20% 20%	16V 16V 16V 16V
TRA  T501 1-437-089-00 T502 1-437-089-00 T503 1-439-356-1 T504 1-421-794-11 T505 1-459-817-11  T506 1-407-849-00 T507 ⚠.1-439-469-11	TRANSFORMER, I TRANSFORMER, I TRANSFORMER, I	D.F LINE OUTPUT			C2336 C2337 C2338 C2339	1-101-004-00 1-124-589-11 1-101-004-00 1-124-589-11	CERAMIC ELECT CERAMIC ELECT	0.01MF 47MF 0.01MF 47MF	20% 20%	50V 16V 50V 16V 50V
************	*********	********	*****	******	C2341	1-124-257-00	FIFCT	2 2MF	20%	50V
*1-564-520-11	H4 BOARD ******* PLUG CONNECTO	OR 5P			C2342 C2343 C2344 C2345	1-124-438-00 1-102-971-00 1-124-438-00 1-136-157-00	ELECT CERAMIC ELECT MYLAR	1MF 82PF 1MF 0.022MF	20% 5% 20%	50V 50V 50V 50V
7 301 320 11	reco, comment	5H 5H			C2346	1-102-973-00	CERAMIC	100PF	5%	50V
**************************************	TCH> SWITCH, SLIDE SWITCH, SLIDE				C2347 C2348 C2349 C2350	1-124-438-00 1-136-165-00 1-124-589-11 1-124-589-11	ELECT MYLAR ELECT ELECT	1MF 0.1MF 47MF 47MF	20% 10% 20% 20%	50V 50V 16V 16V
************	********	******	*****	******	C2351	1-101-004-00	CERAMIC	0.01MF	20%	50V
*A-1373-224-A	U BOARD, COMPI	LETE ****			C2353 C2354 C2355	1-124-589-11 1-101-004-00 1-124-589-11 1-124-589-11	CERAMIC ELECT ELECT	0.01MF 47MF 47MF	20%	16V 50V 16V 16V
**************************************	TERMINAL BUARI TERMINAL BOARI TERMINAL BOARI EYELET (EY7,E' EYELET (EY1,E'	D, INPUT/OUTH D, INPUT/OUTH D, INPUT/OUTH Y8) Y2,EY3,EY4,E	PUT PUT PUT Y5, EY6	, EY9,	C2356 C2401 C2402 C2403 C2404	1-106-351-00 1-102-959-00 1-102-965-00 1-102-965-00 1-102-965-00	MYLAR CERAMIC CERAMIC CERAMIC CERAMIC	0.0022MF 22PF 39PF 39PF 39PF	10% 5% 5% 5%	100V 50V 50V 50V 50V
	EY10, EY11, EY12	2,EY13)			C2405	1-101-880-00	CERAMIC	47PF	5%	50V
<pre><cap 1-124-589-11="" 1-126-157-11="" 1-126-157-11<="" 1-136-165-00="" c2301="" c2302="" c2303="" c2304="" c2305="" pre=""></cap></pre>	ACITOR>	O. 1MF	5%	50V	C2406 C2407 C2408 C2409	1-101-880-00 1-101-880-00 1-102-820-00 1-126-176-11	CERAMIC CERAMIC CERAMIC ELECT	47PF 47PF 330PF 220MF	5% 5% 5% 20%	50V 50V 50V 10V
C2302 1-124-589-11 C2303 1-124-589-11 C2304 1-126-157-11 C2305 1-126-157-11	ELECT 4 ELECT ELECT ELECT	47MF 47MF 10MF 10MF	20% 20% 20% 20%	16V 16V 16V 16V	1 64444	1 144 101 11	ELECT	41111	20% 20%	25V 50V 16V
C2306 1-136-165-00		0.1MF -	5%	50V	C2423 C2424	1-101-004-00 1-126-176-11	CERAMIC ELECT	0.01MF 220MF	20%	50V 10V
C2307 1-124-589-11 C2308 1-124-589-11 C2309 1-136-165-00 C2310 1-124-589-11	ELECT A	47MF 0.1MF	20% 20% 5% 20%	16V 16V 50V 16V	C2425 C2426 C2491 C2492	1-126-157-11 1-124-589-11 1-124-478-11 1-124-120-11	ELECT ELECT ELECT ELECT	10MF 47MF 100MF 220MF	20% 20% 20% 20%	16V 16V 25V 16V
C2311 1-124-589-11 C2312 1-126-157-11		17MF 10MF	20% 20%	16V 16V		1-101-004-00	CERAMIC	0.01MF	20%	50V
C2313 1-126-157-11 C2314 1-136-165-00 C2315 1-124-589-11	FILM (	lOMF D.1MF	20% 5% 20%	16V 50V 16V		1-126-101-11 1-126-101-11 1-101-006-00	ELECT ELECT CERAMIC	100MF 100MF 0.047MF	20% 20%	16V 16V 50V
C2316 1-124-589-11 C2317 1-126-157-11		17MF 10MF	20% 20%	16V 16V		<dio< td=""><td>DE&gt;</td><td></td><td></td><td></td></dio<>	DE>			
C2318 1-124-589-11 C2319 1-124-589-11 C2320 1-124-589-11	ELECT Z	47MF :	20% 20% 20%	16V 16V 16V	D2401 D2402 D2403	8-719-109-93 8-719-911-19 8-719-911-19		19		
C2321 1-124-589-11 C2322 1-124-589-11	ELECT	17MF 2	20% 20%	16V 16V	D2404 D2404 D2405	8-719-911-19 8-719-911-19	DIODE 1SS1 DIODE 1SS1	19		
C2323 1-126-157-11 C2324 1-126-157-11		LOMF 2	20% 20%	16V 16V	D2406	8-719-110-03	DIODE RD7.	5ES-B2		



REF.NO. PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION			REMARK
D2407 8-719-110-03 D2408 8-719-110-03	DIODE RD7.5ES-B2 DIODE RD7.5ES-B2		Q2413 Q2414 Q2415	8-729-119-78 8-729-119-78 8-729-119-78	TRANSISTOR 2SC27 TRANSISTOR 2SC27 TRANSISTOR 2SC27	85-HFE 85-HFE 85-HFE 4ES 4ES		
IC2301 8-759-710-41 IC2302 8-759-710-41 IC2303 8-759-710-41 IC2304 8-759-140-53	IC NJM2245D IC NJM2245D IC NJM2245D IC UPD4053BC		Q2418	8-729-119-78 <res< td=""><td>TRANSISTOR 2SC27</td><td>85-HFE</td><td></td><td></td></res<>	TRANSISTOR 2SC27	85-HFE		
102305 8-759-140-53 102306 8-759-102-37 102307 8-759-102-37 102311 8-759-604-39 *4-363-146-00 4-382-254-01	IC NJM2245D IC NJM2245D IC NJM2245D IC NJM2245D IC UPD4053BC IC UPD4052BC IC UPD4052BC IC UPD4052BC IC UPD4052BC IC M5F78M12 HEAT SINK, V.OUT; IC2311 SCREW (3X8), P, SW (+); IC2311		R2301 R2302 R2303 R2304 R2305	1-247-104-00 1-247-104-00 1-247-104-00 1-247-713-11 1-247-713-11	CARBON 75 CARBON 75 CARBON 75 CARBON 1K CARBON 1K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
1C2312 8-759-604-29 1C2401 8-759-900-09 1C2402 8-759-005-65 1C2403 8-759-005-63	IC UPD4052BC IC UPD4052BC IC UPD4052BC IC M5F78M12 HEAT SINK, V.OUT; IC2311 SCREW (3X8), P, SW (+); IC2311 IC M5F7805 IC SN74LS09N IC SN74LS138N IC SN74LS138N IC SN74LS136N  L>  ENCAPSULATED COMPONENT  TRANSISTOR 2SC2785-HFE TRANSISTOR 2SC2785-HFE TRANSISTOR 2SA1175-HFE TRANSISTOR 2SA1175-HFE TRANSISTOR 2SA1175-HFE TRANSISTOR 2SC2785-HFE		R2306 R2307 R2308 R2309 R2310	1-247-713-11 1-247-104-00 1-247-104-00 1-247-104-00 1-247-713-11	CARBON 1K CARBON 75 CARBON 75 CARBON 75 CARBON 1K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
COI L2301 1-236-728-11 L2302 1-236-728-11	L>  ENCAPSULATED COMPONENT ENCAPSULATED COMPONENT		R2311 R2312 R2313 R2314 R2315	1-247-713-11 1-247-713-11 1-247-104-00 1-249-417-11 1-247-104-00	CARBON 1K CARBON 1K CARBON 75 CARBON 1K CARBON 75	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
L2303 1-236-728-11 L2304 1-236-728-11 <tra< td=""><td>ENCAPSULATED COMPONENT ENCAPSULATED COMPONENT NSISTOR&gt;</td><td></td><td>R2316 R2317 R2318 R2319 R2320</td><td>1-247-104-00 1-247-104-00 1-247-104-00 1-247-713-11 1-249-440-11</td><td>CARBON 75 CARBON 75 CARBON 75 CARBON 15 CARBON 182</td><td>5% 5% 5% 5%</td><td>1/4W 1/4W 1/4W 1/4W</td><td></td></tra<>	ENCAPSULATED COMPONENT ENCAPSULATED COMPONENT NSISTOR>		R2316 R2317 R2318 R2319 R2320	1-247-104-00 1-247-104-00 1-247-104-00 1-247-713-11 1-249-440-11	CARBON 75 CARBON 75 CARBON 75 CARBON 15 CARBON 182	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W	
Q2301     8-729-119-78       Q2302     8-729-119-78       Q2303     8-729-119-76       Q2304     8-729-119-78       Q2305     8-729-119-76	TRANSISTOR 2SC2785-HFE TRANSISTOR 2SC2785-HFE TRANSISTOR 2SA1175-HFE TRANSISTOR 2SC2785-HFE TRANSISTOR 2SA1175-HFE		R2321 R2322 R2323 R2324	1-249-434-11 1-249-428-11 1-247-700-11 1-247-700-11	CARBON 27 CARBON 8. CARBON 10 CARBON 10	K 5% 2K 5% 0 5% 0 5%	1/4W 1/4W 1/4W 1/4W	
42306     8-729-119-76       42307     8-729-119-76       42308     8-729-119-78       42309     8-729-119-78       42310     8-729-119-76	TRANSISTOR 2SA1175-HFE TRANSISTOR 2SA1175-HFE TRANSISTOR 2SC2785-HFE TRANSISTOR 2SC2785-HFE TRANSISTOR 2SA1175-HFE		R2326 R2327 R2328 R2329	1-247-725-11 1-247-713-11 1-247-725-11 1-247-713-11	CARBON 10 CARBON 1K CARBON 10 CARBON 10 CARBON 1K	K 5% 5% K 5%	1/4W 1/4W 1/4W 1/4W	
Q2313 8-729-119-76	TRANSISTOR 2SC2785-HFE TRANSISTOR 2SC2785-HFE TRANSISTOR 2SA1175-HFE TRANSISTOR 2SA1175-HFE TRANSISTOR 2SA1175-HFE		R2332 R2333 R2334	1-249-436-11 1-249-436-11 1-249-436-11	CARBON 39 CARBON 39	K 5% K 5% K 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
	TRANSISTOR 2SA1175-HFE TRANSISTOR 2SA1175-HFE TRANSISTOR 2SC2785-HFE TRANSISTOR 2SC2785-HFE TRANSISTOR 2SC2785-HFE		R2336 R2337 R2338 R2339	1-249-436-11 1-249-436-11 1-249-417-11 1-247-708-11 1-249-413-11 1-249-417-11	CARBON 39	K 5% 5% 0 5% 0 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
Q2326 8-729-119-78 Q2327 8-729-900-36 Q2328 8-729-119-78 Q2329 8-729-900-36 Q2401 8-729-119-78	TRANSISTOR 2SC2785-HFE TRANSISTOR DTC124ES TRANSISTOR 2SC2785-HFE TRANSISTOR DTC124ES TRANSISTOR 2SC2785-HFE		R2341 R2342 R2343 R2344	1-249-413-11 1-249-413-11 1-249-417-11 1-249-399-11	CARBON 47 CARBON 47 CARBON 1K CARBON 33	0 5% 0 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
Q2402 8-729-119-78 Q2403 8-729-119-78 Q2404 8-729-119-78 Q2405 8-729-119-78 Q2406 8-729-119-78	TRANSISTOR 2SC2785-HFE TRANSISTOR 2SC2785-HFE TRANSISTOR 2SC2785-HFE TRANSISTOR 2SC2785-HFE TRANSISTOR 2SC2785-HFE		R2348 R2351	1-249-399-11 1-249-417-11 1-249-417-11 1-249-417-11	CARBON 33 CARBON 1K CARBON 1K CARBON 1K CARBON 1K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W	
Q2407 8-729-119-78 Q2408 8-729-119-78 Q2409 8-729-119-78 Q2411 8-729-119-78 Q2412 8-729-900-36	TRANSISTOR 2SC2785-HFE		R2353 R2354 R2355 R2356	1-249-411-11 1-249-423-11 1-249-417-11 1-249-432-11 1-249-424-11 1-249-429-11	CARBON 1K CARBON 18 CARBON 3.	3K 5% 5% K 5% 9K 5%	1/4W 1/4W 1/4W 1/4W 1/4W 1/4W	



REF.NO. PART NO.	DESCRIPTION		REMARK	REF.NO. PART NO. DESCRIPTION REMARK
R2358 1-249-423-11 R2359 1-249-419-11 R2360 1-249-429-11 R2361 1-249-429-11 R2362 1-249-421-11	CARBON 1.5K CARBON 10K CARBON 10K CARBON 2.2K	5% 1/4W 5% 1/4W		R2428 1-249-425-11 CARBON 4.7K 5% 1/4W  R2429 1-249-425-11 CARBON 4.7K 5% 1/4W  R2430 1-249-429-11 CARBON 10K 5% 1/4W  R2431 1-249-429-11 CARBON 10K 5% 1/4W  R2432 1-249-417-11 CARBON 1K 5% 1/4W
R2363 1-249-425-11 R2364 1-249-412-11 R2365 1-249-414-11 R2366 1-249-413-11 R2367 1-249-409-11 R2368 1-249-424-11	CARBON 390 CARBON 560 CARBON 470 CARBON 220 CARBON 3.9K	5% 1/4W 5% 1/4W 5% 1/4W		R2433
R2369 1-249-437-11 R2370 1-247-901-11 R2371 1-249-411-11 R2372 1-202-730-00 R2373 1-249-422-11 R2374 1-249-414-11	ÇARBON         820K           CARBON         330           SOLID         8.2M	5% 1/4W 5% 1/4W 1 10% 1/2W		R2441       1-249-421-11       CARBON       2.2K       5%       1/4W         R2442       1-249-421-11       CARBON       2.2K       5%       1/4W         R2443       1-247-717-11       CARBON       2.2K       5%       1/4W         R2444       1-247-717-11       CARBON       2.2K       5%       1/4W         R2445       1-249-425-11       CARBON       4.7K       5%       1/4W
R2378 1-249-434-11 R2381 1-247-725-11	CARBON 10K	5% 1/4W		R2446       1-249-422-11       CARBON       2.7K       5%       1/4W         R2447       1-249-428-11       CARBON       8.2K       5%       1/4W         R2448       1-249-425-11       CARBON       4.7K       5%       1/4W         R2449       1-249-433-11       CARBON       22K       5%       1/4W         R2450       1-249-437-11       CARBON       47K       5%       1/4W
R2382 1-249-429-11 R2383 1-249-429-11 R2384 1-247-887-00 R2385 1-249-441-11 R2386 1-249-417-11 R2387 1-249-421-11	CARBON 10K CARBON 220K  CARBON 100K CARBON 1K CARBON 2 2K	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		R2492 1-249-397-11 CARBON 22 5% 1/4W F
R2388 1-247-830-11 R2389 1-249-410-11 R2390 1-247-694-11 R2391 1-249-421-11 R2392 1-249-421-11 R2393 1-249-429-11	CARBON 270  CARBON 33  CARBON 2.2K  CARBON 2.2K	5% 1/4W		<pre><switch> S2401 1-570-145-11 SWITCH, SLIDE</switch></pre>
R2394 1-249-421-11 R2395 1-249-421-11 R2396 1-249-429-11 R2401 1-247-707-11 R2402 1-249-417-11	CARBON         2.2K           CARBON         10K           CARBON         390           CARBON         1K			U2 *1-508-784-00 PIN, CONNECTOR (5MM PITCH) 1P U3 *1-564-512-11 PLUG, CONNECTOR 9P U4 *1-508-767-00 PIN, CONNECTOR (5MM PITCH) 5P U5 *1-564-513-11 PLUG, CONNECTOR 10P
R2403 1-247-708+11 R2404 1-247-713-11 R2405 1-247-706-11 R2406 1-247-713-11 R2407 1-247-706-11 R2408 1-247-713-11	CARBON 1K CARBON 330 CARBON 1K	5% 1/4W 5% 1/4W		U9 *1-564-510-11 PLUG, CONNECTOR 7P U10 *1-564-505-11 PLUG, CONNECTOR 2P U11 *1-564-505-11 PLUG, CONNECTOR 2P U12 *1-564-505-11 PLUG, CONNECTOR 2P U13 *1-564-507-11 PLUG, CONNECTOR 4P U20 *1-564-507-11 PLUG, CONNECTOR 4P
R2409 1-247-706-11 R2410 1-247-703-11 R2411 1-247-703-11 R2412 1-249-417-11 R2413 1-249-417-11	CARBON         330           CARBON         180           CARBON         180           CARBON         1K           CARBON         1K	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		**************************************
R2414 1-249-417-11 R2415 1-247-830-11 R2416 1-249-410-11 R2417 1-247-694-11 R2418 1-247-830-11	CARBON         1K           CARBON         910           CARBON         270           CARBON         33           CARBON         910	5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W 5% 1/4W		<pre><capacitor>  c981 1-126-157-11 ELECT</capacitor></pre>
R2419 1-249-410-11 R2420 1-247-694-11 R2421 1-249-437-11 R2422 1-249-433-11 R2423 1-249-421-11	CARBON         33           CARBON         47K           CARBON         22K           CARBON         2.2K			C983 1-130-481-00 MYLAR 0.0068MF 10% 50V C984 1-136-153-00 MYLAR 0.01MF 10% 50V <d10de></d10de>
R2424 1-249-428-11 R2425 1-249-427-11 R2426 1-249-417-11 R2427 1-249-425-11	CARBON         8.2K           CARBON         6.8K           CARBON         1K           CARBON         4.7K	5% 1/4W 5% 1/4W		D981 8-719-109-84 DIODE RD5.1ES-B1



REF.NO.	PART NO.	DESCRIPTION			REMARK	REF.NO.	PART NO.	DESCRIPTION			REMAR	K
10981	8-759-933-23	IC BA236				C228 C229 C230	1-123-379-00 1-123-379-00 1-162-283-31	ELECT ELECT CERAMIC	0.47MF 0.47MF 120PF	20% 20% 10%	50V 50V 50V	
L981	<01 1-408-424-00	L> INDUCTOR	180UH			C231 C232 C233 C234 C235		CERAMIC ELECT ELECT MYLAR MYLAR	120PF 33MF 47MF 0.068MF 0.1MF	10% 20% 20% 5% 5%	50V 16V 16V 50V 50V	
R981 R982 R983 R984	1-249-405-11 1-249-432-11 1-249-408-11 1-249-427-11	CARBON CARBON CARBON CARBON	100 5% 18K 5% 180 5% 6.8K 5%	1/4W 1/4W 1/4W 1/4W		C236 C237 C238 C239 C240	1-124-471-00 1-102-074-00 1-102-074-00 1-101-006-00 1-101-006-00	CERAMIC CERAMIC CERAMIC		20% 10% 10%	6.3V 50V 50V 50V 50V	
R985 R986 R987 R988	1-249-405-11	CARBON CARBON CARBON	1K 5% 1.2K 5% 100 5%	1/4W 1/4W 1/4W 1/4W		C241 C242 C243 C244 C245	1-101-006-00 1-125-296-00 1-125-296-00 1-124-477-11 1-102-074-00	ELECT (BLOCK)	0.047MF 4700MF 4700MF 47MF 0.001MF	20% 10%	50V 35V 35V 16V 50V	
RV936 RV981 RV982	<pre><var 1-228-725-00<="" 1-237-348-11="" 1-237-349-11="" pre=""></var></pre>	RES, VAR, CA RES, VAR, CA	R> RBON 10K RBON 5K			C246 C251 C252 C253 C254	1-123-356-00 1-123-356-00 1-101-004-00 1-124-963-11 1-101-004-00	ELECT CERAMIC	10MF 10MF 0.01MF 33MF 0.01MF	20% 20% 20%	16V 16V 50V 16V 50V	
	< <b>S</b> ₩1	TCH>				C255	1-123-356-00		10MF	20%	16V	
S936 S937	1-570-758-11 1-570-758-11	SWITCH, ROTA	RY					DE>				
*****	**************************************	*******	*********** Plete	*****	******	D201 D202 D203 D204	8-719-109-93 8-719-911-19 8-719-110-36 8-719-110-36	DIODE 1SS119 DIODE RD13ES DIODE RD13ES	S-B2 -B2			
	4-309-378-00	WASHER					<1C>					
C201 C202	<cap 1-124-925-11 1-124-925-11</cap 	ELECT ELECT	2.2MF 2.2MF	20% 20%	50 V 50 V	10203	8-759-276-30 8-759-140-66 8-759-111-88 8-759-111-88	IC UPD4066BC				
C203 C204 C205	1-124-477-11 1-124-477-11 1-130-496-00	ELECT	47MF	20% 20% 5%	16V 16V 50V		<con< td=""><td>NECTOR&gt;</td><td></td><td></td><td></td><td></td></con<>	NECTOR>				
C207 C208 C209	1-102-125-00 1-102-125-00 1-130-496-00 1-123-369-00 1-123-369-00	CERAMIC CERAMIC MYLAR ELECT ELECT	0.0047MF 0.12MF 4.7MF	10% 10% 5% 20% 20%	50V 50V 50V 25V 25V	K2 K3 K4	*1-564-510-11 *1-508-767-00 *1-564-507-11 *1-564-505-11 *1-508-766-00	PIN, CONNECT PLUG, CONNEC	OR (5MM PITO TOR 4P TOR 2P	H) 5P		
C211 C212 C213 C214 C215	1-123-369-00 1-123-369-00 1-124-120-11 1-124-791-11 1-124-791-11	ELECT	4.7MF 4.7MF 220MF 1MF 1MF	20% 20% 20% 20% 20% 20%	25V 25V 16V 50V	K7	*1-564-507-11 *1-564-505-11 <coi< td=""><td>PLUG, CONNEC L&gt;</td><td>TOR 2P</td><td></td><td></td><td></td></coi<>	PLUG, CONNEC L>	TOR 2P			
	1-123-379-00 1-123-379-00 1-124-360-00 1-126-101-11 1-123-379-00	ELECT ELECT ELECT ELECT ELECT	0.47MF 0.47MF 1000MF 100MF 0.47MF	20% 20% 20% 20% 20%	50V 50V 16V 16V 50V	Q201	8-729-178-55	NSISTOR>	180UH SC2785-E			
C221 C222 C223 C224 C225	1-123-379-00 1-162-283-31 1-162-283-31 1-124-963-11 1-124-477-11	ELECT CERAMIC CERAMIC ELECT ELECT	0.47MF 120PF 120PF 33MF 47MF	20% 10% 10% 20% 20%	50V 50V 50V 16V 16V	Q202 Q203 Q204 Q205	8-729-178-55 8-729-178-55 8-729-178-55 8-729-178-55 8-729-119-76	TRANSISTOR 2 TRANSISTOR 2 TRANSISTOR 2 TRANSISTOR 2 TRANSISTOR 2	SC2785-E SC2785-E SC2785-E			
C226 C227	1-108-814-11 1-108-816-11	MYLAR MYLAR	0.068MF 0.1MF	5% 5%	50V 50V	Q207 Q208 Q209	8-729-900-36 8-729-900-36 8-729-119-76	TRANSISTOR D TRANSISTOR D TRANSISTOR 2	TC124ES TC124ES			

# K KEY BOARD UNIT (A)

REF.NU.	PART NO.	DESCRIPTION				REMARK	REF.NO.	PART NO.	DESCRIPTION				REMARK
Q211 Q212 Q213 Q214 Q215	8-729-140-96 8-729-178-55 8-729-178-55 8-729-178-55 8-729-178-55	TRANSISTOR 2 TRANSISTOR 2 TRANSISTOR 2	SC2785- SC2785- SC2785-	E E E			R261 R262 R263 R264	1-247-874-11 1-249-422-11 1-249-422-11 1-249-449-11 1-247-874-11	CARBON CARBON CARBON	62K 2.7K 2.7K 1.5 62K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
Q216	8-729-178-55	TRANSISTOR 2	SC2785-	E			1	1-247-874-11		820	5%	1/4W	
	<res< td=""><td>ISTOR&gt;</td><td></td><td></td><td></td><td></td><td>R267</td><td>1-249-429-11 1-249-429-11</td><td>CARBON</td><td>10K 10K</td><td>5% 5%</td><td>1/4W 1/4W</td><td></td></res<>	ISTOR>					R267	1-249-429-11 1-249-429-11	CARBON	10K 10K	5% 5%	1/4W 1/4W	
R201 R202 R203 R204 R205	1-249-441-11 1-249-441-11 1-249-419-11 1-249-429-11 1-249-433-11	CARBON CARBON CARBON CARBON CARBON	100K 100K 1.5K 10K 22K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W		1	*************** 1-466-225-11			*****	*****	******
R206 R207	1-249-433-11 1-249-419-11	CARBON	22K 1.5K	5%				<dio< td=""><td>DE&gt;</td><td></td><td></td><td></td><td></td></dio<>	DE>				
R208 R209 R210	1-249-420-11 1-249-432-11 1-249-433-11	CARBON CARBON CARBON	1.8K 18K 22K	5% 5% 5%			D901 D902 D903 D904	9-990-893-01 9-990-893-01 9-990-893-01 9-990-893-01	LED TLY263P LED TLY263P LED TLY263P				
R211 R213 R214	1-249-417-11 1-249-432-11 1-249-433-11	CARBON	1 K 18 K 22 K	5% 5%	1/4W 1/4W 1/4W		D905	9-990-893-01 9-990-893-01					
R215 R216	1-249-432-11 1-249-433-11	CARBON CARBON	18K 22K	5% 5% 5%	1/4W 1/4W		D907 D908 D909	9-990-893-01 9-990-893-01 9-990-893-01	LED TLY263P LED TLY263P LED TLY263P				
R217 R218 R219 R220	1-249-425-11 1-249-437-11 1-249-425-11 1-249-437-11	CARBON CARBON	4.7K 47K 4.7K 47K	5% 5%	1/4W 1/4W 1/4W 1/4W		D910 D911 D912	9-990-893-01 9-990-893-01 9-990-893-01	LED TLY263P				
R221 R222	1-249-403-11		68	5% 5%	1/4W 1/4W	F	D913 D914 D915	9-990-893-01 9-990-893-01	LED TLY263P				
R223 R224 R225	1-249-432-11 1-249-437-11 1-249-409-11 1-249-433-11	CARBON CARBON CARBON	18K 47K 220 22K	5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W		D916 D917 D918	9-990-893-01 9-990-893-01 9-990-893-01	LED TLY263P LED TLY263P LED TLY263P				
R227 R228	1-249-430-11 1-249-390-11	CARBON CARBON	12K 5.6	5% 5%	1/4W 1/4W	F	D919 D920	9-990-893-01 9-990-893-01					
R229 R230	1-249-429-11 1-249-432-11 1-249-437-11		10K 18K 47K	5% 5% 5%	1/4W 1/4W 1/4W		D923	9-990-893-01 9-990-893-01 9-990-893-01 9-990-893-01	LED TLY263P				
R232 R233 R234	1-249-409-11 1-249-433-11 1-249-430-11	CARBON CARBON	220 22K 12K	5% 5% 5%	1/4W 1/4W 1/4W		i	9-990-893-01 9-990-893-01					
R235 R236	1-249-390-11 1-249-429-11	CARBON CARBON	5.6 10K	5% 5%	1/4W 1/4W	F	D927 D928 D929	9-990-893-01 9-990-893-01 9-990-893-01	LED TLY263P LED TLY263P				
R237 R238 R239	1-249-429-11 1-249-423-11 1-249-437-11	CARBON CARBON CARBON	10K 3.3K 47K	5% 5% 5%	1/4W 1/4W 1/4W			<res< td=""><td>ISTOR&gt;</td><td></td><td></td><td></td><td></td></res<>	ISTOR>				
R240 R241	1-249-430-11 1-249-441-11	CARBON CARBON	12K 100K	5% 5%	1/4W 1/4W		R901 R902	1-247-707-11 1-247-707-11	CARBON CARBON	390 390	5% 5%	1/4W 1/4W	F
R242 R243 R244	1-249-429-11 1-249-417-11 1-249-417-11	CARBON CARBON CARBON	10K 1K 1K	5% 5% 5%	1/4W 1/4W 1/4W		R903 R904 R905	1-247-707-11 1-247-707-11 1-247-707-11	CARBON CARBON CARBON	390 390 390	5% 5% 5%	1/4W 1/4W 1/4W	4 4
R245 R246	1-249-417-11 1-249-417-11	CARBON CARBON	1 K 1 K	5% 5%	1/4W 1/4W		R906 R907	1-247-707-11 1-247-707-11	CARBON CARBON	390 390	5% 5% 5%	1/4W 1/4W	F
R247 R248 R249	1-249-405-11 1-249-429-11 1-249-429-11	CARBON CARBON CARBON	100 10K 10K	5% 5% 5%	1/4W 1/4W 1/4W		R908 R909 R910	1-247-707-11 1-247-707-11 1-247-707-11	CARBON CARBON CARBON	390 390 390	5% 5% 5%	1/4W 1/4W	F
R250 R251	1-249-425-11 1-249-429-11	CARBON CARBON	4.7K 10K	5% 5%	1/4W 1/4W		R911 R912	1-247-707-11	CARBON CARBON	390 560	5% 5%	1/4W 1/4W	F
R252 R254 R255	1-249-419-11 1-249-441-11 1-249-441-11	CARBON CARBON CARBON	1.5K 100K 100K	5% 5% 5%	1/4W 1/4W 1/4W		R913 R914 R915	1-247-707-11 1-247-707-11	CARBON CARBON CARBON	390 390 390	5% 5% 5% 5%	1/4W 1/4W 1/4W	F
R257 R259	1-249-423-11 1-247-874-11	CARBON CARBON	3.3K 62K	5% 5%	1/4W 1/4W 1/4W		1 1 1 1 1 1	1-44/-/0/-11	CAILDUN	J7U	16	1/4W	r

### **KEY BOARD UNIT (A)**

### KEY BOARD UNIT (B)

Les composants identifies par une trame et une marque 🐧 sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie. The components ide ed by shading and mark A are critical for safety. Replace only with part number

	9.60			
REF.NO. PART NO. DESCRIPTION	REMARK   REF. NO.	PART NO.	DESCRIPTION	REMARK
S901 1-554-303-21 MT SWITCH (KEY BOARD SWITCH) S902 1-554-303-21 MT SWITCH (KEY BOARD SWITCH) S903 1-554-303-21 MT SWITCH (KEY BOARD SWITCH)	\$951 \$952 \$953 \$954 \$955	1-554-303-21	MT SWITCH (KEY BOARD SWITCH)	
\$904	\$956 \$957 \$958 \$959 \$960	1-554-303-21 1-554-303-21	MT SWITCH (KEY BOARD SWITCH)	
S909 1-554-303-21 MT SWITCH (KEY BOARD SWITCH) S910 1-554-303-21 MT SWITCH (KEY BOARD SWITCH)	S961	1-554-303-21	MT SWITCH (KEY BOARD SWITCH)	
\$911	*****	MIS	**************************************	******
1-466-327-11 KEY BOARD UNIT (B)	A	1-426-497-11 1-451-315-21	RESISTOR ASSY, HIGH-VOLTAGE COIL, DEMAGNETIZATION DEFLECTION YOKE (Y34FXA) MAGNET. DISK: LOMM Ø	
<diode></diode>		1-452-094-00 . 1-452-468-11	MAGNET, ROTATABLE DISK; 15MM \$\phi\$ NECK ASSY, PICTURE TUBE (NA321) SWITCH, PUSH (AC POWER) (1 KEY)	
D951 9-990-901-01 LED TLS263P D952 9-990-901-01 LED TLS263P D953 9-990-893-01 LED TLY263P D954 9-990-893-01 LED TLY263P D955 9-990-893-01 LED TLY263P	R991 A S938 A	1-574-443-21 1-205-772-11 1-570-757-11	CORD, POWER (WITH NOISE FILTER)  RES, CEMENT WIREWOUND 1 5% SWITCH, PUSH (MANUAL DEGAUSS) (1 PICTURE TUBE (A80JYVIOX)	30W KEY)
D956 9-990-893-01 LED TLY263P D957 9-990-893-01 LED TLY263P D958 9 990 893-01 LED TLY263P D959 9 990-893-01 LED TLY263P D960 9-990-893-01 LED TLY263P	*****	ACCESSOR	**************************************	******
D961 9-990-893-01 LED TLY263P D962 9-990-893-01 LED TLY263P D963 9-990-893-01 LED TLY263P D964 9-990-893-01 LED TLY263P D965 9-990-893-01 LED TLY263P		1-465-451-11 3-751-629-21	DESCRIPTION  BOARD ASSY, BOTTOM REMOTE COMMANDER (RM-785) MANUAL, INSTRUCTION	REMARK
D966 9-990-893-01 LED TLY263P D967 9-990-893-01 LED TLY263P D968 9-990-893-01 LED TLY263P D969 9-990-893-01 LED TLY263P D970 9-990-893-01 LED TLY263P		*4-395-902-01 *4-397-511-01 *4-397-512-01	BAND BAG, PROTECTION  CUSHION (UPPER) (ASSY) CUSHION (LOWER) (ASSY) INDIVIDUAL CARTON	
<1¢>	1 1 1			
1C951 8-741-138-70 IC BX-1387 (DETECTOR)				
<resistor></resistor>				
R951       1-247-710-11       CARBON       560       5%       1/4W         R952       1-247-703-11       CARBON       180       5%       1/4W         R953       1-247-707-11       CARBON       390       5%       1/4W         R954       1-247-707-11       CARBON       390       5%       1/4W         R955       1-247-707-11       CARBON       390       5%       1/4W	<b>E</b> E E E E E E E E E E E E E E E E E E			
R956 1-247-707-11 CARBON 390 5% 1/4W R957 1-247-707-11 CARBON 390 5% 1/4W R958 1-247-707-11 CARBON 390 5% 1/4W R959 1-247-707-11 CARBON 390 5% 1/4W R960 1-247-707-11 CARBON 390 5% 1/4W	F F F			
R961 1-247-707-11 CARBON 390 5% 1/4W	F			

English 90CZ0927-1 Printed in Japan © 1990.3

<SWITCH>

# PVM-3230

## SONY. SERVICE MANUAL

US Model Canadian Model Chassis No. SCC-D39A-A

### **SUPPLEMENT-1**

File this supplement with the service manual.

When replace CP2301 – CP2318, repair by following parts number.

SECTION 7 ELECTRICAL PARTS LIST U BOARD: See Page 101

REF. No.	PART No.	DESCRIPTION	REMARK
	<com< th=""><th>POSITION CIRCUIT BLOCK&gt;</th><th></th></com<>	POSITION CIRCUIT BLOCK>	
CP2301	1-233-087-11	COMPOSITION CIRCUIT BLOCK	
CP2302	1-233-087-11		
CP2303	1-233-087-11	COMPOSITION CIRCUIT BLOCK	
CP2304	1-233-122-11	COMPOSITION CIRCUIT BLOCK	
CP2305	1-233-122-11	COMPOSITION CIRCUIT BLOCK	
opened.		COLEDONATON OFFICIAL PLOCE	
CP2306	1-233-087-11		
CP2307	1-233-087-11	COMPOSITION CIRCUIT BLOCK	
CP2308	1-233-087-11	COMPOSITION CIRCUIT BLOCK	
CP2309	1-233-122-11		
CP2310	1-233-122-11	COMPOSITION CIRCUIT BLOCK	
CP2311	1-233-087-11	COMPOSITION CIRCUIT BLOCK	
CP2312	1-233-122-11	COMPOSITION CIRCUIT BLOCK	
CP2313	1-233-087-11	COMPOSITION CIRCUIT BLOCK	
CP2314	1-233-087-11		
CP2315	1-233-087-11	COMPOSITION CIRCUIT BLOCK	
CP2316	1-233-122-11	COMPOSITION CIRCUIT BLOCK	
CP2317	1-233-122-11	COMPOSITION CIRCUIT BLOCK	
CP2318	1-233-122-11	COMPOSITION CIRCUIT BLOCK	



### SONY

### Video/RGB Monitor Service Bulletin

Sony Service Company - Technical Services A Division of Sony Corporation of America Sony Drive, Park Ridge, New Jersey 07656

Model: PVM3230, PVM4300

No. 2

Subject: CCD Comb Pack Change

Date: March 12, 1993

Symptom: (133)

No vertical sync or picture distortion (light areas of the picture may be dragged to the right).

Solution:

Exchange the CCD Comb Pack "CCP-2" with the new one "CCP-2A"

MODEL	PART DESCRIPTION	BOARD	"NEW" PART NUMBER
PVM3230	CFB301: "CCP-2A"	В	1-808-703-12
PVM4300	CFB301: "CCP-2A"	B2	1-808-703-12

Solder Side of B-Board CFB-301

PVM3230

PVM4300

CFB-301

Solder Side of B2-Board SONY

### RGB/Video Monitors Service Bulletin

CSI-112

Sony Service Company - Technical Services A Division of Sony Electronics Inc. Sony Drive, Park Ridge, New Jersey 07656

Model: PV

PVM-3230

No. 9

Subject: Part Numbers for CP2301 to CP2318

Date: January 21, 1994

Symptom:

(\*\*\*)

What are the Part Numbers to CP Modules 2301 through 2318 ?

Solution:

The Part Numbers to the CP Modules are listed Below:

PART No.	r-233-087-11	1-233-122-11
CP NO.	CP2301-CP2303 -CP2306-CP2308 -CP2311 -CP2313-CP2315	CP2304 AND CP2305 CP2309 AND CP2310 CP2312 CP2316-CP2318
CIRCUIT DIAGRAMS	82K \$ 22K \$	CP2305 100k 100k 100k 100k 100k 100k 100k 10



### SONY.

### Video/RGB Monitor Service Bulletin

Sony Service Company - Technical Services A Division of Sony Corporation of America Sony Drive, Park Ridge, New Jersey 07656

Model: SEE BELOW

No. 3

Subject: Cables and Adapters Chart For Monitors

Date: March 12, 1993

GDM2038/GDM2036/GDM1936/CPD1704S/CPD1730/CPD1604S/CPD1430/ CPD1304S/CPD1304/CPD1302/CPD1320S/CPD1320/PVM3230/PVM2530/ PVM2030/GVM2000/GVM2020/GVM1300/GVM1311Q

Symptom: (\*\*)

What cable and/or adapter is needed for operating this monitor with my computer?

Please refer to the Attached Chart on this document, to locate the cable and/or adapter required to connect a Sony Monitor to the corresponding Video type. Solution:

Note1:

Symbol	Meaning				
-	Not Compatible or Recommended				
*	Use the Supplied or Attached Cable				
@	At				
ADAPTER Number	Use the Supplied or Attached Cable with the Adapter specified.  Example: "Connecting the GDM1936 to the MAC Quadra (640X480, 66 Hz) requires the Supplied cable and the TMACSTD adapter."				

Note 2: Any Non-Standard or Non listed IBM Video Modes will use the same cable as the VGA standard.

However, compatibility with the non-standard or Non listed Video modes should be established. In Most Cases, compatibility is established by verifying that the Horizontal and Vertical operating frequencies of the Non-Standard or Non listed Video Modes fall in the operating range of the Monitor in question.

Note 3: Any Non-Standard or Non listed MAC Video Types will probably use the adapters as follows:

MAC Video Type or Resolution	Adapter Needed		
640 X 400 @ 66 Hz	TMACSTD		
640 X 480 @ 60 Hz	TMACLC6VGA		
640 X 480 @ 66 Hz	TMACSTD		
800 X 600 @ 56 Hz	TMACLC6VGA		
832 X 624 @ 75 Hz	TQUA16		
1152 X 870 @ 75 Hz	TMAC115VGA		

Note 4: TMAC and TQUA adapters are not available through KCP. Customer should get these adapters through thair dealer.

(Continued)

Reference: Tech Flash 34R2



	Monitors								
Computer	Video	GDM-2038	CPD-1730	CPD-1304	CPD-1302	CPD-1320 & CPD-	PVM-2039	PVM-3230	GVM-1300
1	Type	GDM-2036	CPD-1704S	(SMF-523)	1	1320S	PVM-2530	1	GVM-1311Q
1	1	GDM-1936	CPD-1604S	Cable	I	Cable Attached			GVM-2000
11		(1-590-226-11		Supplied	1			l	GVM-2020
1		Cable	CPD-1404S	į	!	İ		1	
ll	1	Supplied	CPD-1304S		1	1		1	I
[[		ii	Cable	1	1	1		1	
	<u> </u>	<u> </u>	Attached		<u></u>				
	CGA		·	ļ	CTG-512 Cable		SMF-500 Cable	CTG-512 Cable	CTG-512 Cable
IBM	EGA	<u> </u>	<del>-</del>	<u> </u>	CTG-512 Cable		-		CTG-512 Cebie
	VGA	<u> </u>		<u> </u>	SMF-523 Cable	<u> </u>			SMF-523 Cable
IBM Other					See Not	e 2			
MAC	640 X480 @ 66Hz	TMACSTD	TMACSTD	TMACSTD	SMF-523 Cable &				SMF-523 Cable &
	640 X 480 @ 60Hz	TMACLCOVGA	TMACLCEVGA	TMACLC6VGA	TMACSTD SMF-523 Cable &	TMACLCOVGA			SMF-523 Cobin &
Quadra 700	OWN AND STORES	IMACIATIO	IMACIATOR	I PROCEED TO A	TMACLC6VGA	IMACIANTA	•		TMACLCOVGA
800,900,950	\$00 X 600 @ 56Hz	TMACLC6VGA	TMACLC6VGA	TMACLC6YGA	SMF-523 Cable &	-			SMF-523 Cable &
					TMACLC6YGA				TMACLCEVGA
Centris 610,	832 X 624 @ 75Hx	TQUA16	TQUA16	TQUA16	<u> </u>				
650	1152 X 870@ 75Hz	TMAC115VGA				-	-		
MAC IIsi, IIci	640 X 480 <b>@</b> 66Hz	TMACSTD	TMACSTD	TMACSTB	SMP-523 Cable & TMACSTD		•	•	SMF-523 Cable & TMACSTD
MAC LC, LC II, IIti, Dtx	640 X 4 <b>10g</b> 60Hz	TMACLCEVGA	TMACLCOVGA	TMACLCEVGA	MAT-523 Cabb & TMACLC6VGA	TMACLCEVGA	·	•	SMP-523 Cable & TMACLC6VGA
Performa 400, 600	640 X 480@ 66Hz	TMACSID	TMACSTD	TMACSTD	SMF-523 Cable & TMACSTD	-	·	-	SMF-523 Cobio & TMACSTD
MAC	640 X 410 @ 60Hz	TMACLCOVGA	TMACLCSVGA	TMACLCEVGA	BMF-523 Cata & TMACLCEVGA	TMACLCEVGA	·	•	SMF-523 Cable & TMACLC6VGA
மா	640 X 480 @ 66Hz 640 X 400 @ 66Hz	TMACSTD	TMACSTD	TMACSTD	SMP-523 CALL & TMACSTD	•	-	•	SMP-523 Cable & TMACSTD
	832 X 624 @ 75Hz	TQUAIG	TQUAI6	TQUA16	•	•	*	•	
MAC	640 X 480 @ 60Hz	TMACLCEVGA	TMACLCOVGA	TMACLC6VGA	SMF-523 Cable & TMACLC6VGA	TMACLC6VGA		•	SMP-523 Cable & TMACLC6VGA
PowerBook 160, 165c.	640 X 480 @ 66Hz	TMACSTD	TMACSTD	TMACSTD	SMF-523 Cable & TMACSTD	- 1	-	- 1	SMF-523 Cable & TMACSTD
Duo Dock,	800 X 600 @ 56Hz	TMACLCEVGA	TMACLCEVGA	TMACLCOVGA	SMP-523 Cable & TMACLC6VGA	-			SMF-523 Cable & TMACLC6VGA
Doo Mini Dock,	832 X 624 <b>⊕</b> 75Hz	TQUA16	TQUAI6	TQUA16	•	•	•	1	
MAC Other	ther   See Note 3								