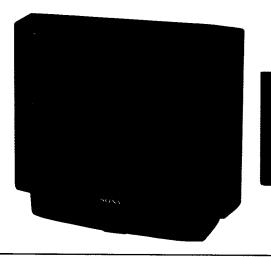
KV-M1921U

SERVICE MANUAL

UK Model

Chassis No. SCC-D86G-A



BE-2A CHASSIS

MODELS OF THE SAME SERIES		
KV-M1921U	KV-M1420U/M1421U	
KV-M2140U/M2141U		
KV-M1620U/M1621U		

SPECIFICATIONS

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		w_	RЛ		.,		

Television system I

Color system

Channel coverage

Picture tube

PAL

UHF: 21-69

Black Trinitron tube

90° degree deflection

Approx. 49.0 cm (19 inches)

(Approx.46.0cm picture measured diagonally)

Ö- 21-pin connector: CENELEC standard Including RGB input

VG-A Audio/Video input jacks

S-Video input

phono jacks

Outputs

Inputs

21-pin connector: CENELEC standard

Headphones jack: minijack

Sound output

5W (Music power) 4 W (RMS)

Power consumption 85W

Dimensions

Approx. 462x437x462 mm (w/h/d)

Weight

Approx. 19 kg

[RM-694]

Remote control system infrared control

Power requirements

3V dc

2 batteries IEC designation

R6 (size AA)

Dimensions Weight Approx. $55 \times 18 \times 185$ mm (w/h/d)

Approx. 100g including batteries

Supplied accessories

RM-694 Remote Commander (1)

IEC designation R6 batteries (2)

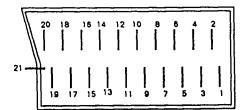
Design and specifications are subject to change without

notice.





21-pin Euro Connector Configuration



PIN	SIGNAL	SPECIFICATION
1	Audio output	0.5Vrms/1kilohm or less
2	Audio input	0.5Vrms/10kilohms or more
3	Audio output	0.5Vrms/1kilohm or less
4	Earth (audio)	
5	Earth (8-input)	
6	Audio input	0.5Vrms/10kilohms or more
7	B-input	0.7Vp-p/75ohms
8	Function switching	9.5V to 12V
9	Earth (G-input)	
10		
11	G-input	0.7Vp-p/75ohms
12		
13	Earth (R-input)	
14	Earth (blanking)	
15	R-input	0.7Vp-p/75ohms
16	Fast blanking	1V to 3V/75ohms
17	Earth (video)	
18	Earth (fast blanking)	
. 19	Video output	1Vp−p/75ohms
20	Video input	1Vp-p/750hms
21	Screening plug	

4 pin connector (5-)

	1.000.	
Pin No	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) input	IV ± 3dB 75ohm, positive Sync 0.3V: a dB
4	C (S signal) input	0.3V ± 3dB 75ohm positive

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.

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SECTION 1 GENERAL

1-1. PRESETTING OF CHANNELS

After having installed the TV, you now need to preset TV channels. Up to 60 programme positions are at your disposal. For channel presetting use the buttons with the red symbols on the Remote Commander.

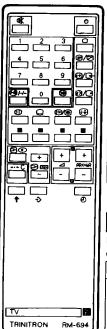
Important: In order to ensure presetting, you have to keep the \clubsuit (SHIFT) button pressed, while pressing the other buttons (that is \circledast , |-|-|-|, C) during presetting.

A	Automatic Presetting of Channels			
Ac	tion	Result		
1	Turn on the TV using the power switch (1) on the set.			
2	Press both the 1 (SHIFT) button and the 3 PRESET button simultaneously.	You are now in the preset mode. The programme number flashes.		
3	Press either the number buttons or PROGR +/- to select the programme number on which you want to preset the channel. Note: In case of two digit numbers, first press -/, then the two number.	The selected programme number will be indicated.		
4	Press both the \blacksquare SHIFT button and the \boxdot + or - button repeatedly, until the desired channel is tuned in.	The scale with the frequency band changes.		
5	Repeat steps 3 and 4 for all other channels.			
6	Press both the ♠ SHIFT and the ♦ PRESET button simultaneously to store the channels.	All channels are now stored. The programme number stops flashing.		



How to skip programme positions

Since you have 60 programme positions at your disposal, you may want to skip vacant programme positions, that is that they are skipped when you press the PROGR +/- buttons.



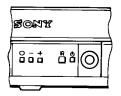
Ac	tion	Result	
1	Press both the SHIFT button and the PRESET button simultaneously.	You are now in the preset mode. The programme position flashes.	
2	Use either PROGR + or - to select the programme position you want to skip.	,	
3	Press both the SHIFT button and the button C simultaneously.		
4	Press both the SHIFT button and the PRESET button simultaneously.	The programme position is now skipped. You are back in TV mode.	

How to fine tune a channel manually

If the reception of a stored channel is not satisfactory, you can fine tune the channel manually.

Action	Result
Press both the ★ SHIFT button and the ♣ + or - button simultaneously until the reception is good.	The channel is fine tuned.

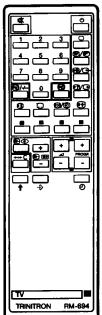
Note: By pressing the respective programme number the automatic fine tuning will be restored.



1-2. TV OPERATION

Your TV set is supposed to be operated with the Remote Commander.

For the basic functions, however, it is also possible to use the buttons on the set.



How to switch the TV on and off				
Action	·	Result		
Press the power st	witch ① on the	The TV will turn on. Note: If the red indicator is on, the set is in standby mode.		
Press a number Remote Command programme.		The selected programme appears.		
In order to switch temporarily: Press button ① Commander.	_	The set is in standby mode. Press button or any number button to switch it on again.		
In order to switch temporarily: Press the power so set.		The set is switched off.		

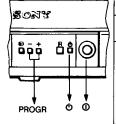
Sleep Timer

Press the ① button repeatedly until the required time period is displayed on the screen (30, 60, 90 minutes or 0 for cancelling the request).

In this way you can select the time period after which the set switches itself automatically into standby-mode.

How to select programmes

Before selecting programmes make sure that you have preset channels.

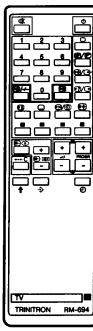


Ġ

Act	tion	Result			
1	Switch the TV on.				
2	Press PROGR +/- or the respective number button on the Remote Commander. In case of two digit numbers first press the button -/ and then the two respective number buttons.		progra mme	is	dis-

On the set

Press the — button for lower programme positions and the + button for higher ones.



How to adjust the volume		
Action	Result	
Press ∠ + or −.	The symbol and the bar for the volume are displayed on the	
	screem.	

On the set

Press \bigcirc , until the symbol \triangle is displayed on the screen, then adjust the volume by pressing the + or - buttons.

The volume is adjusted.

Muting of the sound:

Action	Result
Press button	The sound is switched off. Press the
	button again to restore the sound.

How to adjust the picture			
Action		Result	
1	Press button 🕞 repeatedly, until the desired item is displayed (👁 contrast, 👁 colour intensity, obrightness).	The symbol and the respective bar display are displayed.	
2	Press button + or	The selected picture item is adjusted.	

SONY

On the set:

Press button $\,\,\,\,$ repeatedly in order to select the desired item, then adjust with the + or - button.

To return to factory-set levels

Press the button $\rightarrow \cdot \leftarrow$.

Other functions

On-screen display

Press the button \bigcirc to display the programme number on the screen and press the button a second time to make it disappear.

Selecting the signal of a connected device.

Press the button to receive the signal of the device (e.g. a VTR) connected at the V \odot A connectors (front of the set), the S-Video input or the 21-pin connector (rear of the set). Press the button \bigcirc to return to the TV mode.

On the set:

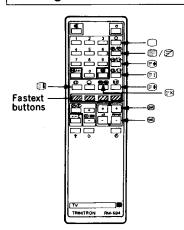
Press button e so that the symbols o, e, and e will be displayed. Press the + button to select the video input mode. Press e and + buttons a second time to return to the TV mode.

Time function

Press ② to display the time. Press button again to cancel the request (only if teletext is broadcast).

1-3. HOW TO VIEW TELETEXT

Viewing Teletext



To view the teletext service, use the Remote Commander. The buttons for teletext operation are indicated in green. Select the TV channel for the desired teletext service. If the signal is weak, teletext errors can occur.

To receive the teletext service of a different TV channel

- 1. Press to return to the TV mode.
- 2. Select the desired TV channel.

Press ()/ (TEXT/MIX) to display the teletext service.

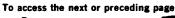
Key in three digits of the desired page using the number buttons. If an error is made, complete the three-digit sequence by keying in any digit. Then, re-enter the correct page number.

The requested teletext page is displayed. To return to TV mode press on the Remote Commander.

Teletext Functions

To request Index Page

Press (INDEX). If the necessary signal is not being broadcast, page 100 is displayed.



Press (PAGE+) or

ത

(PAGE-)

To superimpose the teletext display on the picture (MIX)

Press = / > twice from the TV mode. Press again to return to the TEXT display.



symbol appears on the screen. To resume normal teletext reception (press ⑤/② (TEXT/MIX)).



Press nonce to enlarge the upper half of the display; (press again to enlarge the lower half of the display. And press again to return to the normal display).



Press (REVEAL).

Press again to conceal the answers. To watch the TV programme while

waiting for a requested page to be displayed

1. Request the new page.

To view this page, press ≡ / 🗷

P201 2. Press (to watch the TV programme. The requested page number and other data appear at the top of the screen. When the requested page has been captured, the page number is displayed in the top left hand corner of the screen.

Fastext Operation

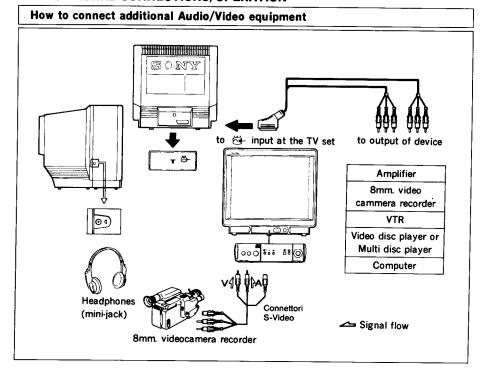
FASTEXT teletext enables you to access pages quickly and conveniently with one key operation. When a FASTEXT page is broadcast a colour coded menu will appear at the bottom of the screen. Each coloured prompt relates to the coloured keys on the Remote Commander. Pressing one of these will select the page described by the prompt.

Selection may also be made by entering the three digit page number in the normal way.

Correct FASTEXT operation relies on the necessary signals being transmitted by the Broadcastig Authorities. It is possible that some Broadcasters will not support this transmission.

If FASTEXT is not transmitted, the decoder will operate as outlined above.

1-4. OPTIONAL CONNECTIONS/OPERATION



How to view the Video input signal

Press button repeatedly in order to select the desired input mode (for Audio/video signals from 21-pin EURO connector ⊕ or from the video/audio connectors V ⊕ A on the front; ⊕ for S-video signals from the S-video (4-pin DIN) connectors on the front). Press button \bigcirc to return to TV mode.

On the set:

Press button ⊕ until the symbols __, __, __, appear on the screen, then press the + or - buttons to select the desired video input mode. Press @ again to return to TV-mode.

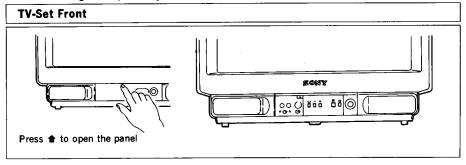
S-video input (Y/C input)

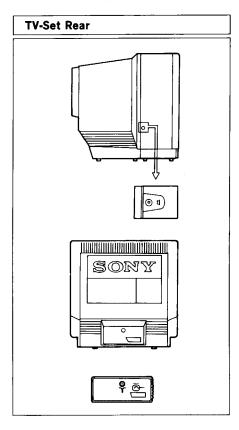
Video signals may be separated into Y (luminance or brightness) and C (chrominance) signals. Separating the Y and C signals prevents them from interfering with one another, and therefore improves picture quality (espeially luminance). This TV is equipped with one S-video input jack through which these separated signals can be input directly.

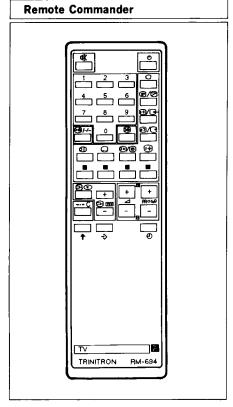
- · When you have Audio/video equipment connected to both the A/V connectors and the 21-pin terminal, make sure that not both are swiched on at the same time, otherwise the picture could be
- · In case of sound or picture distortions move the VTR away from the TV set.

1-5. PARTS IDENTIFICATION

In the following you will find a short description of the parts and their function on the set or on the remote commander using the respective symbols. For more details refer to the page number given in the index.







TV set		
Symbol	Function	
Ω	Headphones jack (mini-jack)	
V ⊙ -	Video input jack	
A (3-	Audio input jack	
€	S-Video input	
€ +/-	Buttons for sound and picture adjustment	
+/-	Programme scanning buttons	
3	Remote control detector	
Ф	Standby indicator	
Φ	Power switch	
71	Aerial socket (rear of the set)	
ö ⊷	21-pin connector (rear of the set)	

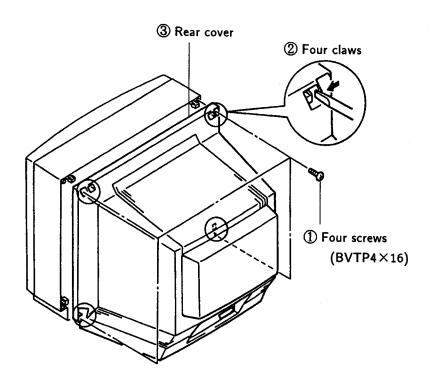
Remote Commander		
Symbol	Function	
0 X	Mute button	
1.9, 0,-/	Number buttons — in case of two digit numbers first press button —/— and then two number buttons	
⊕ 8 0	These Button has no function	
æ	Select button for picture adjustment item	
+/-	Buttons for adjusting picture items	
+ and 4+ +/-	Buttons for manual fine tuning of a channel / channel search	
→•←	Button for resetting the picture adjustment items to standard	
+ and C	Buttons for clearing a programme position (in preset mode)	
•	Functions only in combination with other buttons	
	Preset mode on / off buttons	
Ф	Button for switching the TV set into standby mode	
0	Used to return to TV-mode from standby and video input modes	
G	Button for selecting the video input modes	
0	On/off button for on screen display	
0	Time feature	
PROGR +/-	Programme scanning buttons	
⊿+/-	Buttons for adjusting the volume	
0	Button for activating the sleep timer	
99/288 98	Teletext buttons	
	FASTEXT buttons	

Note Buttons not referred to in this index have no function.

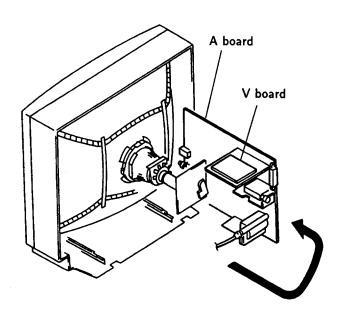
The green buttons are for Teletext.

SECTION 2 DISASSEMBLY

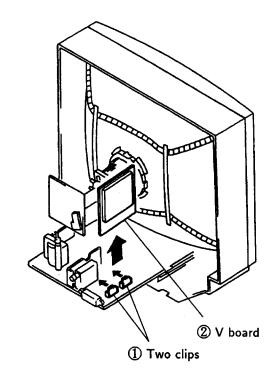
2-1. REAR COVER REMOVAL



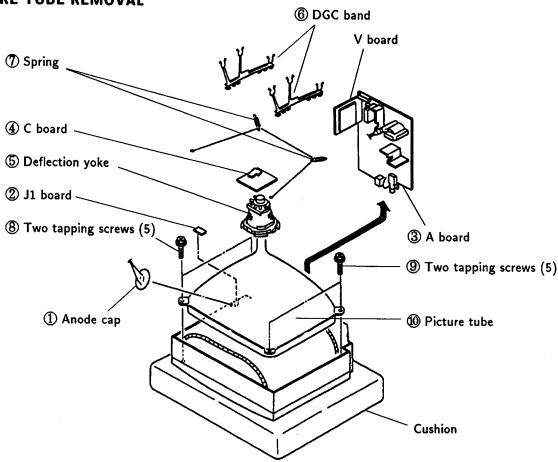
2-2. SERVICE POSITION



2-3. V BOARD REMOVAL



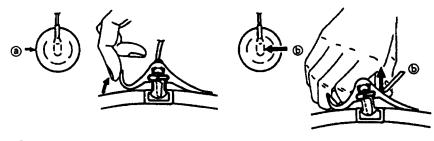
2-4. PICTURE TUBE REMOVAL



REMOVAL OF ANODE-CAP

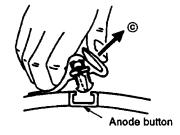
Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT chield or carbon painted on the CRT, after removing the anode.

REMOVING PROCEDURES



① Turn up one side of the rubber cap in ② Using a thumb pull up the rubber cap the direction indicated by the arrow ③.

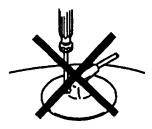
Graph of the rubber cap in the direction indicated by the arrow ⑤.

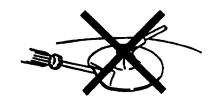


When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ©.

• HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardly not to hurt inside of anode-caps! A material fitting called as shatter-hook
 - A material fitting called as shatter-hool terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardly! 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. The controls and switch below should be set as follows unless otherwise noted:
 - ◆ CONTRASTcontrol ······ 80%(or Normal by commander)

□ BRIGHTNESS control --- 50%

Perform the adjustments in order as follows:

Preparation:

- Set the side of the unit with the PICTUE TUBE so that it faces east or west in order to reduce the influence of external magnetic force.
- Turn the power switch for the unit ON and erase the magnetic force using a degausser..

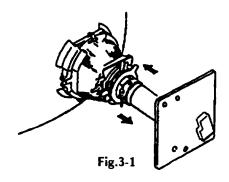
3-1. BEAM LANDING

Demagnetize with a degausser

1. Input a raster signal with the pattern generator.

CONTRAST BRIGHTNESS

- normal
- 2. Turn the raster signal of the pattern generator to red
- Move the deflection yoke backward, and adjust with the purity control so that red is in the center and blue and green are at the sides evenly. (Fig.3-1 - 3-3)
- 4. Move the deflection yoke forward, and adjust so that the entire screen becomes red. (Fig.3-1)
- 5. Switch over the raster signal to blue and green confirm the condition.
- When the position of the deflection yoke is determined, tighten it with a deflection yoke mounting screw.
- 7. When landing at the corner is not right, adjust by using the disk magnets. (Fig. 3-4)



- 1. Beam Landing
- 2. Convergence
- 3. Focus
- 4. Screen (G 2) and White Balance

Note: Test Equipment Required.

- 1. Color bar/Pattern Generator
- 2. Degausser
- 3. DC Power Supply
- 4. Digital multimeter
- 5. Oscilloscope

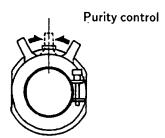


Fig.3-2

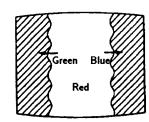
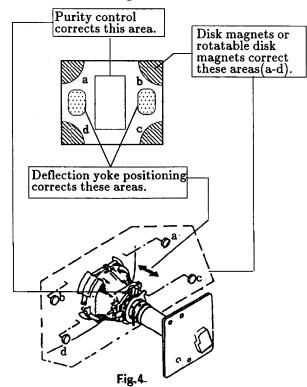


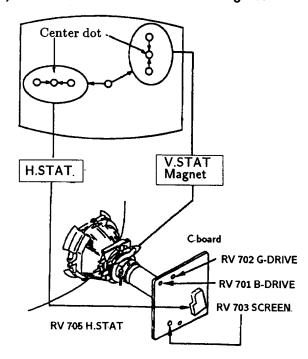
Fig.3-3



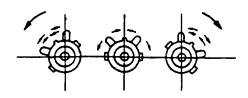
3-2. CONVERGENCE

Preparation:

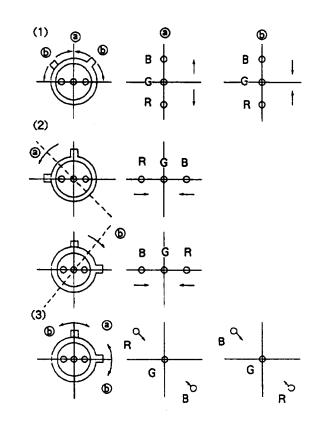
- Before starting, perform FOCUS, H.SIZE, and V.
 SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in the dot pattern.
- (1) Horizontal and Vertical Static Convergence



- 1. Adjust H.STAT VR to converge red, green and blue dots the in center of the screen. (Horizontal movement)
- Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen. (Vertical movement)
- 3. If the red, green and blue dots do not converge on the center of screen with H.STAT VR, perform horizontal convergence adjustment using H.STAT VR and V.STAT magnet as shown below. (In this case, H.STAT VR and V.STAT magnet effect each other.)
- Tilt the V.STAT magnet and adjust static convergence to open or close the V.STAT magnet.



4. When the V.STAT magnet is moved in the direction of arrow @ and D, red, green and blue dots move as shown below.

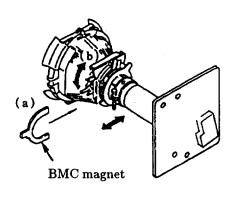


If the red and blue dot do not converge with green dots, perform following steps.

Move BMC magnet (a) to correct insufficient H.static convergence.

Rotate BMC magnet (b) to correct insufficient V.static convergence.

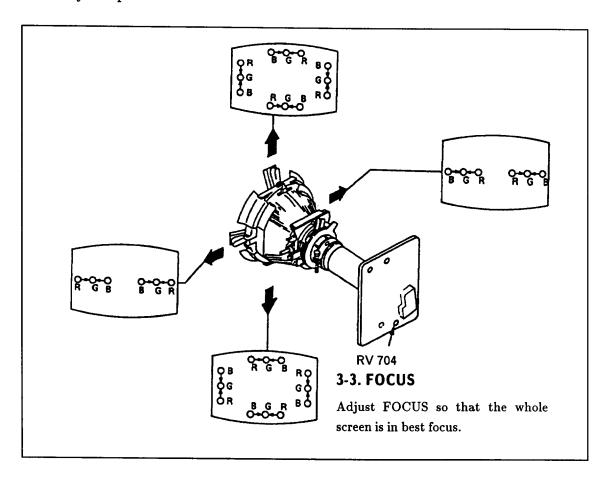
In either case, repeat Beam Landing Adjustment.



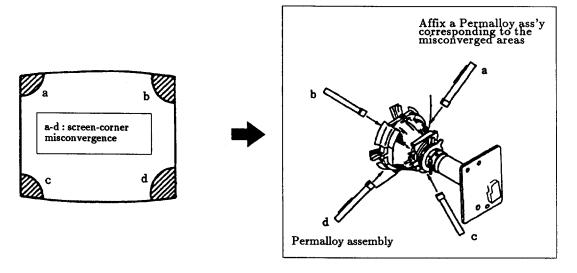
(2) Dynamic Convergence Adjustment Preparation:

- Before starting perform Horizontal and Vertical static convergence Adjustment.
- 1. Slightly loosen deflection yoke screw.
- 2. Remove deflection yoke spacers.

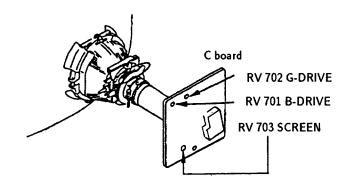
- 3. Move the deflection yoke for best convergence as shown below.
- 4. Tighten the deflection yoke screw.
- 5. Install the deflection yoke spacers.



(3) Screen-corner Convergence



3-4. SCREEN (G 2) and WHITE BALANCE



Screen (G 2) Setting

- 1. Input dot signal from the pattern generator.
- 2. Set the picture BRIGHTNESS control to minimum level.
- 3. Apply 140 V DC to the cathodes of R,G and B from an external power source.
- 4. While watching the picture, adjust the G 2 volume RV703 (SCREEN)immediately before fly-back line disappears.

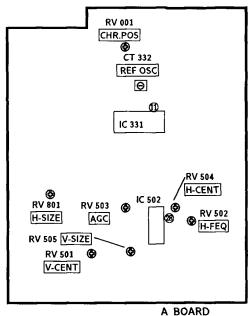
White Balance Adjustment

- 1. Input all-white signal from the pattern generator.
- 2. Adjust the BRIGHTNESS and COLOR controls to the standard level.
- 3. Adjust the following using RV 701 (B DRIVE) and RV 702 (G DRIVE)

In the following adjustments, the CONTRAST, COLOR and BRIGHTNESS controls are set to normal unless otherwise specified.

SECTION 4 CIRCUIT ADJUSTMENTS

4-1. A BOARD ADJUSTMENTS

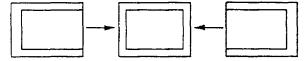


-Component side-

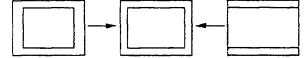
TU AGC Adjustment (RV 503)

- 1. Tune in air signal.
- 2. Adjust AGC VR (RV 503) so that snow-noise and cross-modulation just disappear from the picture.

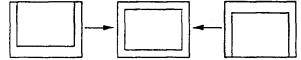
RV 504 H.CENT (HORIZONTAL CENTER)



RV 801 H.SIZE (HORIZONTAL SIZE)



RV 501 V CENT (VERTICAL CENTER)

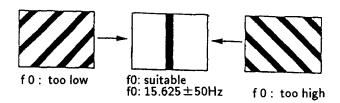


RV 505 V.SIZE (VERTICAL SIZE)



H.FREQ Adjustment (RV 502)

- 1. Input a PAL COLOR BAR signal, then connect an electrolytic capacitor (100 $\mu/16$ V) between pin and GND of IC 502.
- 2. Adjust RV 502 (H.FREQ) to stop scrolling of the picture in the horizontal direction.
- 3. After adjustment, remove the electrolytic capacitor.

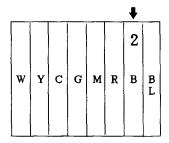


REF OSC 8.8 MHz Adjustment (CT 332)

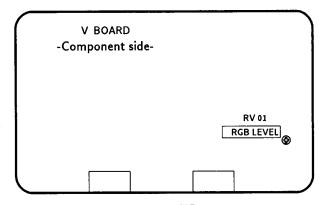
- 1. Input a PAL COLOR BAR pattern.
- 2. Short circuit between pin ① of IC 331 and ground.
- 3. Adjust CT 332 to obtain color synchronizetion.
- 4. Remove the jumper wire from IC 331.

CHARACTER POSITION Adjustment (RV 001)

- 1. Input PAL COLOR BAR pattern.
- 2. Adjust RV 001 to position the charcter display at the point indicated by the arrow below.



4-2. V BOARD ADJUSTMENT

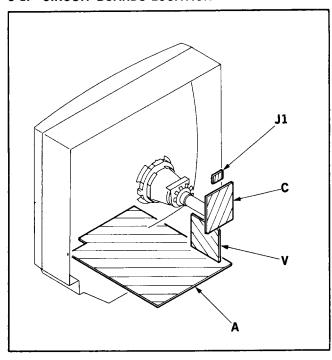


RGB LEVEL Adjustment (RV 01)

- 1. Set PICTURE to maximum.
- 2. Adjust RV01 till the RGB output becomes maximum.

SECTION 5 DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION



Reference information

: ALB

: ALT

: ALR

RESISTOR : RN METAL FILM : RC SOLID : FPRD NONFLAMMABLE CARBON NONFLAMMABLE FUSIBLE : FUSE : RS NONFLAMMABLE WIREWOUNO : RB NONFLAMMABLE CEMENT ADJUSTMENT RESISTOR : LF-8L MICRO INDUCTOR COIL CAPACITOR: TA **TANTALUM** : PS STYROL : PP **POLYPROPYLENE** : PT **MYLAR** : MPS METALIZED POLYESTER : MPP METALIZED POLYPROPYLENE

BIPOLAR

HIGH RIPPLE

HIGH TEMPERATUNE

Note: The components identified by shading and mark

A are critical for safety. Replace only with part number specified.

Note:

All capacitors are in μF unless otherwise noted, pF : μμF
 50WV or less are not indicated except for electrolytics.

 Indication of resistance, which does not have one for rating electrical power is as follows.

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

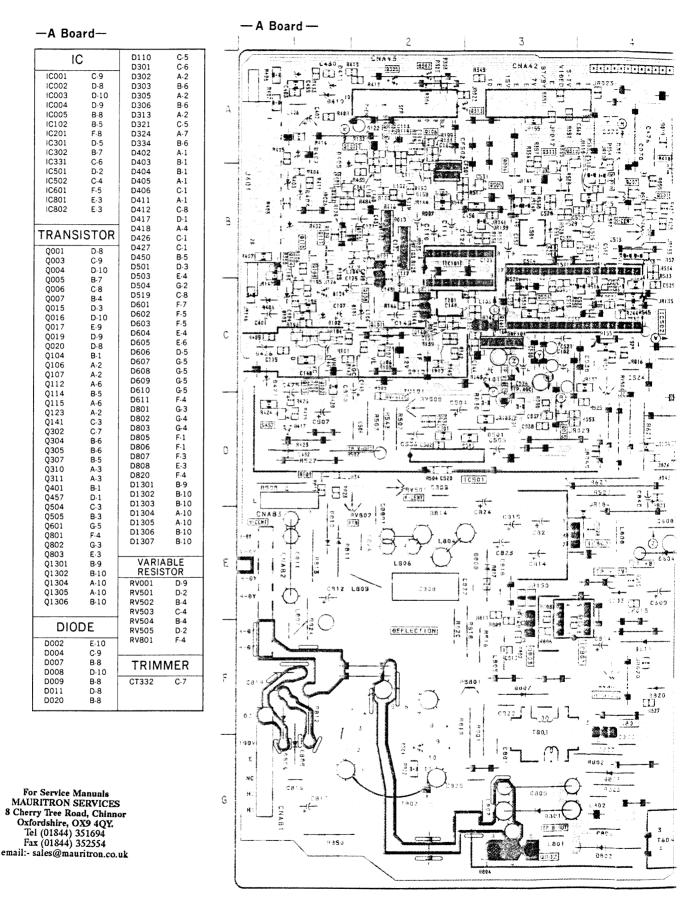
- Chip resistor is in 1/10W.
- All resistors are in ohms, $k\Omega$: 1000 Ω , $M\Omega$: 1000 $k\Omega$.
- m-: nonflammable resistor.
- fusible resistor.
- [] : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltage are in V.
- Readings are taken with a 10MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- —— : B+ bus.
- Signal path. (RF)

KV-

[SYSTEM CONTROL, A/V OUT,]
H/V OUT, MEMORY, CHROMA]

Α

5-2. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS



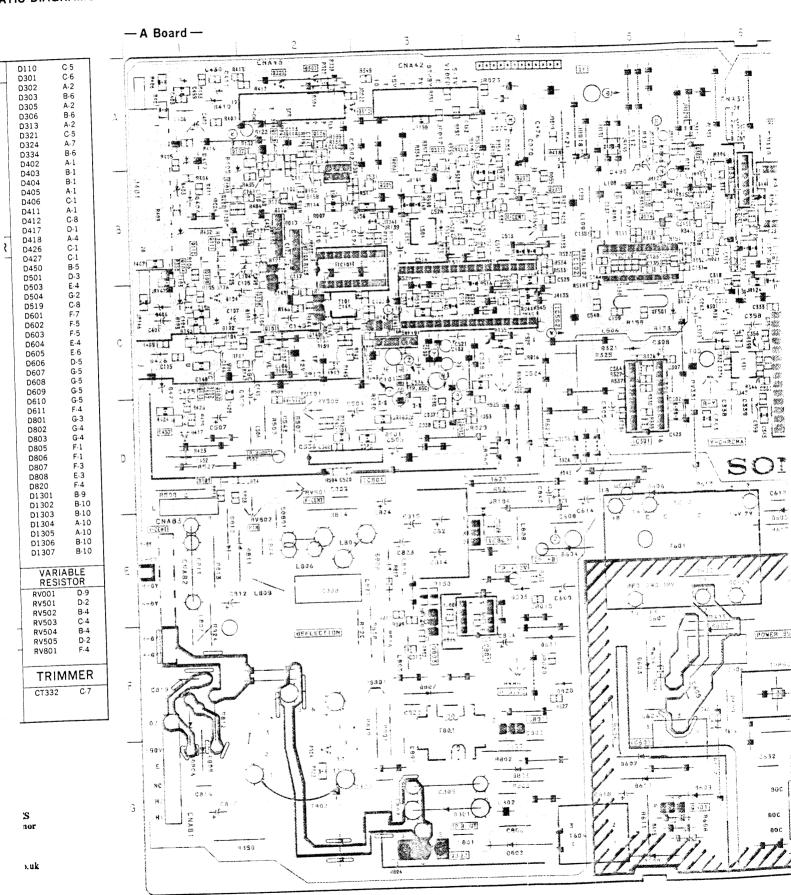
KV-M1921U RM-694 KV-M1921U

SYSTEM CONTROL, A/V OUT, H/V OUT, MEMORY, CHROMA

A

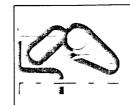
Α

ATIC DIAGRAMS AND PRINTED WIRING BOARDS



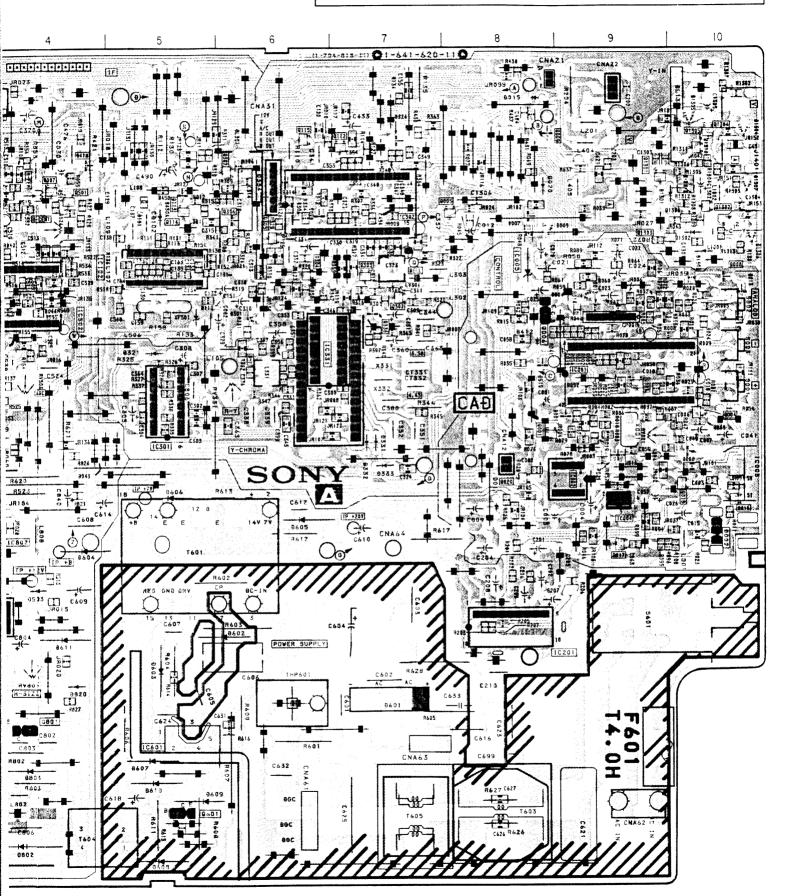


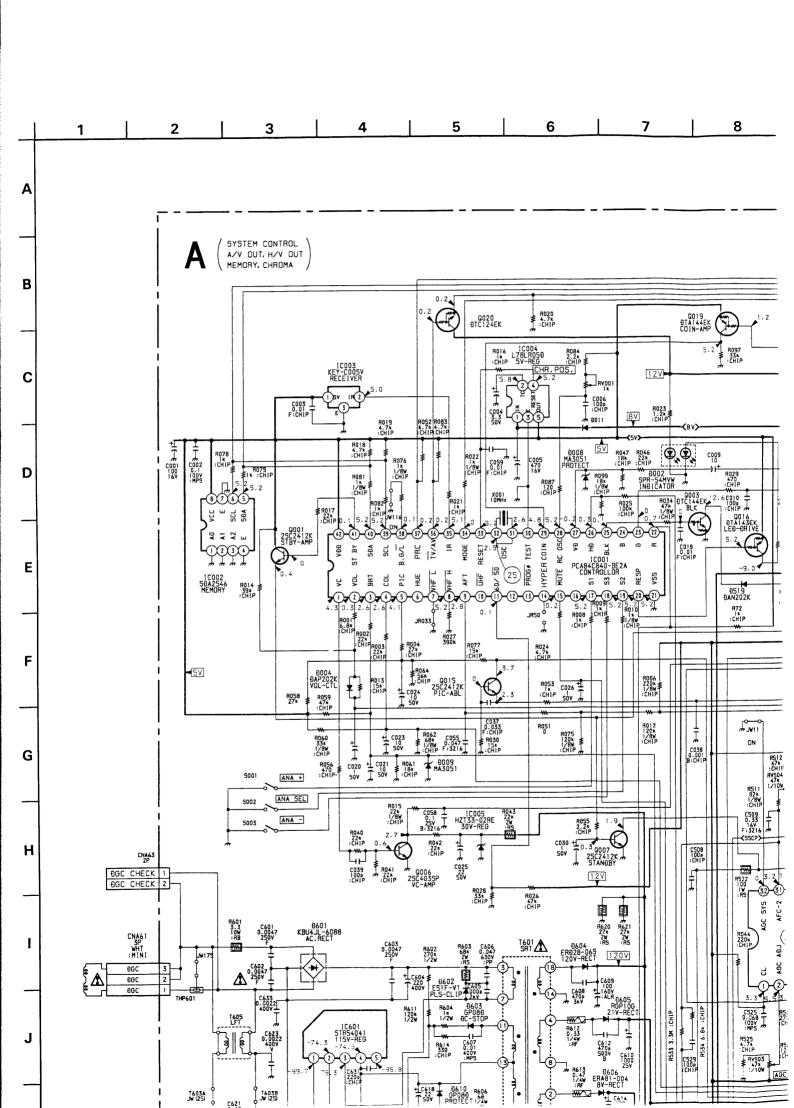
Α

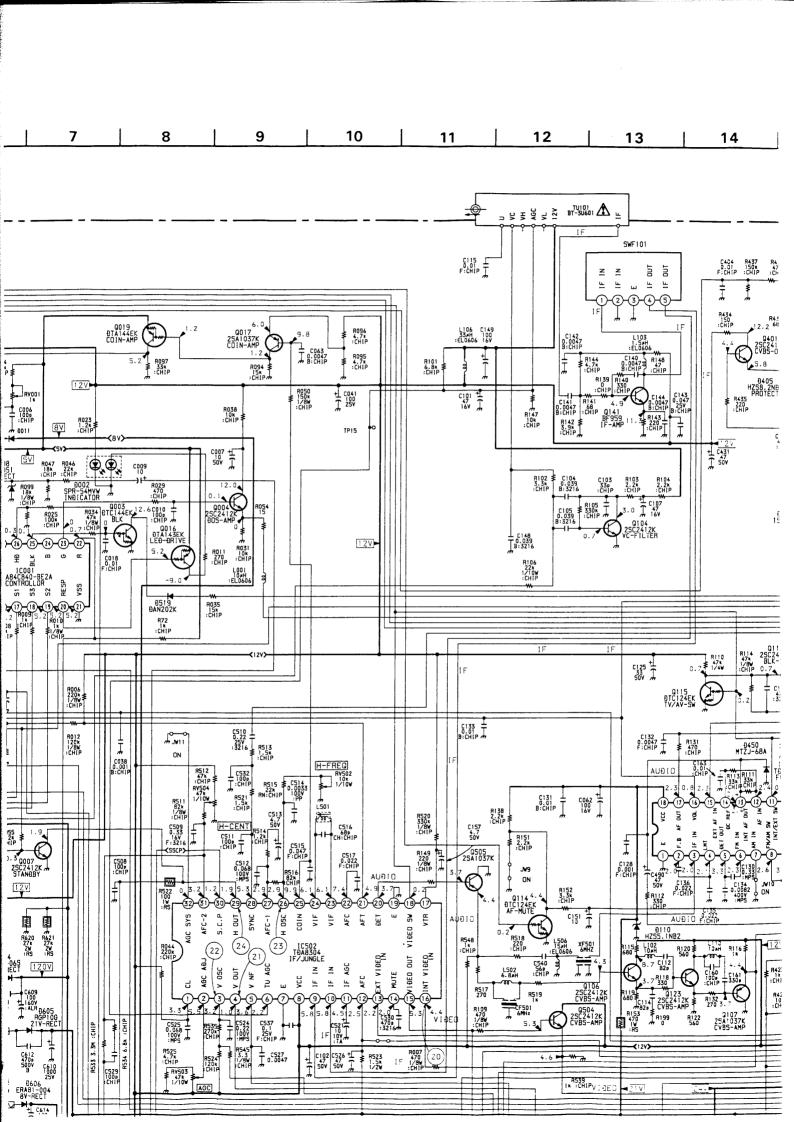


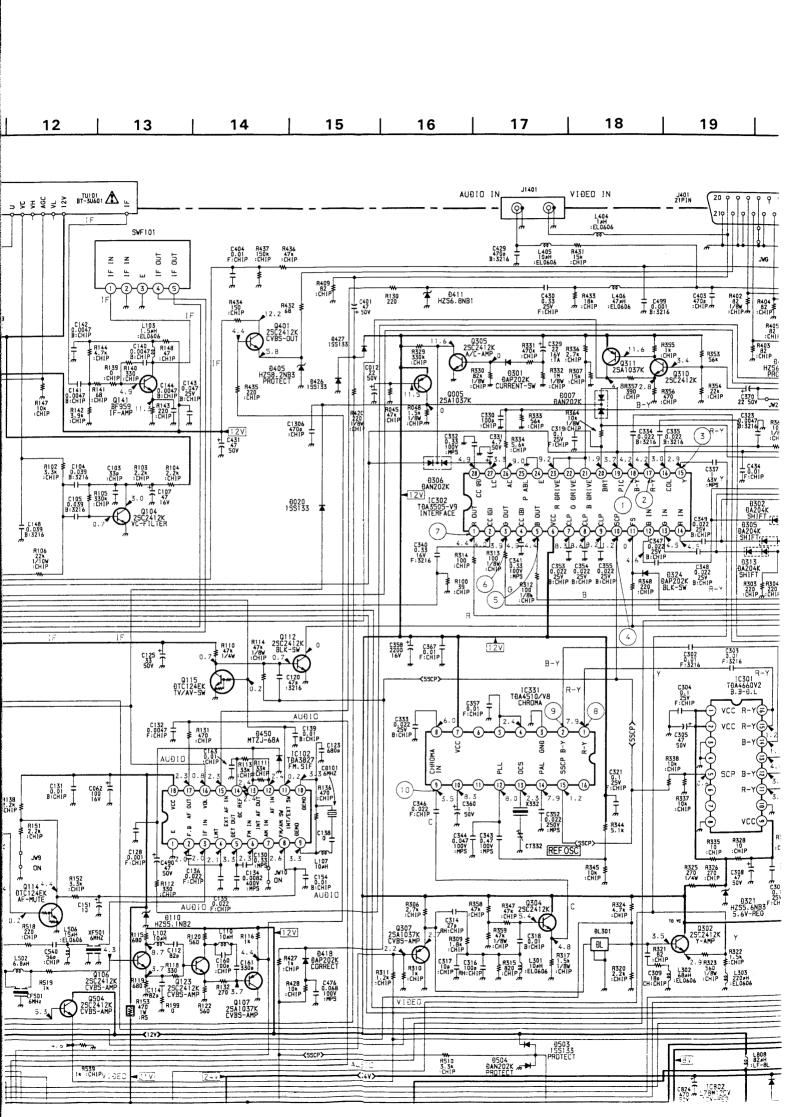
NOTE:

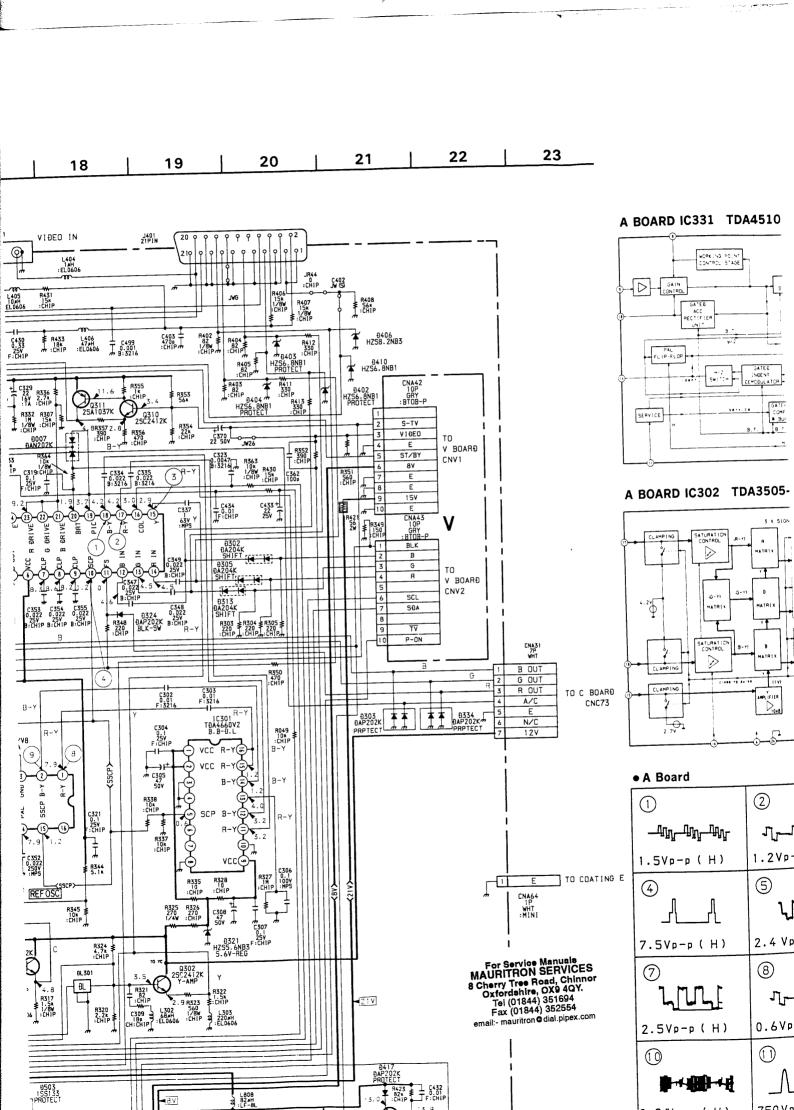
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.





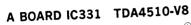


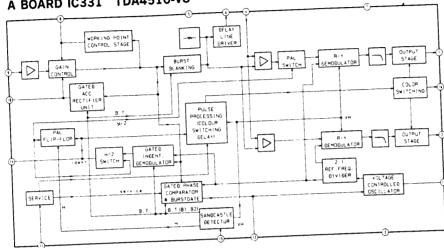


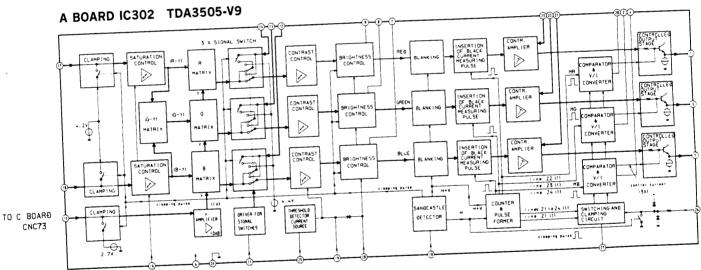


CNA31 7P WHT

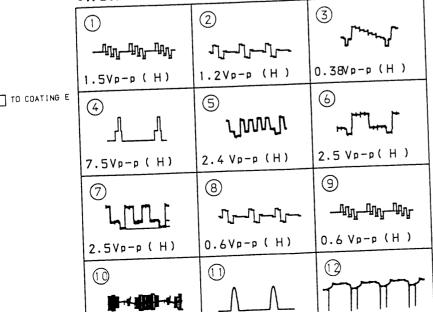
OUT
OUT
A/C
E
N/C
12V

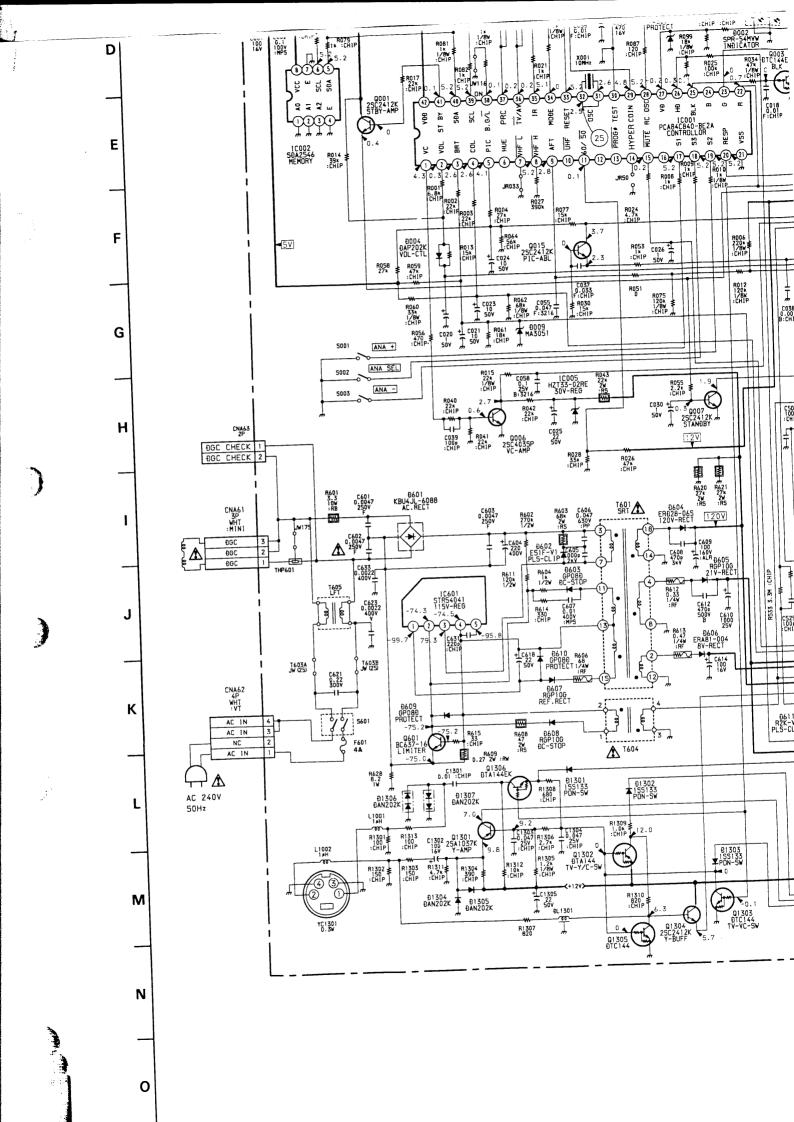


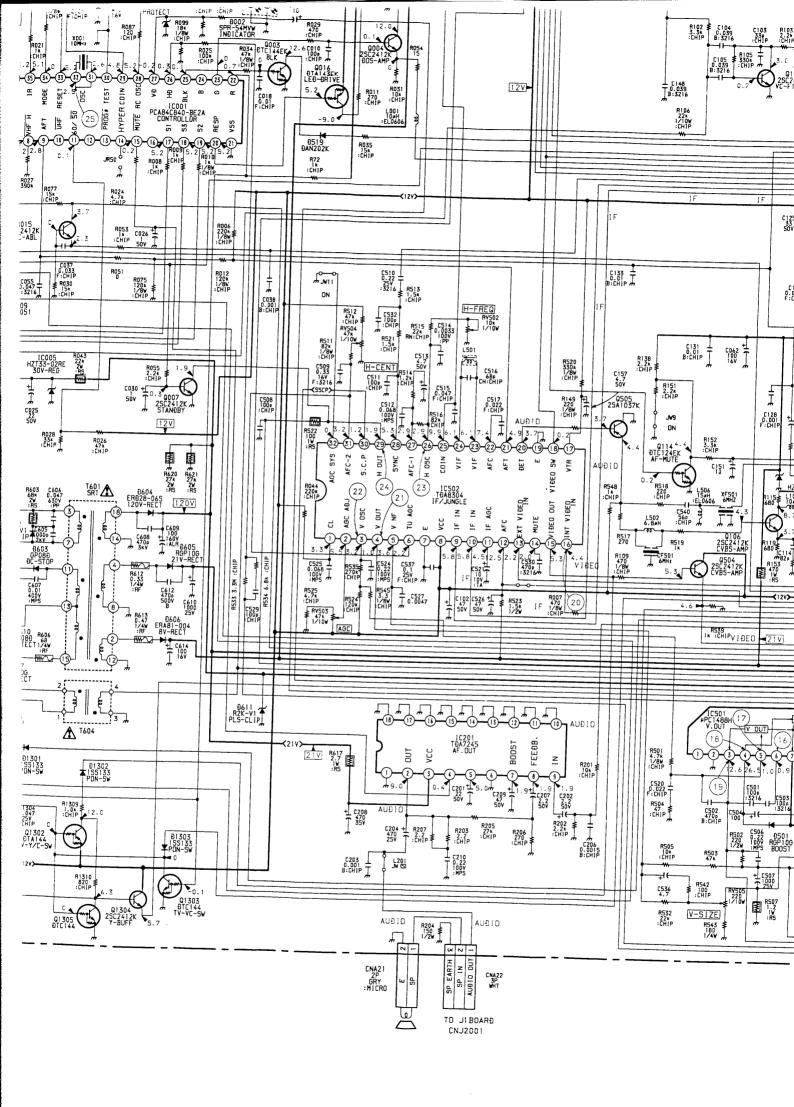


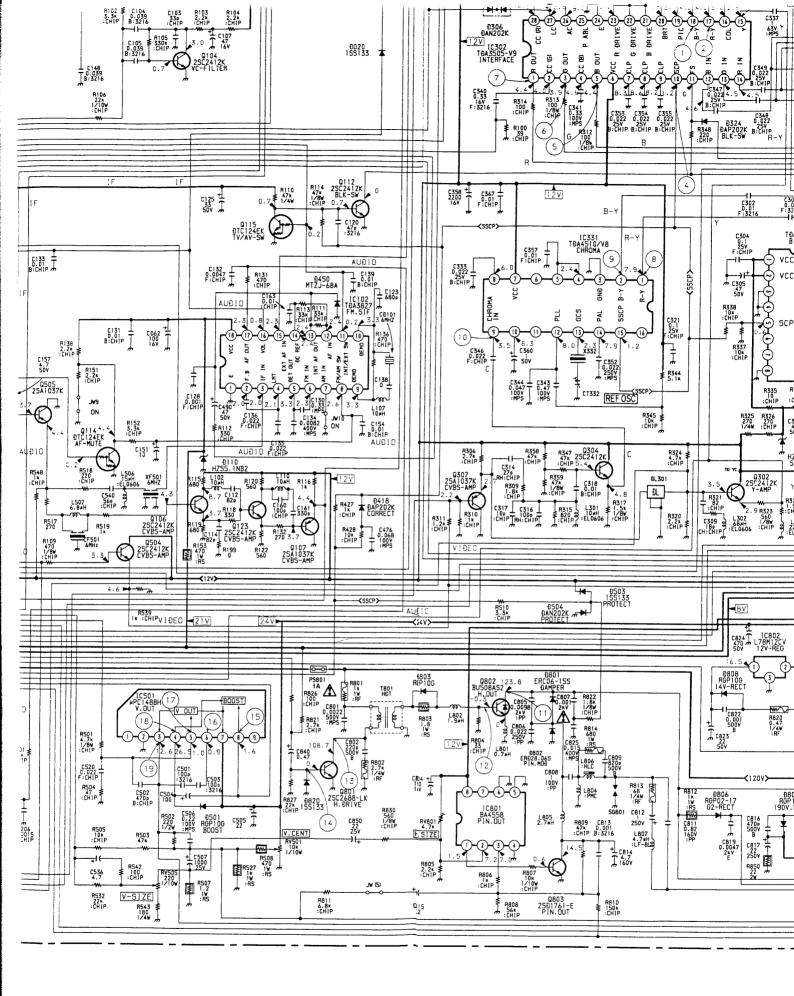


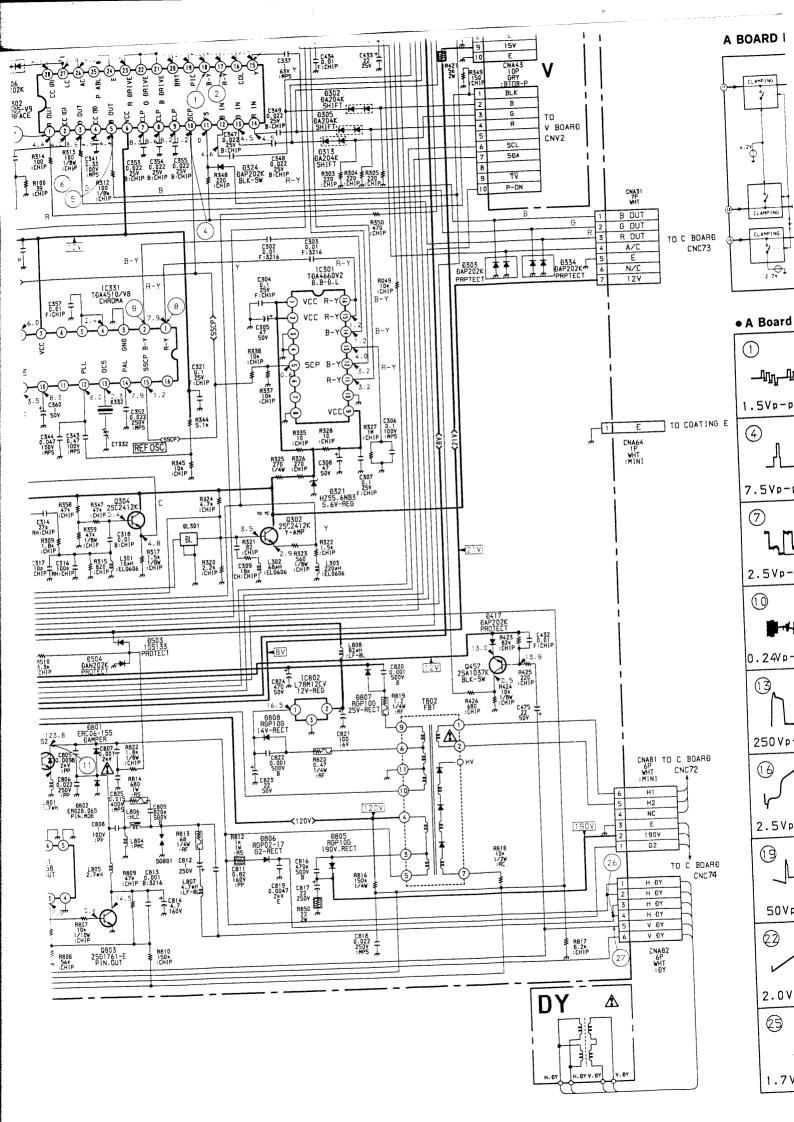
• A Board

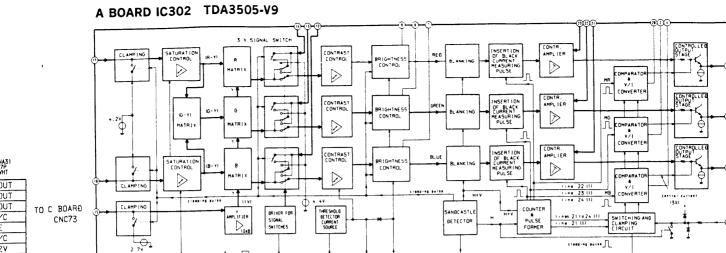


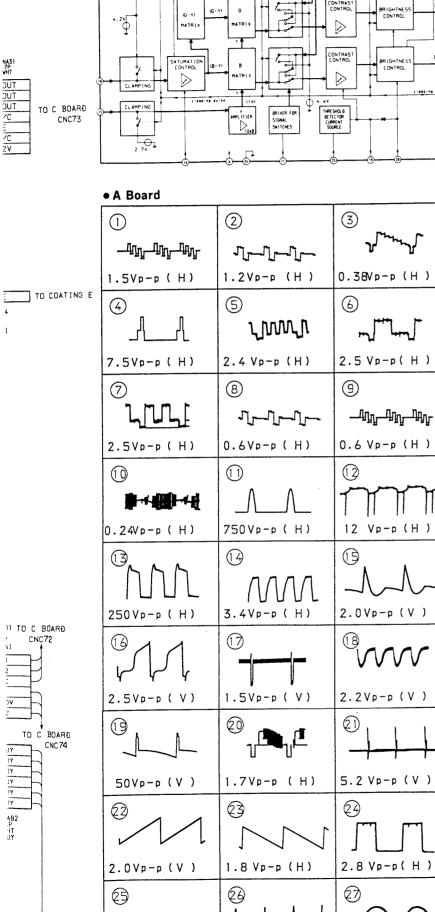












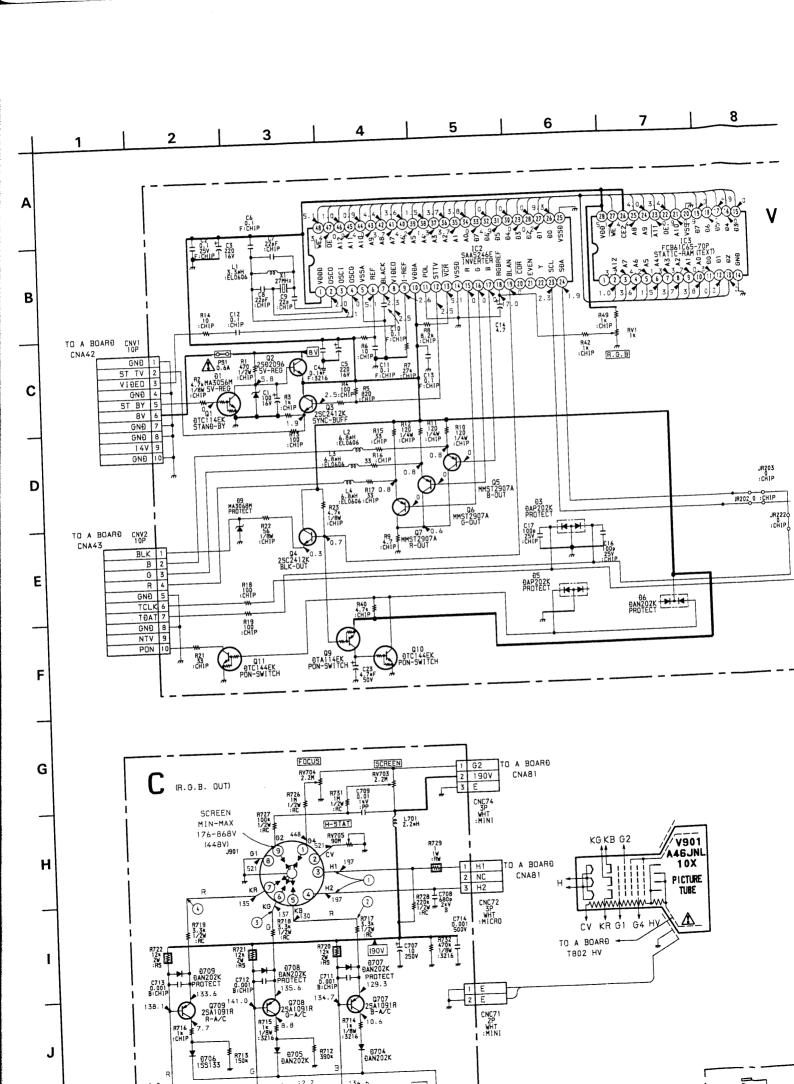
 \mathcal{M}

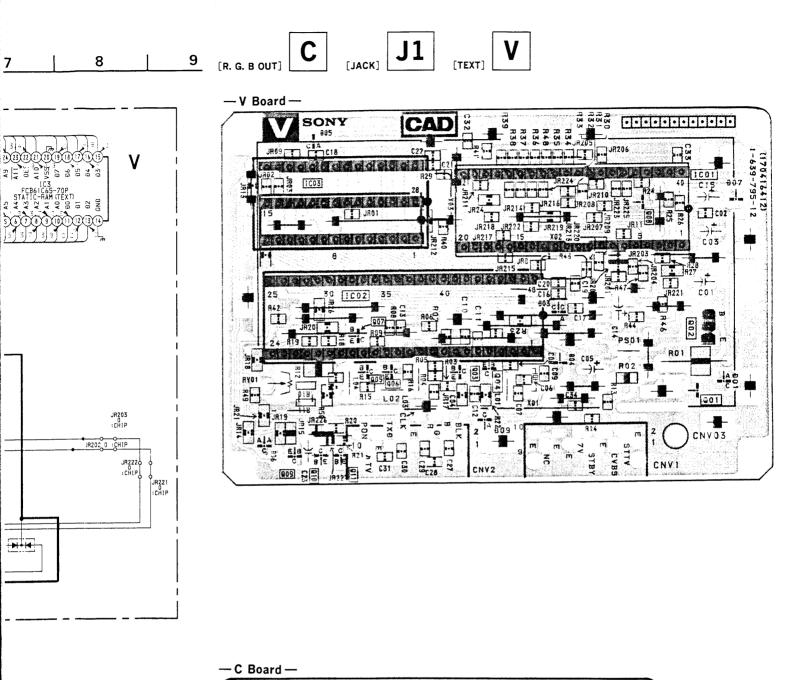
1.7Vp-p (10MHz)

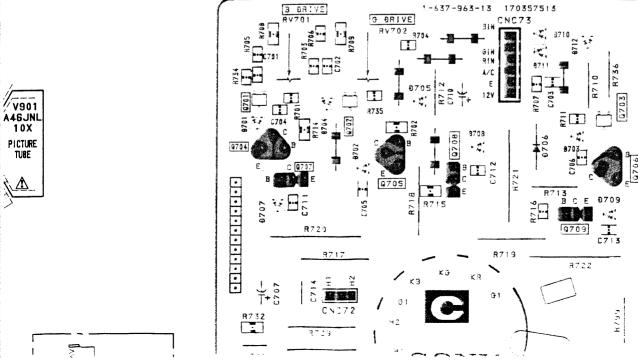
200 Vp-p(H)

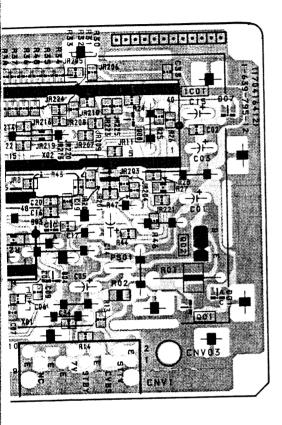
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4.2 Vp-p (V)





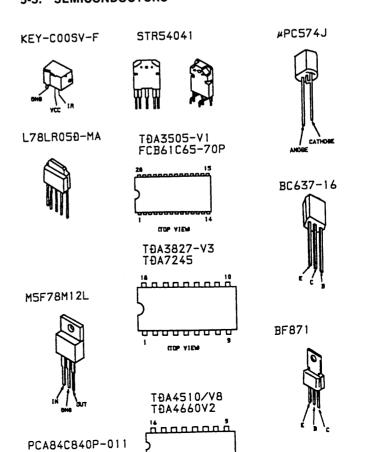




0357513

R722

5-3. SEMICONDUCTORS



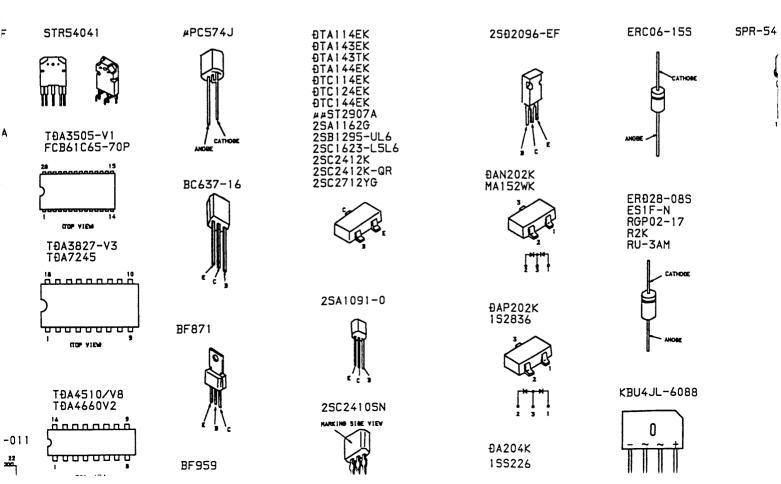
DTA114EH DTA143EH DTA144EH DTC114EH DTC124EH DTC124EH DTC144EH PFST290 25B1295

25C2412 25C2412 25C2712

25A109

25C241

ONDUCTORS



ĐTA114EK ĐTA143EK ĐTA143TK ĐTA144EK ĐTC114EK ĐTC1124EK ĐTC124EK ĐTC144EK ##ST2907A 25A1162G 25B1295-UL6 25C1623-L5L6 25C2412K-QR 25C2412K-QR



2SA1091-0



25C2410SN



2S02096-EF



ĐAN202K MA152WK

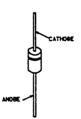


ĐAP202K 152836



ĐA204K 155226

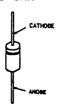
ERC06-155



SPR-54MVW

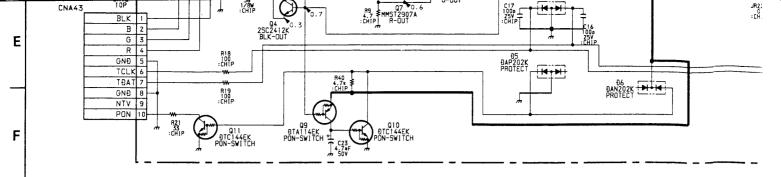


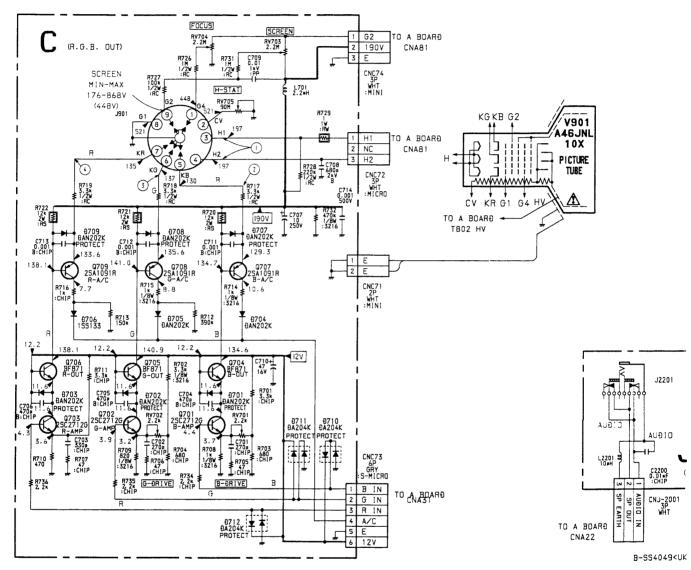
ERÐ28-08S ES1F-N RGP02-17 R2K RU-3AM



KBU4JL-6088







B-SS4049<UK.>-C..



G

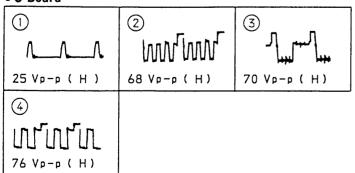
Н

K

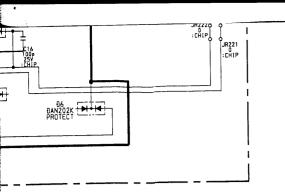
M

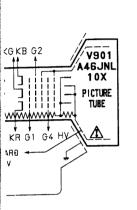
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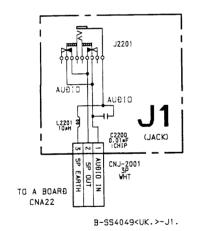
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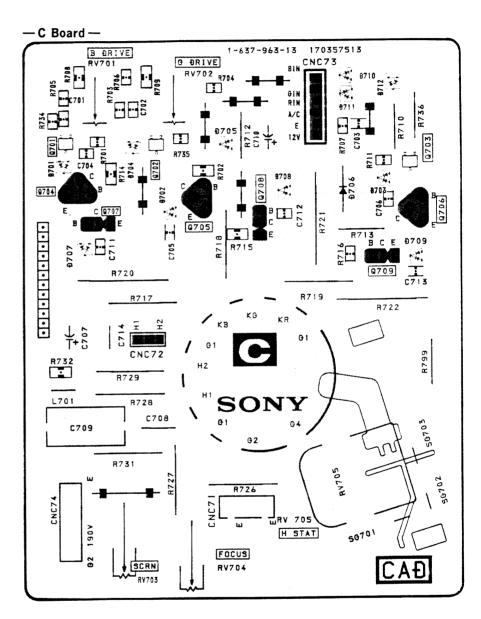


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email:- sales@mauritron.co.uk

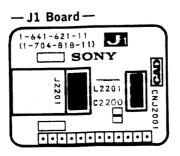




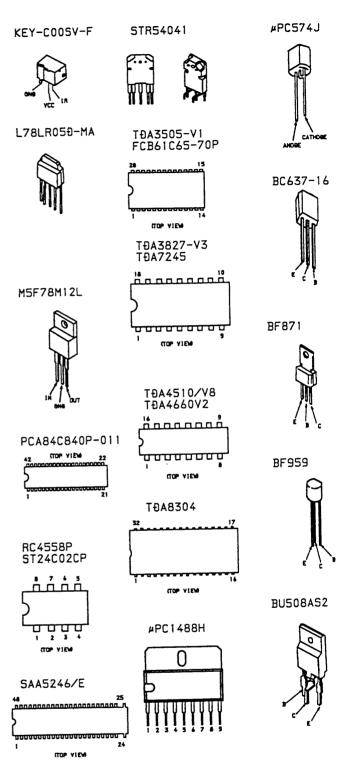


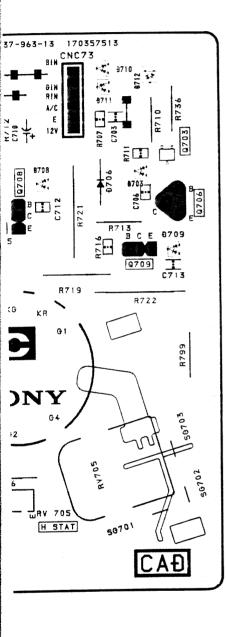


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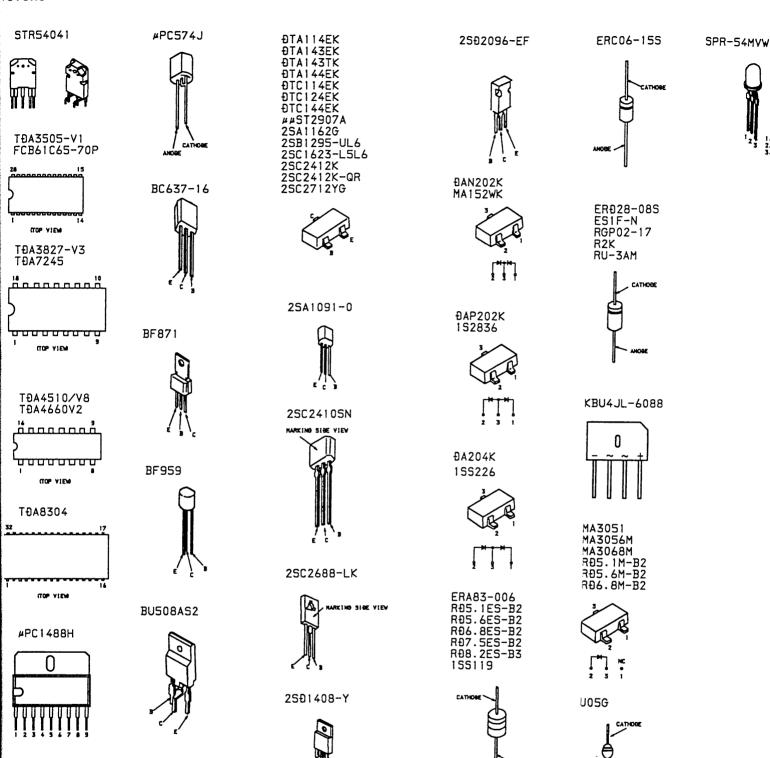


5-3. SEMICONDUCTORS



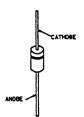


ICTORS



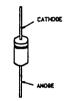


SPR-54MVW





ER028-08S ES1F-N RGP02-17 R2K RU-3AM



KBU4JL-6088



MA3051 MA3056M MA3068M RÐ5.1M-B2 RÐ5.6M-B2 RÐ6.8M-B2



U05G



SECTION 6 **EXPLODED VIEW**

- NOTE:

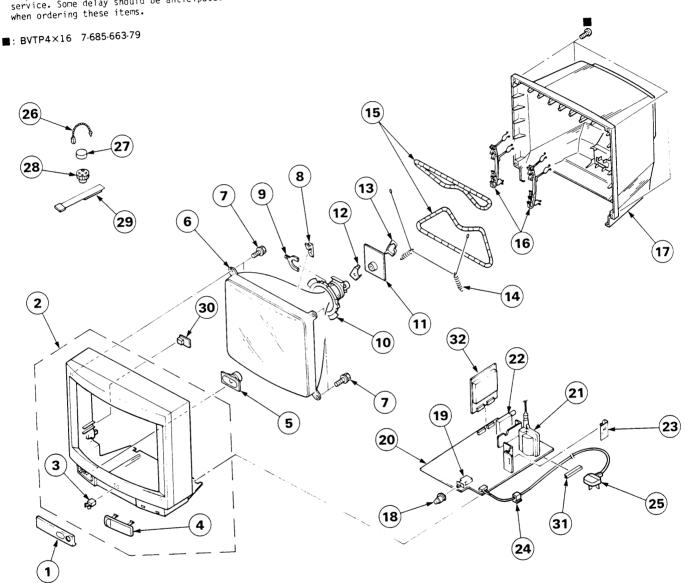
 Items with no part number and no description are not stocked because they are seldom required for routine service.

 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 🐧 are critical for safety.

Replace only with part number specified.

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Fax (01844) 352554
email-sales@mauritron.co.u email:- sales@mauritron.co.uk



REF.NO. PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
1	DOOR (PAINTED) CABINET ASSY (WITH BEZEL ASSY) CATCHER, PUSH COVER, FRONT (PAINTED) SPEAKER PICTURE TUBE (A46JNL10X) SCREW (5), TAPPING SPACER, DY MAGNET, BMC DEFLECTION YOKE (Y19PXA) C BOARD, COMPLETE COVER (MAIN), CV VOL COVER (REAR LID), CV VOL SPRING, TENSION COIL, DEMAGNETIZATION	3,4	20 21 22 23	4-200-911-01 4-200-906-01 1-571-433-12 A-1632-061-A 1-439-432-21 1-465-542-11 *4-200-400-01 1-4590-762-11 4-308-870-00 1-452-032-00 1-452-032-00 1-452-094-00 X-4309-608-0 *1-641-621-11 4-374-959-31 A-1645-018-A	JI BOARD REINFORCEMENT, PC BOARD V BOARD, COMPLETE	15MM ∲ NCE
16 *4-386-622-11	BAND, DGC		27-		MAUR 8 Cherr Oxfo	Service Manuals ITRON SERVICES y Tree Road, Chinno ordshire, OX9 4QY. II (01844) 351694



SECTION 7 **ELECTRICAL PARTS LIST**

NOTE:

The components identified by shading and mark A are critical for safety. Replace only with part number specified.

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.

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

CAPACITORS

COILS

• MF : µF, PF : µµF

• MMH : mH, UH : μH

RESISTORS

- All resistors are in ohms F : nonflammable

	,		REMARK	! R.I	EF.NO.	PART NO.	DESCRIPTION		REMARK
REF.NO. PART NO. A-1632-061-A	DESCRIPTION A BOARD, COMPLETE **********************************				C130 C131 C132 C133	1-136-171-00 1-164-232-11 1-163-029-11 1-164-232-11	FILM 0.33MF CERAMIC CHIP 0.01MF CERAMIC CHIP 0.0047MF CERAMIC CHIP 0.01MF MYLAR 0.0082MF	5% 10% 10% 10%	50V 50V 50V 50V 400V
1-533-230-11 1-565-666-12 4-200-399-01 4-200-407-01 *4-341-751-01	TERMINAL, S 4P SPACER, 1C HOLDER, LED EYELET			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	C135 C136 C138 C139 C140	1-163-033-00 1-163-033-00 1-216-295-00 1-164-232-11 1-163-017-00	CERAMIC CHIP 0.022MF CERAMIC CHIP 0.022MF METAL GLAZE 0 5% CERAMIC CHIP 0.01MF CERAMIC CHIP 0.0047MF	1/10₩ 10% 10%	50V 50V 50V 50V
*4-341-732-01 <ca COO1 1-126-101-11</ca 	PACITOR> ELECT 100MF MYLAR 0.1MF	20% 10%	16V 100V	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	C141 C142 C143 C144 C148	1-163-017-00 1-163-017-00 1-163-809-11 1-163-017-00 1-164-665-11	CERAMIC CHIP 0.0047MF CERAMIC CHIP 0.0047MF CERAMIC CHIP 0.047MF CERAMIC CHIP 0.0047MF CERAMIC CHIP 0.039MF	10% 10% 10% 10% 10%	50V 50V 25V 50V 50V
C002 1-106-220-00 C003 1-163-031-11 C004 1-123-382-00 C005 1-126-103-11	CERAMIC CHIP 0.01MF ELECT 3.3MF ELECT 470MF CERAMIC CHIP 100PF	20% 20% 5%	50V 50V 16V 50V	1	C149 C151 C154 C157	1-126-101-11 1-124-907-11 1-164-232-1 1-124-927-1 1-163-117-0	ELECT 100MF ELECT 10MF CERAMIC CHIP 0.01MF ELECT 4.7MF	20% 20% 10% 20% 5%	16V 50V 50V 50V
C007 1-124-907-1 C009 1-124-907-1 C010 1-163-117-0 C012 1-126-233-1	i ELECT 10MF CERAMIC CHIP 100PF ELECT 22MF	20% 5% 20% 20%	50V 50V 50V 50V		C160 C161 C163 C201 C202	1-163-129-0 1-164-232-1 1-126-233-1 1-124-925-1	O CERAMIC CHIP 330PF 1 CERAMIC CHIP 0.01MF 1 ELECT 22MF 1 ELECT 2.2MF	5% 10% 20% 20% 10%	50V 50V 50V 50V 50V
C020 1-124-903-1 C021 1-124-907-1 C023 1-124-907-1 C024 1-124-907-1	1 ELECT 10MF 1 ELECT 10MF 1 ELECT 10MF 1 ELECT 22MF	20% 20% 20% 20% 20%	50V 50V 50V 50V		C203 C204 C206 C207 C208	1-163-011-1 1-124-925-1 1-126-104-	1 ELECT 470MF 11 CERAMIC CHIP 0.0015MF 11 ELECT 2.2MF 11 BLECT 470MF	20% 10% 20% 20% 20%	25V 50V 50V 35V 50V
C026 1-124-903- C030 1-124-903- C037 1-163-034- C038 1-163-009-	ELECT IMF ELECT IMF CONTROL CHIP 0.033MF CERAMIC CHIP 0.001MF	20% 10% 5%	50V 50V 50V		C209 C210 C302 C303 C304	1-124-910- 1-106-228- 1-163-059- 1-163-059- 1-163-038-	00 MYLAR 0.22MF 00 CERAMIC CHIP 0.01MF 00 CERAMIC CHIP 0.01MF 00 CERAMIC CHIP 0.1MF	10% 20%	100V 50V 50V 25V 50V
C039 1-163-117- C041 1-124-478- C055 1-163-075- C058 1-163-077- C059 1-163-031-	11 ELECT 100M7 00 CERAMIC CHIP 0.047MF 00 CERAMIC CHIP 0.1MF 11 CERAMIC CHIP 0.01MF	20% 10% 20%	25V 50V 25V 50V		C305 C306 C306 C30	5 1-124-910- 6 1-106-220- 7 1-163-038- 8 1-124-910-	-00 MYLAR 0.1MF -00 CERAMIC CHIP 0.1MF -11 ELECT 47MF	10% 20% 5% 5%	100 V 25 V 50 V
C062 1-126-101- C063 1-163-017- C101 1-124-477- C102 1-124-910- C103 1-163-105-	00 CERAMIC CHIP 0.0047MF -11 ELECT 47MF -11 ELECT 47MF -00 CERAMIC CHIP 33PF	10% 20% 20% 5%	50V 16V 50V 50V		C30 C31 C31 C31 C31	4 1-163-103 6 1-163-377 1-163-093 1-164-232	-00 CERAMIC CHIP 27PF -11 CERAMIC CHIP 100PF -00 CERAMIC CHIP 10PF -11 CERAMIC CHIP 0.01MF	5%	50V 50V 50V 25V
C104 1-164-665 C105 1-164-665 C107 1-124-477 C112 1-163-115 C114 1-163-115	-11 ELECT 47MF -00 CERAMIC CHIP 82PF	10% 10% 20% 5%	50V 16V 50V 50V		C31 C32 C32 C32 C32 C32	1-163-038 21 1-163-038 23 1-163-055 29 1-131-365	1-00 CERAMIC CHIP 0.1MF 1-00 CERAMIC CHIP 0.0047N 1-00 TANTALUM 22MF 1-00 CERAMIC CHIP 100PF	4F 10 10 5% 20	% 16V 50V
C115 1-163-031 C120 1-163-173 C123 1-163-137 C125 1-124-917 C128 1-163-029	7-00 CERAMIC CHIP 680PF 7-11 ELECT 33MF	5% 5% 20%	50V 50V 50V 50V 50V	,	C3 C3	31 1-124-92	7-11 ELECT 4.7MF	10	

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

Replace only with part number specified.

REF.NO. PART	NO.	DESCRIPTION			REMARK	REF.NO.	PART NO.	DESCRIPTION			REMARK
C333 I-163 C334 I-165 C335 I-163 C337 I-130 C340 I-162	-037-11 -063-00 -063-00 -834-00 -568-11	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP MYLAR CERAMIC CHIP	0.022MF 0.022MF 0.022MF 1MF 0.33MF	10% 10% 10% 10% 10%	25V 50V 50V 63V 16V	C601 A C602 A C603 C604 C605	1-161-964-61 1-161-964-61 1-162-599-12 1-125-318-00 1-161-754-00	CERAMIC CERAMIC CERAMIC ELECT(BLOCK) CERAMIC	0.0047MF 0.0047MF 0.0047MF 220MF 0.001MF	20% 10%	∠x v
C343 1-130 C344 1-106 C346 1-163 C347 1-163	-383-00 -033-00 -037-11	MVLAR	0.47MF 0.047MF 0.022MF 0.022MF	10% 10% 10% 10%	100V 100V 100V 50V 25V	C610	1-136-637-11 1-106-367-00 1-161-753-00 1-124-347-00 1-124-557-11 1-102-228-00	MYLAR CERAMIC ELECT ELECT	0.047MF 0.01MF 470PF 100MF 1000MF 470PF	10% 10% 10% 20% 20% 10%	630V 400V 3KV 160V 25V 500V
C349 1-163- C352 1-106- C353 1-163- C354 1-163-	-037-11 -375-12 -037-11 -037-11	CERAMIC CHIP	0.022MF 0.022MF 0.022MF 0.022MF	10% 10% 10% 10%	25 V 250 V 25 V 25 V 25 V	C614 C618 C621 <u>A</u> C623 A	1-126-101-11 1-126-233-11 1-136-517-11 1-164-246-51 1-163-125-00	ELECT ELECT FILM CERAMIC	100MF 22MF 0.22MF 0.0022MF		16V 50V 300V 400V 50V
C357 1-163- C358 1-124- C360 1-124- C362 1-163-	-031-11 -556-11 -903-11 -117-00	CERAMIC CHIP ELECT ELECT CERAMIC CHIP	0.01MF 2200MF 1MF 100PF	20% 20% 5%	50V 16V 50V 50V	C633 C801 C802 C804	1-161-742-00 1-101-821-00 1-102-244-00 1-126-101-11 1-136-078-11	CERAMIC CERAMIC CERAMIC ELECT	0.0022MF 0.0022MF 220PF 100MF 0.0098MF	20% 10% 20% 3%	400V 500V 500V 16V 2KV
C367 1-163- C370 1-126- C401 1-124- C403 1-163- C404 1-163-	-031-11 -233-11 -910-11 -133-00 -031-11	CERAMIC CHIP ELECT ELECT CERAMIC CHIP CERAMIC CHIP	22MF 47MF 470PF 0.01MF	20% 20% 5%	50V 50V 50V 50V	C806 A C807 A C808 C809	. 1-136-652-11 . 1-161-731-51 . 1-136-933-11 . 1-102-212-00 . 1-136-540-11	FILM CERAMIC FILM CERAMIC	0.022MF 0.001MF 1MF 820PF 0.82MF	10% 10% 5% 10% 5%	250V 2KV 100V 500V 160V
C433 1-126-	-233-11	CERAMIC CHIP CERAMIC CHIP ELECT CERAMIC CHIP ELECT	22MF	20%	25V 50V 50V 25V	C812 C813 C814 C815	1-124-634-11 1-163-009-11 1-126-542-11 1-126-233-11	ELECT CERAMIC CHIP ELECT ELECT		20% 10% 20% 20%	250V 50V 160V 50V
C475 1-126- C476 1-106- C490 1-124- C499 1-163-	-216-00 -910-11 -205-00	ELECT CERAMIC CHIP	47MF 0.001MF	20% 10%	50V 50V 100V 50V 50V	C817 C818 C819	1-102-228-00 1-123-948-00 1-106-375-12 1-162-114-00 1-162-318-11	ELECT MYLAR CERAMIC	22MF 0.022MF 0.0047MF 0.001MF	10% 20% 10%	500V 250V 250V 2KV 500V
C502 1-163- C503 1-163- C504 1-124-	-005-11 -181-00 -122-11	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP ELECT ELECT	470PF 100PF 100MF 22MF		50V 50V 50V 50V 50V		1-126-101-11 1-126-318-11 1-126-233-11 1-124-913-11 1-106-371-00 1-124-902-00		100MF 0.001MF 22MF 470MF 0.015MF 0.47MF	20% 10% 20% 20% 10%	16V 500V 50V 50V 400V
C507 1-124- C508 1-163- C509 1-162-	-228-00 -190-00 -117-00 -568-11 -081-00	MYLAR ELECT CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP	0.33MF	10% 10% 5% 10%	100V 25V 50V 16V 25V	C850 C1301 C1302	1-124-902-00 1-126-233-11 1-164-232-11 1-126-101-11 1-163-809-11	ELECT	22MF 0.01MF 100MF	20% 20% 10% 20% 10%	50V 25V 50V 16V 25V
C512 1-106- C513 1-124- C514 1-136-	-117-00 -216-00 -927-11 -298-00 -035-00	CERAMIC CHIP MYLAR ELECT FILM CERAMIC CHIP	0.068MF 4.7MF 0.0033MF	5% 10% 20% 2%	50V 100V 50V 100V 50V	C1304	1-163-809-11 1-126-233-11 1-163-005-11	CERAMIC CHIP	0.047MF 22MF	10% 20% 10%	25V 50V 50V
C517 1-163- C520 1-163- C521 1-131-	-113-00 -033-00 -033-00 -377-00 -228-00	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP TANTALUM MYLAR	0.022MF	5% 10% 10%	50V 50V 50V 10V 100V	CF501 SWF101	<pre><fil' 1-404-718-11="" 1-409-429-11="" 1-567-569-11<="" 1-579-109-11="" pre=""></fil'></pre>	DISCRIMINATOR TRAP, CERAMIC FILTER, SURFA	C ACE WAVE		
C526 1-124- C527 1-163- C529 1-163-	-216-00 -910-11 -017-00 -117-00 -197-00	MYLAR ELECT CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP	100PF	10% 20% 10% 5%	100V 50V 50V 50V 50V	CNA21 :	<con +1-560-290-00</con 	NECTOR>	OR (2.5MM P	ITCH)	
C536 1-124- C537 1-163-	-117-00 -927-11 -038-00 -111-00	CERAMIC CHIP ELECT CERAMIC CHIP CERAMIC CHIP	4.7MF 0.1MF	5% 20% 5%	50V 50V 25V 50V	CNA42 :	*1-568-878-51 *1-565-394-11 *1-565-394-11 *1-508-765-00	PIN, BOARD TO	D BOARD CONN D BOARD CONN	ECTOR	



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

Replace only with part number specified.

	DESCRIPTION					REMARK
CNA62 *1-580-844-11 CNA63 *1-508-786-00 CNA64 *1-508-784-00 CNA81 *1-508-768-00	PIN, CONNECTOR (POWER) PIN, CONNECTOR (5MM PITCH) 2P PIN, CONNECTOR (5MM PITCH) 1P PIN, CONNECTOR (5MM PITCH) 6P CONNECTOR PIN (DY) 6P	D1301 D1302 D1303	8-719-911-19 8-719-911-19 8-719-911-19	DIODE 155119 DIODE 155119 DIODE 155119		
CNA82 *1-580-798-11	CONNECTOR PIN (DY) 6P	D1304 D1305 D1306	8-719-800-76 8-719-800-76 8-719-800-76	DIODE 155226 DIODE 155226 DIODE 155226		
CT332 1-141-418-11		1 1707	8 719 800 10	D10DL 133220		
				AY LINE>		
<dio< td=""><td></td><td></td><td></td><td>MODULE, Y DELA DELAY LINE, Y</td><td>AY LINE</td><td></td></dio<>				MODULE, Y DELA DELAY LINE, Y	AY LINE	
D004 8-719-104-34 D007 8-719-400-18 D008 8-719-105-82	DIODE SPR-54MVW DIODE IS2836 DIODE MAI52WK DIODE ED5.1M-B2 DIODE ED5.1M-B2	F601 A	<fus № 1-576-231-21</fus 	E> FUSE (H.B.C.)	4A/250V	
DO11 8-719-911-19	DIODE ISSII9		4-201-057-01	COVER, FUSE; F	7601	
D020 8-719-911-19 D110 8-719-109-85 D301 8-719-104-34 D302 8-719-800-76	DIODE 1SS119 DIODE ED5.1ES-B2 DIODE 1S2836 DIODE 1SS226	10001	<1C> 8-759-062-07	1C PCA84C840P.	⁄016	
D303 8-719-104-34 D305 8-719-800-76 D306 8-719-400-18	DIODE 1S2836 DIODE 1SS226 DIODE MA152WK	1 C002 1 C003 1 C004	8-759-043-86 8-749-922-13	IC ST24C02AB1 IC KEY-COOSV-F IC L78LR05D-MA	7	
D313 8-719-800-76	DIODE RD5.6ES-B2	IC201	8-759-044-41 8-759-502-74 8-759-505-39			
D334 8-719-104-34 D402 8-719-109-97 D403 8-719-109-97	DIODE 152836 DIODE ED6.8ES-B2 DIODE RD6.8ES-B2	1C302 1C331	8-759-512-04 8-759-513-46	IC TDA3505-V1 IC TDA4510/V8		
D406 8-719-110-09	DIODE RD8.2ES-B3 DIODE RD8.2ES-B3	1C502 1C601	8-759-515-72 8-749-901-65	SPRING; IC501 IC TDA8304 IC STR54041		
	DIODE RD6.8ES-B2 DIODE UZ-4.7BSC DIODE 1S2836	1C801 1C802	*4-368-683-01 8-759-945-58 8-759-604-39	IC RC4558P IC M5F78M12L		
D418 8-719-104-34 D426 8-719-911-19	DIODE ISS119	! ! !	* 4-389-343-01	SPRING; 1C802		
D427 8-719-911-19 D450A 8-719-109-97 D501 8-719-300-33	DIODE RD6.8ES-B2	! ! !	<jac< td=""><td>K></td><td></td><td></td></jac<>	K>		
D503 8-719-911-19 D504 8-719-400-18	DIODE ISS119 DIODE MA152WK	J401 J1401	1-561-534-00 1-563-500-11	SOCKET 21P JACK BLOCK, PI	N (L TYPE) 2P	
D519 8-719-400-18 D601 A . 8-719-946-90 D602 8-719-976-64	DIODE MA152WK DIODE KBU4JL-6088 DIODE RGP02-17		<001	L>		
D603 8-719-911-55 D604 8-719-928-08 D605 8-719-300-33 D606 8-719-980-78	DIODE UG5G DIODE ERD28-08S DIODE RU-3AM DIODE ERA83-006	L001 L102 L103 L106 L107	1-408-409-00 1-408-409-00 1-408-399-00 1-408-415-00 1-408-409-00	INDUCTOR INDUCTOR INDUCTOR INDUCTOR INDUCTOR	10UH 10UH 1.5UH 33UH 10UH	
D607 8-719-300-33 D608 8-719-300-33	DIODE RU-3AM DIODE RU-3AM	L110 L301	1-408-409-00 1-408-409-00	INDUCTOR INDUCTOR	10UH 10UH	
D609 8-719-911-55 D610 8-719-911-55 D611 8-719-912-40 D801 8-719-945-80	DIODE UOSG DIODE UOSG DIODE R2K DIODE ERCO6-15S	L302 L303 L404	1-408-419-00 1-408-425-00 1-408-397-00	INDUCTOR INDUCTOR INDUCTOR	68UH 220UH 1UH	
D802 8-719-928-08	DIODE ERD28-08S	L405 L406	1-408-409-00 1-408-417-00	INDUCTOR INDUCTOR	10UH 47UH	
D803 8-719-300-33 D805 8-719-300-33 D806 8-719-976-64 D807 8-719-300-33	DIODE RU-3AM DIODE RU-3AM DIODE RGP02-17 DIODE RU-3AM	L501 L502 L506	1-404-493-31 1-408-407-00 1-408-411-00	COIL INDUCTOR INDUCTOR	6.8UH 15UH	
D808 8-719-300-33 D820 8-719-911-19	DIODE RU-3AM DIODE ISS119	L801 L802 L804	1-407-365-00 1-420-872-00 1-459-390-00	COIL, CHOKE COIL, AIR CORE COIL (WITH COR	E)	

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

Replace only with part number specified.

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REF.NO. PART NO.	DESCRIPTION	REMARK	REF.NO. PART NO. DESCRIPTION REMARK
L805 1-459-105-21 L806 1-459-756-12 L807 1-408-239-00 L808 1-408-226-00 L1001 1-408-397-00	COIL(WITH CORE) COIL, HORIZONTAL LINEARITY INDUCTOR 4.7MMH INDUCTOR 82UH INDUCTOR 1UH		JR009 1-216-295-00 METAL GLAZE 0 5% 1/10W JR010 1-216-295-00 METAL GLAZE 0 5% 1/10W JR011 1-216-295-00 METAL GLAZE 0 5% 1/10W JR012 1-216-295-00 METAL GLAZE 0 5% 1/10W
L1002 1-408-397-00	INDUCTOR 1UH		JR015
PS801 <u>A</u> . i-532-637-91	LINK, IC 1A		JR020 1-216-295-00 METAL GLAZE 0 5% 1/10W JR021 1-216-295-00 METAL GLAZE 0 5% 1/10W
<tr< td=""><td>ANSISTOR></td><td></td><td>JR022 1-216-295-00 METAL GLAZE 0 5% 1/10W JR023 1-216-295-00 METAL GLAZE 0 5% 1/10W JR024 1-216-295-00 METAL GLAZE 0 5% 1/10W</td></tr<>	ANSISTOR>		JR022 1-216-295-00 METAL GLAZE 0 5% 1/10W JR023 1-216-295-00 METAL GLAZE 0 5% 1/10W JR024 1-216-295-00 METAL GLAZE 0 5% 1/10W
4001 8-729-120-28 4003 8-729-901-01 4004 8-729-120-28 4005 8-729-923-54 4006 8-729-922-66	TRANSISTOR 2SC1623-L5L6 TRANSISTOR DTC144EK TRANSISTOR 2SC1623-L5L6 TRANSISTOR DTA143TK TRANSISTOR 2SC2410SN		JR026 1-216-295-00 METAL GLAZE 0 5% 1/10W JR027 1-216-295-00 METAL GLAZE 0 5% 1/10W JR028 1-216-295-00 METAL GLAZE 0 5% 1/10W JR029 1-216-295-00 METAL GLAZE 0 5% 1/10W JR030 1-216-295-00 METAL GLAZE 0 5% 1/10W
Q007 8-729-120-28 Q015 8-729-120-28 Q016 8-729-901-47 Q017 8-729-216-22 Q019 8-729-901-06	TRANSISTOR 2SC1623-L5L6 TRANSISTOR 2SC1623-L5L6 TRANSISTOR DTA143EK TRANSISTOR 2SA1162-G TRANSISTOR DTA144EK		REF.NO. PART NO.
Q020 8-729-901-00 Q104 8-729-120-28 Q106 8-729-120-28 Q107 8-729-216-22 Q112 8-729-120-28	TRANSISTOR DTC124EK TRANSISTOR 2SC1623-L5L6 TRANSISTOR 2SC1623-L5L6 TRANSISTOR 2SA1162-G TRANSISTOR 2SC1623-L5L6		JR039 1-216-295-00 METAL GLAZE 0 5% 1/10W JR040 1-216-295-00 METAL GLAZE 0 5% 1/10W JR041 1-216-295-00 METAL GLAZE 0 5% 1/10W JR042 1-216-295-00 METAL GLAZE 0 5% 1/10W JR043 1-216-295-00 METAL GLAZE 0 5% 1/10W
Q114 8-729-901-00 Q115 8-729-901-00 Q123 8-729-120-28 Q141 8-729-014-99 Q302 8-729-120-28	TRANSISTOR DTC124EK TRANSISTOR DTC124EK TRANSISTOR 2SC1623-L5L6 TRANSISTOR BF959-AMMO TRANSISTOR 2SC1623-L5L6		JR051 1-216-295-00 METAL GLAZE 0 5% 1/10W JR052 1-216-295-00 METAL GLAZE 0 5% 1/10W JR060 1-216-295-00 METAL GLAZE 0 5% 1/10W JR099 1-216-295-00 METAL GLAZE 0 5% 1/10W JR101 1-216-296-00 METAL GLAZE 0 5% 1/8W
Q304 8-729-120-28 Q305 8-729-120-28 Q307 8-729-216-22 Q310 8-729-120-28 Q311 8-729-216-22	TRANSISTOR 2SC1623-L5L6 TRANSISTOR 2SC1623-L5L6 TRANSISTOR 2SA1162-G TRANSISTOR 2SC1623-L5L6 TRANSISTOR 2SA1162-G		JR101 1-216-296-00 METAL GLAZE 0 5% 1/8W JR102 1-216-296-00 METAL GLAZE 0 5% 1/8W JR103 1-216-296-00 METAL GLAZE 0 5% 1/8W JR104 1-216-296-00 METAL GLAZE 0 5% 1/8W JR105 1-216-296-00 METAL GLAZE 0 5% 1/8W JR106 1-216-296-00 METAL GLAZE 0 5% 1/8W JR108 1-216-296-00 METAL GLAZE 0 5% 1/8W JR109 1-216-296-00 METAL GLAZE 0 5% 1/8W JR110 1-216-296-00 METAL GLAZE 0 5% 1/8W JR111 1-216-296-00 METAL GLAZE 0 5% 1/8W JR117 1-216-296-00 METAL GLAZE 0 5% 1/8W JR118 1-216-296-00 METAL GLAZE 0 5% 1/8W JR118 1-216-296-00 1/8W 1/8W 1/8W 1/8W 1/8W 1/8W 1/8W 1/8W 1/8W
Q401 8-729-120-28 Q457 8-729-216-22 Q504 8-729-120-28 Q505 8-729-216-22 Q601 8-729-906-74	TRANSISTOR 2SC1623-L5L6 TRANSISTOR 2SA1162-G TRANSISTOR 2SC1623-L5L6 TRANSISTOR 2SA1162-G TRANSISTOR BC637-16		JR108 1-216-296-00 METAL GLAZE 0 5% 1/8W JR109 1-216-296-00 METAL GLAZE 0 5% 1/8W JR110 1-216-296-00 METAL GLAZE 0 5% 1/8W JR111 1-216-296-00 METAL GLAZE 0 5% 1/8W JR117 1-216-296-00 METAL GLAZE 0 5% 1/8W
	TRANSISTOR 2SC2688-LK TRANSISTOR BU508AS2 SPRING: Q802 TRANSISTOR 2SD1408-Y SPRING: Q802		JR118 1-216-296-00 METAL GLAZE 0 5% 1/8W JR119 1-216-296-00 METAL GLAZE 0 5% 1/8W JR123 1-216-296-00 METAL GLAZE 0 5% 1/8W JR125 1-216-296-00 METAL GLAZE 0 5% 1/8W JR126 1-216-296-00 METAL GLAZE 0 5% 1/8W
Q1301 8-729-216-22 Q1302 8-729-901-06 Q1303 8-729-901-01 Q1304 8-729-120-28 Q1305 8-729-901-01	TRANSISTOR 2SA1162-G TRANSISTOR DTA144EK TRANSISTOR DTC144EK TRANSISTOR 2SC1623-L5L6		JR127 1-216-296-00 METAL GLAZE 0 5% 1/8W JR128 1-216-296-00 METAL GLAZE 0 5% 1/8W JR129 1-216-296-00 METAL GLAZE 0 5% 1/8W JR130 1-216-296-00 METAL GLAZE 0 5% 1/8W JR131 1-216-296-00 METAL GLAZE 0 5% 1/8W JR131 1-216-296-00 METAL GLAZE 0 5% 1/8W
Q1306 8-729-901-01	TRANSISTOR DTC144EK		JR133 1-216-296-00 METAL GLAZE 0 5% 1/8W JR134 1-216-296-00 METAL GLAZE 0 5% 1/8W
<res JR003 1-216-295-00</res 	SISTOR> METAL GLAZE O 5% 1/10W		JR135 1-216-296-00 METAL GLAZE 0 5% 1/8W JR136 1-216-296-00 METAL GLAZE 0 5% 1/8W JR137 1-216-296-00 METAL GLAZE 0 5% 1/8W JR137 1-216-296-00 METAL GLAZE 0 5% 1/8W
JR004 1-216-295-00 JR005 1-216-295-00 JR006 1-216-295-00 JR007 1-216-295-00			JR139 1-216-296-00 METAL GLAZE 0 5% 1/8W JR144 1-216-296-00 METAL GLAZE 0 5% 1/8W JR146 1-216-296-00 METAL GLAZE 0 5% 1/8W JR147 1-216-296-00 METAL GLAZE 0 5% 1/8W JR147 1-216-296-00 METAL GLAZE 0 5% 1/8W
JR008 1-216-295-00	METAL GLAZE 0 5% 1/10W		JR148



REF.NO.	PART NO.	DESCRIPTION				REMARK	REF.	.NO. P	PART NO.	DESCR	IPTION				REMARK
JR149	1-216-296-00	METAL GLAZE	0 5		1/8W 1/8W		R00		1-216-091-00	METAL			5% =*	1/10W	
JR150 JR151 JR152	1-216-296-00 1-216-296-00 1-216-296-00 1-216-296-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	0 5 0 5	%	1/8W 1/8W 1/8W		RO' RO' RO' RO'	75 76 77	1-216-049-00 1-216-248-00 1-216-198-00 1-216-077-00 1-216-049-00	METAL METAL METAL METAL METAL	GLAZE GLAZE GLAZE	1 K 120 K 1 K 15 K 1 K	5% 5% 5% 5%	1/10W 1/8W 1/8W 1/10W 1/10W	
JR181 JR182 JR183	1-216-296-00 1-216-296-00 1-216-296-00 1-216-296-00 1-216-296-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	0 0 0 0		1/8W 1/8W 1/8W 1/8W 1/8W		RO RO RO	79 81 82 83	1-216-049-00 1-216-198-00 1-216-049-00 1-216-065-00 1-216-057-00	METAL METAL	GLAZE GLAZE GLAZE GLAZE	1K 1K 1K 4.7K 2.2K	5% 5% 5% 5%	1/10W 1/8W 1/10W 1/10W 1/10W	
R001 R002 R003 R004 R006	1-216-069-00 1-216-081-00 1-216-081-00 1-216-083-00 1-216-254-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	22K 27K 220K	5% 5% 5%	1/10W 1/10W 1/10W 1/10W 1/8W		RO RO RO RO	87 94 195	1-216-037-00 1-216-027-00 1-216-077-00 1-216-065-00 1-216-085-00 1-216-085-00	METAL METAL METAL METAL	GLAZE GLAZE GLAZE GLAZE GLAZE GLAZE	120 15K 4.7K 4.7K 33K	5% 5% 5% 5%	1/10W 1/10W 1/10W 1/10W 1/10W	
R007 R008 R009 R010 R011	1-216-190-00 1-216-049-00 1-216-049-00 1-216-198-00 1-216-035-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	1K 1K 270	5% 5% 5% 5%	1/8W 1/10W 1/10W 1/8W 1/10W		RC R1 R1 R1)99 .00 !01	1-216-228-00 1-216-015-00 1-216-069-00 1-216-061-00 1-216-057-00	METAL METAL METAL METAL	GLAZE GLAZE GLAZE GLAZE GLAZE	1.8.K	55555555555555555555555555555555555555	1/8W 1/10W 1/10W 1/10W 1/10W	
R012 R013 R014 R015 R016	1-216-248-00 1-216-077-00 1-216-748-i1 1-216-230-00 1-216-049-00	METAL GLAZE METAL GLAZE	39K 22K 1K	5% 5% 5% 5%	1/8W 1/10W 1/10W 1/8W 1/10W		R1 R1 R1	104 105 106	1-216-057-00 1-216-109-00 1-216-081-00 1-216-190-00 1-249-437-11	METAL METAL METAL METAL	GLAZE GLAZE GLAZE GLAZE	2.2K 330K 22K 470 47K	5%% 5%% 5%% 5%%	1/10W 1/10W 1/10W 1/8W 1/4W	
R017 R018 R019 R020 R021	1-216-081-00 1-216-065-00 1-216-065-00 1-216-065-00 1-216-049-00	METAL GLAZE METAL GLAZE METAL GLAZE	1 K	5% 5%	1/10W 1/10W 1/10W 1/10W 1/10W		R R R	111 112 113 114 115	1-216-085-00 1-249-411-11 1-216-085-00 1-216-238-00 1-216-045-00	METAL CARBO METAL METAL	GLAZE	33K 330 33K 47K 680	5% 5% 5% 5%	1/10W 1/4W 1/10W 1/8W 1/10W	
R022 R023 R024 R025 R026	1-216-198-00 1-216-051-00 1-216-065-00 1-216-097-00 1-216-089-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	47K	5% 5% 5%	1/8W 1/10W 1/10W 1/10W 1/10W) }	R R R	116 118 119 120	1-216-049-00 1-216-037-00 1-216-045-00 1-216-043-00 1-216-043-00	META META META META	L GLAZE L GLAZE L GLAZE L GLAZE L GLAZE	1 K 330 680 560 560	555555 5555	1/10W 1/10W 1/10W 1/10W 1/10W	
R028 R029 R030 R031 R034	1-216-085-00 1-216-041-00 1-216-077-00 1-216-073-00 1-216-238-00) METAL GLAZE) METAL GLAZE) METAL GLAZE	33K 470 15K 10K 47K	5% 5% 5% 5%		n N	R	1122 1130 1131 1132 1136	1-249-409-1 1-216-041-0 1-216-035-0 1-216-041-0 1-216-057-0	I CARB O META O META		220 470 270 470 2.2K	5% 5% 5%	1/4W 1/10W 1/10W 1/10W 1/10W	Ŋ Ŋ
R035 R038 R040 R041 R042	1-216-081-00 1-216-081-00	O METAL GLAZE O METAL GLAZE O METAL GLAZE O METAL GLAZE	15K 10K 22K 22K 22K	5% 5% 5% 5%	1/100 1/100 1/100 1/100 1/100	لبا لبا لنا	F	R140 R141 R142	1-216-295-0 1-216-037-0 1-216-021-0 1-216-063-0 1-216-033-0	O META O META O META O META			5% 5% 5%	1/100 1/100 1/100 1/100 1/100	ri Tri
R043 R044 R045 R046 R047	1-216-105-0 1-216-089-0 1-216-081-0	O METAL GLAZE O METAL GLAZE O METAL GLAZE O METAL GLAZE	22K 220K 47K 22K 18K	5% 5% 5% 5%	2W 1/10 1/10 1/10 1/10	W W		R144 R147 R148 R149	1-216-065-0 1-216-073-0 1-216-017-0 1-216-182-0 1-216-057-0	O MET	AL GLAZE AL GLAZE AL GLAZE AL GLAZE AL GLAZE	10K 47 220	5% 5% 5%	1/10 1/10 1/10 1/8W 1/10	W W
R048 R049 R050 R051 R052	1-216-073-0 1-216-250-0 1-216-295-0	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	10K 150K 0 4.7K	5% 5% 5% 5%	1/8W 1/10 1/8W 1/10 1/10	เฟ W W		R151 R152 R153 R199 R201	1-216-061-0 1-215-867-0 1-216-295-1 1-216-073-1 1-216-057-1	00 MET 00 MET 00 MET	AL GLAZE AL OXIDE AL GLAZE AL GLAZE AL GLAZE	3.31 470 0 10K	< 5% 5% 5%	1/10 1 W 1/10 1/10 1/10	W W
R053 R054 R055 R056 R058	1 1-249-395-1 1-216-057-0 1-216-041-0	1 CARBON 00 METAL GLAZE 00 METAL GLAZE 11 CARBON	15 2.2K 470 27K	5% 5%	1/10 1/40 1/10 1/10 1/40))W)	 	R202 R203 R204 R205 R206	1-216-298- 1-247-741- 1-216-083- 1-216-035- 1-216-298-	OO MET 11 CAR OO MET	AL GLAZE	2.2 150 27K 270	5% 5% 5% 5%	1/10 1/29 1/10 1/10 1/10	ງພ ງພ ງ
R059 R069 R06 R06	0 1-216-234-0 1 1-216-079-0	00 METAL GLAZE 00 METAL GLAZE	33K 18K	5% 5% 5% 5%	1/10 1/80 1/10 1/80	OM M	1	R207 R303 R304	1-216-033- 1-216-033-	OO MET	AL GLAZI	220	5%	1/10	ow ow

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

Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK	REF.NO.	PART NO.	DESCRIPTION				REMARK
R305 R306 R307 R309 R310	1-216-033-00 1-216-059-00 1-216-077-00 1-216-055-00 1-216-049-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	220 2.7K 15K 1.8K 1K	5% 5%	1/10W 1/10W 1/10W 1/10W 1/10W		R427 R428	1-216-045-00 1-216-049-00 1-216-073-00 1-216-077-00 1-216-077-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	680 1 K 1 O K 1 5 K 1 5 K	5% 5%% 5%% 5%% 5%%	1/10W 1/10W 1/10W 1/10W 1/10W	
R311 R312 R313 R314 R315	1-216-051-00 1-216-174-00 1-216-174-00 1-216-025-00 1-216-047-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	1.2K 100 100 100 820	5% 5% 5% 5%	1/10W 1/8W 1/8W 1/10W 1/10W			1-216-077-00 1-249-403-11 1-216-079-00 1-216-029-00 1-216-033-00 1-216-089-00	CARBON METAL GLAZE METAL GLAZE METAL GLAZE	68 18K 150 220 47K	5% 5% 5%	1/4W 1/10W 1/10W 1/10W 1/10W	
R317 R320 R321 R322 R323	1-216-202-00 1-216-057-00 1-216-023-00 1-216-053-00 1-216-192-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	1.5K 2.2K 82 1.5K 560	5% 5% 5% 5%	1/10W 1/10W 1/10W 1/8W		R501 R502 R503 R504	1-216-101-00 1-216-214-00 1-247-743-11 1-249-437-11 1-216-017-00	METAL GLAZE METAL GLAZE CARBON CARBON METAL GLAZE	150K 4.7K 220 47K 47	5% 5% 5% 5% 5% 5% 5%	1/10W 1/8W 1/2W 1/4W 1/10W 1/10W	
R324 R325 R326 R327 R328	1-216-065-00 1-249-410-11 1-216-035-00 1-216-121-00 1-216-001-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	4.7K 270 270 1M 10	5% 5% 5%	1/10W 1/4W 1/10W 1/10W 1/10W		R507 R508	1-216-073-00 1-216-350-11 1-215-867-00 1-216-061-00 1-216-244-00 1-216-089-00	METAL OXIDE	10K 1.2 470 3.3K 82K 47K			F
R329 R330 R331 R332 R333	1-216-109-00 1-216-244-00 1-216-113-00 1-216-270-00 1-216-091-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	330K 82K 470K 1M 56K	5% 5%	1/10W 1/8W 1/10W 1/8W 1/10W		R513 R514 R515 R516	1-216-053-00 1-216-051-00 1-216-683-11 1-216-095-00 1-216-035-00	METAL GLAZE METAL GLAZE METAL CHIP METAL GLAZE		5% 5% 0.50%	1/10W 1/10W	
R335 R336 R337 R338	1-216-001-00 1-216-059-00 1-216-073-00 1-216-073-00 1-247-848-11	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE CARBON	10 2.7K 10K 10K 10K	5% 5% 5% 5%	1/10W 1/10W 1/10W 1/10W		R518 R519 R520 R521 R522	1-216-033-00 1-216-049-00 1-216-258-00 1-216-053-00 1-215-863-11	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	220 1K 330K 1.5K 100	5% 5%	1/10W 1/10W 1/8W 1/10W 1W	
R345 R347 R348 R349	1-216-073-00 1-216-089-00 1-216-033-00 1-216-029-00 1-216-041-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	10K 47K 220 150	5% 5% 5% 5%	1/10W 1/10W 1/10W 1/10W		R523 R524 R525 R527 R532	1-247-754-11 1-216-099-00 1-216-065-00 1-215-869-11 1-216-081-00	CARBON METAL GLAZE METAL GLAZE METAL OXIDE METAL GLAZE	1.5K 120K 4.7K 1K 22K	5% 5% 5% 5%	1/2W 1/10W 1/10W 1W 1/10W	
R351 R352 R353 R354	1-216-043-00 1-216-039-00 1-249-438-11 1-216-081-00	METAL GLAZE METAL GLAZE CARBON METAL GLAZE	560 390 56K 22K 1K 470	5% 5% 5% 5%	1/10W 1/10W 1/4W 1/10W 1/10W 1/10W		R533 R534 R535 R535	1-216-133-00 1-216-069-00 1-216-107-00 1-216-049-00 1-216-025-00	METAL GLAZE	3.3M 6.8K 270K 1K 100	5% 5% 5% 5%	1/10W 1/10W 1/10W 1/10W 1/10W	
R356 R357 R358 R359	1-216-041-00 1-216-039-00 1-216-089-00 1-216-238-00 1-216-222-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	390 47K 47K 10K	5% 5% 5%	1/10W 1/10W 1/8W 1/8W		R543 R545 R548	1-249-408-11 1-216-282-00 1-216-049-00 1-205-909-11 1-214-923-00	CARBON METAL GLAZE METAL GLAZE WIREWOUND CARBON	180 3.3M 1K 3.3 270K	5% 5% 5% 5%	1/4W 1/8W 1/10W 10W 1/2W	F
R364 R402 R403 R404	1-216-222-00 1-216-172-00 1-216-023-00 1-216-023-00 1-216-023-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	10K 82 82 82 82	55555 55555 55	1/8W 1/8W 1/10W 1/10W		R604 R604 R606 R608 R609	1-215-903-11 1-247-752-11 1-212-877-11 1-215-884-11 1-207-905-00	METAL OXIDE CARBON FUSIBLE METAL OXIDE WIREWOUND	68K 1K 68 47 0.27	5% 5% 5% 5% 10%	2W 1/2W 1/4W 2W 2W	
R406 R407 R408 R409	1-216-226-00 1-216-226-00 1-216-091-00 1-216-023-00 1-216-037-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	15K 15K 56K 82 330	5% 5% 5%	1/8W 1/8W 1/10W 1/10W		R611 R612 R613 R614 R615	1-214-915-00 1-219-137-11 1-217-811-11 1-216-037-00 1-216-013-00	CARBON FUSIBLE FUSIBLE METAL GLAZE METAL GLAZE	120K 0.33 0.47 330 33	5% 5% 5% 5%	1/2W 1/4W 1/4W 1/10W 1/10W	
R412 R413 R414 R420	1-216-037-00 1-216-037-00 1-216-041-00 1-216-182-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	330 330 470 220	55555 555	1/10W 1/10W 1/10W 1/8W 2W 1/10W		R617 R620 R621 R628 R801	1-216-354-11 1-216-465-11 1-216-465-11 1-218-265-11 1-217-778-11	METAL OXIDE METAL OXIDE METAL OXIDE METAL GLAZE FUSIBLE	2.7 27K 27K 8.2M 1K	5% 5% 5% 5%	1W 2W 2W 1W 1W	F
R423 R424 R425	1-216-095-00 1-216-222-00 1-216-033-00	METAL GLAZE METAL GLAZE METAL GLAZE	82K 10K 220	5% 5% 5%	1/10W 1/8W 1/10W		R802 R803	1-217-819-91 1-216-352-11	FUSIBLE METAL OXIDE	2.7K 1.8	5% 5%	1/4W 1W	F

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The components identified by shading and mark \triangle are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK	REF.NO.	PART NO.	DESCRIPTION			REMARK
R804 R805 R806 R807	I-216-013-00 1-216-057-00 1-216-049-00 1-216-073-00	METAL GLAZE METAL GLAZE METAL GLAZE	33 2.2K 1K 10K	5% 5%	1/10W 1/10W 1/10W 1/10W		THP601	<the ▲ 1-808-059-32</the 	RMISTOR>	POSITIVE		
R808 R809 R810 R811 R812 R813	1-216-091-00 1-216-089-00 1-216-101-00 1-216-099-00 1-215-869-11 1-212-877-11	METAL GLAZE METAL GLAZE METAL GLAZE METAL OXIDE	56K 47K 150K 120K 1K 68	5% 5%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%	1/10W 1/10W 1/10W 1/10W 1W 1/4W	F	TU101 <u>4</u>	<tun 1-465-542-11 <cry< td=""><td></td><td>BT-3U601)</td><td></td><td></td></cry<></tun 		BT-3U601)		
R814 R816 R817 R818 R819	1-215-868-00 1-247-883-00 1-216-071-00	METAL OXIDE CARBON	680 150K 8.2K		1W 1/4W 1/10W	F	 +++++	1-577-619-11 1-567-131-00	VIBRATOR, CR OSCILLATOR,	+++++++++	******	******
R820 R821 R822 R826 R827		FUSIBLE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE			1/4W 1/10W 1/8W 1/10W 1/10W			*A-1638-019-A *4-374-704-01 *4-374-717-01	C BOARD, COM ************* COVER (REAR COVER (MAIN)	PLETE ***** LID), CV VOL , CV VOL		
R830 R850	1-216-192-00 1-215-882-00	METAL GLAZE METAL OXIDE	560	5%	1/8W			<cap< td=""><td>ACITOR></td><td></td><td></td><td></td></cap<>	ACITOR>			
R1302 R1303	1-216-025-00 1-216-029-00 1-216-029-00 1-216-039-00	METAL GLAZE METAL GLAZE		5% 5% 5% 5%	1/10W 1/10W 1/10W		C701 C702 C703 C704	1-163-127-00 1-163-127-00 1-163-129-00 1-163-005-11 1-163-005-11	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP	270PF 270PF 330PF 470PF	5% 5% 10% 10%	50V 50V 50V 50V 50V
R1305 R1306 R1307	1-216-200-00 1-216-059-00	METAL GLAZE METAL GLAZE METAL GLAZE		5% 5% 5% 5% 5%	1/8W 1/10W 1/10W 1/10W		C706 C707 C708 C709	1-163-005-11 1-123-947-00 1-162-116-00 1-136-666-11 1-124-477-11	CERAMIC CHIP ELECT CERAMIC FILM	470PF 10MF 680PF 0.01MF	10% 20% 10% 5%	50 V 250 V 2K V 1K V
R1310 R1311 R1312	1-216-049-00 1-216-047-00 1-216-065-00 1-216-222-00 1-216-025-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	1K 820 4.7K 10K 100	5% 5% 5% 5%	1/10W 1/10W 1/10W 1/8W 1/10W		C710 C711 C712 C713	1-124-477-11 1-163-009-11 1-163-009-11 1-163-009-11 1-162-318-11	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP CERAMIC	47MF 0.001MF 0.001MF 0.001MF		16V 50V 50V 50V 500V
	< V A F	HABLE RESISTOR	>			i						3001
RV001 RV501 RV502 RV503 RV504	1-238-012-11 1-238-016-11 1-226-703-11 1-238-019-11 1-238-019-11	RES, ADJ, CAR RES, ADJ, CAR RES, ADJ, CAR RES, ADJ, MET RES, ADJ, CAR RES, ADJ, CAR	BON 1K BON 10K AL GLAZ BON 47K BON 47K	E 10K			CNC71 CNC72 CNC73 CNC74	*1-508-786-00 *1-560-123-00 *1-568-881-51 *1-508-765-00	PIN, CONNECTO PLUG, CONNECTO PIN, CONNECTO PIN, CONNECTO	DR (5MM PITO TOR (2.5MM) DR 6P DR (5MM PITO	CH) 2P 3P CH) 3P	
RV505	1-238-009-11	RES, ADJ, CAR RES, ADJ, CAR	BON 220			 		<d10< td=""><td></td><td></td><td></td><td></td></d10<>				
S002	1-571-532-21 1-571-532-21	TCH> SWITCH, TACTI SWITCH, TACTI	L			 	D701 D702 D703 D704 D705	8-719-400-18 8-719-400-18 8-719-400-18 8-719-400-18 8-719-400-18	DIODE MA152W	⟨ ⟨ ⟨		
S003 S601 <u>A</u> ⊾		SWITCH, TACTI SWITCH, PUSH		ER)			D706 D707 D708	8-719-911-19 8-719-400-18 8-719-400-18	DIODE 1SS119 DIODE MA152WH DIODE MA152WH			
SGROT	<spa 1-519-422-11</spa 	RK GAP>				 	D709 D710	8-719-400-18 8-719-800-76	DIODE MA152WF DIODE 1SS226			
24001		NSFORMER>					D711 D712	8-719-800-76 8-719-800-76				
T 601 △ .	. 1-450-217-22	S.R.T	mn 1 2 2 2 2 2	D	•			<jac< td=""><td>K></td><td></td><td></td><td></td></jac<>	K>			
T605 Æ T801	.1-424-078-11 .1-421-862-11 1-437-090-00 .1-439-432-21	TRANSFORMER, LFT HDT TRANSFORMER A				22)	J901	1-526-814-11	SOCKET, PICTU	JRE TUBE		



	PART NO.					REMARK	REF.NO.	PART NO.	DESCRIPTION			REMARK
L701	<01 1-407-496-00	L> INDUCTOR	2.2%	МН			C1 C2 C3 C4 C5	1-126-101-11 1-163-038-00 1-124-120-11 1-163-077-00 1-124-120-11 1-163-038-00 1-163-235-11 1-163-235-11 1-163-235-11 1-163-038-00 1-163-038-00 1-163-038-00 1-163-038-00 1-163-038-00 1-163-038-00 1-163-038-00 1-163-038-00	ELECT CERAMIC CHIP ELECT CERAMIC CHIP ELECT	100MF 0.1MF 220MF 0.1MF 220MF	20% 20% 20%	16V 25V 16V 50V 16V
	<tra< td=""><td>NSISTOR></td><td></td><td></td><td></td><td></td><td>C6</td><td>1-163-038-00</td><td>CERAMIC CHIP</td><td>0.1MF</td><td></td><td>25V</td></tra<>	NSISTOR>					C6	1-163-038-00	CERAMIC CHIP	0.1MF		25V
Q701 Q702 Q703 Q704 Q705	8-729-230-49 8-729-230-49 8-729-230-49 8-729-906-70 8-729-906-70	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR BF TRANSISTOR BF	C2712- C2712- C2712- C2712- 871 871	YG YG YG			C7 C8 C9 C10	1-163-235-11 1-163-235-11 1-163-235-11 1-163-038-00	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP	22PF 22PF 22PF 0.1MF	5% 5% 5%	50V 50V 50V 25V
Q706 Q707 Q708 Q709	8-729-906-70 8-729-200-17 8-729-200-17 8-729-200-17	TRANSISTOR BF TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	871 A1091- A1091- A1091-	0 0 0			C11 C12 C13 C14 C16	1-163-038-00 1-163-038-00 1-163-038-00 1-124-927-11 1-163-117-00	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP ELECT CERAMIC CHIP	0.1MF 0.1MF 0.1MF 4.7MF 100PF	20% 5%	25V 25V 25V 50V 50V
		ISTOR>					C17 C23	1-163-117-00 1-124-927-11 1-163-038-00 1-163-117-00 1-163-117-00	CERAMIC CHIP ELECT	100PF 4.7MF	5% 20%	50V 50V 25V
R701 R702	1-216-061-00 1-216-210-00	METAL GLAZE METAL GLAZE	3.3K 3.3K	5% 5%	1/10W 1/8W		C27 C28	1-163-117-00 1-163-117-00	CERAMIC CHIP CERAMIC CHIP	100PF 100PF	5% 5%	50V 50V
R703 R704 R705	1-216-045-00 1-216-045-00 1-216-017-00	METAL GLAZE METAL GLAZE METAL GLAZE	680 680 47	5% 5% 5%	1/10W 1/10W 1/10W		C29 C32 C33	1-163-117-00 1-163-038-00 1-163-038-00	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP			50V 25V 25V
R706 R707 R708	1-216-017-00 1-216-017-00 1-216-198-00	METAL GLAZE METAL GLAZE METAL GLAZE	47 47 1K	5% 5%	1/10W 1/10W 1/8W		; ! !	<c0n'< td=""><td>NECTOR></td><td></td><td></td><td></td></c0n'<>	NECTOR>			
R709 R710	1-216-196-00 1-249-413-11	METAL GLAZE CARBON	820 470	5% 5%	1/8W 1/4W		CNV1	<con *1-565-393-11 *1-565-393-11</con 	CONNECTOR, B	OARD TO BOAR OARD TO BOAR	D D	
R711 R712	1-216-061-00 1-247-893-11	CARBON	3.3K 390K 150K 1K	5% 5%	1 /101			1 303 3.2			U	
R713 R714 R715	1-247-883-00 1-216-198-00 1-216-198-00	METAL GLAZE	1 K 1 K	5% 5%	1/8W 1/8W		D1	8-719-105-91	DIODE RD5.6M	-B2		
R716 R717 R718 R719 R720	1-216-049-00 1-202-824-00 1-202-824-00 1-202-824-00 1-216-463-00	METAL GLAZE SOLID SOLID SOLID	1K 3.3K 3.3K 3.3K 12K	5% 10% 10% 10% 5%	1/10W 1/2W 1/2W 1/2W 2W		D3 D5 D6 D9	\$-719-105-91 8-719-104-34 8-719-104-34 8-719-400-18 8-719-106-17	DIODE 152836 DIODE 152836 DIODE MA152W DIODE RD6.8M	K -B2		
R721 R722 R726 R727 R728	1-216-463-00 1-216-463-00 1-202-719-00 1-202-838-00 1-202-842-11	SOLID SOLID	12K 12K 1M 100K 220K	5% 5% 10% 10% 10%	2W 2W 1/2W 1/2W 1/2W		1C2 1C3	<1C> 8-759-045-54 8-759-510-49	IC FCB61C65L	E/M4A -70P		
R729	1-216-349-00	METAL OXIDE	1	5%		F		<c01< td=""><td></td><td>2 200</td><td></td><td></td></c01<>		2 200		
R731 R732 R734 R735	1-202-719-00 1-216-262-00 1-216-057-00 1-216-057-00	SOLID METAL GLAZE METAL GLAZE METAL GLAZE	1 M 470 K 2.2 K 2.2 K	10% 5% 5% 5%	1/2W 1/8W 1/10W 1/10W		L1 L2 L3 L4	1-408-403-00 1-408-407-00 1-408-407-00 1-408-407-00	INDUCTOR INDUCTOR	3.3UH 6.8UH 6.8UH 6.8UH		
R736	1-249-421-11	CARBON	2.2K	5%	1/4W		! 	<10	LINK>			
	<var< td=""><td>IABLE RESISTOR</td><td>></td><td></td><td></td><td></td><td>PS1 <u>A</u></td><td><u>.</u> 1-532-679-91</td><td>LINK, IC (IC</td><td>P-N15) 0.6A</td><td></td><td></td></var<>	IABLE RESISTOR	>				PS1 <u>A</u>	<u>.</u> 1-532-679-91	LINK, IC (IC	P-N15) 0.6A		
RV702	1-228-721-00 1-228-721-00	RES, ADJ, CER	AMIC C	ARBON	2.2K		! ! !	< T RA	NSISTOR>			
RV704	1-230-641-11 1-230-641-11 1-230-798-11	RES, ADJ, MET	AL GLA	ZE 2.2	M		Q1 Q2 Q3	8-729-900-53 8-729-920-92 8-729-120-28	TRANSISTOR D TRANSISTOR 2 TRANSISTOR 2	SD2096-EF		
*****	**************************************							8-729-120-28 8-729-807-87	TRANSISTOR 2 TRANSISTOR 2	SC1623-L5L6		
A-1645-018-A V BOARD, COMPLETE						Q 6	8-729-80 7 -87	TRANSISTOR 2	SB1295-UL6			
<capacitor></capacitor>					07 09 010 011		TRANSISTOR 2 TRANSISTOR D TRANSISTOR D TRANSISTOR D	TA114EK TC144EK				



J1

The components identified by shading and mark \triangle are critical for safety.
Replace only with part number specified.

REF.NO.	. PART NO.	DESCRIPTION				REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
		SISTOR>					*	1-641-621-11	JI BOARD	
JR01 JR02 JR03 JR08 JR09	1-216-295-00	METAL GLAZE	0 0 0	5% 5% 5%	1/10W 1/10W 1/10W 1/10W 1/10W		C2200		ACITOR>	50 V
JR11 JR14 JR15 JR17 JR18	1-216-296-00 1-216-296-00 1-216-295-00	METAL GLAZE	0 0 0 0	5%	1/10W 1/8W 1/8W 1/10W 1/8W		CNJ2001		NECTOR> PIN, CONNECTOR 3P	
JR19 JR20 JR21 JR23 JR24	1-216-296-00 1-216-296-00	METAL GLAZE METAL GLAZE METAL GLAZE	0 0 0 0	5% 5% 5%	1/8W 1/8W 1/8W 1/10W 1/8W		J2201	<jac 1-562-837-11</jac 	JACK	
	1-216-295-00 1-216-295-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	0 0 0 0	5% 5% 5% 5% 5%	1/8W 1/8W 1/10W 1/10W 1/10W				L> INDUCTOR IOUH	*******
JR222 R1 R2 R3 R4	1-216-214-00 1-216-049-00	METAL GLAZE	0 470 4.7K 1K 100	5%	1/10W 1/2W 1/8W 1/10W 1/10W		Δ.	*** 1-426-359-31 1-451-279-21 1-452-032-00	CELLANEOUS ********* COIL, DEMAGNETIZATION DEFLECTION YOKE (Y19PXA) MAGNET, DISK: 10MM Ø	
R5 R6 R7 R8 R9	1-216-001-00 1-216-083-00 1-216-071-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	820 10 27K 8.2K 4.7	5%%%%% 5%%%%%% 5%%	1/10W 1/10W 1/10W 1/10W 1/10W		Δ.	1-452-277-00 1-503-258-21 1-590-762-11	SPEAKER CORD, POWER (WITH PLUG)	
R10 R11 R12 R13 R14	1-218-325-11 1-218-325-11 1-216-025-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	120 120 120 100 100	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/10W 1/10W		1	**************************************	PICTURE TUBE (A46JNL10X) ***********************************	*******
R15 R16 R17 R18 R19	1-216-013-00 1-216-013-00 1-216-025-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	33 33 33 100 100	5% 5% 5% 5%	1/10W 1/10W 1/10W 1/10W 1/10W		*	PART NO. 4-034-216-01	DESCRIPTION CUSHION (UPPER) (ASSY) CUSHION (LOWER) (ASSY)	REMARK
R21 R22 R23 R40 R42		METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	56	5%%%%% 5555555555555555555555555555555	1/10W 1/8W 1/8W 1/10W 1/10W		*	4-034-218-01 4-200-865-61 4-384-027-01	INDIVIDUAL CARTON MANUAL, INSTRUCTION (ENGLISH) BAG, PROTECTION OTE COMMANDER	
R49 R50	1-216-049-00 1-216-296-00		1 K	5% 5%	1/10W 1/8W			1-465-562-11	CONTROL UNIT, REMOTE (RM-694) COVER. BATTERY (FOR RM-694)	
	< V A R	TABLE RESISTOR	}>					. 333 313 31		
RV1		RES, ADJ, CAF								
	<("RV	STAL>								
X1		CRYSTAL VIBRA	TOR							
-	******			****	******	******	!			