Notice

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☐ CORRECTION ● PRODUCTION CHANGE
☐ SERVICE FLASH ☐ ADD INFORMATION

FILE NO.

REVISION 8

Please add this notice to the Service Manual listed below.

Category : **COLOR TELEVISION** Date: **SEPTEMBER / 15 / 2005**

Model: **DS20425** Effective from : Chassis No. **20425-08**

Destination: **U.S.A. / CANADA** REF : No. **SM780100**

NOTE: Match the Chassis No. on the unit's back cover with the Chassis No. in the Service Manual. **If the Service Manual Chassis No. does not match the unit's,** additional Service Literature is required. This chassis is similar to Chassis No. 20425-00. Only the **difference** Service Information is given in this manual. For detailed Service Information, refer to the **Original** Service Manual and **Notices** for Chassis No. 20425-00 used in Model DS20425 (SM780100).

1. IN THE CHASSIS ELECTRICAL PARTS LIST

The reason for change.

A : Misprint B : Quality Reliability C : Standardization
D : Design E : Add as a possible sub F : Schematic location change
G : Purchasing Request

Page & Section	Schematic Location		Part No.	Description	Q'ty	Interchange-ability	Reason
Page 14, Chassis Electrical Parts List	★ C411	Old	404 077 4204 403 347 2506	MT-POLYPRO 7000P H 1.5K MT-POLYPRO 7000P H 1.5K	1	NO	D
		New	404 077 3108 403 343 8007	MT-POLYPRO 7500P H 1.5K MT-POLYPRO 7500P H 1.5K	1	NO	
	★ C417	Old	403 346 7126 403 372 6807 404 081 2609	MT-POLYPRO 0.27U J 250V MT-POLYPRO 0.27U J 250V MT-POLYPRO 0.27U J 200V	1	NO	D
		New	403 349 3204 403 372 6906 403 392 8607	MT-POLYPRO 0.3 U J 250V MT-POLYPRO 0.3 U J 250V MT-POLYPRO 0.3 U J 250V	1	NO	
Page 15, Chassis Electrical Parts List	★ L413	Old	N/A	NOT USED		NO	D
		New	610 000 0315 610 208 3804 652 001 2158	LINEARITY COIL LINEARITY COIL LINEARITY COIL	1	NO	

Parts list continued on back

1. IN THE CHASSIS ELECTRICAL PARTS LIST (CONT.)

The reason for change.

A : Misprint B : Quality Reliability C : Standardization
D : Design E : Add as a possible sub F : Schematic location change
G : Purchasing Request

Page & Section	Schematic Location		Part No.	Description	Q'ty	Interchange-ability	Reason
Page 17, Chassis Electrical Parts List	R408	Old	N/A	NOT USED		NO	D
		New	401 009 9900	CARBON 3.9K JB 1/2W	1	NO	
	★R497	Old	401 068 1600	OXIDE-MT 4.7JA 2W	1	NO	D
		New	401 068 6209	OXIDE-MT 5.6 JA 2W	1	NO	
Page 19, Chassis Electrical Parts List	A100	Old	610 319 5025	ASSY, PWB, MAIN	1	NO	D
		New	610 324 1012	ASSY, PWB, MAIN	1	NO	
	A700	Old	610 319 5032	ASSY, PWB, SOCKET	1	YES	D
		New	610 324 1029	ASSY, PWB, SOCKET	1	YES	
	★Q901	Old	414 013 3703	CRT A51QDX993X005	1	NO	D
		New	414 012 3100	CRT A51QDK190X022	1	NO	

For parts or service contact
SANYO Fisher Service Corporation
21605 Plummer Street
Chatsworth, CA 91311 (U.S.A.)
300 Applewood Crescent,
Concord, Ontario L4K 5C7 (CANADA)

September / 2005 / 2000 SMC Printed in U.S.A.

Notice

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FILE NO.

REVISION 7

Please add this notice to the Service Manual listed below.

Category : **COLOR TELEVISION** Date: **May / 15 / 2005**

Model: **DS20425** Effective from : Chassis No. **20425-07**

Destination: **U.S.A. / CANADA** REF : No. **SM780100**

NOTE: Match the Chassis No. on the unit's back cover with the Chassis No. in the Service Manual. **If the Service Manual Chassis No. does not match the unit's,** additional Service Literature is required. This chassis is similar to Chassis No. 20425-04. Only the **difference** Service Information is given in this manual. For detailed Service Information, refer to the **Original** Service Manual and **Notices** for Chassis No. 20425-04 used in Model DS20425 (SM780100-04).

1. IN THE CHASSIS ELECTRICAL PARTS LIST

The reason for change.

A : Misprint B : Quality Reliability C : Standardization
D : Design E : Add as a possible sub F : Schematic location change
G : Purchasing Request

Page & Section	Schematic Location		Part No.	Description	Q'ty	Interchange-ability	Reason
Page 19, Chassis Electrical Parts List	A100	Old	610 321 0261	ASSY, PWB, MAIN	1	YES	D
		New	610 323 1693	ASSY, PWB, MAIN	1	YES	
	A700	Old	610 321 3866	ASSY, PWB, SOCKET	1	YES	D
		New	610 322 2233	ASSY, PWB, SOCKET	1	YES	
	★Q901	Old	414 013 3703	CRT A51QDX993X005	1	YES	D
		New	414 013 6704	CRT A51QDK993X005	1	YES	

For parts or service contact
SANYO Fisher Service Corporation
21605 Plummer Street
Chatsworth, CA 91311 (U.S.A.)
300 Applewood Crescent,
Concord, Ontario L4K 5C7 (CANADA)

May / 2005 / 2000 SMC

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FILE NO.

REVISION 6

Please add this notice to the Service Manual listed below.

Category : **COLOR TELEVISION** Date: **May / 15 / 2005**

Model: **DS20425** Effective from : Chassis No. **20425-06**

Destination: **U.S.A. / CANADA** REF : No. **SM780100**

NOTE: Match the Chassis No. on the unit's back cover with the Chassis No. in the Service Manual. **If the Service Manual Chassis No. does not match the unit's,** additional Service Literature is required. This chassis is similar to Chassis No. 20425-04. Only the **difference** Service Information is given in this manual. For detailed Service Information, refer to the **Original** Service Manual and **Notices** for Chassis No. 20425-04 used in Model DS20425 (SM780100-04).

1. IN THE CHASSIS ELECTRICAL PARTS LIST

The reason for change.

A : Misprint B : Quality Reliability C : Standardization
D : Design E : Add as a possible sub F : Schematic location change
G : Purchasing Request

Page & Section	Schematic Location		Part No.	Description	Q'ty	Interchange-ability	Reason
Page 14, Chassis Electrical Parts List	★ C417	Old	404 392 8508 403 372 6807 403 346 7126	MT-POLYPRO 0.27U J 250V MT-POLYPRO 0.27U J 250V MT-POLYPRO 0.27U J 250V	1	NO	D
		New	403 392 8607 403 349 3204 403 372 6906	MT-POLYPRO 0.3 U J 250V MT-POLYPRO 0.3 U J 250V MT-POLYPRO 0.3 U J 250V	1	NO	
	C804	Old	401 150 6001	MT-GLAZE 0.000 ZA 1/10W	1	NO	D
		New	403 224 6108	CERAMIC 0.01U K 50V	1	NO	
Page 15, Chassis Electrical Parts List	★ IC801	Old	410 564 3001 410 564 4503	IC M37151EFFP-R052 IC M37151MA-XXXFP U0	1	NO	D
		New	410 571 5302	IC M37150EFFP-R052	1	NO	

Parts list continued on back

1. IN THE CHASSIS ELECTRICAL PARTS LIST (CONT.)

The reason for change.

A : Misprint B : Quality Reliability C : Standardization
D : Design E : Add as a possible sub F : Schematic location change
G : Purchasing Request

Page & Section	Schematic Location		Part No.	Description	Q'ty	Interchange-ability	Reason
Page 18, Chassis Electrical Parts List	★R497	Old	401 068 1600	OXIDE-MT 4.7 JA 2W	1	NO	D
		New	401 068 6209	OXIDE-MT 5.6 JA 2W	1	NO	
	★R511	Old	N/A	NOT USED	0	NO	D
		New	401 065 6509	OXIDE-MT 150 JA 2W	1	NO	
	★R511A	Old	401 065 6707	OXIDE-MT 150 JA 2W	1	NO	D
		New	N/A	NOT USED	0	NO	
	R815	Old	401 150 5905	MT-GLAZE 10K JA 1/10W	1	NO	D
		New	N/A	NOT USED	0	NO	
Page 19, Chassis Electrical Parts List	X801	Old	645 021 5483 645 053 4386	OSC, CERAMIC 8.0 MHZ 0SC, CERAMIC 8.0 MHZ	1	NO	D
		New	N/A	NOT USED	0	NO	
	A100	Old	610 321 0261	ASSY, PWB, MAIN	1	NO	D
		New	610 321 8458	ASSY, PWB, MAIN	1	NO	
	A700	Old	610 321 3866	ASSY, PWB, SOCKET	1	YES	D
		New	610 321 8533	ASSY, PWB, SOCKET	1	YES	
	★Q901	Old	414 013 3703	CRT A51QDX993X005	1	NO	D
		New	414 013 3604	CRT A51QDK190X092(K)	1	NO	

For parts or service contact
SANYO Fisher Service Corporation
21605 Plummer Street
Chatsworth, CA 91311 (U.S.A.)
300 Applewood Crescent,
Concord, Ontario L4K 5C7 (CANADA)

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FILE NO.

REVISION 5

Please add this notice to the Service Manual listed below.

Category : **COLOR TELEVISION** Date: **May / 15 / 2005**

Model: **DS20425** Effective from : Chassis No. **20425-05**

Destination: **U.S.A. / CANADA** REF : No. **SM780100**

NOTE: Match the Chassis No. on the unit's back cover with the Chassis No. in the Service Manual. **If the Service Manual Chassis No. does not match the unit's,** additional Service Literature is required. This chassis is similar to Chassis No. 20425-04. Only the **difference** Service Information is given in this manual. For detailed Service Information, refer to the **Original** Service Manual and **Notices** for Chassis No. 20425-04 used in Model DS20425 (SM780100-04).

1. IN THE CHASSIS ELECTRICAL PARTS LIST

The reason for change.

A : Misprint B : Quality Reliability C : Standardization
D : Design E : Add as a possible sub F : Schematic location change
G : Purchasing Request

Page & Section	Schematic Location		Part No.	Description	Q'ty	Interchange-ability	Reason
Page 14, Chassis Electrical Parts List	★ C417	Old	404 392 8508 403 372 6807 403 346 7126	MT-POLYPRO 0.27U J 250V MT-POLYPRO 0.27U J 250V MT-POLYPRO 0.27U J 250V	1	NO	D
		New	403 392 8607 403 349 3204 403 372 6906	MT-POLYPRO 0.3 U J 250V MT-POLYPRO 0.3 U J 250V MT-POLYPRO 0.3 U J 250V	1	NO	
Page 18, Chassis Electrical Parts List	★R497	Old	401 068 1600	OXIDE-MT 4.7 JA 2W	1	NO	D
		New	401 068 6209	OXIDE-MT 5.6 JA 2W	1	NO	
Page 19, Chassis Electrical Parts List	A100	Old	610 321 0261	ASSY, PWB, MAIN	1	NO	D
		New	610 322 2219	ASSY, PWB, MAIN	1	NO	

Parts list continued on back

1. IN THE CHASSIS ELECTRICAL PARTS LIST (CONT.)

The reason for change.

A : Misprint B : Quality Reliability C : Standardization
D : Design E : Add as a possible sub F : Schematic location change
G : Purchasing Request

Page & Section	Schematic Location		Part No.	Description	Q'ty	Interchange-ability	Reason
Page 19, Chassis Electrical Parts List	A700	Old	610 321 3866	ASSY, PWB, SOCKET	1	YES	D
		New	610 322 2233	ASSY, PWB, SOCKET	1	YES	
	★Q901	Old	414 013 3703	CRT A51QDX993X005	1	NO	D
		New	414 013 3604	CRT A51QDK190X092(K)	1	NO	

For parts or service contact
SANYO Fisher Service Corporation
21605 Plummer Street
Chatsworth, CA 91311 (U.S.A.)
300 Applewood Crescent,
Concord, Ontario L4K 5C7 (CANADA)

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FILE NO.

REVISION 4

Please add this notice to the Service Manual listed below.

Category : **COLOR TELEVISION** Date: **April / 15 / 2005**

Model: **DS20425** Effective from : Chassis No. **20425-04**

Destination: **U.S.A. / CANADA** REF : No. **SM780100**

NOTE: Match the Chassis No. on the unit's back cover with the Chassis No. in the Service Manual. **If the Service Manual Chassis No. does not match the unit's,** additional Service Literature is required. This chassis is similar to Chassis No. 20425-00, however, all Service Information is given in this Notice for Chassis No. 20425-04 used in Model DS20425.

Servicing should be performed by only trained and qualified service personnel.

Contents

Specifications

Power Rating 120V, 60Hz
58W (Avg), 1.4A (Max)
Antenna Input Impedance 75Ω
UHF/VHF/CATV
Receiving Channel . . . . . 2 - 13 (VHF),
14 - 69 (UHF),
01, 14-94, 95-125 (CATV)
Remote Ready . . . . . 24 Key Remote Control
Sound Output . . . . . 1.0 W/CH
Intermediate Frequency
Picture IF Carrier 45.75MHz
Sound IF Carrier 41.25MHz
Color Sub Carrier 42.17MHz
Picture Tube A51QDX993X005
Semiconductors
Integrated Circuits 10
Transistors 18
Except within Tuner and RC Pre-Amp.
Cabinet Dimensions
Width . . . . . 588 mm
Height . . . . . 453 mm
Depth . . . . . 478 mm

SAFETY INSTRUCTIONS

SAFETY PRECAUTIONS

WARNING: The chassis of this receiver has a floating ground with the potential of one half the AC line voltage in respect to earth ground. Service should not be attempted by anyone not familiar with the precautions necessary when working on this type of equipment.

The following precautions must be observed:

1. An isolation transformer must be connected in the power line between the receiver and the AC line before any service is performed on the receiver.
2. Comply with all caution and safety-related notes provided on the side of the cabinet, inside the cabinet, on the chassis, and the picture tube.
3. When replacing a chassis in the cabinet, always be certain that all the protective devices are installed properly, such as control knobs, adjustment covers, shields and barriers.

   DO NOT OPERATE THIS TELEVISION RECEIVER WITHOUT THE PROTECTIVE SHIELD IN POSITION AND PROPERLY SECURED.

4. Before replacing the back cover of the set, thoroughly inspect the inside of the cabinet to see that no stray parts or tools have been left inside.

   Before returning any television to the customer, the service technician must perform the following safety checks to be sure that the unit is completely safe to operate without danger of electrical shock.

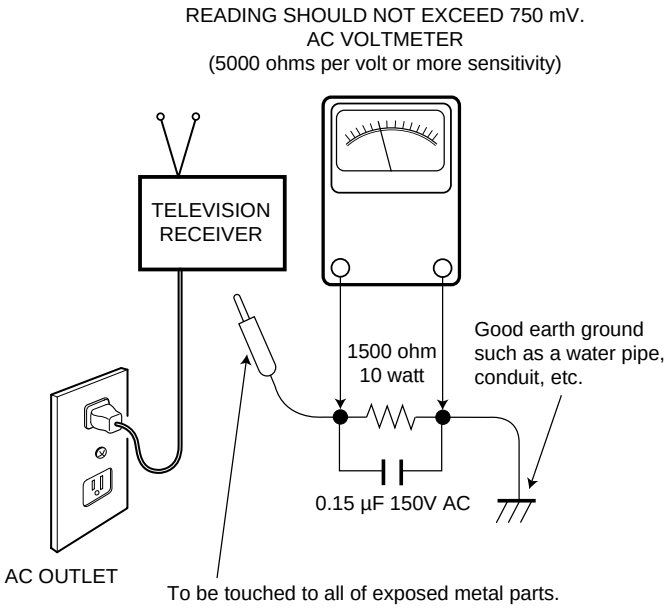
ANTENNA COLD CHECK

Remove AC plug from the 120 VAC outlet and place a jumper across the two blades. Connect one lead of an ohmmeter to the jumpered AC plug, and touch the other lead to each exposed antenna terminal (UHF and VHF antenna terminals). The resistance must measure between 1M ohm and 5.2M ohm. Any resistance value below or above this range indicates an abnormality which requires corrective action.

LEAKAGE CURRENT CHECK

Plug the AC line cord directly into a 120 VAC outlet. (Do not use an isolation transformer for this check.) Use an AC voltmeter, that has 5000 ohms per volt or more sensitivity. Connect a 1500 ohm 10 watt resistor, paralleled by a 0.15 µF 150 VAC capacitor, between a known good earth ground (water pipe, conduit, etc.) and all exposed metal parts of the cabinet (antennas, handle bracket, metal cabinet, screw heads, metal overlays, control shafts, etc.). Measure the AC voltage across the 1500 ohm resistor. The AC voltage should not exceed 750 mV. A reading exceeding 750 mV indicates that a dangerous potential exists. The fault must be located and corrected. Repeat the above test with the receiver power plug reversed.

NEVER RETURN A RECEIVER TO THE CUSTOMER WITHOUT TAKING THE NECESSARY CORRECTIVE ACTION.



Voltmeter Hook-up for Leakage Current Check.

X-RADIATION PRECAUTION

The primary source of X-RADIATION in solid-state receivers is the picture tube. The picture tube is specially constructed to limit X-Ray emission. For continued X-RADIATION protection, the replacement tube must be the same type as the original (including the suffix letter in the part numbers). Excessive high voltage may produce potentially hazardous X-RADIATION. To avoid such hazards, the high voltage must be maintained within specific limits. Refer to the X-RADIATION WARNING NOTE on the CHASSIS SCHEMATIC in this service manual for specific high voltage limits. If the high voltage exceeds specified limits, check the components specified on the chassis schematic diagram and take the necessary corrective action. Carefully follow the instructions for the +B Voltage Check and the High Voltage Check to maintain the high voltage within the specified limits.

HIGH VOLTAGE HOLD-DOWN TEST

To prevent X-RADIATION from the picture tube due to excessive high voltage, a HOLD-DOWN circuit is provided in the high voltage circuit. Every time the receiver is serviced, the high voltage HOLD-DOWN circuit must be tested for proper operation. Refer to the HIGH VOLTAGE HOLD-DOWN TEST in service adjustments.

PRODUCT SAFETY NOTICE

When replacing components in a receiver, always keep in mind the necessary product safety precautions. Pay special attention to the replacement of components marked with a star (★) in the parts list and in the schematic diagrams. To ensure safe product operation, it is necessary to replace those components with the exact same PARTS.

SERVICE ADJUSTMENTS

GENERAL

This set has an on-screen Service Menu system included in the CPU that allows remote operation for most of the service adjustments. To enter the Service Menu, first disconnect the AC power cord. Then while pressing the MENU key on the **front control panel**, reconnect the AC power cord. The adjustments can now be made with the remote control or front control panel keys.

ON-SCREEN SERVICE MENU SYSTEM

1. Enter the Service Menu:

- While pressing the MENU key on the **front control panel**, reconnect the AC power cord. The Service Menu Display will now appear. See Figure 1.

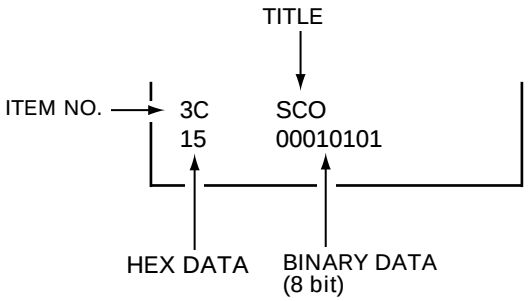
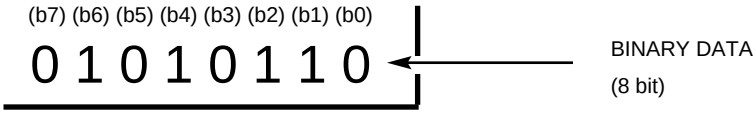


Figure 1. Service Menu Display

2. Service Adjustments:

- Press the ▲ or ▼ key to select the desired service menu item you want to adjust. (See page 5 for On-screen Service Menu.)
- Use the + or – key or number keys to adjust the data. The + or – keys will increase or decrease the data sequentially. The number keys (0 ~ 7) toggle only their respective bits between 1 and 0 and are used to change the Sub-Address. For example to change bit 5 press the number 5 key. See below.



3. Exit from the Service Menu:

- Press the MENU key to turn off the Service Menu display.

IC802 (EEPROM) REPLACEMENT

When IC802 (EEPROM) is replaced, IC801 (CPU) will automatically write the initial reference data into IC802 for basic TV operation. However, the bus data should be checked and some bus data should be set up before attempting the service adjustments. (See pages 5 – 7, Table 1, for detailed bus data information.)

INITIAL BUS DATA SETUP

Note: When IC802 (EEPROM) is replaced, change the following initial reference data for proper TV operation before attempting service adjustments.

1. Disconnect the AC power cord (AC 120V line).
2. While pressing the MENU key, reconnect the AC power cord. The Service Menu display will now appear.
3. Select NO. 3B SCN (Sub Contrast) with ▲ or ▼ key. Adjust the data with + or – key for 18.
4. Select NO. 3C SCO (Sub Color) with ▲ or ▼ key. Adjust the data with + or – key for 05.
5. Select NO. 3D STI (Sub Tint) with ▲ or ▼ key. Adjust the data with + or – key for 17.
6. Select NO. 3E SB (Sub Bright) with ▲ or ▼ key. Adjust the data with + or – key for 15.
7. Select NO. 54 BLK7SSL3 (Blk Str Dis / Blk Str Cha / S Slice Dn2 / S Slice Dn1) with ▲ or ▼ key. Adjust the data with number keys for A0.
8. Select NO. 55 AFC7OSD5OM3BSG2CA1 (AFC G Up / AFC G Dn / OSD Level / OSD / OM Det) with ▲ or ▼ key. Adjust the data with number keys for 84.
9. Select NO. 69 CBCR7CBP3 (CbCr Pedestal On / CbCr Gain Up / Cb pedestal Fine Adj) with ▲ or ▼ key. Adjust the data with number keys for 48.

SERVICE ADJUSTMENTS (Cont.)

INITIAL BUS DATA SETUP (Cont.)

10. Select NO. 83 OPT (Surround / E/W / Aspect Ratio / Video with ▲ or ▼ key. Adjust the data with number keys for 84.
11. Select NO. 86 SBO (Sub Bright Offset) with ▲ or ▼ key. Adjust the data with number keys for FC.
12. Select NO. 87 RFT (RF Tint Offset) with ▲ or ▼ key. Adjust the data with number keys for 0B.
13. Select NO. 8A DCL (YUV Color Offset) with ▲ or ▼ key. Adjust the data with number keys for 0D.
14. Select NO. 8B DTN (YUV Tint Offset) with ▲ or ▼ key. Adjust the data with number keys for 07.
15. Select NO. 9E RYT (RF Y Delay Time Adj) with ▲ or ▼ key. Adjust the data with number keys for 02.
16. Select NO. A0 SYT (S In Y Delay Time Adj) with ▲ or ▼ key. Adjust the data with number keys for 03.
17. Select NO. A4 VKL (V Kill At Power Off) with ▲ or ▼ key. Adjust the data with number keys for 0F.
18. Press the MENU key to turn off the Service Menu display.

Table 1. ON-SCREEN SERVICE MENU

When IC802 (EEPROM) is replaced, check the bus data to confirm they are the same as below. The shaded menu should be checked and be set up or readjusted according to the procedures described in the following pages. Initial Setup Data marked with an * should be changed from Initial Reference Data. (See pages 3 and 4 for Initial Bus Data Setup.)

No.	TITLE	INITIAL REFERENCE DATA HEX	INITIAL SETUP DATA HEX	INITIAL SETUP DATA BINARY	FUNCTION
3B	SCN	20	18*	00011000	Sub Contrast (5~0)
3C	SCO	0F	05*	00000101	Sub Color (4~0)
3D	STI	0F	17*	00010111	Sub Tint (4~0)
3E	SB	05	15*	00010101	Sub Bright (5~0)
3F	SSH	1A	1A	00011010	Sub Sharpness (4~0)
40	RFAGC	2F	2F	00101111	RF AGC (6~0)
41	VCO5	1D	1D	00011101	VIF VCO Adj (5~0)
42	EXT6CL5TS3BS1T0	29	29	00101001	V Mute (7) A Ext (6) C Clip (5) C Trap (4) Video T (3) ABCL (2)
43	AT	00	00	00000000	Audio ATT (6~0)
44	SHP5	00	00	00000000	ABCL Gain (7) AFT Defeat (6) Video Tone (5~0)
45	CNT6	00	00	00000000	EXE RGBC Clip Off (7) Contrast (6~0)
46	VG7DLF2DLT2	83	83	10000011	V Gain (7~5) Y/C (4) EXT (3) Y DL Fine Adj (2) Y DL T Adj (1~0)
47	VDE7TNT6	00	00	00000000	VIF Defeat (7) Tint (6~0)
48	CLR6	00	00	00000000	Blue Back (7) Color (6~0)
49	HVBL7	00	00	00000000	HV BLK Off (7)
4A	BRT7	00	00	00000000	Bright (7~0)
4B	RD6	40	40	01000000	Force Mono (7) Drive R (6~0)
4C	BD6	40	40	01000000	Drive B (6~0)
4D	RB	00	00	00000000	Bias R (7~0)
4E	GB	00	00	00000000	Bias G (7~0)
4F	BB	00	00	00000000	Bias B (7~0)
50	HVCO2	1C	1C	00011100	White Back (7) H VCO Adj (2~0)
51	VS5	19	19	00011001	V Size (5~0)
52	MON7GA3CTRF2	0E	0E	00001110	Monitoring (7~4) Gamma Control (3~2) C Trap Fine Adj (1~0)
53	VW6YSW5VSHT2	10	10	00010000	H-Free (7) V 1Win (6) Ysw LPF (5) H St (4) Serv Sw V Sh (2~0)
54	BLK7SSL3	D0	A0*	10100000	Blk Str Dis (7~6) Blk Str Cha (5~5) S Sli Dn2 (3) S Sli Dn 1
55	AFC7OSD5OM3BSG2CA1	80	84*	10000100	AFC G Up (7) AFC G Dn (6) OSD Level (5) OSD (4) OM Det (3)
56	VSD7ASD6HP4	0A	0A	00001010	V Sync Det (7) Auto Slice Dn (6) FBP Vth L (5) H Phase (4~0)
57	BSTNT6	00	00	00000000	YCbCr Sw (7) Baseband Tint (6~0)
58	RSV18	20	20	00100000	Not Used)
59	RSV19	20	20	00100000	Not Used)
5A	RSV1A	20	20	00100000	Not Used)
5B	RSV1B	20	20	00100000	Not Used)
5C	VSC5	B3	B3	10110011	V S-Correction (5~0)
5D	VAGC6VL5	57	57	01010101	V AGC (6) V Linearity (5~0)
5E	STRP7	00	00	00000000	S-Trap Off (7)
5F	STFA7	90	90	10010000	S-Trap Fine Adj (7~5)
60	STF7FHT6	00	00	00000000	S-Trap Fine Adj MSB (7) Force H Tone (6)
61	VSD7CR3CB1	00	00	00000000	CrDL Fine Adj (3~2) CbDL Fine Adj (1~0)
62	VBLK7AFCGU6	40	40	01000000	V Blk Half (7) AFC2 Gain Up (6)
63	RMU7RMC6CTI3	08	08	00001000	R MTX Up (7) R MTX Dn (6) CTI (3)
64	SSDN6	40	40	01000000	S Slice Down 3 (6)
65	STS3FC0	00	00	00000000	S-Trap Self2 (3) S-Trap Self1 (2) S-Trap Test (1) Force Color (0)
66	AFCGU7	80	80	10000000	AFC1 Gain Up2 (7)
67	AFCIF6VSD3IFAM1	48	48	01001000	AFC1 IF Cont (6) V Sync Det2 (3) IF AGC Mode (1)
68	S4G7STR6CRP3	88	88	10001000	SIF4.5 Gain Dn (7) S Trap Fine LSB (6) Cr Ped Fine Adj (3~0)
69	CBCR7CBP3	08	48*	01001000	CbCr Ped On (7) CbCr Gain Up (6) Cb Ped Fine Adj (3~0)
6A	SIF7VT5AMF432	20	20	00100000	SIF PAL INV (7) SIF PAL (6) VTH HYS Off (5) AMF CUR Dn (4)
6B	PCW	20	20	00100000	Picture Width (5~0)

SERVICE ADJUSTMENTS (Cont.)

Table 1. ON-SCREEN SERVICE MENU (Continued)

No.	TITLE	INITIAL REFERENCE DATA HEX	INITIAL SETUP DATA HEX	INITIAL SETUP DATA BINARY	FUNCTION
6C	PAR	23	23	00100011	E-W Parabola (5~0)
6D	COR	10	10	00010000	E-W Corner (4~0)
6E	TRA	40	40	00100000	Trapezium (6~0)
6F	HCC	03	03	00000011	H-Comp (6~4) H-Cent DAC (2~0)
80	ATT	07	07	00000111	Attenuation -MTS Input Level (3~0)
81	WDB	20	20	00100000	Wide Band - Low Separation (5~0)
82	SPC	20	20	00100000	Spectral - High Separation (5~0)
83	OPT	E4	84*	10000100	Surround (7) E/W (6) Aspect Ratio (5) VIDEO (2)
84	OP2	20	20	00100000	Game (7) Component (5) V Guide(0)
85	HR	1A	1A	00011010	OSD H-Position (6~0)
86	SBO	00	FC*	11111100	Sub Bright Offset (7~0)
87	RFT	00	0B*	00001011	RF Tint Offset (7~0)
88	DCN	00	00	00000000	YUV Contrast Offset (7~0)
89	DBR	00	00	00000000	YUV Bright Offset (7~0)
8A	DCL	F8	0D*	00001101	YUV Color Offset (7~0)
8B	DTN	00	07*	00000111	YUV Tint Offset (7~0)
8C	DSH	FE	FE	11111110	YUV Sharpness Offset (7~0)
8D	ECN	E0	E0	11100000	16:9 Contrast Offset(7~0)
8E	EBR	00	00	00000000	16:9 Bright Offset(7~0)
8F	ECL	00	00	00000000	16:9 Color Offset(7~0)
90	ETN	00	00	00000000	16:9 Tint Offset(7~0)
91	EVS	D4	D4	11011100	16:9 V Size Offset(7~0)
92	EVP	00	00	00000000	16:9 V Position Offset (7~0)
93	ESC	00	00	00000000	16:9 V S Correction Offset (7~0)
94	EUV	00	00	00000000	16:9 V Linearity Offset (7~0)
95	EBO	00	00	00000000	16:9 HV BLK Off (7)
96	EBH	00	00	00000000	16:9 HV BLK Half (7)
97	EWP	F1	F1	11110001	16:9 E-W Parabola Offset (7~0)
98	EWC	FF	FF	11111111	16:9 E-W Corner Offset (7~0)
99	ETR	09	09	00001001	16:9 Trapezium Offset (7~0)
9A	SBI	20	20	00100000	Sub Bias (5~0)
9B	VA1	01	01	00000001	AV Mode AFC1 Gain Up 1 (7)
9C	VA2	01	01	00000001	AV Mode AFC1 Gain Up 2 (7)
9D	PWT	01	01	00000001	White Back (3~0)
9E	RYT	01	02*	00000010	RF Y Delay Time Adj (1~0)
9F	RYF	01	01	00000001	RF Y Delay Time Fine Adj (2)
A0	SYT	02	03*	00000011	S In Y Delay Time Adj (1~0)
A1	SYF	00	00	00000000	S In Y Delay Time Fine Adj (2)
A2	DYT	01	01	00000001	YUV Y Delay Time Adj (1~0)
A3	DYF	01	01	00000001	YUV Y Delay Time Fine Adj (2)
A4	VKL	0A	0F*	00001111	V Kill At Power Off (3~0)
A5	RFC	00	00	00000000	RF Color Offset (7~0)
A6	RFS	05	05	00000101	RF Sharpness Offset (7~0)
A7	EPW	FE	FE	11111110	16:9 Picture Width Offset (7~0)
A8	DRV	R40	R40	01000000	Red Drive Adjustment (See Note 1.)
		R40	R40	01000000	Blue Drive Adjustment (See Note 1.)
	–	-	-	-	Red Bias Adjustment (See Note 2.)
	–	-	-	-	Green Bias Adjustment (See Note 2.)
	–	-	-		Blue Bias Adjustment (See Note 2.)

DRIVE AND BIAS ADJUSTMENTS

Note 1.

Red/Blue Drive Adjustments in Service Menu NO. A8 DRV: Adjust Red and Blue Drive Levels alternately with 1, 3, 7, and 9 keys on the remote control. See Figure 2. The Drive Level adjustment data will be written in the Service Menu No. 4B RD and 4C BD automatically.

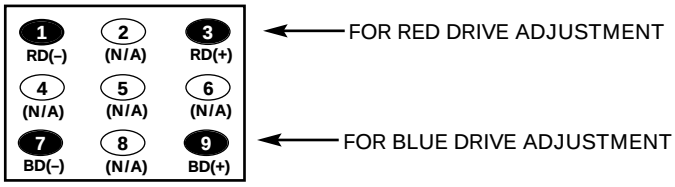


Figure 2.

Note 2.

Red/Green/Blue Bias Adjustments in Service Menu A9 (No Vertical Sweep):

Adjust each Bias Level with 1, 3, 4, 6, 7, or 9 key on the remote control. See Figure 3. The Bias Level adjustment data will be written in the Service Menu No. 4D RB, No. 4E GB, and No. 4F BB automatically.

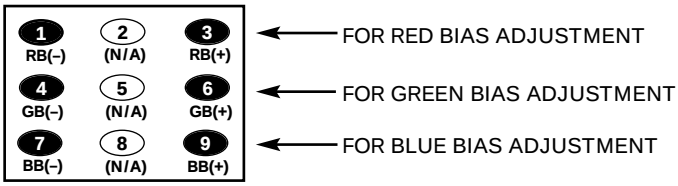


Figure 3.

PROGRAM CODES

The microprossesor used in this model is a multi-purpose type and is used in several different models. To ensure proper operation and the correct features for your particular model, the program codes must be correct.

Note 1. Option Data 1 (NO. 83 OPT) should be hexadecimal 84 (10000100 binary). See page 4 INITIAL DATA SETUP for set up procedure. If this program code is wrong the TV will not operate properly.

BIT	FUNCTION	DATA	
		0	1
0 ~ 1	TV / HOTEL / MON	N/A	N/A
2	VIDEO MODE	NONE	YES
3 ~ 4	CLOCK	N/A	N/A
5	ASPECT RATIO	NONE	YES
6	NOT USED	—	—
7	SURROUND	NONE	YES

Note 2. Option Data 2 (NO. 84 OP2) should be hexadecimal 20 (00100000 binary). See page 4 INITIAL DATA SETUP for set up procedure. If this program code is wrong the TV will not operate properly.

BIT	FUNCTION	DATA	
		0	1
0	V-GUIDE	NONE	YES
1	COLOR ENHANCER	N/A	N/A
2	INITIAL CH & XDS	N/A	N/A
3	NOT USED	—	—
4	PIP	N/A	N/A
5	COMPONENT	NONE	YES
6	BASS & TREBLE / TONE	N/A	N/A
7	GAME	N/A	N/A

SERVICE ADJUSTMENTS (Continued)

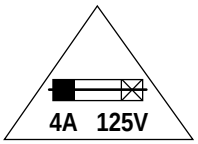
ANTENNA CONNECTIONS

This receiver is designed for UHF/VHF reception. A 75 ohm terminal is provided for UHF and VHF receptions. When connecting a CATV antenna system, connect the 75 ohm coaxial cable directly to the 75 ohm terminal. For 300 ohm VHF antenna, use an adapter (not included with the TV set).

CIRCUIT PROTECTION

Fuse F601 (4A) is included in the AC line. This fuse must be replaced with the proper fuse (see Parts List).

CAUTION



FOR CONTINUED PROTECTION AGAINST A RISK OF FIRE, REPLACE ONLY WITH THE SAME TYPE 4A, 125V FUSE.

ATTENTION : POUR MAINTENIR LA PROTECTION CONTRE LES RISQUES D' INCENDIE UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE 4A, 125V.

+B VOLTAGE CHECK

Connect Voltmeter + lead to TJ1 135V and – lead to ground (TE7). Connect receiver to AC 120V line. Tune receiver to an active channel. Reset the picture controls to the FACTORY PRESET levels (press remote control RESET key twice). Voltage must measure between +133.0V and +137.0V. If the voltage is out of this range, the power circuit must be checked. No +B adjustment is provided on this chassis.

HORIZONTAL CENTERING ADJUSTMENT

1. Tune receiver to an active channel.
2. Check that picture is in the horizontal center of TV screen. If picture is not centered horizontally, perform steps 3 ~ 6.
3. Turn off the receiver and disconnect the AC power cord.
4. While pressing the MENU key, reconnect the AC power cord. The Service Menu display will now appear.
5. Select NO. 56 VSD7ASD6HP4 (Horizontal Phase) with ▲ or ▼ key.
6. Adjust the data with + or – key for horizontal center. To turn off the Service Menu display, press the MENU key.

HORIZONTAL WIDTH ADJUSTMENT

1. Tune receiver to an active channel.
2. Check the picture for proper width. If width is not correct, perform steps 3 - 6.
3. Turn off the receiver and disconnect the AC power cord.
4. While pressing the VOLUME – key, reconnect the AC power cord. The Service Menu display will now appear.
5. Select NO. 6B PCW (Picture Width) with ▲ or ▼ key.
6. Adjust the data with numeric keys 5~2 for proper width. To turn off the Service Menu display, press the MENU key.

VERTICAL SIZE ADJUSTMENT

1. Tune receiver to an active channel.
2. Check the vertical size of the picture. If the vertical size is too large or small, perform steps 3 ~ 6.
3. Turn off the receiver and disconnect the AC power cord.
4. While pressing the MENU key, reconnect the AC power cord. The Service Menu display will now appear.
5. Select NO. 51 VS5 (Vertical Size) with ▲ or ▼ key.
6. Adjust the data with + or – key for full scan. To turn off the Service Menu display, press the MENU key.

VERTICAL CENTERING ADJUSTMENT

1. Tune receiver to an active channel.
2. Check that picture is in the center of TV screen. If picture center is too low, change resistor R513 from 1K ohm 1W to 470 ohm 1W. If picture center is too high, add resistor R512 (1K ohm, 1/2W).

RF AGC ADJUSTMENT

1. Tune receiver to strongest VHF station in your area.
2. Set contrast and brightness controls for maximum.
3. Turn off the receiver and disconnect the AC power cord (120V AC line).
4. While pressing the MENU key, reconnect the AC power cord. The Service Menu display will now appear.
5. Select NO. 40 RFAGC (RF AGC Delay) with ▲ or ▼ key.
6. Adjust the data with + or – key in the direction which causes snow to appear; then in the opposite direction until the snow just disappears.
7. To turn off the Service Menu display, press the MENU key.

VIDEO LEVEL

1. Connect color-bar generator to antenna terminals.
2. Turn off the receiver and disconnect the AC power cord (AC 120V line).
3. Connect oscilloscope to TP16 (Q131 emitter) and ground.
4. While pressing the Menu key, reconnect the AC power cord. The Service Menu will now appear.
5. Select NO. 46 VG7DLF2DLT2 (Video Gain 7~5) with the ▲ or ▼ key.
6. Adjust with the number keys (7~5) for an oscilloscope reading of 1.0 ± 0.1 VP-P at TP16. Press the MENU key to turn off the Service Menu display.

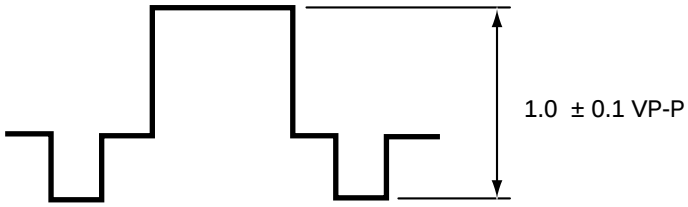


Figure 4.

GRAYSCALE ADJUSTMENT

1. Set the picture controls to the Auto levels or Reset (use MENU key and ▲ or ▼ key or RESET key).
2. Turn off the receiver and disconnect the AC power cord (120V AC line).
3. While pressing the MENU key, reconnect the AC power cord. The Service Menu display will now appear.
4. Select NO. 4D RB (Red Bias), NO. 4E GB (Green Bias), and NO. 4F BB (Blue Bias) with ▲ or ▼ key and set each data to 0 with + or – key.
5. Select NO. 4B RD (Red Drive) and NO. 4C BD (Blue Drive) with ▲ or ▼ key and set each data to 40 with + or – key.
6. Set NO. 3B SCN (Sub Contrast) data to 18, NO. 3C SCO (Sub Color) data to 05, NO. 3D STI (Sub Tint) to 17, NO. 3E SB (Sub-Brightness) data to 15, and NO. 3F SSH (Sub Sharpness) data to 1A with ▲ or ▼, and + or – keys.
7. Turn Screen Control (T402) to minimum (fully counter-clockwise).
8. Select the Service Menu NO. AB (No Vertical Sweep) with ▲ or ▼ key.
9. Advance Screen Control (T402) clockwise to obtain just visible one color line. If line does not appear, place this control to maximum (fully clockwise).
10. Raise each Bias Level with 3, 6, and 9 keys to obtain just visible white line. See Figure 5.

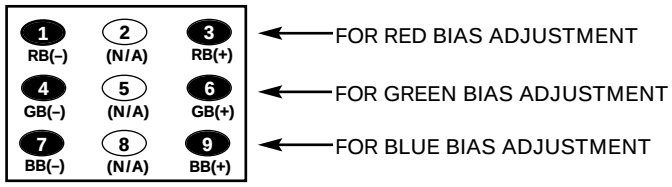


Figure 5. Remote Control Number keys' functions in Service Menu NO. AB (No Vertical Sweep)

11. Select the Service Menu NO. AA DRV (Drive Adjustments) with ▲ or ▼ key.
12. Adjust Red and Blue Drive Levels alternately with 1, 3, 7, or 9 key to produce normal black and white picture in highlight areas. See Figure 6.

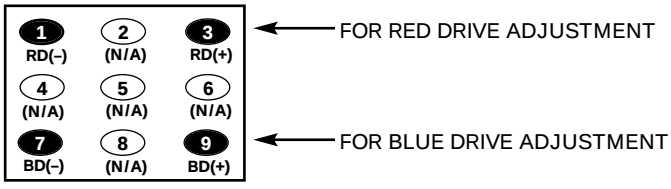


Figure 6. Remote Control Number keys' functions in Service Menu NO. AA DRV

13. Check for proper grayscale at all brightness levels. To turn off the Service Menu display, press the MENU key.

Note: If Grayscale Adjustment is made after picture tube replacement, check Brightness Level Adjustment.

FOCUS ADJUSTMENT

Adjust focus control (T402) for well defined scanning lines.

HIGH VOLTAGE CHECK

Note: +B (+135V) Voltage Check and Grayscale Adjustment must be completed before attempting high voltage Check.

1. Connect high voltage voltmeter – lead to ground, and connect + lead to anode of picture tube.
2. Tune receiver to an active channel and confirm TV is operating properly.
3. Eliminate the beam current by adjusting the contrast and brightness controls to minimum.
4. Confirm high voltage is within 24.3 KV and 28.0 KV. If reading is not within range, check horizontal circuit.

No high voltage adjustment is provided on this chassis.

BRIGHTNESS LEVEL ADJUSTMENT

Note: Grayscale, RF AGC, Video Level, and High Voltage Check must be adjusted before attempting Brightness Level Adjustment.

1. Connect a color-bar generator to the antenna terminals.
2. Switch the generator to the crosshatch pattern.
3. Reset the picture controls to the Auto levels.
4. Connect voltmeter (high impedance) + lead to terminal TP51 and – lead to terminal TP50 on main board. Set voltmeter for 1.5V ~ 3V range.
5. Turn off the receiver and disconnect the AC power cord.
6. While pressing the MENU key, reconnect the AC power cord. The Service Menu display will now appear.
7. Select NO. 3E SB (Sub Brightness) with ▲ or ▼ key.
8. Adjust the data with + or – key for 680mVDC.
9. Press the MENU key to turn off the Service Menu display.
10. Check brightness level on every active channel, readjust (repeat steps 5 ~ 9), if necessary.

Note: Do not set to excessive brightness level, otherwise the contrast level will be suppressed.

SERVICE ADJUSTMENTS (Continued)

HIGH VOLTAGE HOLD-DOWN TEST

Every time the receiver is serviced, the HIGH VOLTAGE HOLD-DOWN circuit must be tested for proper operation by following these steps:

1. Connect receiver to 120V AC line. Tune receiver to active channel. Reset the picture controls to the Auto levels.
2. Check that the voltage measured between TP7 and TE7 (ground side) is within 20.1 VDC to 24.5 VDC. If the voltage is out of this range, the Hold-Down Circuit must be checked.
3. Connect a DC Voltage supply to TP7 and TE7 through a 100 ohm 1/4W resistor. Adjust the DC voltage to 27 VDC. The receiver should shutdown, losing raster and sound. Then the receiver should turn off automatically. This reaction indicates that the Hold-Down circuit is functioning properly. If the receiver does not shutdown, a malfunction is indicated and its cause **must** be found and corrected.
4. To obtain picture again, remove the DC Supply and wait a few minutes. Now turn on the receiver.

SUB COLOR AND SUB TINT ADJUSTMENT

Sub Tint

1. Connect a color-bar generator to the analog antenna terminal. Set picture controls to Sports level.
2. Switch the generator to the color-bar (NTSC) pattern.
3. Connect oscilloscope probe (at least 50:1) to K7S pin 2 and ground lead to K7S pin 5 on the CRT socket PWB.
4. Turn off the receiver and disconnect the AC power cord.
5. While pressing the VOLUME – key, reconnect the AC power cord. The Service Menu display will now appear.
6. Select NO. 3D STI (Sub Tint) with ▲ or ▼ key.
7. Set the data with numeric keys 4 - 0 for waveform shown in Figure 7.

Figure 7. Sub Tint

Sub Color

8. Select NO. 3C (Sub Color) with ▲ or ▼ key.
9. Set the data with numeric keys 5 -0 for waveform shown in Figure 8 (Flat Waveform).

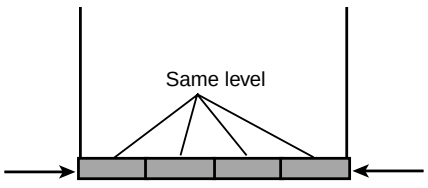


Figure 8. Sub Color

10. After adjustment subtract 5 steps from NO. 3C SCO (Sub Color) data, but do not set less than 0. To turn off the Service Menu display, press the MENU key.

Multi-sound section adjustments

Note: Multi-Sound Section must be adjusted after IC801 (CPU / Signal Processor), IC3401 (MTS Decoder), or IC802 (EEPROM) is replaced.

INPUT LEVEL ADJUSTMENT

1. Connect a signal to the antenna terminals with audio of 1 KHz 100% modulation.
2. Turn off the receiver and disconnect the AC power cord (AC 120V line).
3. Connect voltmeter (RMS) to TP317 and ground.
4. While pressing the Menu key, reconnect the AC power cord. The Service Menu will now appear.
5. Select NO. 80 ATT (Attenuation) with the ▲ or ▼ key.
6. Adjust the + or – key for a voltmeter reading of 400 ± 20 mVrms at TP317.

SEPARATION ADJUSTMENT

7. Turn off the receiver and disconnect the AC power cord (AC 120V line).
8. Connect oscilloscope CH1 to TP317 and CH2 to TP318 and ground.
9. Connect an MTS TV/Stereo generator to antenna terminal.
10. While pressing the Menu key, reconnect the AC power cord. The Service Menu will now appear.
11. Select pilot, 300Hz audio frequency and Left modulating signal.
12. Select NO. 81 WDB (Wide Band) with the ▲ or ▼ key.
13. Adjust the + or – key for minimum low frequencies at TP317. See Figure 9.
14. Select 4 KHz audio frequency and Right modulating signal.
15. Select NO. 82 SPC (Spectral) with the ▲ or ▼ key.
16. Adjust the + or – key for minimum high frequencies at TP318. See Figure 9.

Repeat adjustments (steps 11–16) until no further decreases in amplitude can be obtained. Press the MENU key to turn off the Service Menu display.

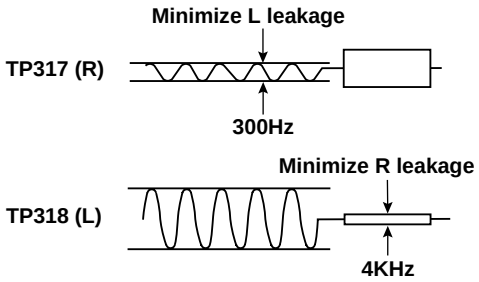


Figure 9. Separation Adjustments

SERVICE HINTS

POWER FAILURE DETECTOR

This unit is equipped with a Power Failure Detector function included in the CPU which checks for an abnormal condition in the chassis power supplies, including the power supply derived from the Horizontal Output Transformer.

If, while the power is on, a failure is caused by any of the following that results in a low voltage supply, the CPU will turn the unit off in 1.5 seconds to prevent further damage:

- Failure within the power supply circuits.
- A short circuit in the load side from the supply.
- Stoppage of the Horizontal Output Oscillator caused by the X Radiation protection Hold-Down Circuit.

If, while the power is off, the power is switched on and any of these failures remains uncorrected, the CPU will shut off the power within three seconds.

Check the following if the unit is turned off by the power failure detector.

1. Disconnect the AC power cord (120V AC line) for at least 10 seconds.
2. Connect a DC Voltmeter to the following TEST POINTS.

D491	**5V**
D002 Cathode	**15V**
D429 Cathode	**5V**
D806 Cathode	**26V**

3. Press the Power key and check for the proper voltage supplies.
4. If any of these voltages is low, the power failure detector should turn the unit off within three seconds.
5. Check all circuits listed above.

Note: This unit is equipped with a Power Surge Protection feature included in the CPU. If power failure occurs three times within 15 minutes, the CPU will automatically stop functioning to help prevent secondary damage. (TV will not turn on by pressing the power key.) To reset the operating programs within the CPU, disconnect the AC power cord for at least 10 seconds.

MECHANICAL DISASSEMBLIES

CABINET BACK REMOVAL

1. Refer to Figure 1, remove 5 screws.
2. Pull off cabinet back and remove.

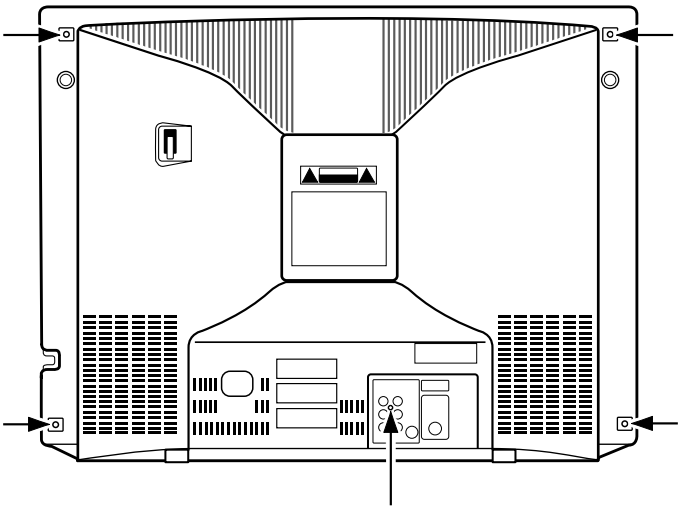


Figure 1. Cabinet Back Removal

CHASSIS REMOVAL

1. Remove cabinet back.
2. Discharge the picture tube anode (2nd anode lead) to the dag coating (picture tube grounding lead).
3. Disconnect degaussing coil socket (KD), picture tube socket, deflection yoke connector (KX), speakers connector (KSP), picture tube ground lead, and 2nd anode lead.
4. Remove chassis completely by sliding it straight back.

PICTURE TUBE REMOVAL

CAUTION: Do not disturb the deflection yoke or magnet assembly on the picture tube neck. Care must be taken to keep these assemblies intact, unless picture tube is being replaced. Discharge the picture tube to the coating before handling the tube.

1. Remove chassis, referring to Chassis Removal instructions.
2. Place cabinet's front face down on a soft surface.
3. Remove the screw on each corner of the picture tube and GENTLY lift the picture tube out of the cabinet.
4. Install a replacement picture tube in reverse order. Properly install the degaussing coil and picture tube grounding lead on the picture tube. See Figure 2.

Note: If Picture Tube is being replaced, mount the Degaussing Coil properly on the tube. See Figure 2.

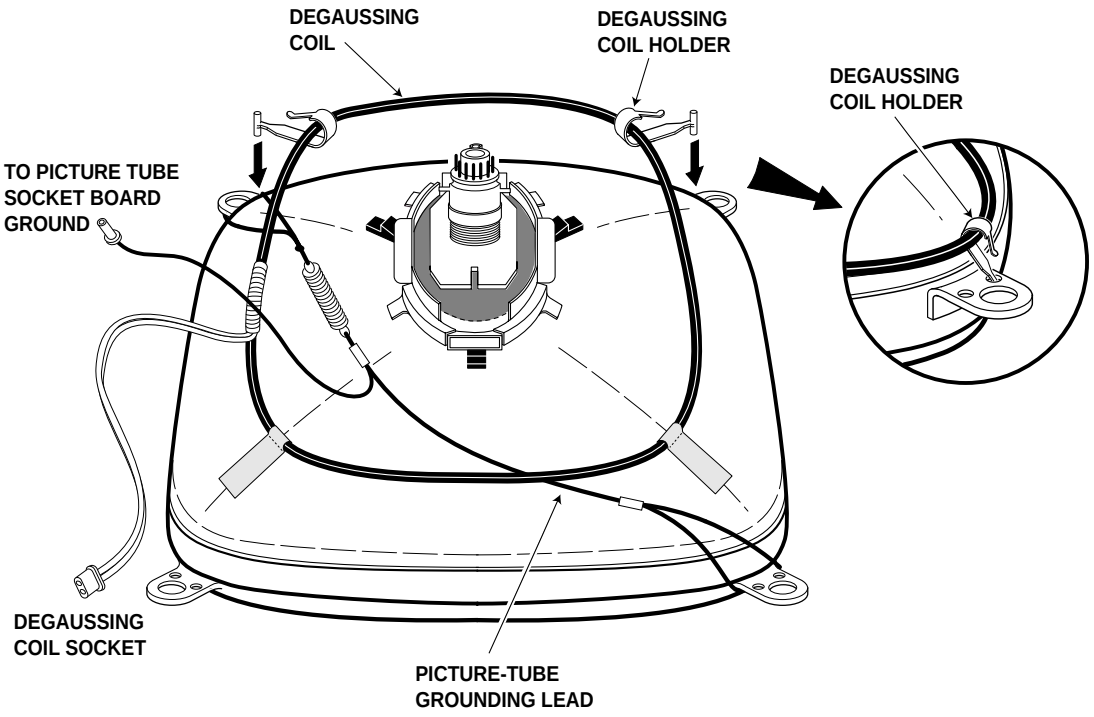


Figure 2. Picture Tube Removal

CHASSIS ELECTRICAL PARTS LIST

CAUTION: To Protect against electrical shock and for continued product safety, refer to SAFETY PRECAUTIONS, X-RADIATION PRECAUTIONS, HIGH VOLTAGE HOLD-DOWN TEST, and PRODUCT SAFETY NOTICE on Page 2.

PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. COMPONENTS INDICATED BY A STAR (★) IN THIS PARTS LIST AND THE SCHEMATIC DIAGRAM DESIGNATE COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS DESIGNATED ON THE FOLLOWING PARTS LIST BE USED FOR COMPONENT REPLACEMENT DESIGNATED BY A STAR. NO DEVIATIONS FROM RESISTANCE, WATTAGE, AND VOLTAGE RATINGS MAY BE MADE FOR REPLACEMENT ITEMS DESIGNATED BY A STAR.

Notes: Parts having Location Number are located on the following boards.
Numbers 700 Series . . . . . .On the Picture Tube Socket Board.
Numbers 900 Series . . . . . .Out of Board.
All Other Numbers . . . . . .On the Main Board

Note: Schematic part location numbers may not always match with the part descriptions.
The part descriptions are correct and should be used.

Schematic Location	Part No.	Description

CAPACITORS

NOTES:
Read description of the Capacitor as follows:

(Example)

CERAMIC 100P K 50V

- 50V — Rated Voltage
- K — Tolerance Symbols:

less than 10PF

A . .Not specified
B . .±0.1PF C . .±0.25PF
D . .±0.5PF F . .±1PF
G . .±2PF R . .+0.25 - 0PF
S . .+0 - 0.25PF E . .+0 - 1PF

more than 10PF

A . .Not specified
B . .±0.1% C . .±0.25%
D . .±0.5% F . .±1%
G . .±2% H . .±3%
J . .±5% K . .±10%
L . .±15% M . .±20%
N . .±30% P . .+100 - 0%
Q . .+30 - 10% T . .+50 - 10%
U . .+75 - 10% V . .+20 - 10%
W .+100 - 10% X . .+40 - 20%
Y . .+150 - 10% Z . .+80 - 20%

- 100P — Rated Value: P...Pico Farad U...Micro Farad
- CERAMIC — Material:

CERAMIC . . . . . .Ceramic
MT-PAPER . . . . .Metalized Paper
POLYESTER . . .Polyester
MT-POLYEST . .Metalized Polyester
POLYPRO . . . . .Polypropylene
MT-POLYPRO . .Metalized Polypropylene
COMPO-FILM . .Composite Film
MT-COMPO . . . .Metalized Composite
STYRENE . . . . . .Styrene
TA-SOLID . . . . .Tantalum Solid
AL-SOLID . . . . . .Aluminum Solid
ELECT . . . . . .Electrolytic
NP-ELECT . . . . .Non-Polarized Electrolytic
OS-SOLID . . . . .Aluminum Solid with Organic Semiconductive Electrolytic

Schematic Location	Part No.	Description		
C001	404 087 2801	ELECT	0.22 M	50V
C002	404 087 2801	ELECT	0.22 M	50V
C003	403 235 5701	CERAMIC	5600P K	50V
C004	403 235 5701	CERAMIC	5600P K	50V
C010	404 084 3306	ELECT	470U M	16V
C011	404 084 3306	ELECT	470U M	16V
C012	404 084 3801	ELECT	1U M	50V
C015	404 084 3108	ELECT	330U M	16V
C104	403 224 6108	CERAMIC	0.01U K	50V
C105	404 084 2408	ELECT	470U M	6.3V
C106	404 084 4105	ELECT	3.3U M	50V
C107	403 224 6108	CERAMIC	0.01U K	50V
C131	403 311 8800	POLYESTER	0.1U J	50V
	403 237 8007	MT-COMPO	0.1U J	50V
C132	403 224 6108	CERAMIC	0.01U K	50V
C133	404 092 1905	ELECT	100U M	50V
C134	403 224 6108	CERAMIC	0.01U K	50V
C135	403 260 2904	MT-COMPO	0.33U J	50V
C136	403 343 4504	CERAMIC	0.018U K	50V
C137	404 087 2900	ELECT	0.33 M	50V
C138	403 312 2203	POLYESTER	0.047U K	50V
C139	403 311 8800	POLYESTER	0.1U J	50V
	403 237 8007	MT-COMPO	0.1U J	50V
C140	404 084 3702	ELECT 0	.47U M	50V
C141	403 323 3602	CERAMIC	0.047U K	50V
C144	403 311 8800	POLYESTER	0.1U J	50V
	403 237 8007	MT-COMPO	0.1U J	50V
C146	404 084 3801	ELECT	1U M	50V
C147	403 256 0808	MT-COMPO	0.47U J	50V
C151	404 085 4708	NP-ELECT	10U M	16V
C202	403 357 9601	CERAMIC	0.1U Z	50V
C203	404 084 2606	ELECT	470U M	10V
C204	403 224 6108	CERAMIC	0.01U K	50V
C206	403 235 0607	CERAMIC	100P J	50V
C206TM	403 246 2201	MT-COMPO	0.01U J	50V
C207	403 235 0607	CERAMIC	100P J	50V

Schematic Location	Part No.	Description		
C209	403 224 5507	CERAMIC	22P J	50V
C210	403 284 4403	CERAMIC	0.015U K	50V
C211	404 084 3801	ELECT	1U M	50V
C212	404 084 2408	ELECT	470U M	6.3V
C213	403 224 6108	CERAMIC	0.01U K	50V
C214	404 084 2606	ELECT	470U M	10V
C215	403 224 6108	CERAMIC	0.01U K	50V
C216	403 235 0904	CERAMIC	180P J	50V
C217	403 224 6108	CERAMIC	0.01U K	50V
C218	404 084 2606	ELECT	470U M	10V
C219	403 224 6108	CERAMIC	0.01U K	50V
★ C406	403 076 4000	CERAMIC	4700P K	500V
C408	404 085 4609	ELECT	47U M	35V
★ C411	404 077 4204	MT-POLYPRO	7000P H	1.5K
	403 347 2506	MT-POLYPRO	0.0070 U	1.5K
★ C417	403 346 7126	MT-POLYPRO	0.27U J	250V
	403 372 6807	MT-POLYPRO	0.27U J	250V
	403 392 8508	MT-POLYPRO	0.27U J	250V
C421	404 091 6406	ELECT	220U M	6.3V
C451	404 084 3306	ELECT	470U M	16V
C452	404 084 3207	ELECT	47U M	16V
C453	404 084 3306	ELECT	470U M	16V
C471	404 084 3306	ELECT	470U M	16V
C482	404 087 4102	ELECT	22U M	100V
C484	404 084 4204	ELECT	4.7U M	50V
C491	403 235 0607	CERAMIC	100P J	50V
C493	404 056 5307	NP-ELECT	2.2U M	100V
C494	403 224 6108	CERAMIC	0.01U K	50V
C497	404 084 3207	ELECT	47U M	16V
C501	404 084 4501	ELECT	470U M	35V
C502	404 084 4402	ELECT	220U M	35V
C503	403 276 0208	ELECT	2.2U K	50V
C504	404 085 4500	ELECT	2200U M	25V
C506	403 069 0507	CERAMIC	1000P K	50V
★ C511	403 394 8407	POLYESTER	0.22U K	50V
	403 237 7901	MT-COMPO	0.22U J	50V
★ C601	404 096 0706	MT-POLYEST	0.22U M	275V
★ C606	404 088 2909	CERAMIC	1000P M	250V
	404 088 7102	CERAMIC	1000P M	250V
★ C608	403 222 1303	CERAMIC	1000P K	1K
	403 271 9602	CERAMIC	1000P K	1K
	403 262 1806	CERAMIC	1000P K	1K
★ C609	404 049 4706	ELECT	330U M	200V
	404 085 9000	ELECT	330U M	200V
	404 102 1109	ELECT	330U M	200V
C611	403 325 5109	CERAMIC	220P K	1K
	403 238 8501	CERAMIC	220P K	1K
C612	403 311 9401	POLYESTER	1500P J	50V
C613	403 312 1008	POLYESTER	3300P J	50V
C614	403 311 8602	POLYESTER	0.01U J	50V
C622	404 087 3402	ELECT	1000U M	35V
★ C625	403 266 4902	CERAMIC	1200P K	1K
	403 262 2308	CERAMIC	1200P K	1K
C626	404 095 1704	ELECT	2200U M	16V
C628	404 073 9005	ELECT	220U M	160V
	404 091 9704	ELECT	220U M	160V

Schematic Location	Part No.	Description		
C629	404 084 3009	ELECT	220U M	16V
C630	404 084 3801	ELECT	1U M	50V
★ C631	404 088 2909	CERAMIC	1000P M	250V
	404 088 7102	CERAMIC	1000P M	250V
★ C632	404 088 2909	CERAMIC	1000P M	250V
	404 088 7102	CERAMIC	1000P M	250V
C683	404 091 6406	ELECT	220U M	6.3V
C701	403 235 4605	CERAMIC	270P K	50V
C702	403 069 8305	CERAMIC	0.01U Z	50V
C711	403 235 4605	CERAMIC	270P K	50V
C721	403 235 4605	CERAMIC	270P K	50V
★ C742	403 077 2807	CERAMIC	1000P Z	2K
C803	403 357 9601	CERAMIC	0.1U Z	50V
C804	401 150 6001	MT-GLAZE	0.000 ZA	1/10W
C806	404 084 2408	ELECT	470U M	6.3V
C811	404 084 3801	ELECT	1U M	50V
C813	403 235 0003	CERAMIC	33P J	50V
C816	404 084 2408	ELECT	470U M 6	.3V
C822	404 084 2705	ELECT	10U M	16V
C828	403 224 6108	CERAMIC	0.01U K	50V
C829	404 084 3801	ELECT	1U M	50V
C835	403 224 6108	CERAMIC	0.01U K	50V
C853	403 237 8007	MT-COMPO	0.1U J	50V
C854	403 235 1000	CERAMIC	220P J	50V
C856	404 084 3801	ELECT	1U M	50V
C857	403 235 1000	CERAMIC	220P J	50V
C858	403 224 5705	CERAMIC	1000P K	50V
C859	403 224 6108	CERAMIC	0.01U K	50V
C1001	404 084 2705	ELECT	10U M	16V
C1002	404 087 2801	ELECT	0.22 M	50V
C1003	404 087 2801	ELECT	0.22 M	50V
C1004	404 084 2705	ELECT	10U M	16V
C1006	404 091 6604	ELECT	4.7U M	25V
C1007	404 091 6604	ELECT	4.7U M	25V
C1021	403 224 6108	CERAMIC	0.01U K	50V
C1022	404 084 4006	ELECT	2.2U M	50V
C1023	404 085 4708	NP-ELECT	10U M	16V
C1051	404 084 2705	ELECT	10U M	16V
C1052	403 224 6108	CERAMIC	0.01U K	50V
C1059	404 084 2705	ELECT	10U M	16V
C1101	404 084 2705	ELECT	10U M	16V
C1102	404 091 6604	ELECT	4.7U M	25V
C1103	404 091 6604	ELECT	4.7U M	25V
C1902	404 084 2705	ELECT	10U M	16V
C3401	404 087 1200	ELECT	0.1U M	50V
C3404	404 089 6500	NP-ELECT	4.7U M	50V
C3406	403 325 2504	CERAMIC	0.012U K	50V
C3407	403 235 5701	CERAMIC	5600P K	50V
C3408	404 084 3702	ELECT 0	.47U M	50V
C3411	404 084 3702	ELECT 0	.47U M	50V
C3412	404 084 3207	ELECT	47U M	16V
C3413	404 091 6604	ELECT	4.7U M	25V
C3414	404 084 3009	ELECT	220U M	16V
C3416	404 089 6500	NP-ELECT	4.7U M	50V
C3417	404 091 6604	ELECT	4.7U M	25V
C3418	404 089 6500	NP-ELECT	4.7U M	50V

Schematic Location	Part No.	Description
C3421	403 224 5606	CERAMIC 2700P K 50V
C3422	403 323 3602	CERAMIC 0.047U K 50V
C3423	403 342 9203	TA-SOLID 3.3U K 10V
C3424	404 089 6500	NP-ELECT 4.7U M 50V
C3426	403 299 1820	TA-SOLID 10U K 10V
C3427	404 084 3801	ELECT 1U M 50V
C3431	403 224 6009	CERAMIC 4700P K 50V
C3432	404 087 1200	ELECT 0.1U M 50V
C3433	403 224 6009	CERAMIC 4700P K 50V
C3434	403 343 4603	CERAMIC 0.022U K 50V
C3436	404 089 6500	NP-ELECT 4.7U M 50V
C3439	404 089 6500	NP-ELECT 4.7U M 50V
	DIODES	
D002	408 008 2406	DIODE 1N4148
	407 013 4306	DIODE 1S2076A
	407 013 7109	DIODE 1S2473
D101	408 047 6205	ZENER DIODE MTZJ36A
D201	407 099 5204	ZENER DIODE MTZJ5.1B
D205	407 206 5400	ZENER DIODE UDZS8.2B TE-17
D206	407 012 4406	DIODE 1SS133
D207	407 149 0807	DIODE 1SS355 TE-17
D408	407 222 4401	ZENER DIODE 1Z150
★ D421	407 158 1307	ZENER DIODE HZ11B2L
★ D422	407 158 1307	ZENER DIODE HZ11B2L
D428	407 099 7109	ZENER DIODE MTZJ15C
	407 054 5904	ZENER DIODE RD15EB3
D429	408 008 2406	DIODE 1N4148
	407 013 4306	DIODE 1S2076A
	407 013 7109	DIODE 1S2473
D471	407 006 4108	DIODE ERB44-04
	407 007 7603	DIODE EU2
D472	408 037 7205	DIODE EM01Z(LYS)
	408 045 6801	DIODE ERA15-02
D481	408 045 7006	DIODE ERA18-04
D482	408 045 7006	DIODE ERA18-04
D486	407 099 6102	ZENER DIODE MTZJ10B
	407 054 0008	ZENER DIODE RD10EB2
D487	408 037 7205	DIODE EM01Z(LYS)
	408 045 6801	DIODE ERA15-02
D491	408 008 2406	DIODE 1N4148
	407 013 4306	DIODE 1S2076A
	407 013 7109	DIODE 1S2473
D501	408 037 7205	DIODE EM01Z(LYS)
	408 045 6801	DIODE ERA15-02
D502	407 118 2207	ZENER DIODE 1Z75
★ D601	407 005 7605	DIODE EM2B
	408 008 8606	DIODE GP15G
	407 013 3200	DIODE 1S1887A
★ D602	407 005 7605	DIODE EM2B
	408 008 8606	DIODE GP15G
	407 013 3200	DIODE 1S1887A
★ D603	407 005 7605	DIODE EM2B
	408 008 8606	DIODE GP15G
	407 013 3200	DIODE 1S1887A

Schematic Location	Part No.	Description
★ D604	407 005 7605	DIODE EM2B
	408 008 8606	DIODE GP15G
	407 013 3200	DIODE 1S1887A
★ D612	407 231 2801	PHOTO COUPLE PC123YC2
	407 218 0707	PC TLP421(BL)
D613	407 063 9702	ZENER DIODE MTZJ9.1C
	407 057 9800	ZENER DIODE RD9.1EB3
D614	407 006 0100	DIODE ERA91-02
★ D623	408 045 7006	DIODE ERA18-04
★ D624	408 045 8508	DIODE RU3YX
★ D625	407 007 7702	DIODE EU2A
D683	408 008 2406	DIODE 1N4148
	407 013 4306	DIODE 1S2076A
	407 013 7109	DIODE 1S2473
D806	408 008 2406	DIODE 1N4148
	407 013 4306	DIODE 1S2076A
	407 013 7109	DIODE 1S2473
D831	407 065 1308	ZENER DIODE MTZJ3.6B
D834	407 099 5402	ZENER DIODE MTZJ6.2B
D836	408 008 2406	DIODE 1N4148
	407 013 4306	DIODE 1S2076A
	407 013 7109	DIODE 1S2473
D843	407 149 0807	DIODE 1SS355 TE-17
D844	407 149 0807	DIODE 1SS355 TE-17
D1051	408 047 2306	ZENER DIODE MTZJ10B
D1052	408 047 2306	ZENER DIODE MTZJ10B
D1059	407 206 5608	ZENER DIODE UDZS10B TE-17
D1104	407 149 0807	DIODE 1SS355 TE-17
D1105	407 149 0807	DIODE 1SS355 TE-17
D1901	408 047 9206	ZENER DIODE MTZJ7.5C
	INTEGRATED CIRCUITS	
IC001	409 275 7903	IC LA4525
★ IC201	409 598 7901	IC M61266FP
★ IC501	409 340 1805	IC LA7840
★ IC601	409 172 8003	IC SE136N
IC681	409 528 6202	IC PQ050ES1MXP
★ IC801	410 564 3001	IC M37151EFFP-R052
	410 564 4503	IC M37151MA-XXXFP U0
IC802	409 495 6908	IC CAT24WC02P
	409 440 8902	IC M24C02-BN6
	409 376 1503	IC ST24C02B6
	409 528 8404	IC S524A40X21-DCB0
	410 499 1004	IC AT24C02-10PI-2.7
	409 333 3700	IC 24LC02B/P
IC1021	409 444 4722	IC NJM2534M-TE2
IC1031	409 444 4722	IC NJM2534M-TE2
IC3401	409 467 1108	IC CXA2134Q-T6

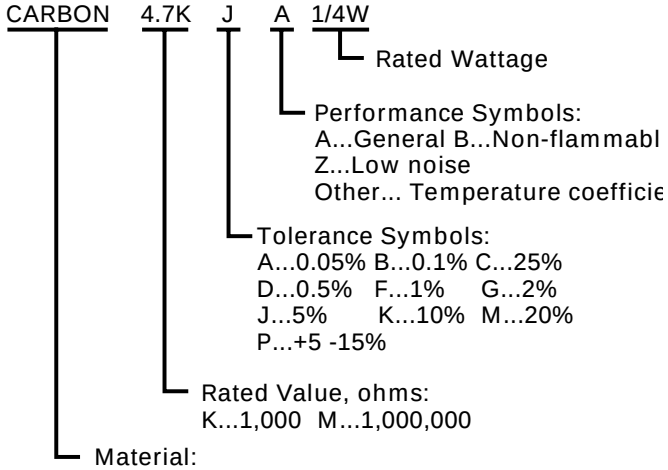
Schematic Location	Part No.	Description
	COILS	
★ LF601	645 052 4073	LINE FILTER
	645 057 2791	LINE FILTER
L201	645 003 9812	INDUCTOR, 33U K
	645 016 2985	INDUCTOR, 33U K
L602	645 005 0763	CORE, PIPE
L623	610 078 5946	PIPE CORE
	652 000 1725	CORE, PIPE
L625	610 078 5946	PIPE CORE
	652 000 1725	CORE, PIPE
L627	645 005 0763	CORE, PIPE
L801	645 008 2894	INDUCTOR, 5.6U K
	645 016 3104	INDUCTOR, 5.6U K
L821	645 008 2894	INDUCTOR, 5.6U K
	645 016 3104	INDUCTOR, 5.6U K
L881	645 006 2490	INDUCTOR, 1U K
	645 016 2411	INDUCTOR, 1U K
L882	645 006 2490	INDUCTOR, 1U K
	645 016 2411	INDUCTOR, 1U K
★ L901	645 060 9596	ASSY, COIL, DEGAUSSING
L1901	645 008 2894	INDUCTOR, 5.6U K
	645 016 3104	INDUCTOR, 5.6U K
	TRANSISTORS	
Q001	405 011 8401	TR 2SC1740S-Q
	405 011 8500	TR 2SC1740S-R
	405 011 8609	TR 2SC1740S-S
	405 012 2002	TR 2SC1815-GR
	405 012 2101	TR 2SC1815-O
	405 012 2309	TR 2SC1815-Y
	405 157 0505	TR 2SC536NF-NPA
	405 151 8705	TR 2SC536NG-NPA
	405 020 7501	TR 2SC945A-PA
	405 020 7709	TR 2SC945A-QA
	405 020 7907	TR 2SC945A-RA
Q005	405 008 4805	TR 2SB764-E
	405 008 4904	TR 2SB764-F
Q131	405 134 5925	TR 2SA1037AK T146 R
	405 147 2205	TR 2SA1037AK T146 S
	405 002 0308	TR 2SA1037K-T-96-R
	405 002 0407	TR 2SA1037K-T-96-S
	405 002 6726	TR 2SA1179-M6
	405 002 6924	TR 2SA1179-M7-TB
	405 163 1503	TR 2SA1179N-M6-TB
	405 163 2708	TR 2SA1179N-M7-TB
	405 173 9605	TR 2SA1235A1E
	405 173 9704	TR 2SA1235A1F
Q132	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S

Schematic Location	Part No.	Description
Q401	405 018 0507	TR 2SC3332-R
	405 018 0606	TR 2SC3332-S
★ Q402	406 017 1908	TR TT2140LS-YB11
Q451	405 023 4903	TR 2SD400-D-MP
	405 023 5009	TR 2SD400-E-MP
	405 023 5306	TR 2SD400-F-MP
Q486	405 023 5009	TR 2SD400-E-MP
	405 023 5306	TR 2SD400-F-MP
Q490	405 023 5009	TR 2SD400-E-MP
	405 023 5306	TR 2SD400-F-MP
★ Q601	405 178 9709	TR 2SK3505
Q613	405 016 9502	TR 2SC3069
Q627	405 089 0000	TR 2SA1707-S
	405 089 0109	TR 2SA1707-T
	405 009 6907	TR 2SB985-S
	405 009 7003	TR 2SB985-T
Q681	405 011 8401	TR 2SC1740S-Q
	405 011 8500	TR 2SC1740S-R
	405 011 8609	TR 2SC1740S-S
	405 012 2002	TR 2SC1815-GR
	405 012 2101	TR 2SC1815-O
	405 012 2309	TR 2SC1815-Y
	405 157 0505	TR 2SC536NF-NPA
	405 151 8705	TR 2SC536NG-NPA
	405 020 7501	TR 2SC945A-PA
	405 020 7709	TR 2SC945A-QA
	405 020 7907	TR 2SC945A-RA
Q701	406 000 3605	TR 2SC3620(LB-SAN-1)
	405 066 4304	TR 2SC2621-C-RA
	405 041 6507	TR 2SC2621-D-RA
	405 041 6705	TR 2SC2621-E-RA
	405 066 9903	TR 2SC2688(1)-K
	405 067 0008	TR 2SC2688(1)-L
	405 067 0107	TR 2SC2688(1)-M
Q711	406 000 3605	TR 2SC3620(LB-SAN-1)
	405 066 4304	TR 2SC2621-C-RA
	405 041 6507	TR 2SC2621-D-RA
	405 041 6705	TR 2SC2621-E-RA
	405 066 9903	TR 2SC2688(1)-K
	405 067 0008	TR 2SC2688(1)-L
	405 067 0107	TR 2SC2688(1)-M
Q721	406 000 3605	TR 2SC3620(LB-SAN-1)
	405 066 4304	TR 2SC2621-C-RA
	405 041 6507	TR 2SC2621-D-RA
	405 041 6705	TR 2SC2621-E-RA
	405 066 9903	TR 2SC2688(1)-K
	405 067 0008	TR 2SC2688(1)-L
	405 067 0107	TR 2SC2688(1)-M
Q831	405 134 5925	TR 2SA1037AK T146 R
	405 147 2205	TR 2SA1037AK T146 S
	405 002 0308	TR 2SA1037K-T-96-R
	405 002 0407	TR 2SA1037K-T-96-S
	405 002 6726	TR 2SA1179-M6
	405 002 6924	TR 2SA1179-M7-TB
	405 163 1503	TR 2SA1179N-M6-TB
	405 163 2708	TR 2SA1179N-M7-TB

Schematic Location	Part No.	Description
	405 173 9605	TR 2SA1235A1E
	405 173 9704	TR 2SA1235A1F
Q832	405 134 5925	TR 2SA1037AK T146 R
	405 147 2205	TR 2SA1037AK T146 S
	405 002 0308	TR 2SA1037K-T-96-R
	405 002 0407	TR 2SA1037K-T-96-S
	405 002 6726	TR 2SA1179-M6
	405 002 6924	TR 2SA1179-M7-TB
	405 163 1503	TR 2SA1179N-M6-TB
	405 163 2708	TR 2SA1179N-M7-TB
	405 173 9605	TR 2SA1235A1E
	405 173 9704	TR 2SA1235A1F

NOTES:
Read description of the Resistor as follows:

(Example)



Schematic Location	Part No.	Description
R001	401 256 0101	MT-GLAZE 8.2K JA 1/10W
R002	401 256 0101	MT-GLAZE 8.2K JA 1/10W
R003	401 162 2800	MT-GLAZE 1.8K JA 1/10W
R004	401 162 2800	MT-GLAZE 1.8K JA 1/10W
R005	401 150 5905	MT-GLAZE 10K JA 1/10W
R006	401 014 4105	CARBON 1.5K JA 1/4W
R013	401 027 2600	CARBON 5.6K JA 1/6W
R101	401 024 6700	CARBON 100 JA 1/6W
R102	401 024 6700	CARBON 100 JA 1/6W
R104	401 023 2802	CARBON 8.2K JA 1/4W
★ R105	401 008 2001	CARBON 18K JA 1/2W
R106	401 150 6209	MT-GLAZE 1K JA 1/10W
R108	401 026 9907	CARBON 4.7K JA 1/6W
R109	401 256 6004	MT-GLAZE 27K JA 1/10W
R133	401 162 4101	MT-GLAZE 5.6K JA 1/10W
R134	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R135	401 162 2909	MT-GLAZE 220 JA 1/10W
R136	401 162 4002	MT-GLAZE 560 JA 1/10W
R139	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R140	401 224 6203	MT-GLAZE 10M JA 1/10W
R141	401 024 8001	CARBON 1M JA 1/6W
R142	401 162 3609	MT-GLAZE 470 JA 1/10W
R143	401 024 6700	CARBON 100 JA 1/6W
R145	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R146	401 150 6209	MT-GLAZE 1K JA 1/10W
R201	401 256 0200	MT-GLAZE 120K JA 1/10W
R202	401 150 5905	MT-GLAZE 10K JA 1/10W
R203	401 150 5905	MT-GLAZE 10K JA 1/10W
R204	401 012 7009	CARBON 10K JA 1/4W
R205	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R207	401 162 2701	MT-GLAZE 180 JA 1/10W
R208	401 162 2701	MT-GLAZE 180 JA 1/10W
R209	401 162 2701	MT-GLAZE 180 JA 1/10W
R210	401 150 6100	MT-GLAZE 2.2K JA 1/10W
R211	401 150 6100	MT-GLAZE 2.2K JA 1/10W
R212	401 150 6100	MT-GLAZE 2.2K JA 1/10W
R213	401 150 6100	MT-GLAZE 2.2K JA 1/10W
R215	401 255 6005	MT-GLAZE 1M JA 1/10W
R216	401 024 7400	CARBON 10K JA 1/6W
R222	401 255 6500	MT-GLAZE 100 JA 1/10W
R223	401 024 6700	CARBON 100 JA 1/6W
R224	401 024 7004	CARBON 1K JA 1/6W
R225	401 162 3104	MT-GLAZE 3.3K JA 1/10W
R226	401 162 3005	MT-GLAZE 22K JA 1/10W
R227	401 256 0408	MT-GLAZE 12K JA 1/10W
R228	401 150 5905	MT-GLAZE 10K JA 1/10W
R229	401 256 7308	MT-GLAZE 6.8K JA 1/10W
R231	401 014 2903	CARBON 150 JA 1/4W
R404	401 025 1605	CARBON 1.5K JA 1/6W
★ R405	401 060 7402	OXIDE-MT 270 JA 1W
★ R421	401 053 4005	MT-FILM 560 FA 1/6W
★ R422	401 052 6802	MT-FILM 10K FA 1/6W
★ R423	401 053 2605	MT-FILM 3.3K FA 1/6W
R428	401 256 3607	MT-GLAZE 15K JA 1/10W
R430	401 027 2303	CARBON 560 JA 1/6W
R451	401 024 7400	CARBON 10K JA 1/6W
★ R452	401 064 6302	OXIDE-MT 10 JA 2W
★ R471	401 006 7701	CARBON 1 JB 1/2W
★ R472	401 067 3100	OXIDE-MT 3.9 JA 2W
★ R481	401 011 1206	CARBON 68 JB 1/2W
★ R482	401 011 9004	CARBON 1 JB 1/4W
R485	401 025 4606	CARBON 18K JA 1/6W
★ R486	401 065 1801	OXIDE-MT 12 JA 2W
R487	401 026 6609	CARBON 390 JA 1/6W
★ R488	401 059 1602	OXIDE-MT 15 JA 1W
★ R489	401 066 5204	OXIDE-MT 22 JA 2W
R491	401 012 5708	CARBON 1K JA 1/4W
R492	401 156 8504	MT-FILM 33K FA 1/6W
R493	401 023 4608	CARBON 820K JA 1/4W
R494	401 022 5101	CARBON 680K JA 1/4W
★ R495	401 061 5308	OXIDE-MT 39 JA 1W

Schematic Location	Part No.	Description		
★ R497	401 068 1600	OXIDE-MT	4.7 JA	2W
R502	401 025 8208	CARBON	22K JA	1/6W
R503	401 150 6001	MT-GLAZE	0.000 ZA	1/10W
R504	401 053 4708	MT-FILM	6.8K FA	1/6W
R505	401 006 8807	CARBON	1.8 JA	1/2W
R506	401 027 2303	CARBON	560 JA	1/6W
R507	401 008 3701	CARBON	2.2 JA	1/2W
R508	401 025 1902	CARBON	15K JA	1/6W
R509	401 027 5502	CARBON	6.8K JA	1/6W
★ R511A	401 065 6707	OXIDE-MT	150 JA	2W
R514	401 026 7002	CARBON	3.9K JA	1/6W
★ R601A	402 071 0000	WIRE WOUND	1 KA	5W
	402 075 1508	WIRE WOUND	1 KA	5W
	402 082 7906	WIRE WOUND	1.0 KA	5W
★ R602	402 000 1603	SOLID	3.3M MA	1/2W
	402 099 2901	SOLID	3.3M KA	1/2W
	402 088 1502	RESISTER	3.3M JA	1/2W
	402 090 2108	RESISTER	3.3M JA	1/2W
R603	401 021 5003	CARBON	560K JA	1/4W
★ R604	401 066 3002	OXIDE-MT	2.2 JA	2W
R605	401 021 5003	CARBON	560K JA	1/4W
★ R607A	402 059 4600	FUSIBLE RES	22 J-	1/2W
	402 096 7800	FUSIBLE RES	22 J-	1/2W
R608	401 150 6001	MT-GLAZE	0.000 ZA	1/10W
R609	401 150 6100	MT-GLAZE	2.2K JA	1/10W
R610	401 012 5708	CARBON	1K JA	1/4W
R611	401 027 0309	CARBON	47K JA	1/6W
★ R612	402 001 8502	FUSIBLE RES	10 J-	1/2W
	402 096 6308	FUSIBLE RES	10 J-	1/2W
★ R613	401 180 8402	OXIDE-MT	0.47 JA	2W
R616	401 150 5905	MT-GLAZE	10K JA	1/10W
★ R617	402 001 8106	FUSIBLE RES	680 J-	1/4W
	402 097 2408	FUSIBLE RES	680 J-	1/4W
R618	401 020 0801	CARBON	470 JA	1/4W
R627	401 150 5905	MT-GLAZE	10K JA	1/10W
R628	401 013 5301	CARBON	1.2K JA	1/4W
R630	401 018 2909	CARBON	330 JB	1/4W
R683	401 150 6100	MT-GLAZE	2.2K JA	1/10W
R701	401 026 3905	CARBON	330 JA	1/6W
R703	401 256 5908	MT-GLAZE	2.7K JA	1/10W
R704	401 027 8107	CARBON	82 JA	1/6W
R706	401 009 1508	CARBON	2.7K JA	1/2W
★ R707	401 065 4604	OXIDE-MT	12K JA	2W
R711	401 026 3905	CARBON	330 JA	1/6W
R713	401 256 5908	MT-GLAZE	2.7K JA	1/10W
R714	401 255 9006	MT-GLAZE	82 JA	1/10W
R716	401 009 1508	CARBON	2.7K JA	1/2W
★ R717	401 065 4604	OXIDE-MT	12K JA	2W
R721	401 026 3905	CARBON	330 JA	1/6W
R723	401 256 5908	MT-GLAZE	2.7K JA	1/10W
R724	401 027 8107	CARBON	82 JA	1/6W
R726	401 009 1508	CARBON	2.7K JA	1/2W
★ R727	401 065 4604	OXIDE-MT	12K JA	2W
R805	401 150 5905	MT-GLAZE	10K JA	1/10W
R806	401 162 3708	MT-GLAZE	4.7K JA	1/10W
R807	401 150 5905	MT-GLAZE	10K JA	1/10W

Schematic Location	Part No.	Description		
R808	401 150 5905	MT-GLAZE	10K JA	1/10W
R809	401 162 3708	MT-GLAZE	4.7K JA	1/10W
R814	401 150 5905	MT-GLAZE	10K JA	1/10W
R815	401 150 5905	MT-GLAZE	10K JA	1/10W
R816	401 152 3206	MT-GLAZE	330 JA	1/10W
R817	401 150 5905	MT-GLAZE	10K JA	1/10W
R819	401 150 5905	MT-GLAZE	10K JA	1/10W
R820	401 150 5905	MT-GLAZE	10K JA	1/10W
R821	401 024 7004	CARBON	1K JA	1/6W
R822	401 024 6700	CARBON	100 JA	1/6W
R824	401 024 6700	CARBON	100 JA	1/6W
R826	401 024 7004	CARBON	1K JA	1/6W
R827	401 256 6301	MT-GLAZE	47K JA	1/10W
R829	401 024 6700	CARBON	100 JA	1/6W
R830	401 024 6700	CARBON	100 JA	1/6W
R831	401 150 5806	MT-GLAZE	100K JA	1/10W
R833	401 024 7400	CARBON	10K JA	1/6W
R835	401 024 6700	CARBON	100 JA	1/6W
R838	401 255 6500	MT-GLAZE	100 JA	1/10W
R841	401 150 6209	MT-GLAZE	1K JA	1/10W
R842	401 150 6209	MT-GLAZE	1K JA	1/10W
R843	401 150 6209	MT-GLAZE	1K JA	1/10W
R844	401 150 6209	MT-GLAZE	1K JA	1/10W
R846	401 024 7004	CARBON	1K JA	1/6W
R847	401 025 3807	CARBON	180 JA	1/6W
R848	401 025 3807	CARBON	180 JA	1/6W
R849	401 025 3807	CARBON	180 JA	1/6W
R851	401 150 6209	MT-GLAZE	1K JA	1/10W
R852	401 162 3401	MT-GLAZE	39K JA	1/10W
R853	401 256 3201	MT-GLAZE	1.5M JA	1/10W
R854	401 256 3805	MT-GLAZE	1.5K JA	1/10W
R861	401 255 6500	MT-GLAZE	100 JA	1/10W
R862	401 255 6500	MT-GLAZE	100 JA	1/10W
R863	401 255 6500	MT-GLAZE	100 JA	1/10W
R864	401 255 6500	MT-GLAZE	100 JA	1/10W
R879	401 024 6700	CARBON	100 JA	1/6W
R886	401 150 5905	MT-GLAZE	10K JA	1/10W
R1001	401 255 6500	MT-GLAZE	100 JA	1/10W
R1002	401 256 2709	MT-GLAZE	75 JA	1/10W
R1003	401 255 6500	MT-GLAZE	100 JA	1/10W
R1004	401 256 2709	MT-GLAZE	75 JA	1/10W
R1005	401 150 5905	MT-GLAZE	10K JA	1/10W
R1006	401 255 6500	MT-GLAZE	100 JA	1/10W
R1007	401 256 2709	MT-GLAZE	75 JA	1/10W
R1008	401 256 2709	MT-GLAZE	75 JA	1/10W
R1009	401 255 6500	MT-GLAZE	100 JA	1/10W
R1011	401 256 1405	MT-GLAZE	330K JA	1/10W
R1012	401 255 6500	MT-GLAZE	100 JA	1/10W
R1013	401 256 1405	MT-GLAZE	330K JA	1/10W
R1021	401 256 4109	MT-GLAZE	56 JA	1/10W
R1022	401 024 6700	CARBON	100 JA	1/6W
R1028	401 256 4109	MT-GLAZE	56 JA	1/10W
R1031	401 027 2105	CARBON	56 JA	1/6W
R1033	401 256 4109	MT-GLAZE	56 JA	1/10W
R1034	401 027 2105	CARBON	56 JA	1/6W
R1035	401 027 2105	CARBON	56 JA	1/6W

Schematic Location	Part No.	Description
R1036	401 027 2105	CARBON 56 JA 1/6W
R1037	401 027 2105	CARBON 56 JA 1/6W
R1038	401 027 2105	CARBON 56 JA 1/6W
R1051	401 256 2709	MT-GLAZE 75 JA 1/10W
R1052	401 256 2709	MT-GLAZE 75 JA 1/10W
R1059	401 026 9600	CARBON 470 JA 1/6W
R1101	401 255 6500	MT-GLAZE 100 JA 1/10W
R1102	401 256 1405	MT-GLAZE 330K JA 1/10W
R1103	401 255 6500	MT-GLAZE 100 JA 1/10W
R1104	401 256 1405	MT-GLAZE 330K JA 1/10W
R1106	401 256 2709	MT-GLAZE 75 JA 1/10W
R1901	401 150 5905	MT-GLAZE 10K JA 1/10W
R1902	401 024 7004	CARBON 1K JA 1/6W
R1903	401 162 2800	MT-GLAZE 1.8K JA 1/10W
R1904	401 150 6100	MT-GLAZE 2.2K JA 1/10W
R1905	401 256 7605	MT-GLAZE 3.9K JA 1/10W
R1906	401 162 4101	MT-GLAZE 5.6K JA 1/10W
R1907	401 256 0408	MT-GLAZE 12K JA 1/10W
R3401	401 025 7409	CARBON 220 JA 1/6W
R3402	401 025 7409	CARBON 220 JA 1/6W
R3403	401 027 2303	CARBON 560 JA 1/6W
R3404	401 150 6209	MT-GLAZE 1K JA 1/10W
R3406	401 150 5806	MT-GLAZE 100K JA 1/10W
R3407	401 255 6005	MT-GLAZE 1M JA 1/10W
R3411	401 265 4008	MT-GLAZE 62K JA 1/10W
R3421	401 162 3104	MT-GLAZE 3.3K JA 1/10W
R3422	401 255 6401	MT-GLAZE 3K JA 1/10W
R3426	401 256 7605	MT-GLAZE 3.9K JA 1/10W

SWITCHES

SW1901	645 006 9673	SWITCH, PUSH (POWER)
	645 027 7382	SWITCH, PUSH (POWER)
	645 052 2284	SWITCH, PUSH (POWER)
SW1902	645 006 9673	SWITCH, PUSH (VOL +)
	645 027 7382	SWITCH, PUSH (VOL +)
	645 052 2284	SWITCH, PUSH (VOL +)
SW1903	645 006 9673	SWITCH, PUSH (VOL –)
	645 027 7382	SWITCH, PUSH (VOL –)
	645 052 2284	SWITCH, PUSH (VOL –)
SW1904	645 006 9673	SWITCH, PUSH (CH ▲)
	645 027 7382	SWITCH, PUSH (CH ▲)
	645 052 2284	SWITCH, PUSH (CH ▲)
SW1905	645 006 9673	SWITCH, PUSH (CH ▼)
	645 027 7382	SWITCH, PUSH (CH ▼)
	645 052 2284	SWITCH, PUSH (CH ▼)
SW1906	645 006 9673	SWITCH, PUSH (MENU)
	645 027 7382	SWITCH, PUSH (MENU)
	645 052 2284	SWITCH, PUSH (MENU)

Schematic Location	Part No.	Description

TANSFORMERS

T401	652 001 1144	TRANS, DRIVE
★ T402	645 065 9386	TRANS, FLYBACK
★ T601	645 055 5978	TRANS, POWER, PULSE
	652 001 1090	TRANS, POWER, PULSE

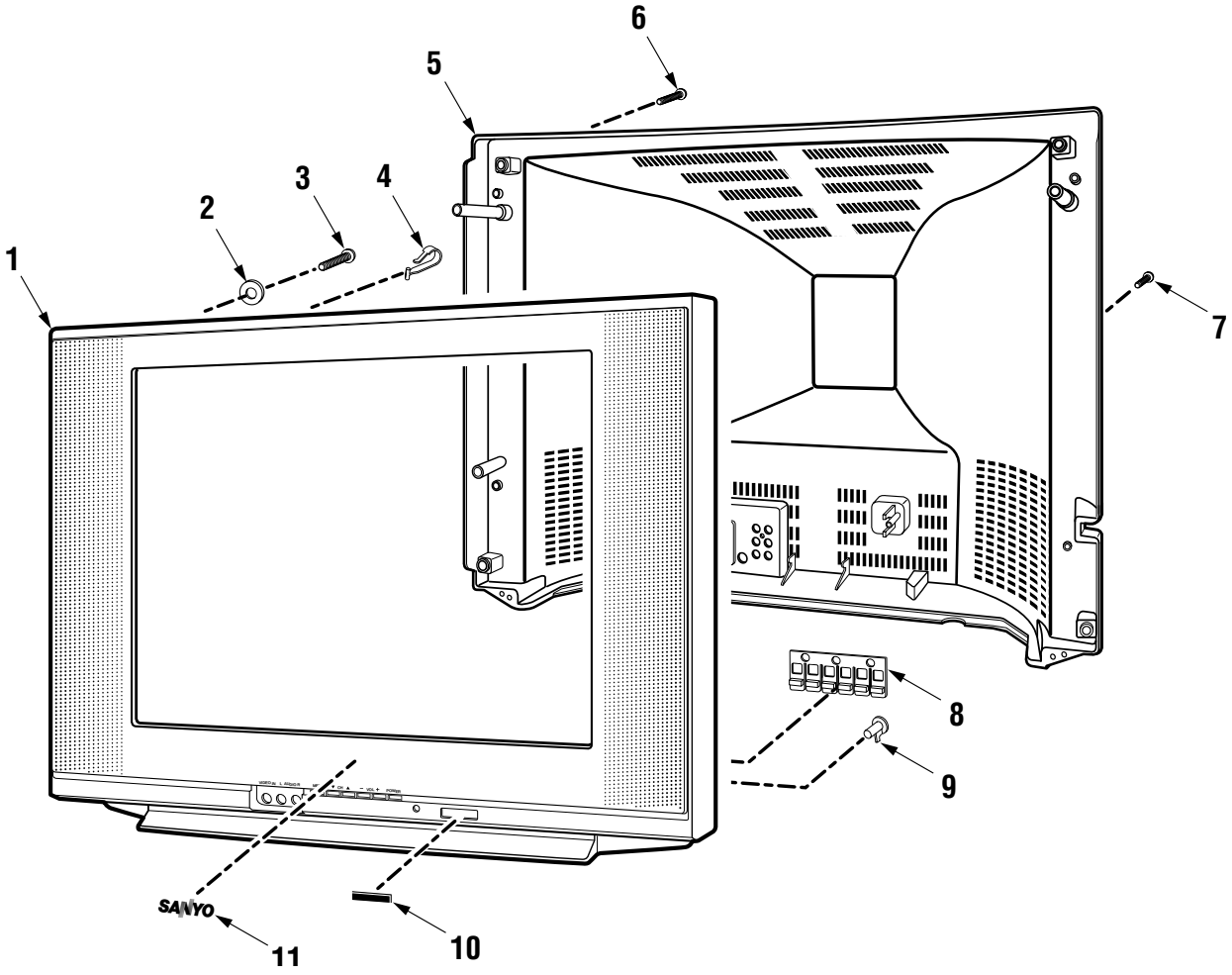
CRYSTAL / FILTERS

X101	421 006 8805	SAW F TSF5225P
X201	645 025 1122	OSC, CRYSTAL 4.433619MHZ
X801	645 021 5483	OSC, CERAMIC 8.00MHZ
	645 053 4386	OSC, CERAMIC 8.00MHZ

MISCELLANEOUS

A100	610 321 0261	ASSY, PWB, MAIN G8LEM
★ A101	645 063 9814	TUNER, U/V
	645 068 7013	TUNER, U/V
	645 063 9821	TUNER, U/V
A700	610 321 3866	ASSY, PWB, SOCKET G8LEM
A1901	645 047 6228	UNIT, REMOCON RECEIVER
★ F601	423 029 8008	FUSE 125V 4A
	423 018 8101	FUSE 125V 4A
	423 007 1601	FUSE 125V 4A
	423 007 1809	FUSE 125V 4A
F601A	645 000 5077	HOLDER, FUSE
	645 016 0479	HOLDER, FUSE
F601B	645 000 5077	HOLDER, FUSE
	645 016 0479	HOLDER, FUSE
J701	401 027 2105	CARBON 56 JA 1/6W
★ K701	645 028 0306	SOCKET, CRT 8P
	652 001 1472	SOCKET, CRT 8P
K1001	645 063 9616	JACK, RCA-6
K1051	645 007 1584	SOCKET, DIN 4P
K1101	645 051 0847	JACK, RCA-3
★ PS601	408 046 5209	TH PTDAA1BF3R0Q100
★ Q901	414 013 3703	CRT A51QDX993X005
★ RL601	645 011 2713	RELAY
	645 015 8629	RELAY
	645 052 5933	RELAY
SP901	652 001 3438	SPEAKER, 8
SP902	652 001 3438	SPEAKER, 8
★ W601	645 023 1681	CORD, POWER
	645 056 9531	CORD, POWER-2.0MK
★ W900	610 306 8282	ASSY, WIRE GND CONNECTOR

CABINET PARTS LIST



CABINET PARTS LIST

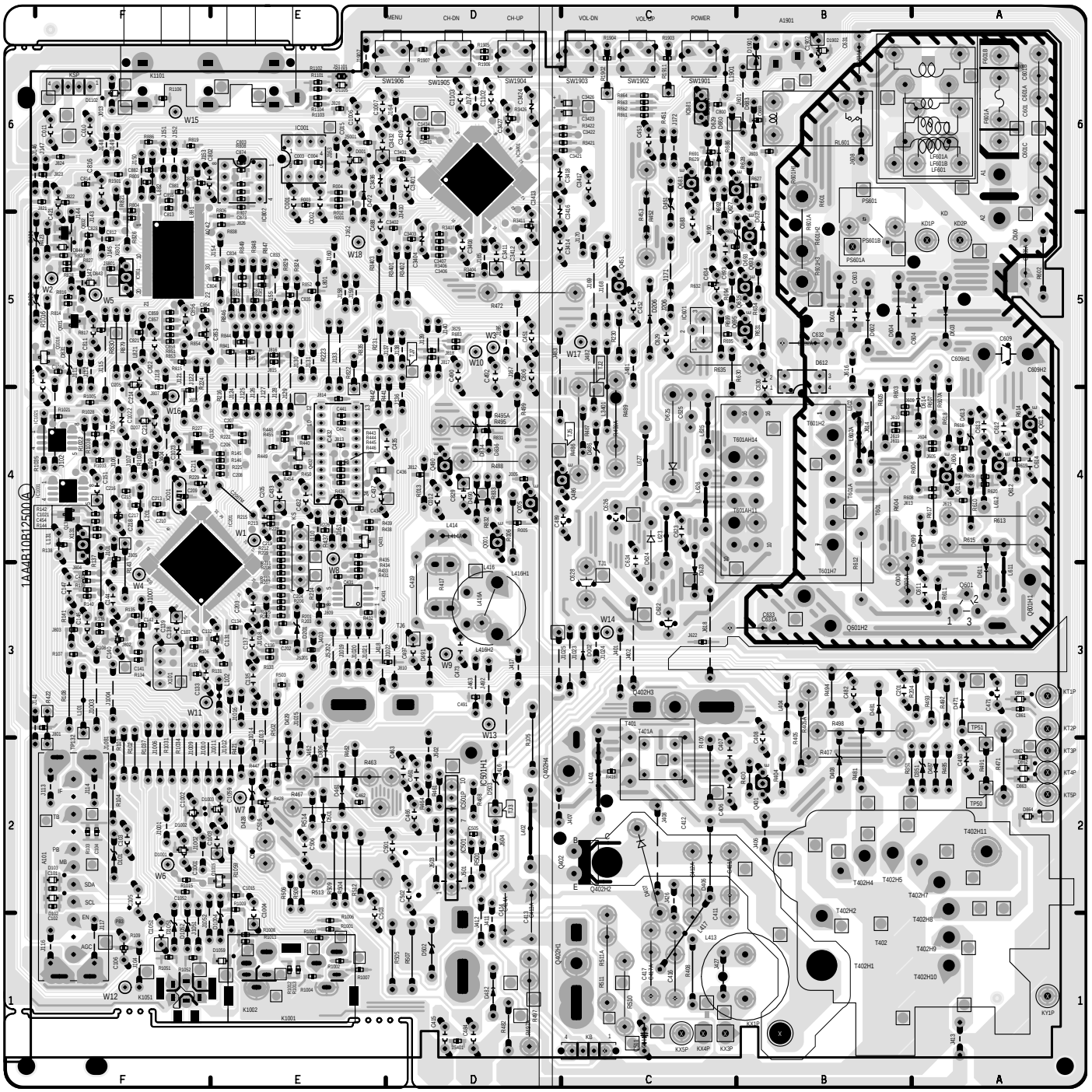
KEY NO.	PARTS NO.	DESCRIPTION
1	610 318 6146	CABINET FRONT ASSY
2	610 268 9648	CRT SPACER 2.0MM (4 USED)
3	412 000 7604	CRT MTG SCREW 5X30
4	610 102 7151	DC HOLDER (2 USED)
5	610 318 6160	CABINET BACK
6	411 078 1101	SCREW 4X14 (4 USED)
7	412 018 8402	SCREW 3X10 (1 USED)
8	610 318 6061	BUTTON UNIT
9	610 265 3786	CAP RC
10	610 317 4648	DEC SHEET
11	645 067 3818	SANYO BADGE

ACCESSORY PARTS LIST

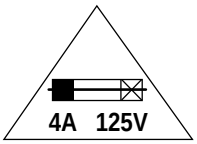
KEY NO.	PARTS NO.	DESCRIPTION
	610 319 8576	OWNER'S MANUAL
	645 065 6910	RC TRANSMITTER
	645 065 6934	RC TRANSMITTER
	610 312 0287	RC BATTERY COVER
	610 312 0317	RC BATTERY COVER

COMPONENT AND TESTPOINT LOCATIONS

MAIN BOARD FOIL SIDE



CAUTION



FOR CONTINUED PROTECTION AGAINST A RISK OF FIRE, REPLACE ONLY WITH THE SAME TYPE 4A, 125V FUSE.

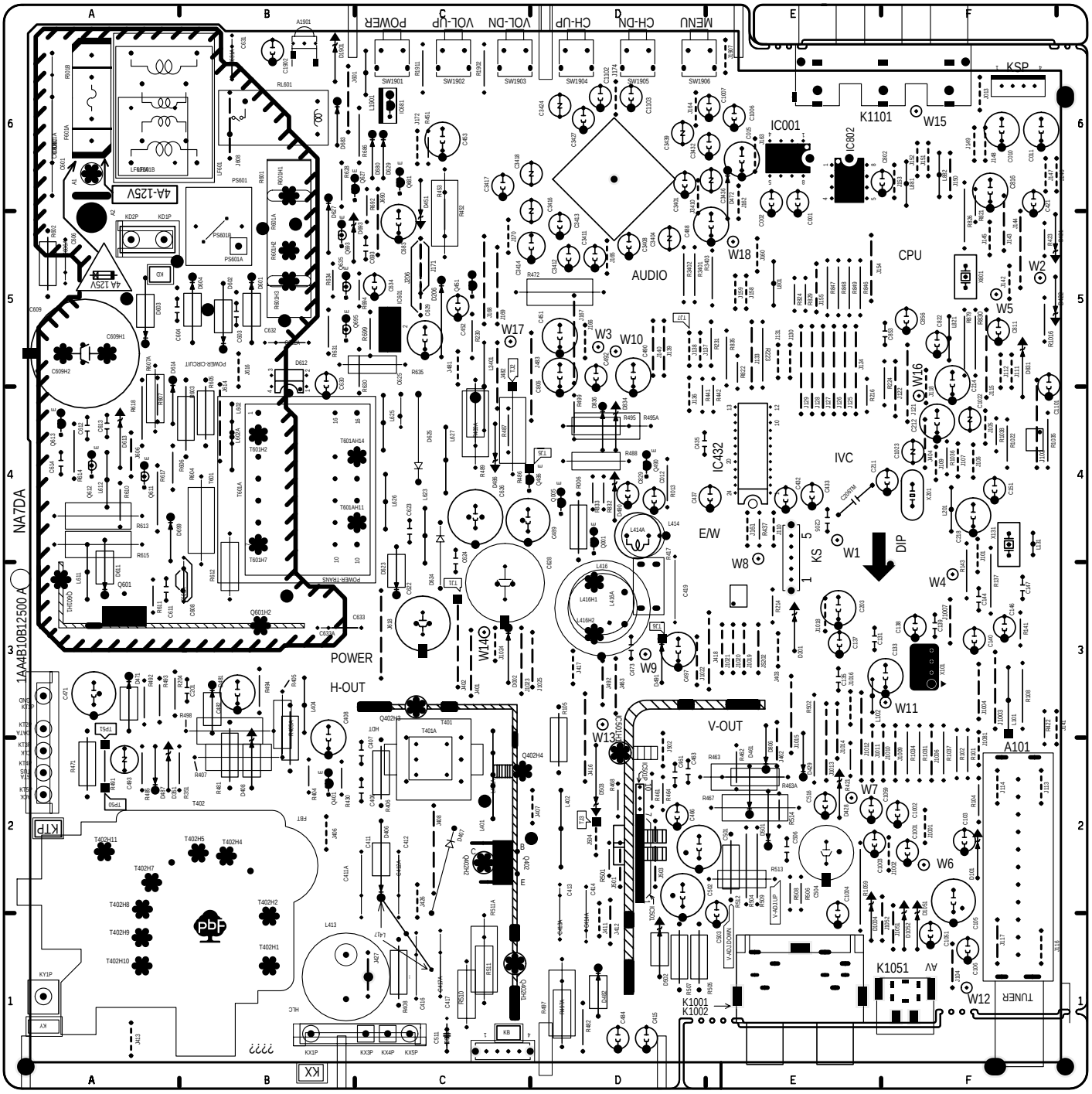
ATTENTION : POUR MAINTENIR LA PROTECTION CONTRE LES RISQUES D' INCENDIE UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE 4A, 125V.

MAIN BOARD COMPONENTS AND TEST POINTS GRID LOCATIONS

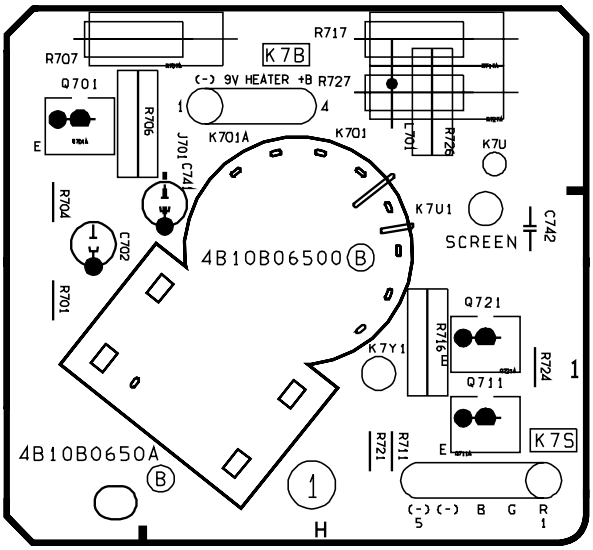
Part	Loc.	Part	Loc.	Part	Loc.
D002	C3	IC3401	D6	Q831	F5
D429	E2	Q001	D4	Q832	F5
D491	D3	Q005	D4	R512	E2
D612	E2	Q131	F4	R513	E2
D806	E2	Q132	E3	TE7	F2
IC001	E6	Q401	B2	TP7	F3
IC201	F4	Q402	C2	TJ1	C3
IC501	D2	Q451	C5	TJ6	D3
IC601	C5	Q486	C4	TP16	F4
IC681	C6	Q490	D4	TP50	A2
IC801	F5	Q601	A3	TP51	A2
IC802	E6	Q613	A4	TP317	D6
IC1021	F4	Q627	B6	TP318	D6
IC1031	F4	Q681	C6		

COMPONENT AND TESTPOINT LOCATIONS (Cont.)

MAIN BOARD PARTS SIDE



PICTURE TUBE SOCKET BOARD



PIC TUBE SOCKET BOARD COMPONENTS

Part
Q701
Q711
Q721

For parts or service contact

SANYO Fisher Service Corporation
21605 Plummer Street
Chatsworth, CA 91311 (U.S.A.)

300 Applewood Crescent,
Concord, Ontario L4K 5C7 (CANADA)

April / 2005 / 2000 SMC

Printed in U.S.A.

MODEL DS20425 Chassis No. 20425-04

SCHEMATIC DIAGRAMS

NOTES ON SCHEMATIC DIAGRAMS

1. All resistance values in ohms K=1,000 M=1,000,000.
2. Unless otherwise noted on schematic, all capacitor values less than 1 are expressed in µF (Micro Farad), and the values more than 1 are in pF.
3. Unless otherwise noted on schematic, voltage reading taken with VOM from point indicated to chassis ground. Voltage reading taken using color-bar signal VHF channel 5, all controls at normal. Line voltage at 120 volts. Some voltages may vary with signal strength.
4. Waveforms were taken with color-bar signal and controls set for normal picture. Waveforms marked with an ✻ may vary with signal strength.
5. The Symbol ⚠ indicates a fusible resistor, which protects the circuit from possible short circuits.

SERVICE NOTES:

1. When replacing parts on circuit boards, clamp the lead wires to terminals before soldering.
2. When replacing high wattage resistors on circuit board, keep the resistor body 10 mm (3/8) from circuit board.
3. Keep wires away from high voltage and high temperature components.

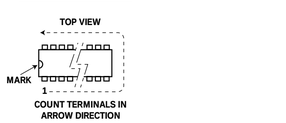
PRODUCT SAFETY NOTICE

THE COMPONENTS DESIGNATED BY A STAR (★) ON THIS SCHEMATIC DIAGRAM DESIGNATE COMPONENTS WHOSE VALUES ARE OF SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. SHOULD ANY COMPONENT DESIGNATED BY A STAR NEED TO BE REPLACED, USE ONLY THE PART DESIGNATED IN THE PARTS LIST. DO NOT DEVIATE FROM THE RESISTANCE, WATTAGE AND VOLTAGE RATINGS SHOWN.

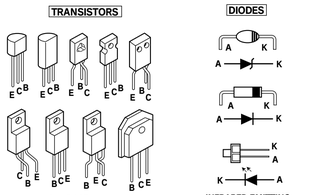
X-RADIATION WARNING NOTE

THIS TV CONTAINS CRITICAL PARTS TO PROTECT AGAINST X-RADIATION. NOMINAL 2ND ANODE VOLTAGE IS 26.1KV AT ZERO BEAM CURRENT AT 120 VOLTS AC LINE, AND MUST NOT EXCEED 28.0KV UNDER ANY OPERATING CONDITION. SEE HIGH VOLTAGE CHECK ON PAGE 9.

INTEGRATED CIRCUITS

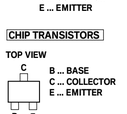


TRANSISTORS

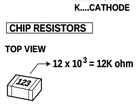


DIODES

CHIP TRANSISTORS

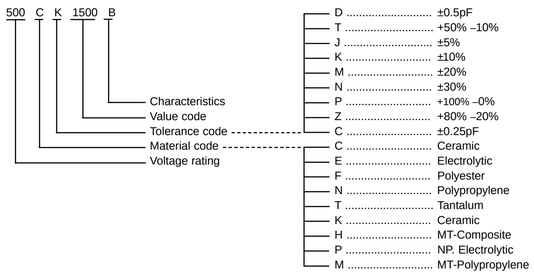


CHIP RESISTORS

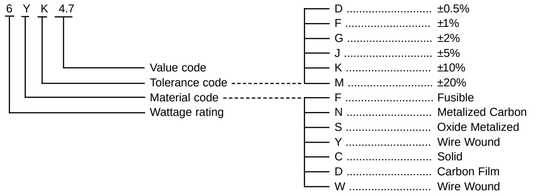


CAPACITOR AND RESISTOR CODE CHART

CAPACITOR (Example)

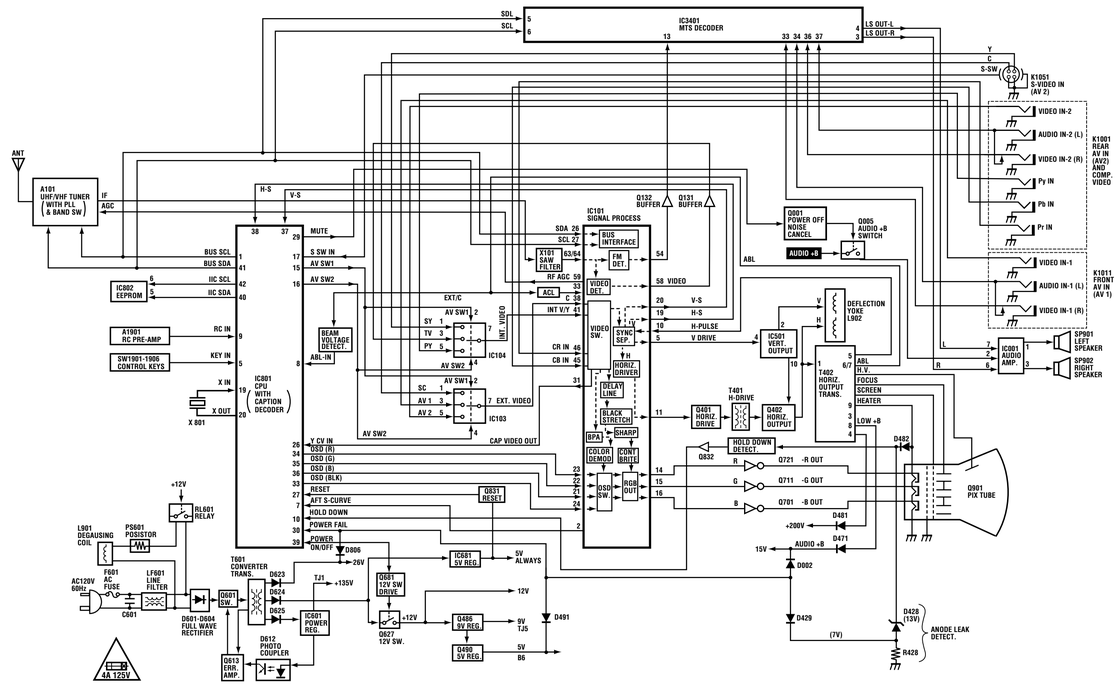


RESISTOR (Example)



BLOCK DIAGRAM

CAUTION ⚠ 4A 125V — FOR CONTINUED PROTECTION AGAINST A RISK OF FIRE, REPLACE ONLY WITH THE SAME TYPE 4A, 125V FUSE. ATTENTION: POUR MAINTENIR LA PROTECTION CONTRE LES RISQUES D' INCENDIE UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE 4A, 125V.



VOLTAGE CHARTS

NOTE: Voltages were measured using color-bar signal and the controls set for normal picture.

Device/Pin #	Volts/Mode	
D612-1	POWER ON: 25.7	POWER OFF: 9.6
D612-2	POWER ON: 24.8	POWER OFF: 8.0
D612-3	POWER ON: 0.7	POWER OFF: 0.4
D612-4	POWER ON: 14.7	POWER OFF: 1.7
IC001-1	6.0	
IC001-2	13.2	
IC001-3	5.6	
IC001-4	GND	
IC001-5	N.C.	
IC001-6	1.4	
IC001-7	1.4	
IC001-8	GND	
IC201-1	3.0	
IC201-2	2.5	
IC201-3	5.0	
IC201-4	5.0	
IC201-5	2.9	
IC201-6	3.8	
IC201-7	3.4	
IC201-8	GND	
IC201-9	GND	
IC201-10	0.9	
IC201-11	2.5	
IC201-12	8.4	
IC201-13	5.0	
IC201-14	2.5	
IC201-15	2.4	
IC201-16	2.7	
IC201-17	3.9	
IC201-18	1.9	
IC201-19	4.1	
IC201-20	4.8	
IC201-21	0.1	
IC201-22	0.1	
IC201-23	0.4	
IC201-24	0	
IC201-25	8.6	
IC201-26	3.7	
IC201-27	3.9	
IC201-28	4.8	
IC201-29	3.7	
IC201-30	4.9	
IC201-31	2.3	
IC201-32	5.6	
IC201-33	2.9	
IC201-34	3.4	
IC201-35	GND	
IC201-36	GND	

Device/Pin #	Volts/Mode
IC201-37	3.3
IC201-38	2.0
IC201-39	5.0
IC201-40	5.0
IC201-41	2.4
IC201-42	9.2
IC201-43	1.8
IC201-44	8.4
IC201-45	1.2
IC201-46	1.2
IC201-47	9.1
IC201-48	2.4
IC201-49	5.7
IC201-50	3.2
IC201-51	2.4
IC201-52	3.4
IC201-53	3.2
IC201-54	2.9
IC201-55	3.1
IC201-56	GND
IC201-57	GND
IC201-58	4.1
IC201-59	2.6
IC201-60	2.1
IC201-61	2.2
IC201-62	2.6
IC201-63	1.4
IC201-64	1.4
IC501-1	GND
IC501-2	15.0
IC501-3	29.5
IC501-4	2.9
IC501-5	2.9
IC501-6	29.2
IC501-7	2.8
IC601-1	135.0
IC601-2	28.3
IC601-3	GND
IC681-1	13.4
IC681-2	GND
IC681-3	5.0
IC801-1	3.2
IC801-2	5.0
IC801-3	5.0
IC801-4	5.0
IC801-5	0
IC801-6	1.4
IC801-7	2.5
IC801-8	0
IC801-9	4.9
IC801-10	5.0
IC801-11	0.2

Device/Pin #	Volts/Mode
IC801-12	0.2
IC801-13	0.2
IC801-14	4.9
IC801-15	4.9
IC801-16	1.5
IC801-17	5.0
IC801-18	GND
IC801-19	2.2
IC801-20	1.8
IC801-21	0.1
IC801-22	5.0
IC801-23	1.0
IC801-24	1.8
IC801-25	0.1
IC801-26	2.3
IC801-27	5.0
IC801-28	5.0
IC801-29	4.9
IC801-30	5.0
IC801-31	0
IC801-32	4.9
IC801-33	0.2
IC801-34	0.2
IC801-35	0.2
IC801-36	0.2
IC801-37	4.8
IC801-38	4.1
IC801-39	4.9
IC801-40	5.0
IC801-41	3.7
IC801-42	5.0
IC802-1	GND
IC802-2	GND
IC802-3	GND
IC802-4	GND
IC802-5	5.0
IC802-6	5.0
IC802-7	GND
IC802-8	5.0
IC1021-1	2.5
IC1021-2	4.9
IC1021-3	2.5
IC1021-4	0
IC1021-5	2.6
IC1021-6	5.0
IC1021-7	1.8
IC1021-8	GND
IC1031-1	2.5
IC1031-2	4.9
IC1031-3	2.5
IC1031-4	0
IC1031-5	2.6

Device/Pin #	Volts/Mode
IC1031-6	5.0
IC1031-7	1.8
IC1031-8	GND
IC3401-1	4.1
IC3401-2	4.1
IC3401-3	4.1
IC3401-4	4.1
IC3401-5	3.6
IC3401-6	3.7
IC3401-7	GND
IC3401-8	4.1
IC3401-9	4.1
IC3401-10	4.1
IC3401-11	4.1
IC3401-12	4.9
IC3401-13	4.1
IC3401-14	1.3
IC3401-15	1.3
IC3401-16	0
IC3401-17	GND
IC3401-18	3.2
IC3401-19	9.1
IC3401-20	0
IC3401-21	4.1
IC3401-22	4.1
IC3401-23	3.7
IC3401-24	3.9
IC3401-25	4.1
IC3401-26	4.1
IC3401-27	4.1
IC3401-28	1.9
IC3401-29	4.1
IC3401-30	4.1
IC3401-31	2.0
IC3401-32	4.1
IC3401-33	4.1
IC3401-34	4.1
IC3401-35	0
IC3401-36	4.1
IC3401-37	4.1
IC3401-38	4.1
IC3401-39	4.1
IC3401-40	4.1
IC3401-41	4.1
IC3401-42	GND
IC3401-43	4.1
IC3401-44	4.1
IC3401-45	4.2
IC3401-46	GND
IC3401-47	4.1
IC3401-48	4.1

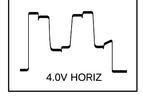
Device/Pin #	Volts/Mode	
Q001-B	POWER ON: 0.7	POWER OFF: 0
Q001-C	POWER ON: 1.9	POWER OFF: 17.0
Q001-E	GND	
Q005-B	13.4	
Q005-C	14.0	
Q005-E	14.0	
Q131-B	2.9	
Q131-C	GND	
Q131-E	3.5	
Q132-B	2.9	
Q132-C	8.4	
Q132-E	2.3	
Q401-B	0.3	
Q401-C	23.2	
Q401-E	GND	
Q402-B	0	
Q402-C	130	
Q402-E	GND	
Q451-B	9.1	
Q451-C	12.7	
Q451-E	8.5	
Q486-B	9.9	
Q486-C	11.6	
Q486-E	9.2	
Q490-B	5.9	
Q490-C	6.7	
Q490-E	5.2	
Q601-G	POWER ON: 5.8	POWER OFF: 0.4
Q601-D	POWER ON: 157	POWER OFF: 164
Q601-S	POWER ON: .9	POWER OFF: 0
Q613-B	POWER ON: 0.3	POWER OFF: 0.1
Q613-C	POWER ON: 4.7	POWER OFF: 0.1
Q613-E	GND	
Q627-B	POWER ON: 12.7	POWER OFF: 8.0
Q627-C	POWER ON: 13.2	POWER OFF: 0
Q627-E	POWER ON: 13.3	POWER OFF: 8.0
Q681-B	POWER ON: 0.7	POWER OFF: 0
Q681-C	POWER ON: 0	POWER OFF: 6.0
Q681-E	GND	

Device/Pin #	Volts/Mode
Q701-B	2.4
Q701-C	158.1
Q701-E	2.2
Q711-B	2.4
Q711-C	167.1
Q711-E	2.2
Q721-B	2.5
Q721-C	163.5
Q721-E	2.3
Q831-B	5.0
Q831-C	4.9
Q831-E	4.4
Q832-B	5.0
Q832-C	5.0
Q832-E	4.3

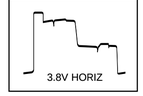
WAVEFORMS

Note: Voltages were measured with offset color-bar signal and controls set for normal picture.

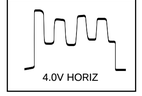
IC201- ⑭ (R-Output)



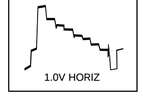
IC201- ⑮ (G-Output)



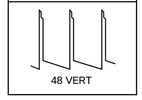
IC201- ⑯ (B-Output)



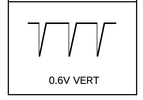
IC201- ㊶ (Video Input)



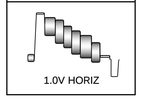
IC501- ② (Vertical Output)



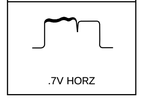
IC501- ④ (Inverting Input)



Q131-E (TP16) (Internal Video)

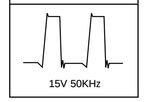


Q401- B (Horizontal Drive)

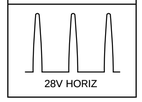


Q402- B (Horizontal Output)

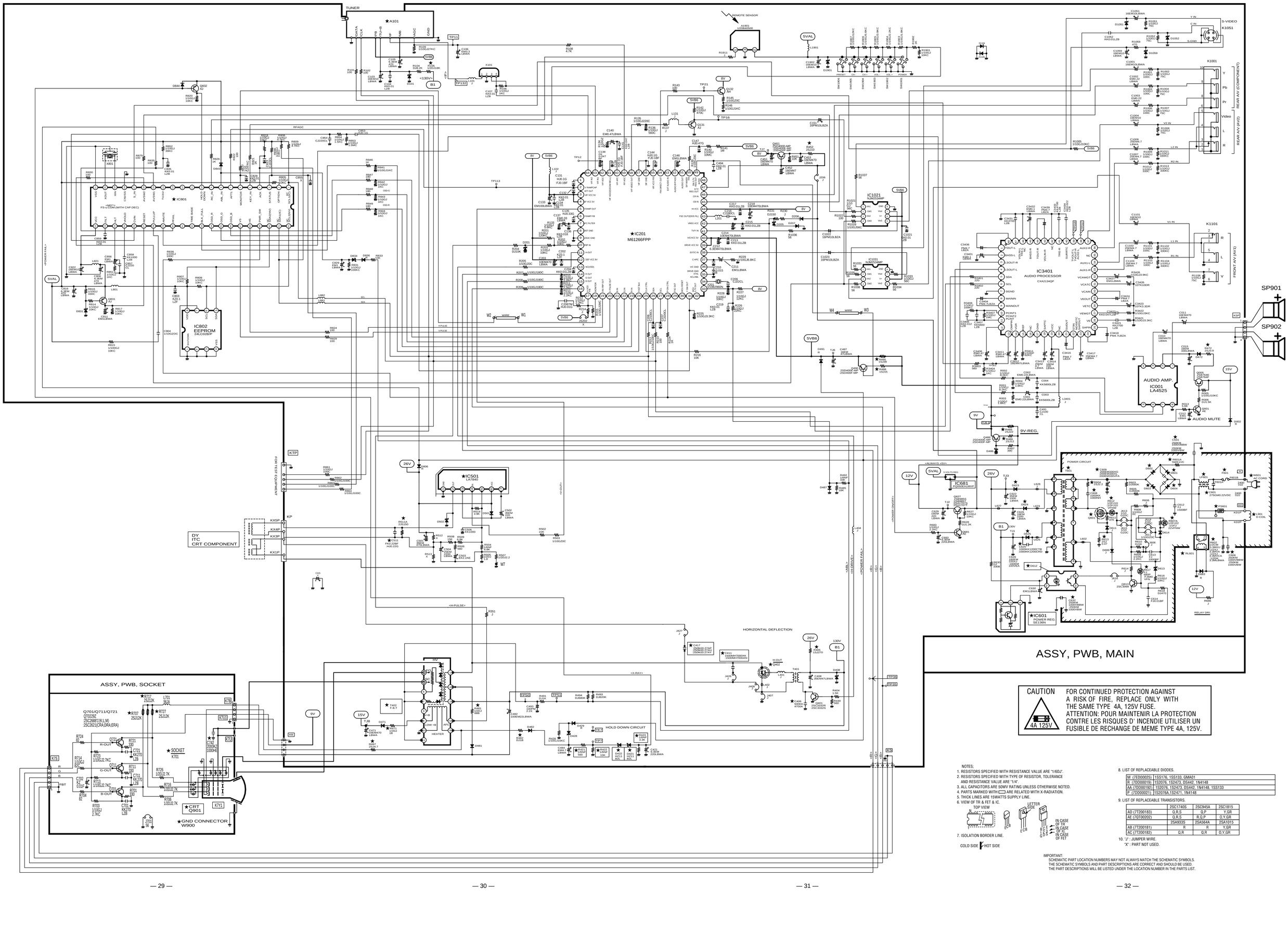
Q601- G (Power Switching)



T402- ⑨ (Heater)



MODEL DS20425 Chassis No. 20425-04



NOTES:
1. RESISTORS SPECIFIED WITH RESISTANCE VALUE ARE "1/6DJ".
2. RESISTORS SPECIFIED WITH TYPE OF RESISTOR, TOLERANCE AND RESISTANCE VALUE ARE "1/4".
3. ALL CAPACITORS ARE 50WV RATING UNLESS OTHERWISE NOTED.
4. PARTS MARKED WITH ▭ ARE RELATED WITH X-RADIATION.
5. THICK LINES ARE 15WATTS SUPPLY LINE.
6. VIEW OF TR & FET & IC.

TOP VIEW

LETTER SIDE

IN CASE OF TR
IN CASE OF IC
IN CASE OF FET

7. ISOLATION BORDER LINE.

COLD SIDE / HOT SIDE

8. LIST OF REPLACEABLE DIODES.

M (7ED00025)	1SS176, 1SS133, GMA01
R (7DD00019)	1S2076, 1S2473, DS442, 1N4148
AA (7DD00192)	1S2076, 1S2473, DS442, 1N4148, 1SS133
P (7DD00021)	1S2076A,1S2471, 1N4148

9. LIST OF REPLACEABLE TRANSISTORS.

	2SC1740S	2SC945A	2SC1815
AD (7T200183)	Q,R,S	Q,P	Y,GR
AE (7QT00202)	Q,R,S	R,Q,P	O,Y,GR
	2SA933S	2SA564A	2SA1015
AB (7T200181)	R	R	Y,GR
AC (7T200182)	Q,R	Q,R	O,Y,GR

10. 'J' : JUMPER WIRE.
'X' : PART NOT USED.

IMPORTANT:
SCHEMATIC PART LOCATION NUMBERS MAY NOT ALWAYS MATCH THE SCHEMATIC SYMBOLS.
THE SCHEMATIC SYMBOLS AND PART DESCRIPTIONS ARE CORRECT AND SHOULD BE USED.
THE PART DESCRIPTIONS WILL BE LISTED UNDER THE LOCATION NUMBER IN THE PARTS LIST.

Notice

SANYO

☐ CORRECTION ☐ SERVICE FLASH ● PRODUCTION CHANGE ☐ ADD INFORMATION

FILE NO.

REVISION 3

Please add this notice to the Service Manual listed below.

Category : **COLOR TELEVISION** Date: **MARCH / 15 / 2005**

Model: **DS20425** Effective from : Chassis No. **20425-03**

Destination: **U.S.A. / CANADA** REF : No. **SM780100**

NOTE: Match the Chassis No. on the unit's back cover with the Chassis No. in the Service Manual. **If the Service Manual Chassis No. does not match the unit's,** additional Service Literature is required. This chassis is similar to Chassis No. 20425-00. Only the **difference** Service Information is given in this manual. For detailed Service Information, refer to the **Original** Service Manual and **Notices** for Chassis No. 20425-00 used in Model DS20425 (SM780100).

1. IN THE CHASSIS ELECTRICAL PARTS LIST

The reason for change.

A : Misprint B : Quality Reliability C : Standardization
D : Design E : Add as a possible sub F : Schematic location change
G : Purchasing Request

Page & Section	Schematic Location		Part No.	Description	Q'ty	Interchange-ability	Reason
Page 14, Chassis Electrical Parts List	★ C417	Old	404 081 2609 403 372 6807 403 346 7126	MT-POLYPRO 0.27U J 250V MT-POLYPRO 0.27U J 250V MT-POLYPRO 0.27U J 250V	1	NO	D
		New	404 081 2708 403 349 3204 403 372 6906	MT-POLYPRO 0.3U J 250V MT-POLYPRO 0.3U J 250V MT-POLYPRO 0.3U J 250V	1	NO	
Page 17, Chassis Electrical Parts List	★R421	Old	401 286 5305	MT-FILM 2.4K FA 1/6W	1	NO	D
		New	401 148 7201	MT-FILM 1.8K FA 1/6W	1	NO	
	R494	Old	401 023 4608	CARBON 820K JA 1/4W	1	NO	D
		New	401 012 9300	CARBON 1M JA 1/4W	1	NO	
	★R497	Old	401 068 1600	OXIDE-MT 4.7 JA 2W	1	NO	D
		New	401 067 2509	OXIDE-MT 3.3 JA 2W	1	NO	

1. IN THE CHASSIS ELECTRICAL PARTS LIST (CONT.)

The reason for change.

A : Misprint B : Quality Reliability C : Standardization
D : Design E : Add as a possible sub F : Schematic location change
G : Purchasing Request

Page & Section	Schematic Location		Part No.	Description	Q'ty	Interchange-ability	Reason
Page 17, Chassis Electrical Parts List	★R498	Old	N/A	NOT USED	0	NO	D
		New	401 014 1609	CARBON 15 JA 1/4W	1	NO	
Page 19, Chassis Electrical Parts List	★T402	Old	645 065 9386	TRANS, FLYBACK	1	NO	D
		New	652 001 0383	TRANS, FLYBACK	1	NO	
	A100	Old	610 319 5025	ASSY, PWB, MAIN	1	NO	D
		New	610 319 6732	ASSY, PWB, MAIN	1	NO	
	A700	Old	610 319 5032	ASSY, PWB, SOCKET	1	YES	D
		New	610 319 6749	ASSY, PWB, SOCKET	1	YES	

For parts or service contact
SANYO Fisher Service Corporation
21605 Plummer Street
Chatsworth, CA 91311 (U.S.A.)
300 Applewood Crescent,
Concord, Ontario L4K 5C7 (CANADA)

March / 2005 / 2000 SMC Printed in U.S.A.

Notice

SANYO

☐ CORRECTION ◉ PRODUCTION CHANGE
☐ SERVICE FLASH ☐ ADD INFORMATION

FILE NO.

REVISION 2

Please add this notice to the Service Manual listed below.

Category : **COLOR TELEVISION** Date: **June / 15 / 2005**

Model: **DS20425** Effective from : Chassis No. **20425-02**

Destination: **U.S.A. / CANADA** REF : No. **SM780100**

NOTE: Match the Chassis No. on the unit's back cover with the Chassis No. in the Service Manual. **If the Service Manual Chassis No. does not match the unit's,** additional Service Literature is required. This chassis is similar to Chassis No. 20425-00. Only the **difference** Service Information is given in this manual. For detailed Service Information, refer to the **Original** Service Manual and **Notices** for Chassis No. 20425-00 used in Model DS20425 (SM780100).

1. IN THE CHASSIS ELECTRICAL PARTS LIST

The reason for change.

A : Misprint B : Quality Reliability C : Standardization
D : Design E : Add as a possible sub F : Schematic location change
G : Purchasing Request

Page & Section	Schematic Location		Part No.	Description	Q'ty	Interchange-ability	Reason
Page 14, Chassis Electrical Parts List	★ C417	Old	404 392 8508 403 372 6807 403 346 7126	MT-POLYPRO 0.27U J 250V MT-POLYPRO 0.27U J 250V MT-POLYPRO 0.27U J 250V	1	NO	D
		New	403 346 7027 403 372 6708 403 392 8409	MT-POLYPRO 0.24 U J 250V MT-POLYPRO 0.24 U J 250V MT-POLYPRO 0.24 U J 250V	1	NO	
Page 17, Chassis Electrical Parts List	★R497	Old	401 068 1600	OXIDE-MT 4.7 JA 2W	1	NO	D
		New	401 068 6209	OXIDE-MT 5.6 JA 2W	1	NO	
Page 19, Chassis Electrical Parts List	A100	Old	610 319 5025	ASSY, PWB, MAIN	1	NO	D
		New	610 319 5087	ASSY, PWB, MAIN	1	NO	

Parts list continued on back

1. IN THE CHASSIS ELECTRICAL PARTS LIST (CONT.)

The reason for change.

A : Misprint B : Quality Reliability C : Standardization
D : Design E : Add as a possible sub F : Schematic location change
G : Purchasing Request

Page & Section	Schematic Location		Part No.	Description	Q'ty	Interchange-ability	Reason
Page 19, Chassis Electrical Parts List	A700	Old	610 319 5032	ASSY, PWB, SOCKET	1	YES	D
		New	610 319 5094	ASSY, PWB, SOCKET	1	YES	
	★Q901	Old	414 013 3703	CRT A51QDX993X005	1	NO	D
		New	414 013 6209	CRT A51QDK690X092 (K)	1	NO	

For parts or service contact
SANYO Fisher Service Corporation
21605 Plummer Street
Chatsworth, CA 91311 (U.S.A.)
300 Applewood Crescent,
Concord, Ontario L4K 5C7 (CANADA)

June / 2005 / 2000 SMC Printed in U.S.A.

Notice

SANYO

☐ CORRECTION ● PRODUCTION CHANGE
☐ SERVICE FLASH ☐ ADD INFORMATION

FILE NO.

REVISION 1

Please add this notice to the Service Manual listed below.

Category : **COLOR TELEVISION** Date: **MARCH / 15 / 2005**

Model: **DS20425** Effective from : Chassis No. **20425-01**

Destination: **U.S.A. / CANADA** REF : No. **SM780100**

NOTE: Match the Chassis No. on the unit's back cover with the Chassis No. in the Service Manual. **If the Service Manual Chassis No. does not match the unit's,** additional Service Literature is required. This chassis is similar to Chassis No. 20425-00. Only the **difference** Service Information is given in this manual. For detailed Service Information, refer to the **Original** Service Manual and **Notices** for Chassis No. 20425-00 used in Model DS20425 (SM780100).

1. IN THE CHASSIS ELECTRICAL PARTS LIST

The reason for change.

A : Misprint B : Quality Reliability C : Standardization
D : Design E : Add as a possible sub F : Schematic location change
G : Purchasing Request

Page & Section	Schematic Location		Part No.	Description	Q'ty	Interchange-ability	Reason
Page 14, Chassis Electrical Parts List	★ C417	Old	404 081 2609 403 372 6807 403 346 7126	MT-POLYPRO 0.27U J 200V MT-POLYPRO 0.27U J 250V MT-POLYPRO 0.27U J 250V	1	NO	D
		New	404 081 2708 403 349 3204 403 372 6906	MT-POLYPRO 0.3 U J 200V MT-POLYPRO 0.3 U J 250V MT-POLYPRO 0.3 U J 250V	1	NO	
Page 17, Chassis Electrical Parts List	R493	Old	401 023 4608	CARBON 820K JA 1/4W	1	NO	D
		New	401 012 9300	CARBON 1M JA 1/4W	1	NO	
	R494	Old	401 023 4608	CARBON 820K JA 1/4W	1	NO	D
		New	401 012 9300	CARBON 1M JA 1/4W	1	NO	

Parts list continued on back

1. IN THE CHASSIS ELECTRICAL PARTS LIST (CONT.)

The reason for change.

A : Misprint B : Quality Reliability C : Standardization
D : Design E : Add as a possible sub F : Schematic location change
G : Purchasing Request

Page & Section	Schematic Location		Part No.	Description	Q'ty	Interchange-ability	Reason
Page 17, Chassis Electrical Parts List	★R497	Old	401 068 1600	OXIDE-MT 4.7JA 2W	1	NO	D
		New	401 068 6209	OXIDE-MT 5.6 JA 2W	1	NO	
Page 19, Chassis Electrical Parts List	A100	Old	610 319 5025	ASSY, PWB, MAIN	1	NO	D
		New	610 319 5056	ASSY, PWB, MAIN	1	NO	
	A700	Old	610 319 5032	ASSY, PWB, SOCKET	1	YES	D
		New	610 319 5063	ASSY, PWB, SOCKET	1	YES	
	★Q901	Old	414 013 3703	CRT A51QDX993X005	1	NO	D
		New	414 013 3604	CRT A51QDK190X092(K)	1	NO	

For parts or service contact
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