

# SERVICE MANUAL

# BA - 3 CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO	MODEL	COMMANDER	DEST.	CHASSIS NO
KV-20M20	RM-Y116	CND	SCC-J93B-A	KV-21R20	RM-Y116	E	SCC-J94B-A
KV-20M20	RM-Y116	US	SCC-J84B-A	KV-21RS20	RM-Y116	E	SCC-J94C-A
KV-20S20	RM-Y116	CND	SCC-J93C-A	KV-21RD1	RM-Y116	MEX	SCC-J95C-A
KV-20S20	RM-Y116	US	SCC-J84F-A	KV-21PM1	RM-Y116	MEX	SCC-J95D-A
KV-20S21	RM-Y116	US	SCC-J84G-A	KV-21SD1	RM-Y116	MEX	SCC-J95E-A
KV-20S30	RM-Y116	CND	SCC-J93D-A	KV-21PS1	RM-Y116	MEX	SCC-J95F-A
KV-20S30	RM-Y116	US	SCC-J84C-A				

## Correction - 1

Subject: Part number correction  
and identification of Critical Components

Correct the service manual as shown below  
File this correction with the service manual

 : Corrected item

### Section 8 - Parts List (Page 44) and Schematic Diagram

Incorrect			Correct		
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
T504	8-598-961-00	TRANSFORMER ASSY, FLYBACK	T504	1-453-211-11	TRANSFORMER ASSY, FLYBACK
See schematic diagram and parts list for correct identification of critical components					

TRINITRON® COLOR TV  
**SONY®**



9-965-809-91

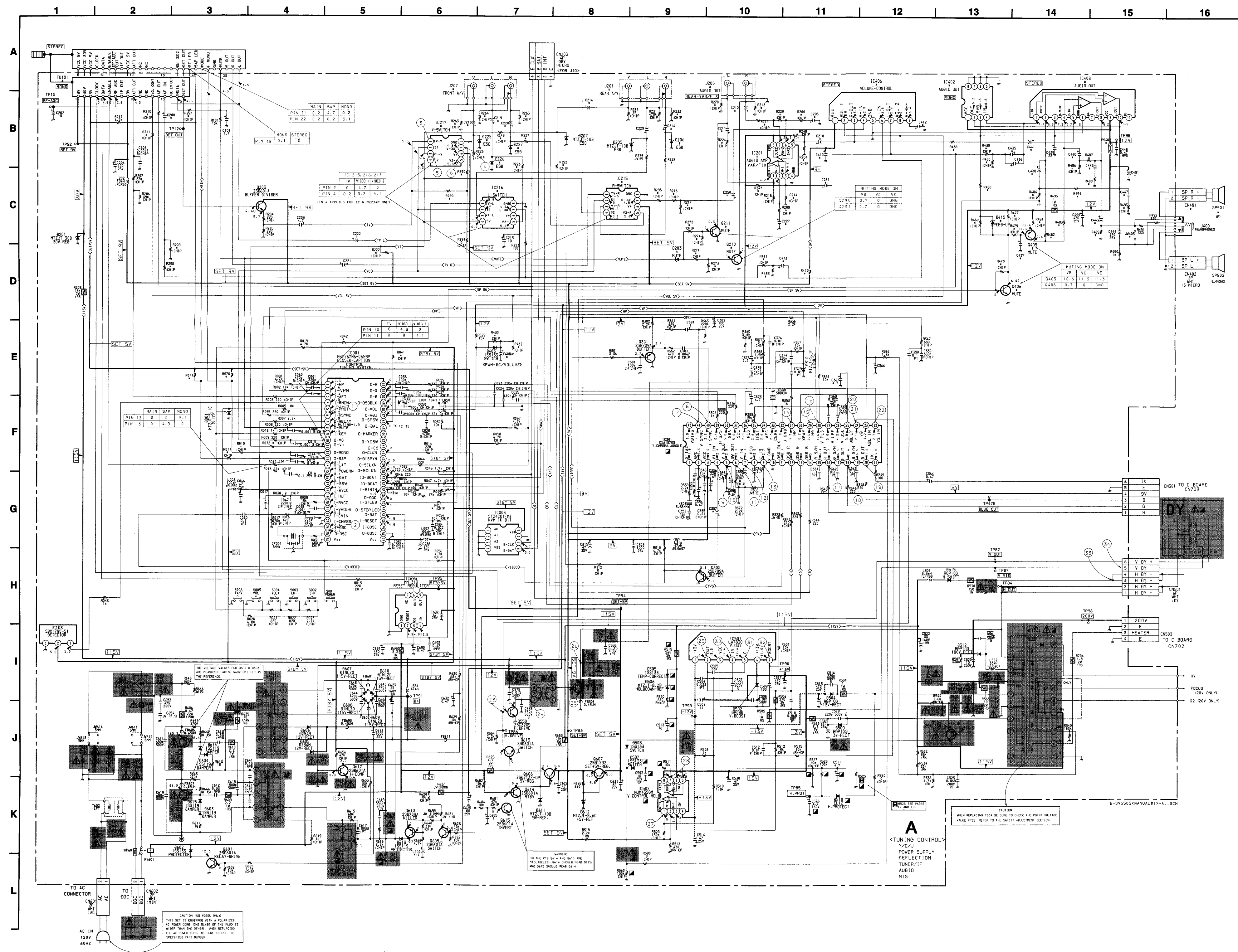
Sony Corporation  
Consumer A&V Products Company  
TV & Display Products Div.

English  
96CJ740385-1  
Printed in U. S. A.  
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Ref. No.	Part No.	Description	Remark
< CONNECTOR >			
CNP401	1-778-032-11	CONNECTOR, FFC/FPC	
CNP402	1-778-033-11	CONNECTOR, FFC/FPC	
< DIODE >			
D401	8-719-056-07	DIODE SLR-342MC3F	
D402	8-719-056-07	DIODE SLR-342MC3F	
D403	8-719-975-40	DIODE RB411D	
D404	8-719-975-40	DIODE RB411D	
D405	8-719-914-43	DIODE DAN202K	
D406	8-719-914-43	DIODE DAN202K	
D407	8-719-914-43	DIODE DAN202K	
D408	8-719-056-76	DIODE UDZ-TE-17-3. 6B	
D409	8-719-914-43	DIODE DAN202K	
< IC >			
IC401	8-759-454-65	IC uPD753108GC-027-AB8	
IC402	8-759-395-07	IC RH5VL20AA-T1	
IC403	8-759-426-02	IC RH5RL34AA-T1	
IC404	8-759-395-07	IC RH5VL20AA-T1	
< CHIP CONDUCTOR >			
JC401	1-216-295-00	CONDUCTOR, CHIP (2012)	
JC402	1-216-296-00	CONDUCTOR, CHIP (3216)	
JC403	1-216-296-00	CONDUCTOR, CHIP (3216)	
JC404	1-216-295-00	CONDUCTOR, CHIP (2012)	
JC405	1-216-295-00	CONDUCTOR, CHIP (2012)	
JC406	1-216-296-00	CONDUCTOR, CHIP (3216)	
JC407	1-216-295-00	CONDUCTOR, CHIP (2012)	
JC408	1-216-295-00	CONDUCTOR, CHIP (2012)	
< COIL >			
L401	1-410-526-11	INDUCTOR 10uH	
< LIQUID CRYSTAL DISPLAY >			
LCD1	1-801-252-11	DISPLAY PANEL, LIQUID CRYSTAL	
< TRANSISTOR >			
Q401	8-729-027-50	TRANSISTOR DTC123JKA-T146	
Q402	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q403	8-729-120-28	TRANSISTOR 2SC2412K	
< RESISTOR >			
R420	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R421	1-216-113-00	METAL CHIP 470K 5% 1/10W	
R422	1-216-113-00	METAL CHIP 470K 5% 1/10W	
R423	1-216-113-00	METAL CHIP 470K 5% 1/10W	

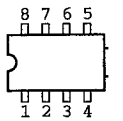
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R424	1-216-113-00	METAL CHIP 470K 5% 1/10W	
R425	1-216-113-00	METAL CHIP 470K 5% 1/10W	
R426	1-216-113-00	METAL CHIP 470K 5% 1/10W	
R427	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R428	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R429	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R430	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R431	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R432	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R433	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R434	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R435	1-216-025-00	METAL CHIP 100 5% 1/10W	
R436	1-216-025-00	METAL CHIP 100 5% 1/10W	
R437	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R438	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R439	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R440	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R441	1-216-025-00	METAL CHIP 100 5% 1/10W	
R442	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R443	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R444	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R445	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R446	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R447	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R448	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R449	1-216-041-00	METAL CHIP 470 5% 1/10W	
R450	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R451	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R453	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R454	1-216-105-00	METAL CHIP 220K 5% 1/10W	
R455	1-216-021-00	METAL CHIP 68 5% 1/10W	
R456	1-216-021-00	METAL CHIP 68 5% 1/10W	
R457	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R458	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R459	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R460	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R461	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R462	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R463	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R464	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R465	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R466	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R491	1-216-073-00	METAL CHIP 10K 5% 1/10W (AEP, UK, IT)	
R492	1-216-073-00	METAL CHIP 10K 5% 1/10W (SP, JE)	
< SWITCH >			
S416	1-553-856-00	SWITCH, KEYBOARD (D. S. T. SUMMER T.)	
S417	1-553-856-00	SWITCH, KEYBOARD (WORLD/LOCAL)	





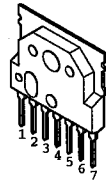
## 6-4. SEMICONDUCTORS

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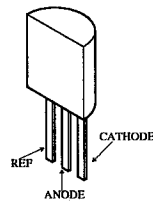


TOP VIEW

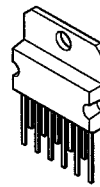
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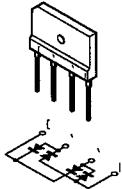


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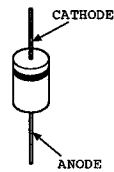


1SS119-25TD  
1SS133T-77  
MTZJ-T-77-10B  
MTZJ-T-77-2.2  
MTZJ-T-77-3.3B  
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MTZJ-T-77-5.6C  
MTZJ-T-77-8.2B

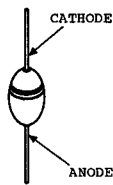
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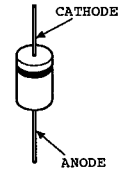
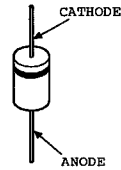
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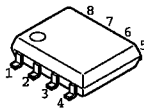
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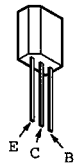
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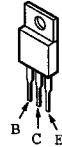
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NJM2234(Te2)  
NJM4558M-TE2



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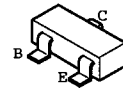
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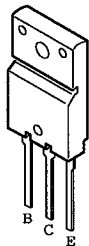
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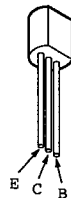
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2SD601A-QRS-TX



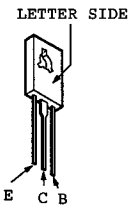
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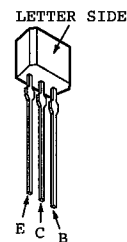
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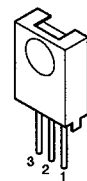
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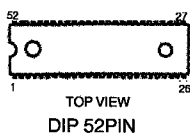
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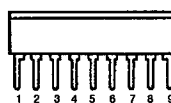
TOP VIEW  
DIP 52PIN

CXA1870S

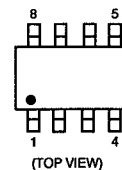


TOP VIEW  
SDIP 42PIN

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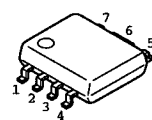


ST24C01FM6TR



(TOP VIEW)

MM1319



## SECTION 7 EXPLODED VIEWS

### NOTE:

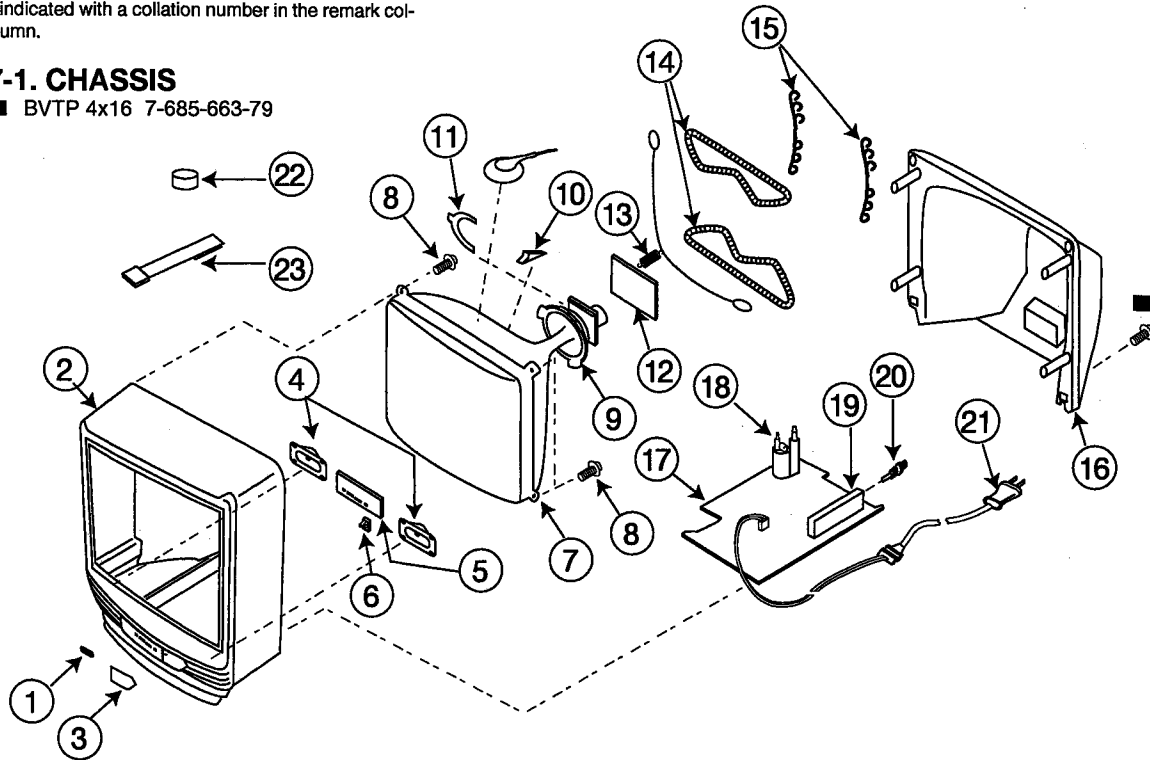
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled parts are indicated with a collation number in the remark column.

- 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 **Δ** are critical for safety.  
Replace only with part number specified.

### 7-1. CHASSIS

■ BVTP 4x16 7-685-663-79



REF.NO.	PART NO.	DESCRIPTION	REMARK
1	4-046-161-01	EMBLEM (NO.8) SONY	
2	4-052-638-01	BEZEL	(KV-20S30)
	4-052-638-21	BEZEL	(KV-21R20)
	4-052-638-41	BEZEL	(KV-21RS20)
	4-052-653-01	BEZEL	(KV-20M20/21PM1)
	4-052-653-11	BEZEL	(KV-21RD1)
	4-052-656-11	BEZEL	(KV-20S20/21PS1)
	4-052-656-31	BEZEL	(KV-20S21)
	4-052-656-41	BEZEL	(KV-21SD1)
3	4-052-641-01	DOOR, CONTROL	(KV-21R20/20S20/21RS20/21PS1/20S30)
	4-052-641-21	DOOR, CONTROL	(KV-20M20/21PM1)
	4-052-641-41	DOOR, CONTROL	(KV-20S21)
	4-052-641-51	DOOR, CONTROL	(KV-21RD1)
	4-052-641-61	DOOR, CONTROL	(KV-21SD1)
4	1-505-265-11	SPEAKER (9X5CM)	(KV-20M20/21RD1/21PM1/21R20)
	1-505-266-11	SPEAKER (9X5CM)	(KV-20S30/20S20/20S21/21SD1/21PS1/21RS20)
5	4-052-639-01	BUTTON, MULTI	
	4-052-639-11	BUTTON, MULTI	(KV-20S21 ONLY)
6	4-052-640-01	FILTER, REMOTE	
7	Δ 8-738-768-05	CRT 21IN	(KV-20M20/21R20/21RD1/21PM1/20S30/20S20/20S21/21SD1/21PS1)
	Δ 8-738-768-05	CRT 21IN	(KV-20S20/CMB)/21RS20)
8	4-365-808-01	SCREW (5), TAPPING	
9	Δ 8-451-440-01	GY 21INXA	
10	4-053-005-01	SPACER, DY	
11	1-452-277-00	MAGNET, BMC	

REF.NO.	PART NO.	DESCRIPTION	REMARK
12	* A-1331-518-A	MOUNTED PCB,	
13	4-375-394-01	SPRING, GROUND	
14	Δ 1-409-707-11	COIL, DEINTERLIZATION	
15	4-369-319-11	HOLDER, DEGAUSSING COIL	
16	4-052-642-31	REAR COVER	(KV-20S21)
	4-052-643-11	REAR COVER	(KV-20S30)
	4-052-643-31	REAR COVER	(KV-21R20/20M20/21PM1/21RD1)
	4-052-643-41	REAR COVER	(KV-21RS20/20S20/21PS1/21SD1)
17	* A-1297-711-A	COMPLETE (PCB,A)	((KV-20M20/21R20/21RD1/21PM1)
	* A-1297-712-A	COMPLETE (PCB,A)	(KV-20S30)
	* A-1297-782-A	COMPLETE (PCB,A)	(KV-20S20/20S21/21RS20/21SD1/21PS1)
18	Δ 1-452-277-00	TRANSFORMER ASSY, FLUORESCENT	
19	8-598-339-00	TUNER BTF-LA402	(KV-20M20/21RD1/21PM1/21R20)
	8-598-341-00	TUNER BTF-WA405	(KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)
20	1-766-374-11	PLUG, F PIN	
21	1-751-057-11	CORD, POWER (WITH CONNECTOR) 10A/125V	(KV-20M20/21R20/21RD1/21PM1/20S20/21RS20/21SD1/21PS1/20S30)
	1-751-058-11	CORD, POWER (WITH CONNECTOR) 10A/125V	(KV-20S21)
22	1-452-032-00	MAGNET, DISC	
23	X-4308-815-0	PERMALLOY ASSY, CONVERGENCE	

A

# SECTION 8 ELECTRICAL PARTS LIST

Note:

The components identified by shading and mark **Δ** 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.

## RESISTORS

- All resistors are in ohms
- F : nonflammable

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

## CAPACITORS

MF :  $\mu$ F, PF :  $\mu$ F

## COILS

MMH : mH,  $\mu$ H :  $\mu$ H

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

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
*	A-1297-711-A	A BOARD, COMPLETE (KV-20M20/21R20/21RD1/21PM1)		C053	1-163-251-11	CERAMIC CHIP 100pF 5% 50V	
*	A-1297-712-A	A BOARD, COMPLETE (KV-20S30)		C060	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
*	A-1297-782-A	A BOARD, COMPLETE (KV-20S20/20S21/21RS20/21SD1/21PS1)		C101	1-126-963-11	ELECT 4.7MF 20% 50V	
*****				C202	1-126-964-11	ELECT 10MF 20% 50V	
	1-533-223-11	HOLDER, FUSE		C203	1-126-963-11	ELECT 4.7MF 20% 50V (KV-20S30)	
*	1-900-800-66	CONNECTOR ASSY, 4P MINI MICRO		C204	1-104-665-11	ELECT 100MF 20% 25V	
*	1-900-800-67	CONNECTOR ASSY, 6P MINI MICRO		C205	1-126-963-11	ELECT 4.7MF 20% 50V	
	4-382-854-11	SCREW (M3X10), P, SW (+)		C206	1-163-017-00	CERAMIC CHIP 0.0047MF 10% 50V	
	4-382-854-11	SCREW (M3X10), P, SW (+)		C208	1-124-903-11	ELECT 1MF 20% 50V (KV-20M20/21R20/21RD1/21PM1)	
<CAPACITOR>				C210	1-124-925-11	ELECT 2.2MF 20% 50V (KV-20S30)	
C001	1-163-125-00	CERAMIC CHIP 220pF 5% 50V		C211	1-124-902-00	ELECT 0.47MF 20% 50V (KV-20S30)	
C008	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V		C212	1-124-902-00	ELECT 0.47MF 20% 50V (KV-20S30)	
C010	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V		C214	1-124-903-11	ELECT 1MF 20% 50V (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)	
C011	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)		C215	1-126-964-11	ELECT 10MF 20% 50V	
C012	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)		C216	1-126-964-11	ELECT 10MF 20% 50V (KV-20S30)	
C014	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V		C216	1-124-902-00	ELECT 0.47MF 20% 50V (KV-20M20/21R20/21RD1/21PM1/20S20/20S21/21RS20/21SD1/21PS1)	
C017	1-124-903-11	ELECT 1MF 20% 50V		C218	1-126-964-11	ELECT 10MF 20% 50V (KV-20S30)	
C019	1-163-135-00	CERAMIC CHIP 560pF 5% 50V		C219	1-124-903-11	ELECT 1MF 20% 50V (KV-20S30)	
C020	1-137-399-11	FILM 0.1MF 5% 50		C220	1-124-903-11	ELECT 1MF 20% 50V (KV-20S30)	
C023	1-163-125-00	CERAMIC CHIP 220pF 5% 50V		C221	1-124-903-11	ELECT 1MF 20% 50V (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)	
C024	1-163-125-00	CERAMIC CHIP 220pF 5% 50V		C222	1-124-903-11	ELECT 1MF 20% 50V	
C025	1-163-125-00	CERAMIC CHIP 220pF 5% 50V		C227	1-126-963-11	ELECT 4.7MF 20% 50V (KV-20S30)	
C026	1-163-243-11	CERAMIC CHIP 47pF 5% 50V		C229	1-124-903-11	ELECT 1MF 20% 50V	
C028	1-163-005-11	CERAMIC CHIP 470pF 10% 50V		C231	1-124-925-11	ELECT 2.2MF 20% 50V (KV-20S30)	
C030	1-163-125-00	CERAMIC CHIP 220pF 5% 50V		C250	1-126-964-11	ELECT 10MF 20% 50V (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)	
C034	1-163-037-11	CERAMIC CHIP 0.022MF 10% 50V		C301	1-163-251-11	CERAMIC CHIP 100pF 5% 50V	
C037	1-164-161-11	CERAMIC CHIP 0.0022MF 10% 50V		C303	1-126-942-61	ELECT 1000MF 20% 25V	
C038	1-126-941-11	ELECT 470MF 20% 25V		C315	1-104-664-11	ELECT 47MF 20% 25V	
C046	1-104-664-11	ELECT 47MF 20% 25V		C330	1-163-007-11	CERAMIC CHIP 680pF 10% 50V	
C047	1-163-125-00	CERAMIC CHIP 220pF 5% 50V		C352	1-163-229-11	CERAMIC CHIP 12pF 5% 50V	
C048	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V		C353	1-163-005-11	CERAMIC CHIP 470pF 10% 50V	
C050	1-163-251-11	CERAMIC CHIP 100pF 5% 50V		C354	1-124-902-00	ELECT 0.47MF 20% 50V	
C051	1-163-251-11	CERAMIC CHIP 100pF 5% 50V		C355	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C052	1-163-251-11	CERAMIC CHIP 100pF 5% 50V		C356	1-126-934-11	ELECT 220MF 20% 16V	
				C357	1-124-464-11	ELECT 0.22MF 20% 50V (KV-20S30)	
				C358	1-124-902-00	ELECT 0.47MF 20% 50V	



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

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REF.NO.	PART NO.	DESCRIPTION	REMARK
C359	1-124-902-00	ELECT 0.47MF 20% 50V	
C360	1-126-963-11	ELECT 4.7MF 20% 50V	
C361	1-137-399-11	FILM 0.1MF 5% 50V	
C362	1-137-399-11	FILM 0.1MF 5% 50V	
C363	1-137-399-11	FILM 0.1MF 5% 50V	
C364	1-124-902-00	ELECT 0.47MF 20% 50V	
C366	1-124-903-11	ELECT 1MF 20% 50V	
C367	1-126-963-11	ELECT 4.7MF 20% 50V	
C368	1-136-169-00	FILM 0.22MF 5% 50V	
C369	1-164-004-11	CERAMIC CHIP 0.22MF 10% 25V	
C373	1-137-370-11	FILM 0.01MF 5% 50V	
C374	1-163-125-00	CERAMIC CHIP 220pF 5% 50V	
C375	1-126-963-11	ELECT 4.7MF 20% 50V	
C376	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C378	1-124-925-11	ELECT 2.2MF 20% 50V	
C379	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C381	1-124-903-11	ELECT 1MF 20% 50V	
C382	1-104-665-11	ELECT 100MF 20% 25V	
C383	1-163-017-00	CERAMIC CHIP 0.0047MF 10% 50V	
C390	1-137-399-11	FILM 0.1MF 5% 50V	
C408	1-126-964-11	ELECT 10MF 20% 50V (KV-20M20//21R20/21RD1/21PM1)	
C408	1-126-964-11	ELECT 10MF 20% 50V (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)	
< C410 - C435 LOCATED ON > <KV-20S20/20S21/21RS20/21SD1/21PS1/20S30>			
C410	1-126-964-11	ELECT 10MF 20% 50V	
C412	1-126-964-11	ELECT 10MF 20% 50V	
C413	1-126-964-11	ELECT 10MF 20% 50V	
C435	1-124-925-11	ELECT 2.2MF 20% 50V	
C436	1-126-956-91	ELECT 0.1MF 20% 50V (KV-20M20/21R20/21RD1/21PM1)	
C437	1-124-925-11	ELECT 2.2MF 20% 50V (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)	
C438	1-126-933-11	ELECT 100MF 20% 16V (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)	
C439	1-126-965-11	ELECT 22MF 20% 50V	
< C440 - C443 LOCATED ON > <KV-20S20/20S21/21RS20/21SD1/21PS1/20S30>			
C440	1-126-933-11	ELECT 100MF 20% 16V	
C441	1-124-925-11	ELECT 2.2MF 20% 50V	
C442	1-136-169-00	FILM 0.22MF 5% 50V	
C443	1-126-941-11	ELECT 470MF 20% 25V	
C444	1-126-941-11	ELECT 470M 20% 25V	
C447	1-136-169-00	FILM 0.22MF 5% 50V (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)	
C448	1-136-173-00	FILM 0.47MF 5% 50V	
C490	1-126-941-11	ELECT 470MF 20% 25V	
C491	1-126-942-61	ELECT 1000MF 20% 25V (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)	

REF.NO.	PART NO.	DESCRIPTION	REMARK
C491	1-126-942-61	ELECT 470MF 20% 25V (KV-20M20/21R20/21RD1/21PM1)	
C502	1-126-965-11	ELECT 22MF 20% 50V	
C503	1-107-698-11	ELECT 10MF 20% 25V	
C504	1-130-489-00	FILM 0.033MF 5% 50V	
C505	1-102-963-00	CERAMIC 33pF 5% 50V	
C507	1-102-038-00	CERAMIC 0.001MF 500V	
C508	1-102-038-00	CERAMIC 0.001MF 500V	
C509	1-126-968-11	ELECT 100MF 20% 50V	
C510	1-108-702-11	MYLAR 0.068MF 10% 100V	
C511	1-126-963-11	ELECT 4.7MF 20% 50V	
C512	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C513	1-126-964-11	ELECT 10MF 20% 50V	
C514	1-104-664-11	ELECT 47MF 20% 25V	
C515	1-126-941-11	ELECT 470MF 20% 25V	
C516	1-102-244-00	CERAMIC 220pF 10% 500V	
C517	1-126-941-11	ELECT 470MF 20% 25V	
C518	1-126-941-11	ELECT 470MF 20% 25V	
C519	1-102-244-00	CERAMIC 220pF 10% 500V	
C520	1-107-652-11	ELECT 10MF 20% 250V	
C521	1-102-244-00	CERAMIC 220pF 10% 500V	
C522	1-123-024-21	ELECT 33MF 160V	
C523 $\Delta$	1-136-105-00	FILM 0.033MF 5% 200V	
C525	1-106-387-00	MYLAR 0.068MF 10% 200V	
C527 $\Delta$	1-126-965-11	ELECT 22MF 20% 50V	
C528	1-107-635-11	ELECT 4.7MF 20% 160V	
C530	1-104-664-11	ELECT 47MF 20% 25V	
C553	1-102-228-00	CERAMIC 470pF 10% 500V	
C554 $\Delta$	1-109-881-11	FILM 0.0057MF 3% 20KV	
C555 $\Delta$	1-162-115-00	CERAMIC 330pF 10% 2KV	
C558	1-106-371-00	MYLAR 0.015MF 10% 100V	
C559 $\Delta$	1-162-115-00	CERAMIC 330pF 10% 2KV	
C575	1-106-371-00	MYLAR 0.015MF 200V	
C579 $\Delta$	1-106-367-00	MYLAR 0.01MF 10% 300V	
C601 $\Delta$	1-113-920-11	ELECT 0.0022MF 20% 250V	
C605 $\Delta$	1-113-920-11	ELECT 0.0022MF 20% 250V	
C609 $\Delta$	1-104-759-11	ELECT 470MF 20% 200V	
C610	1-164-625-11	CERAMIC 680pF 10% 500V	
C611	1-164-625-11	CERAMIC 680pF 10% 500V	
C612	1-136-171-00	FILM 0.33MF 5% 50V	
C613	1-136-171-00	FILM 0.33MF 5% 50V	
C614 $\Delta$	1-136-171-00	FILM 0.33MF 5% 50V	
C615	1-164-735-11	CAPACITOR 0.0015MF 10% 500V	
C617	1-137-367-11	FILM 0.0033MF 5% 50V	
C619	1-106-355-12	MYLAR 0.0033MF 10% 200V	
C622	1-126-942-61	ELECT 1000MF 20% 25V	
C623	1-123-024-21	ELECT 33MF 160V	
C625	1-104-665-11	ELECT 100MF 20% 25V	
C628	1-104-664-11	ELECT 47MF 20% 25V	
C631	1-104-664-11	ELECT 47MF 20% 25V	
C632	1-124-902-00	ELECT 0.47MF 20% 50V	
C633	1-124-925-11	ELECT 2.2MF 20% 50V	
C636 $\Delta$	1-113-920-11	ELECT 0.0022MF 20% 250V	
C638 $\Delta$	1-113-920-11	ELECT 0.0022MF 20% 250V	

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REF.NO. PART NO. DESCRIPTION REMARK

C640	$\Delta$ 1-136-311-11	FILM	0.47MF	20%	125V
C641	1-136-167-00	FILM	0.15MF	5%	50V
C642	1-136-167-00	FILM	0.15MF	5%	50V
C643	1-165-127-11	CERAMIC	470pF	10%	500V
C644	1-165-127-11	CERAMIC	470pF	10%	500V
C645	1-165-127-11	CERAMIC	470pF	10%	500V
C646	1-165-127-11	CERAMIC	470pF	10%	500V
C653	1-113-910-11	ELECT	470pF	10%	250V
C685	1-124-903-11	ELECT	1MF	20%	50V
C690	1-124-902-00	ELECT	0.47MF	20%	50V
C691	1-126-941-11	ELECT	470MF	20%	25V
C692	1-104-664-11	ELECT	47MF	20%	25V
C693	1-136-173-00	FILM	0.47MF	5%	50V

<FILTER>

CF001 1-579-952-21 VIBRATOR, CERAMIC

<CONNECTOR>

CN203	* 1-560-124-00	PLUG, CONNECTOR (2.5MM) 4P
CN301	1-900-800-67	CONNECTOR ASSY, 6P MINI MICRO
CN401	1-564-505-11	PLUG, CONNECTOR 2P (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)
CN402	1-564-505-11	PLUG, CONNECTOR 2P
CN501	* 1-580-798-11	CONNECTOR PIN (DY) 6P
CN503	1-900-800-66	CONNECTOR ASSY, 4P MINI MICRO
CN601	* 1-580-843-11	PIN, CONNECTOR (POWER)
CN602	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P

<DIODE>

D001	8-719-921-44	DIODE MTZJ-T-77-5.1C
D201	8-719-982-22	DIODE MTZJ-T-77-30D
D203	8-719-109-66	DIODE MTZJ-T-77-3.3B (KV-20S30)
D205	8-719-110-17	DIODE MTZJ-T-77-10B
D206	8-719-110-17	DIODE MTZJ-T-77-10B (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)
D207	8-719-110-17	DIODE MTZJ-T-77-10B
D225	8-719-110-17	DIODE MTZJ-T-77-10B (KV-20S30)
D226	8-719-110-17	DIODE MTZJ-T-77-10B (KV-20S30)
D227	8-719-110-17	DIODE MTZJ-T-77-10B (KV-20S30)
D310	8-719-921-44	DIODE MTZJ-T-77-5.1C
D403	8-719-991-33	DIODE 1SS133T-77
D415	8-719-982-96	DIODE MTZJ-T-77-2.2A (KV-20M20/21R20/21RD1/21PM1)
D502	8-719-908-03	DIODE GP08DPKG3
D503	8-719-991-33	DIODE 1SS133T-77
D504	8-719-302-43	DIODE RGP10GPKG3
D505	8-719-991-33	DIODE 1SS133T-77
D506	8-719-110-08	DIODE MTZJ-T-77-8.2B
D507	8-719-991-33	DIODE 1SS133T-77
D509	8-719-302-43	DIODE RGP10GPKG3
D510	8-719-302-43	DIODE BL1Z-V1
D512	8-719-302-43	DIODE RGP10GPKG3

REF.NO. PART NO. DESCRIPTION REMARK

D514	$\Delta$ 8-719-991-33	DIODE 1SS133T-77
D515	8-719-302-43	DIODE RGP10GPKG3
D601	$\Delta$ 8-719-510-91	DIODE DS860P
D602	8-719-991-33	DIODE 1SS133T-77
D603	8-719-911-19	DIODE 1SS119-25TD
D604	8-719-911-19	DIODE 1SS119-25TD
D605	8-719-022-97	DIODE D2S4MTA1
D606	8-719-022-97	DIODE D2S4MTA1
D607	8-719-510-26	DIODE D1NL20-TA
D608	8-719-510-26	DIODE D1NL20-TA
D609	8-719-510-26	DIODE D1NL20-TA
D610	8-719-510-26	DIODE D1NL20-TA
D611	8-719-110-17	DIODE MTZJ-T-77-10B
D612	8-719-109-89	DIODE MTZJ-T-77-5.6C
D613	$\Delta$ 8-719-057-53	DIODE EZ0130V1
D614	8-719-911-19	DIODE 1SS119-25TD
D615	8-719-911-19	DIODE 1SS119-25TD
D619	8-719-911-19	DIODE 1SS119-25TD

<FUSE>

F601  $\Delta$  1-576-193-11 FUSE 6.3A/125V

<FERRITE BEAD>

FB501	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH
FB601	1-412-911-11	INDUCTOR, FERRITE BEAD
FB602	1-412-911-11	INDUCTOR, FERRITE BEAD
FB605	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH
FB606	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH
FB607	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH
FB611	1-412-911-11	INDUCTOR, FERRITE BEAD

<IC>

IC001	8-759-428-84	IC M37267M6-065SP
IC003	8-759-354-27	IC ST24C01PM6TR
IC103	8-747-905-11	IC SBX1790-51
IC201	8-759-100-96	IC NJM4558M-TE2 (KV-20S30)
IC215	8-759-710-07	IC NJM2234M-TE2 (KV-20S30)
IC215	8-759-710-86	IC NJM2233BM-TE2 (KV-20S20/20S21/21RS20/21SD1/21PS1)
IC216	8-759-710-07	IC NJM2234M-TE2 (KV-20S30)
IC216	8-759-710-86	IC NJM2233BM-TE2 (KV-20M20/21R20/21RD1/21PM1/20S20/20S21/21RS20/21SD1/21PS1)
IC217	8-759-710-07	IC NJM2234M-TE2 (KV-20S30)
IC301	8-752-070-52	IC CXA1870S
IC402	8-759-365-39	IC TDA7267 (KV-20M20/21R20/21RD1/21PM1)
IC406	8-759-145-27	IC UPC1406HA (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)
IC408	8-759-980-43	IC TDA2009A (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)

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Replace only with part number specified.

**A**

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC501	8-759-801-98	IC LA7830	
IC502	8-759-100-96	IC NJM4558M-TE2	
IC601	8-759-198-31	IC OPC1093G-1-T	
IC693	8-759-371-21	IC MM1319	
<JACK>			
J200	1-580-441-11	JACK, PIN 2P (KV-20S30)	
J201	1-580-443-11	JACK, PIN 3P (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)	
J201	1-580-411-31	JACK, PIN 2P (KV-20M20/21R20/21RD1/21PM1)	
J202	1-691-110-11	JACK, PIN 3P (KV-20S30)	
J400	1-568-267-21	JACK	
<CHIP CONDUCTOR>			
JR002	1-216-295-91	CONDUCTOR, CHIP (2012)	
JR007	1-216-295-91	CONDUCTOR, CHIP (2012)	
JR290	1-216-295-91	CONDUCTOR, CHIP (2012)	
<COIL>			
L001	1-410-470-11	INDUCTOR 10UH	
L002	1-408-421-00	INDUCTOR 100UH	
L003	1-408-421-00	INDUCTOR 100UH	
L202	1-410-470-11	INDUCTOR 10UH	
L316	1-410-671-31	INDUCTOR 47UH	
L501	1-412-553-11	INDUCTOR 3.3MMH	
L502	1-410-669-31	INDUCTOR 33UH	
L503	1-412-531-31	INDUCTOR 33UH	
L551	1-412-533-21	INDUCTOR 47UH	
<IC LINK>			
PS401	1-532-637-00	LINK, IC (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)	
<TRANSISTOR>			
Q205	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q210	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX (KV-20S30)	
Q211	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX (KV-20S30)	
Q301	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q305	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q405	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)	
Q406	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX (KV-20M20/21R20/21RD1/21PM1)	
Q504	8-729-105-08	TRANSISTOR 2SA1330-2106	
Q550	8-729-140-96	TRANSISTOR 2SC3209LK-TP	
Q551	8-729-010-49	TRANSISTOR 2SD1877S SONY CA	
Q601	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q602	8-729-035-37	TRANSISTOR 2SC5271-ROYO-B	
Q603	8-729-035-37	TRANSISTOR 2SC5271-ROYO-F	
Q605	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q606	8-729-423-99	TRANSISTOR 2SD2137-OP-TA	
Q607	8-729-111-55	TRANSISTOR 2SD1292	
Q610	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q612	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q613	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q614	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q615	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
<RESISTOR>			
R001	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R002	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R003	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R005	1-249-429-11	CARBON 10K 5% 1/4W	
R007	1-249-421-11	CARBON 2.2K 5% 1/4W	
R008	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R009	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R010	1-216-033-00	METAL GLAZE 220 5% 1/10W (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)	
R011	1-216-033-00	METAL GLAZE 220 5% 1/10W (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)	
R012	1-247-815-91	CARBON 220 5% 1/4W	
R013	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R014	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R015	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R016	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R017	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R018	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R019	1-249-425-11	CARBON 4.7K 5% 1/4W	
R020	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W	
R021	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R022	1-216-047-91	METAL GLAZE 820 5% 1/10W	
R023	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R025	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R026	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R027	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R028	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R029	1-249-431-11	CARBON 15K 5% 1/4W	
R030	1-249-429-11	CARBON 10K 5% 1/4W	
R031	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R032	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R033	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R038	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R039	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
R041	1-216-295-91	CONDUCTOR, CHIP (2012) (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)	
R042	1-249-425-11	CARBON 4.7K 5% 1/4W (KV-20M20/21R20/21RD1/21PM1)	
R043	1-249-417-11	CARBON 1K 5% 1/4W	
R044	1-247-815-91	CARBON 220 5% 1/4W	
R045	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R046	1-247-815-91	CARBON 220 5% 1/4W	
R047	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R048	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R049	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R050	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R051	1-216-033-00	METAL GLAZE 220 5% 1/10W (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)	

**A**

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

REF.NO.	PART NO.	DESCRIPTION	REMARK
R054	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R055	1-216-033-00	METAL GLAZE	220 5% 1/10W
R056	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R057	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R058	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R070	1-249-425-11	CARBON	4.7K 5% 1/4W (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)
R071	1-249-425-11	CARBON	4.7K 5% 1/4W (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)
R072	1-216-033-00	METAL GLAZE	220 5% 1/10W (KV-20S30)
R101	1-249-429-11	CARBON	10K 5% 1/4W
R200	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W (KV-20S30)
R203	1-215-899-11	METAL OXIDE	15K 5% 2W F
R204	1-216-097-91	METAL GLAZE	100K 5% 1/10W (KV-20S30)
R206	1-216-689-11	METAL GLAZE	39K 5% 1/10W
R207	1-216-083-00	METAL GLAZE	27K 5% 1/10W
< R208 - R211 LOCATED ON > <(KV-20M20/21R20/21RD1/21PM1)>			
R208	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R209	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R210	1-216-033-00	METAL GLAZE	220 5% 1/10W
R211	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R212	1-249-425-11	CARBON	4.7K 5% 1/4W
R213	1-216-113-00	METAL GLAZE	470K 5% 1/10W (KV-20S30)
R214	1-216-097-91	METAL GLAZE	100K 5% 1/10W (KV-20S30)
R216	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)
R217	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)
< R218 - R222 LOCATED ON KV-20S30>			
R218	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R219	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R220	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R222	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R223	1-247-807-31	CARBON	100 5% 1/4W
< R224 - R226 LOCATED ON KV-20S30>			
R224	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R225	1-216-295-91	CONDUCTOR, CHIP	(2012)
R226	1-216-295-91	CONDUCTOR, CHIP	(2012)
R231	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R232	1-216-022-00	METAL GLAZE	75 5% 1/10W
R233	1-216-113-00	METAL GLAZE	470K 5% 1/10W (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)
< R243 - R274 LOCATED ON KV-20S30>			
R243	1-216-295-91	CONDUCTOR, CHIP	(2012)
R247	1-216-097-91	METAL GLAZE	100K 5% 1/10W
R248	1-216-097-91	METAL GLAZE	100K 5% 1/10W
R263	1-216-022-00	METAL GLAZE	75 5% 1/10W
R264	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R265	1-216-113-00	METAL GLAZE	470K 5% 1/10W

REF.NO.	PART NO.	DESCRIPTION	REMARK
R270	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R271	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R272	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R273	1-216-097-91	METAL GLAZE	100K 5% 1/10W
R274	1-216-097-91	METAL GLAZE	100K 5% 1/10W
R284	1-216-033-00	METAL GLAZE	220 5% 1/10W
R285	1-216-033-00	METAL GLAZE	220 5% 1/10W
R288	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W (KV-20S30)
R290	1-247-807-31	RES, CARBON	100 5% 1/4W (KV-20S30)
R291	1-216-295-91	CONDUCTOR, CHIP	(2012)
R292	1-216-295-91	CONDUCTOR, CHIP	(2012) (KV-20M20/21R20/21RD1/21PM1/20S20/20S21/21RS20/21SD1/21PS1)
R293	1-216-025-91	RES, CHIP	100 5% 1/10W (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)
R297	1-216-295-91	CONDUCTOR, CHIP	(2012) (KV-20M20/21R20/21RD1/21PM1)
R301	1-249-423-11	CARBON	3.3K 5% 1/4W
R302	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R306	1-249-417-11	CARBON	1K 5% 1/4W
R307	1-216-295-91	CONDUCTOR, CHIP	(2012)
R310	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R312	1-216-295-91	CONDUCTOR, CHIP	(2012)
R335	1-247-815-91	CARBON	220 5% 1/4W
R336	1-247-815-91	CARBON	220 5% 1/4W
R339	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R340	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R341	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R342	1-216-033-00	METAL GLAZE	220 5% 1/10W
R343	1-247-815-91	CARBON	220 5% 1/4W
R344	1-247-815-91	CARBON	220 5% 1/4W
R345	1-247-815-91	CARBON	220 5% 1/4W
R346	1-247-815-91	CARBON	220 5% 1/4W
R347	1-216-045-00	METAL GLAZE	680 5% 1/10W
R348	1-247-815-91	CARBON	220 5% 1/4W
R349	1-247-807-31	CARBON	100 5% 1/4W
R351	1-249-429-11	CARBON	10K 5% 1/4W
R353	1-249-417-11	CARBON	1K 5% 1/4W
R355	1-249-419-00	METAL GLAZE	15K 5% 1/10W
R356	1-249-421-11	CARBON	2.2K 5% 1/4W
R357	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R358	1-216-125-00	METAL GLAZE	1.5M 5% 1/10W
R360	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R361	1-216-033-00	METAL GLAZE	220 5% 1/10W
R362	1-216-041-00	METAL GLAZE	470 5% 1/10W
R363	1-216-105-91	METAL GLAZE	220K 5% 1/10W
R365	1-247-419-11	CARBON	1.5K 5% 1/4W
R372	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R377	1-216-295-91	CONDUCTOR, CHIP	(2012)
R411	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)
R430	1-216-089-91	METAL GLAZE	47K 5% 1/10W (KV-20M20/21R20/21RD1/21PM1)

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

**A**

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R430	1-216-093-00	METAL GLAZE 68K 5% 1/10W (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)		R510	1-249-420-11	CARBON 1.8K 5% 1/4W	
R432	1-216-097-91	METAL GLAZE 100K 5% 1/10W (KV-20M20/21R20/21RD1/21PM1)		R511	1-249-429-11	CARBON 10K 5% 1/4W	
R432	1-216-075-00	METAL GLAZE 12K 5% 1/10W (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)		R512	1-208-806-11	METAL GLAZE 10K 0.50% 1/10W	
R435	1-249-425-11	CARBON 4.7K 5% 1/4W (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)		R513	1-208-773-11	METAL GLAZE 430 0.50% 1/10W	
R439	1-216-065-91	CHIP 4.7K 1/10W (KV-20M20/21R20/21RD1/21PM1)		R515	1-208-806-11	METAL GLAZE 10K 0.50% 1/10W	
R439	1-216-295-91	CONDUCTOR, CHIP (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)		R518	1-215-429-00	METAL 2.2K 1% 1/4W	
R450	1-216-049-00	METAL GLAZE 2.2K 5% 1/10W (KV-20M20/21R20/21RD1/21PM1)		R519	1-216-467-11	METAL OXIDE 56K 5% 2W	F
R460	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W (KV-20M20/21R20/21RD1/21PM1)		R520	1-208-777-11	METAL GLAZE 620 0.50% 1/10W	
R470	1-216-295-91	CONDUCTOR, CHIP (2012) (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)		R523	1-215-469-00	METAL 100K 1% 1/4W	
R477	1-216-081-00	METAL GLAZE 22K 5% 1/10W (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)		R525		METAL GLAZE 0.50% 1/10W	
R479	1-216-081-00	METAL GLAZE 22K 5% 1/10W (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)		R527	1-208-806-11	METAL GLAZE 10K 0.50% 1/10W	
R480	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W (KV-20M20/21R20/21RD1/21PM1)		R531	1-216-349-00	METAL OXIDE 1 5% 1W	F
< R481 - R489 LOCATED ON > <KV-20S20/20S21/21RS20/21SD1/21PS1/20S30>				R532	1-215-457-00	METAL 33K 1% 1/4W	
R481	1-216-041-00	METAL GLAZE 470 5% 1/10W		R533	1-216-355-11	METAL OXIDE 3.3 5% 1W	F
R482	1-249-429-11	CARBON 10K 5% 1/4W		R534	1-215-457-00	METAL 33K 1% 1/4W	
R483	1-249-429-11	CARBON 10K 5% 1/4W		R536	1-215-437-00	METAL 4.7K 1% 1/4W	
R484	1-216-013-00	METAL GLAZE 33 5% 1/10W		R538	1-215-864-00	METAL OXIDE 150 5% 1W	F
R486	1-216-013-00	METAL GLAZE 33 5% 1/10W		R540	1-249-441-11	CARBON 100K 5% 1/4W	
R487	1-249-417-11	CARBON 1K 5% 1/4W		R542 Δ	1-216-093-00	METAL GLAZE 68K 5% 1/10W	
R488	1-216-298-00	METAL GLAZE 2.2 5% 1/10W		R543 Δ	1-208-842-11	METAL GLAZE 330K 0.50% 1/10W	
R489	1-249-417-11	CARBON 1K 5% 1/4W		R544	1-208-787-11	METAL GLAZE 1.6K 0.50% 1/10W	
R490	1-249-417-11	CARBON 1K 5% 1/4W		R545 Δ	1-249-441-11	CARBON 100K 5% 1/4W	
R491	1-249-411-11	CARBON 330 5% 1/4W		R547 Δ	1-249-429-11	CARBON 10K 5% 1/4W	
R492	1-249-411-11	CARBON 330 5% 1/4W		R548 Δ	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R493	1-216-298-00	METAL GLAZE 2.2 5% 1/10W (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)		R549 Δ	1-216-369-00	METAL OXIDE 1 5% 2W	F
R494	1-249-417-11	CARBON 1K 5% 1/4W (KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)		R550	1-216-295-91	CONDUCTOR, CHIP (2012)	
R495	1-216-349-00	METAL OXIDE 1 5% 1W	F	R554	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R501	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R555 Δ	1-215-922-11	METAL OXIDE 6.8K 5% 3W	F
R505	1-216-349-00	METAL OXIDE 1 5% 1W	F	R559 Δ	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R506	1-216-453-00	METAL OXIDE 270 5% 2W	F	R560	1-216-097-91	METAL GLAZE 100K 5% 1/10W	
R507	1-247-891-00	CARBON 330K 5% 1/4W		R563	1-215-880-00	METAL OXIDE 10 5% 2W	F
R508	1-249-417-11	CARBON 1K 5% 1/4W		R590	1-216-295-91	CONDUCTOR, CHIP (2012)	
R509	1-216-101-00	METAL GLAZE 150K 5% 1/10W		R601 Δ	1-219-513-11	RES(SURGE RES) 4.7M 5% 1/2W	
				R602	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
				R603 Δ	1-205-898-11	CEMENT 1 5% 10W	
				R605	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
				R606	1-260-288-11	CARBON 0.47 5% 1/2W	
				R609	1-216-353-00	METAL OXIDE 2.2 5% 1W	F
				R610	1-216-353-00	METAL OXIDE 2.2 5% 1W	F
				R611	1-249-396-11	CARBON 18 5% 1/4W	
				R612	1-249-396-11	CARBON 18 5% 1/4W	
				R615	1-216-093-00	METAL GLAZE 68K 5% 1/10W	
				R616	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
				R617 Δ	1-208-790-11	METAL GLAZE 2.2K 0.50% 1/10W	
				R618 Δ	1-215-469-00	METAL 100K 1% 1/4W	
				R619	1-216-001-00	METAL GLAZE 10 5% 1/10W	
				R620	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
				R622	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
				R623	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
				R625	1-216-377-11	METAL OXIDE 4.7 5% 2W	F
				R628	1-249-415-11	CARBON 680 5% 1/4W	
				R629	1-208-806-11	METAL GLAZE 10K 0.50% 1/10W	
				R630	1-208-826-11	METAL GLAZE 68K 0.50% 1/10W	
				R635	1-212-857-00	RES,FUSIBLE 10 5% 1/4W	F

**A C**

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

**REF.NO. PART NO. DESCRIPTION REMARK**

R639	1-249-425-11	CARBON	4.7K	5%	1/4W	
R640	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R641	1-247-889-00	CARBON	270K	5%	1/4W	
R643	1-247-889-00	CARBON	270K	5%	1/4W	
R645	1-247-893-11	CARBON	390K	5%	1/4W	

R651	Δ 1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R652	Δ 1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R653	Δ 1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R654	Δ 1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R655	1-216-085-00	METAL GLAZE	33K	5%	1/10W	

R656	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R681	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R682	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R683	1-215-924-00	METAL OXIDE	15K	5%	3W	F
R684	1-249-429-11	CARBON	10K	5%	1/4W	

R690	1-216-355-11	METAL OXIDE	3.3	5%	1W	F
R704	1-216-372-11	METAL OXIDE	1.8	5%	2W	F

<RELAY>

RY601	1-755-018-11	RELAY				
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<SWITCH>

S001	1-692-431-21	SWITCH, TACTILE				
S002	1-692-431-21	SWITCH, TACTILE				
S003	1-692-431-21	SWITCH, TACTILE				
S004	1-692-431-21	SWITCH, TACTILE				
S005	1-692-431-21	SWITCH, TACTILE				

S006	1-692-431-21	SWITCH, TACTILE				
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<TRANSFORMER>

T504	Δ 1-453-211-11	TRANSFORMER ASSY, PLYBACK				
T531	Δ 1-437-195-11	TRANSFORMER, HORIZONTAL DRIVE				
T602	1-423-895-11	TRANSFORMER, LINE FILTER (LFT)				
T603	Δ 1-429-493-21	TRANSFORMER, CONVERTER (RTP)				
T604	Δ 1-427-864-11	TRANSFORMER, CONVERTER (RPT)				

<THERMISTOR>

THP601	1-810-597-11	THERMISTOR, POSITIVE				
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<TUNER>

TU101	8-598-339-00	TUNER BTF-LA402				
		(KV-20M20/21RD1/21PM1/21R20)				

TU101	8-598-341-00	TUNER BTF-WA405				
		(KV-20S20/20S21/21RS20/21SD1/21PS1/20S30)				

<VARISTOR>

VDR601	Δ 1-801-074-41	VARISTOR ERZV10D271				
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<CRYSTAL>

X300	1-577-611-11	OSCILLATOR, CERAMIC				
X303	1-760-190-41	VIBRATOR, CRYSTAL				

**REF.NO. PART NO. DESCRIPTION REMARK**

*	A-1331-518-A	MOUNTED PCB, C				
		*****				
	1-900-800-64	CONNECTOR ASSY, 1P G2 SCREEN				

<CAPACITOR>

C701	1-162-114-00	CERAMIC	4700pF		2KV	
C706	1-126-965-11	ELECT	22MF	20%	50V	
C712	1-163-007-11	CERAMIC CHIP	680pF	10%	50V	
C732	1-163-007-11	CERAMIC CHIP	680pF	10%	50V	
C752	1-163-007-11	CERAMIC CHIP	680pF	10%	50V	

C771	1-102-110-00	CERAMIC	220pF	10%	50V	
C772	1-102-110-00	CERAMIC	220pF	10%	50V	
C773	1-102-110-00	CERAMIC	220pF	10%	50V	

<CONNECTOR>

CN701	1-695-915-11	TAB (CONTACT)				
CN702	1-900-800-66	CONNECTOR ASSY. 4P MINI MICRO				
CN703	1-900-800-67	CONNECTOR ASSY. 6P MINI MICRO				

<DIODE>

D770	8-719-991-33	DIODE 1SS133T-77				
D771	8-719-991-33	DIODE 1SS133T-77				
D772	8-719-991-33	DIODE 1SS133T-77				
D773	8-719-991-33	DIODE 1SS133T-77				
D777	8-719-109-72	DIODE MTZJ-3.9B				

<JACK>

J701	1-251-182-11	SOCKET, CRT				
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<COIL>

L702	1-408-419-00	INDUCTOR	68UH			
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<TRANSISTOR>

Q711	8-729-326-11	TRANSISTOR 2SC4722TE4N				
Q731	8-729-326-11	TRANSISTOR 2SC4722TE4N				
Q751	8-729-326-11	TRANSISTOR 2SC4722TE4N				
Q770	8-729-119-76	TRANSISTOR 2SA1309A-QRSTA				
Q771	8-729-200-17	TRANSISTOR 2SA1091-0				
Q772	8-729-200-17	TRANSISTOR 2SA1091-0				
Q773	8-729-200-17	TRANSISTOR 2SA1091-0				

<RESISTOR>

R700	1-260-087-11	CARBON	100	5%	1/2W	
R703	1-260-105-11	CARBON	3.3K	5%	1/2W	
R710	1-260-099-11	CARBON	1K	5%	1/2W	
R712	1-215-924-00	METAL OXIDE	15K	5%	3W	F
R716	1-249-411-11	CARBON	330	5%	1/4W	

R717	1-216-295-91	CONDUCTOR, CHIP			(2012)	
R730	1-260-099-11	CARBON	1K	5%	1/2W	
R732	1-215-924-00	METAL OXIDE	15K	5%	3W	F
R736	1-249-411-11	CARBON	330	5%	1/4W	
R737	1-216-295-91	CONDUCTOR, CHIP			(2012)	

R750	1-260-099-11	CARBON	1K	5%	1/2W	
R751	1-216-295-91	CONDUCTOR, CHIP			(2012)	

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

**C**

REF.NO.	PART NO.	DESCRIPTION	REMARK
R752	1-215-924-00	METAL OXIDE	15K 5% 3W F
R756	1-249-411-11	CARBON	330 5% 1/4W
R757	1-216-295-91	CONDUCTOR, CHIP	(2012)
R770	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R771	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R772	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R773	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R774	1-216-089-91	METAL GLAZE	47K 5% 1/10W
R775	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R776	1-216-033-00	METAL GLAZE	220 5% 1/10W
MISCELLANEOUS			
*****			
	X-4308-815-0	PERMALLOY ASSY, CONVERGENCE	
	<b>Δ</b> 1-409-707-31	COIL, DEMAGNETIZATION	
	1-452-032-00	MAGNET, DISC	
	1-452-277-00	MAGNET, BMC	
	1-505-265-11	SPEAKER (9X5CM) (KV-20M20/21RD1/21PM1/21R20)	
	1-505-266-11	SPEAKER (9X5CM) (KV-20S30/20S20/20S21/21SD1/21PS1/21RS20)	
	<b>☛</b> 1-751-057-11	CORD, POWER (WITH CONNECTOR) 10A/125V (KV-20M20/21R20/21RD1/21PM1/20S20/ 21RS20/21SD1/21PS1/20S30)	
	<b>☛</b> 1-751-058-11	CORD, POWER (WITH CONNECTOR) 10A/125V (KV-20S21)	
	1-766-374-11	PLUG, F-PIN	
	4-046-161-01	EMBLEM (NO.8), SONY	
	4-052-639-01	BUTTON, MULTI (KV-20M20/21R20/21RD1/21PM1/20S20/ 21RS20/21SD1/21PS1/20S30)	
	4-052-639-11	BUTTON, MULTI (KV-20S21)	
	4-052-640-01	FILTER, REMOTE	
	4-052-641-01	DOOR, CONTROL (KV-21R20/20S20/21RS20/21OS1/20S30)	
	4-052-641-21	DOOR, CONTROL (KV-20M20/21PM1)	
	4-052-641-41	DOOR, CONTROL (KV-20S21)	
	4-052-641-51	DOOR, CONTROL (KV-21RD1)	
	4-052-641-61	DOOR, CONTROL (KV-21SD1)	
*	4-369-319-11	BAND, DEGAUSSING COIL	
*	4-375-394-01	SPRING, TENSION	
<b>Δ</b>	8-751-440-11	DY Y21NXA (VTM)	
<b>Δ</b>	8-738-768-05	CRT 21NX (SD-275) (KV-20M20/21R20/21RD1/21PM1/20S30/20S20/ 20S21/21SD1/21PS1)	
<b>Δ</b>	8-738-781-05	CRT 21NX (KV-20S20/END)/21RS20)	

REF.NO.	PART NO.	DESCRIPTION	REMARK
ACCESSORIES AND PACKING MATERIALS			
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	1-417-182-11	CONVERTER (KV-21R20/21RD1/21PM1/21RS20/21SD1/21PS1)	
	1-501-730-41	ANTENNA, TELESCOPE (KV-21R20/21RD1/21PM1/21RS20/21SD1/21PS1)	
	3-701-627-01	BAG, PROTECTION	
	3-810-814-21	MANUAL, INSTRUCTION (KV-20M20/20S20/20S30/20S21)	
	3-810-814-41	MANUAL, INSTRUCTION (KV-21R20/21RD1/21PM1/21RS20/21SD1/21PS1)	
*	4-041-254-01	BAG, PROTECTION	
*	4-052-645-01	CUSHION (LOWER) (ASSY)	
*	4-052-648-01	CUSHION (UPPER) (ASSY)	
*	4-052-651-01	CARTON, INDIVIDUAL (KV-20M20/20S20/20S30/20S21)	
*	4-052-663-01	CARTON, INDIVIDUAL (KV-21R20/21RS20)	
*	4-053-800-01	CARTON, INDIVIDUAL (KV-21RD1/21SD1)	
*	4-053-803-01	CARTON, INDIVIDUAL (KV-21PM1/21PS1)	
REMOTE COMMANDER			
*****			
	1-466-966-31	REMOTE COMMANDER (RM-Y116) BLACK (KV-20M20/21R20/21RD1/21PM1/20S20/ 21RS20/21SD1/21PS1/20S30)	
	1-466-966-41	REMOTE COMMANDER (RM-Y116) WHITE (KV-20S21)	
	9-903-826-11	COVER, BATTERY (FOR RM-Y116) BLACK (KV-20M20/21R20/21RD1/21PM1/20S20/ 21RS20/21SD1/21PS1/20S30)	
	9-903-826-21	COVER, BATTERY (FOR RM-Y116) WHITE (KV-20S21)	





