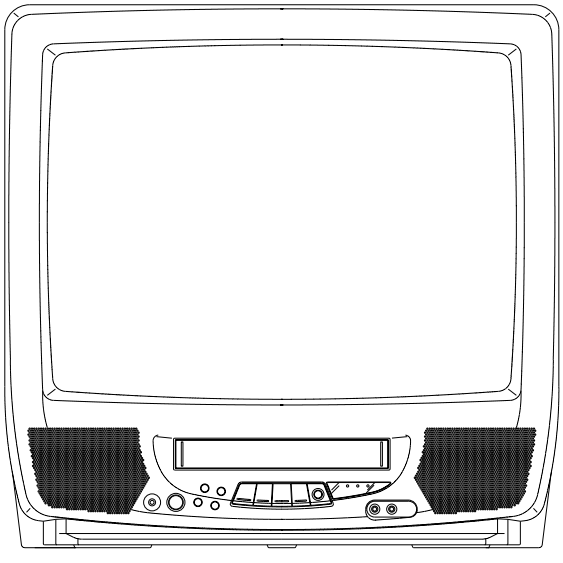
Memorex®

MVT2197

SERVICE MANUAL

COLOR TELEVISION/VIDEO CASSETTE RECORDER



VHS

ORIGINAL
MFR'S VERSION A

Memorex®

MVT2197

SERVICE MANUAL

COLOR TELEVISION/VIDEO CASSETTE RECORDER

REVISION 1
MFR'S VERSION B

VHS

MFR'S VERSION	IC4001
A	LA71200M-MPB
B	LA71201M-MPB

Please file this revision with the original version.

Change of IC

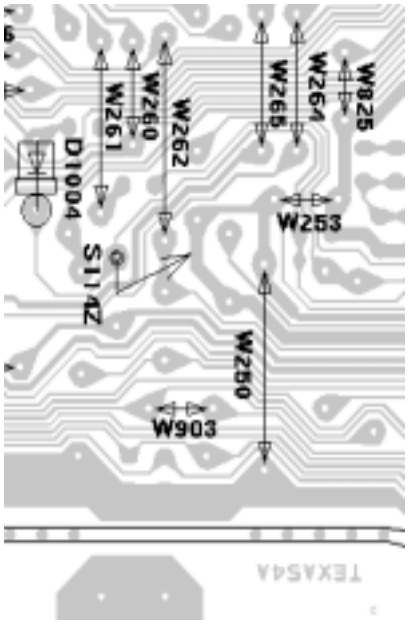
ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	MFR'S VERSION A		MFR'S VERSION B	
	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
IC4001	I03F3200M0	IC LA71200M-MPB	I03F301MN0	IC LA71201M-N-MPB
R1085		———	R801R7225J	RC 2.2M OHM 1/10W
R4018	R903N8822J	RC 8.2K OHM 1/8W	R903N8123J	RC 12K OHM 1/8W
R4021	R903N8273J	RC 27K OHM 1/8W	R903N8223J	RC 22K OHM 1/8W
R4034	R903N8104J	RC 100K OHM 1/8W	R903N8823J	RC 82K OHM 1/8W
R4044	R801R7104J	RC 100K OHM 1/10W	R801R7474J	RC 470K OHM 1/10W
R4050	R903N8473J	RC 47K OHM 1/8W		DEL
R4052	R903N8682J	RC 6.8K OHM 1/8W	R903N8822J	RC 8.2K OHM 1/8W
R4053	R903N8562J	RC 5.6K OHM 1/8W	R903N8682J	RC 6.8K OHM 1/8W
C4050	E50HU5010M	CE 1 UF 50V	E50HU5R22M	CE 0.22 UF 50 V
PCB800	A57908A01A	SYSCON PCB ASS'Y VMX210A	A57908A010	SYSCON PCB ASS'Y (VERSION B) VMX210A

SYSCON PCB's are interchangeable.

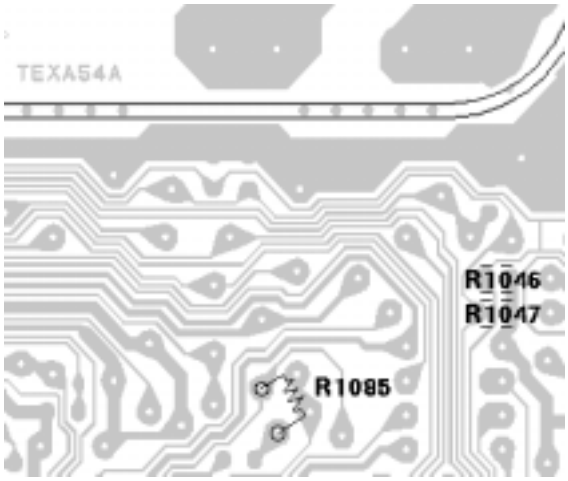
PRINTED CIRCUIT BOARDS
SYSCON/CRT

(INSERTED PARTS)
SOLDER SIDE
(MFR'S VERSION B)



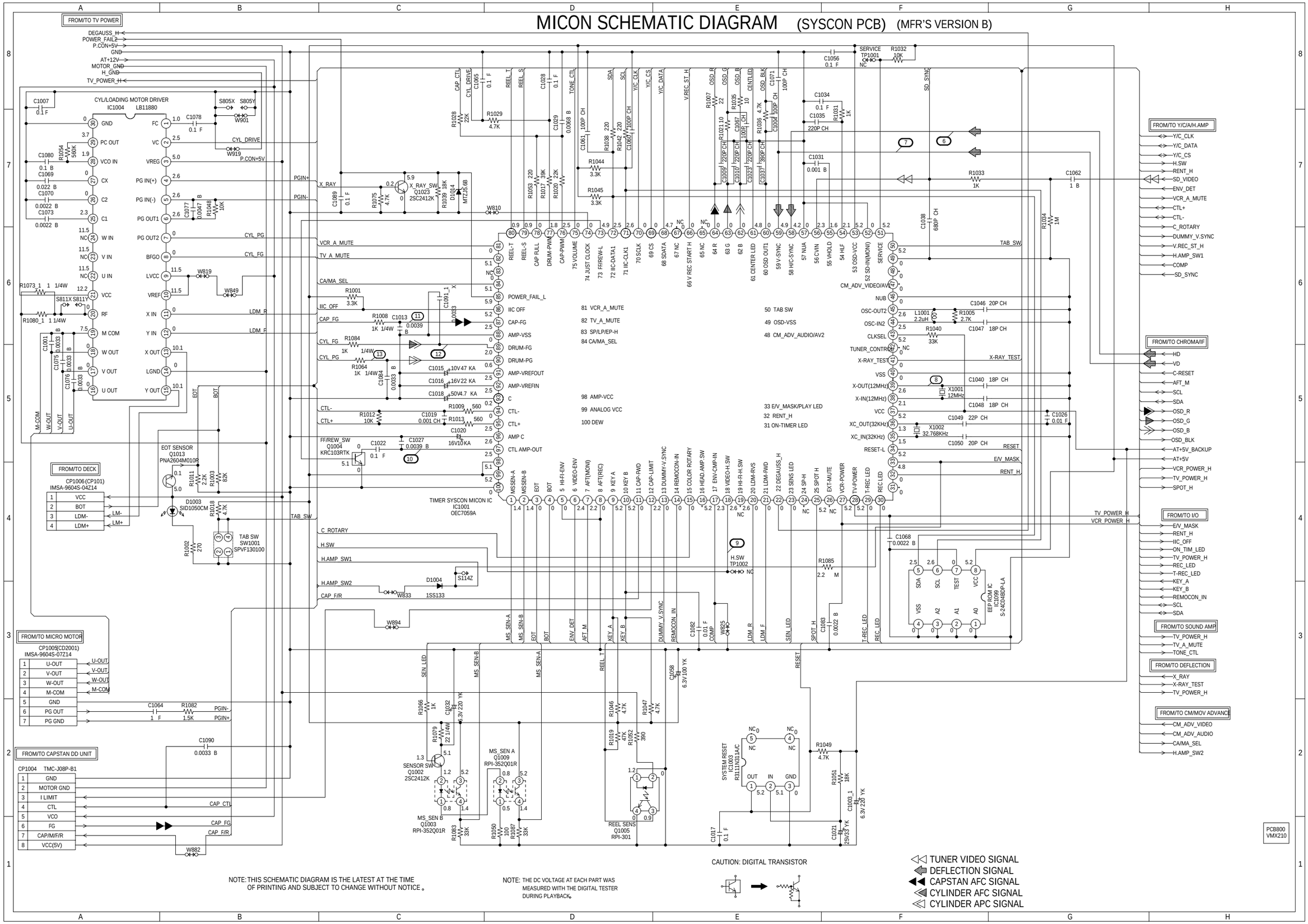
ADD W261

(CHIP MOUNTED PARTS)
SOLDER SIDE
(MFR'S VERSION B)



ADD R1085

MICON SCHEMATIC DIAGRAM (SYSCON PCB) (MFR'S VERSION B)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK。

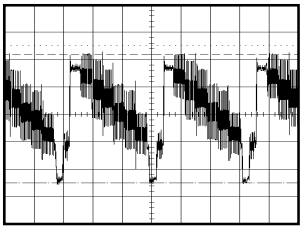
CAUTION: DIGITAL TRANSISTOR

TUNER VIDEO SIGNAL
DEFLECTION SIGNAL
CAPSTAN AFC SIGNAL
CYLINDER AFC SIGNAL
CYLINDER APC SIGNAL

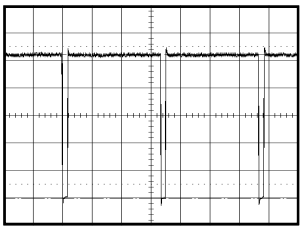
SPEC.NO.	M579-08A
O/R NO.	W165007

WAVEFORMS

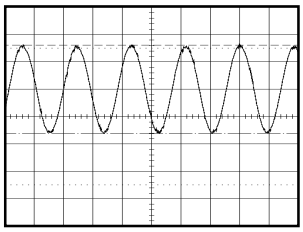
Y/C/AUDIO/HEAD AMP



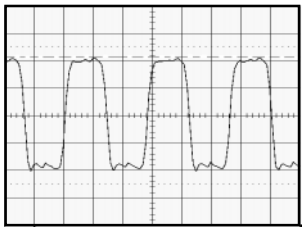
① PB
0.5V 20µs/div



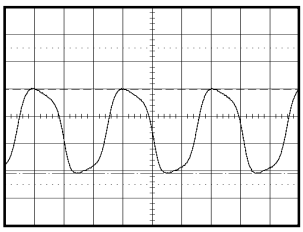
⑥ POWER ON
0.5V 10ms/div



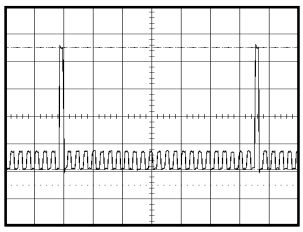
⑪ PB
0.5V 0.5ms/div



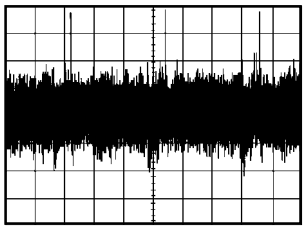
② POWER ON
100mV 0.1µs/div



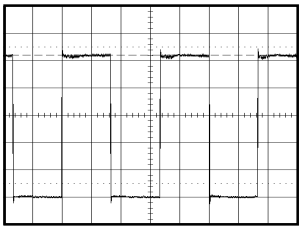
⑦ POWER ON
1.0V 10µs/div



⑫ PB
1.0V 5ms/div

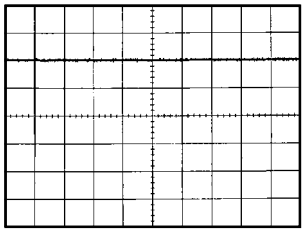


③ PB
10mV 20us/div

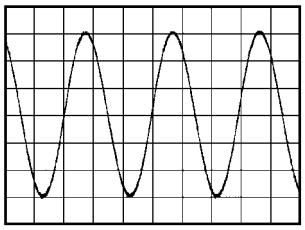


⑧ PB
1.0V 10ms/div

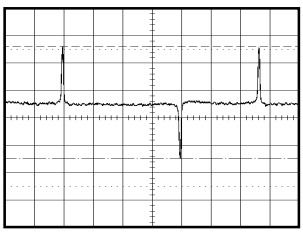
POWER



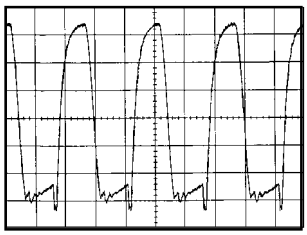
⑬ 5.0V 20ms/div



④ REC
10.0V 5us/div

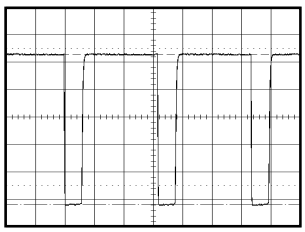


⑨ PB
1.0V 5ms/div

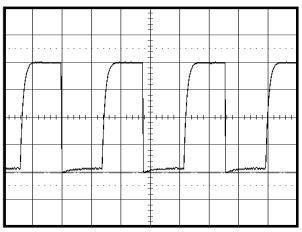


⑭ 500mV 5µs/div

MICON

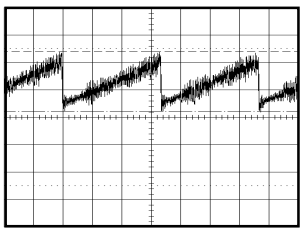


⑤ POWER ON
1.0V 20µs/div



⑩ PB
1.0V 0.5ms/div

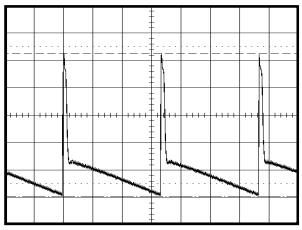
DEFLECTION



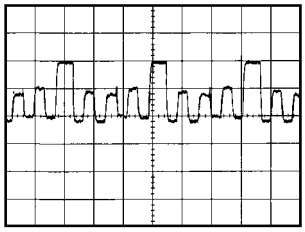
⑮ 0.5V 5ms/div

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

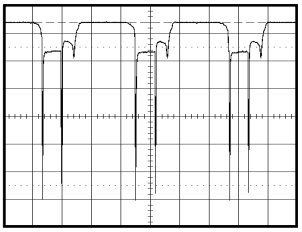
WAVEFORMS



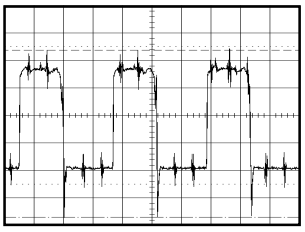
⑯ 10.0V 5ms/div



㉑ 50.0V 20µs/div

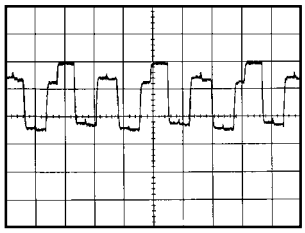


⑰ 2.0V 20µs/div

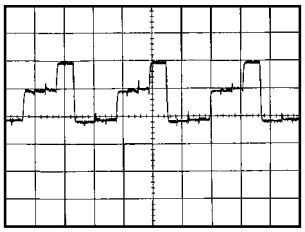


⑱ 200mV 20µs/div

CRT



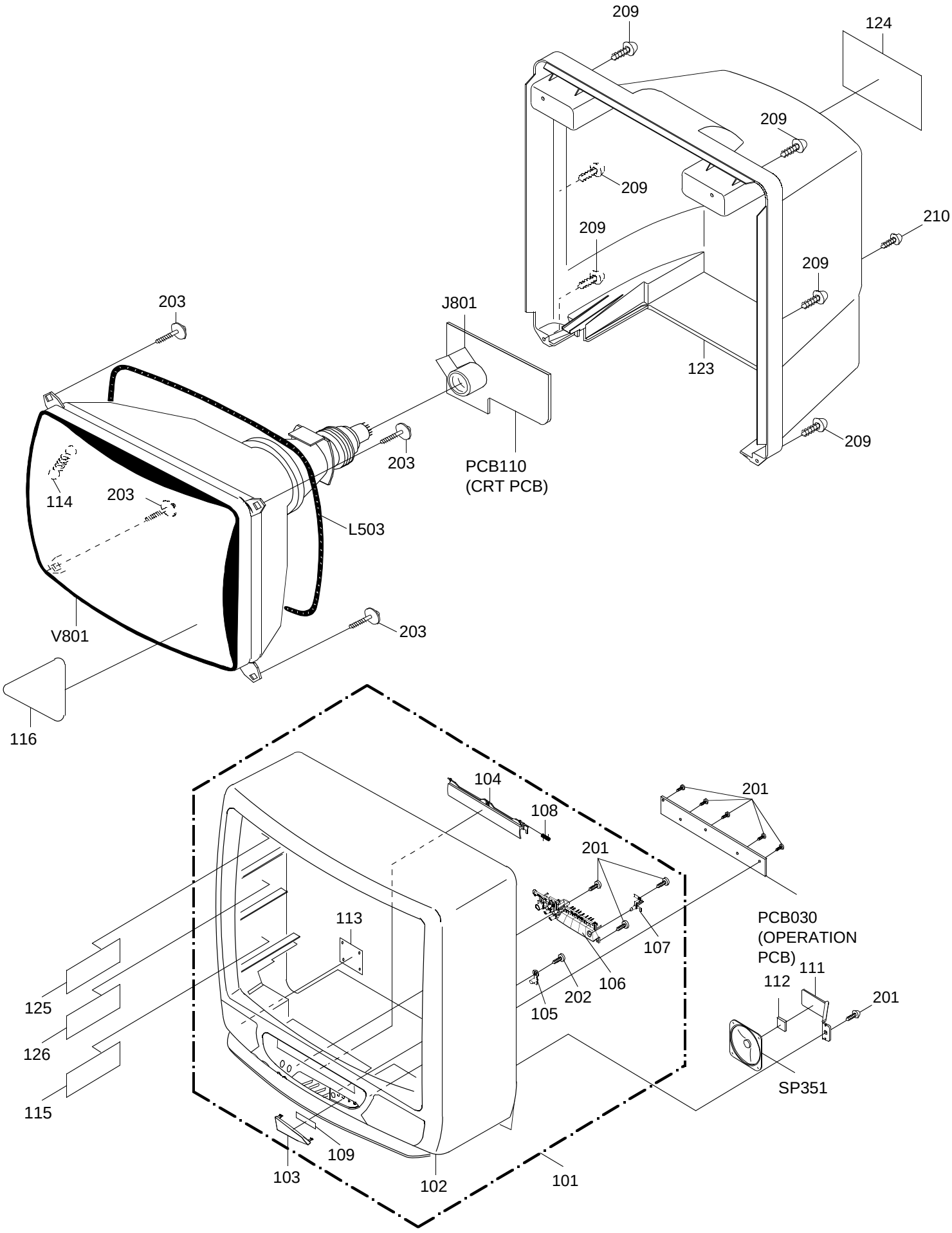
⑲ 50.0V 20µs/div



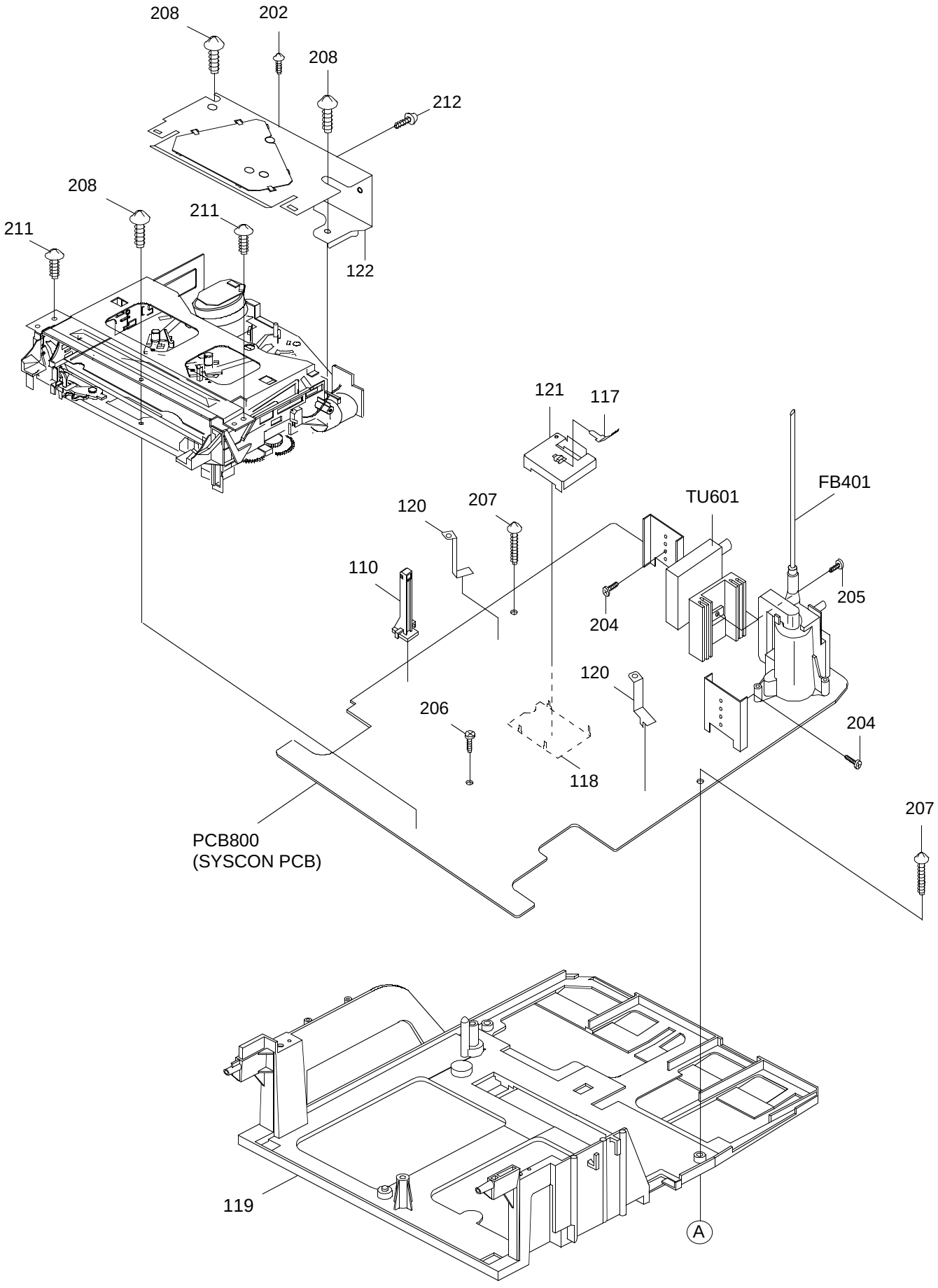
⑳ 50.0V 20µs/div

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

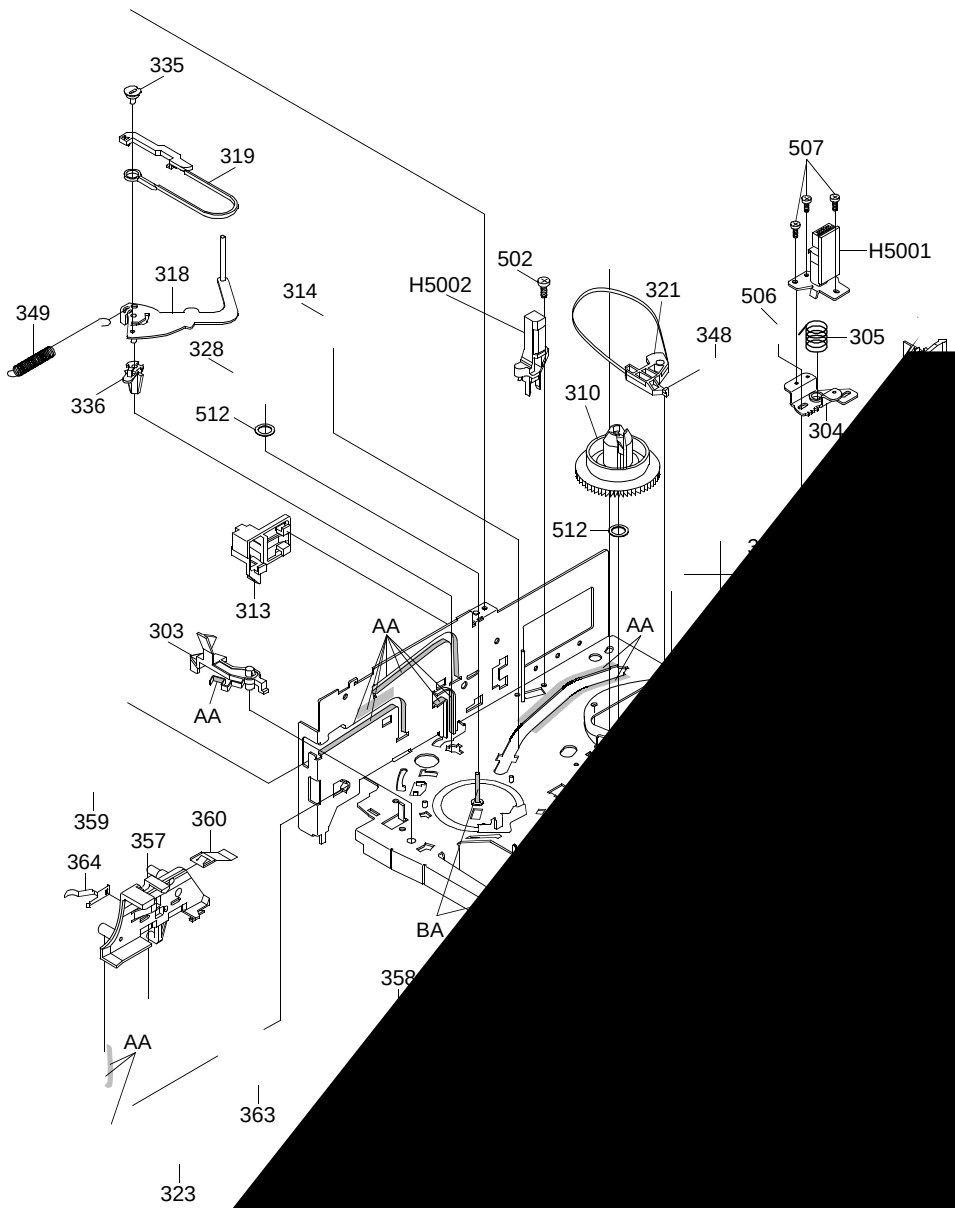
MECHANICAL EXPLODED VIEW



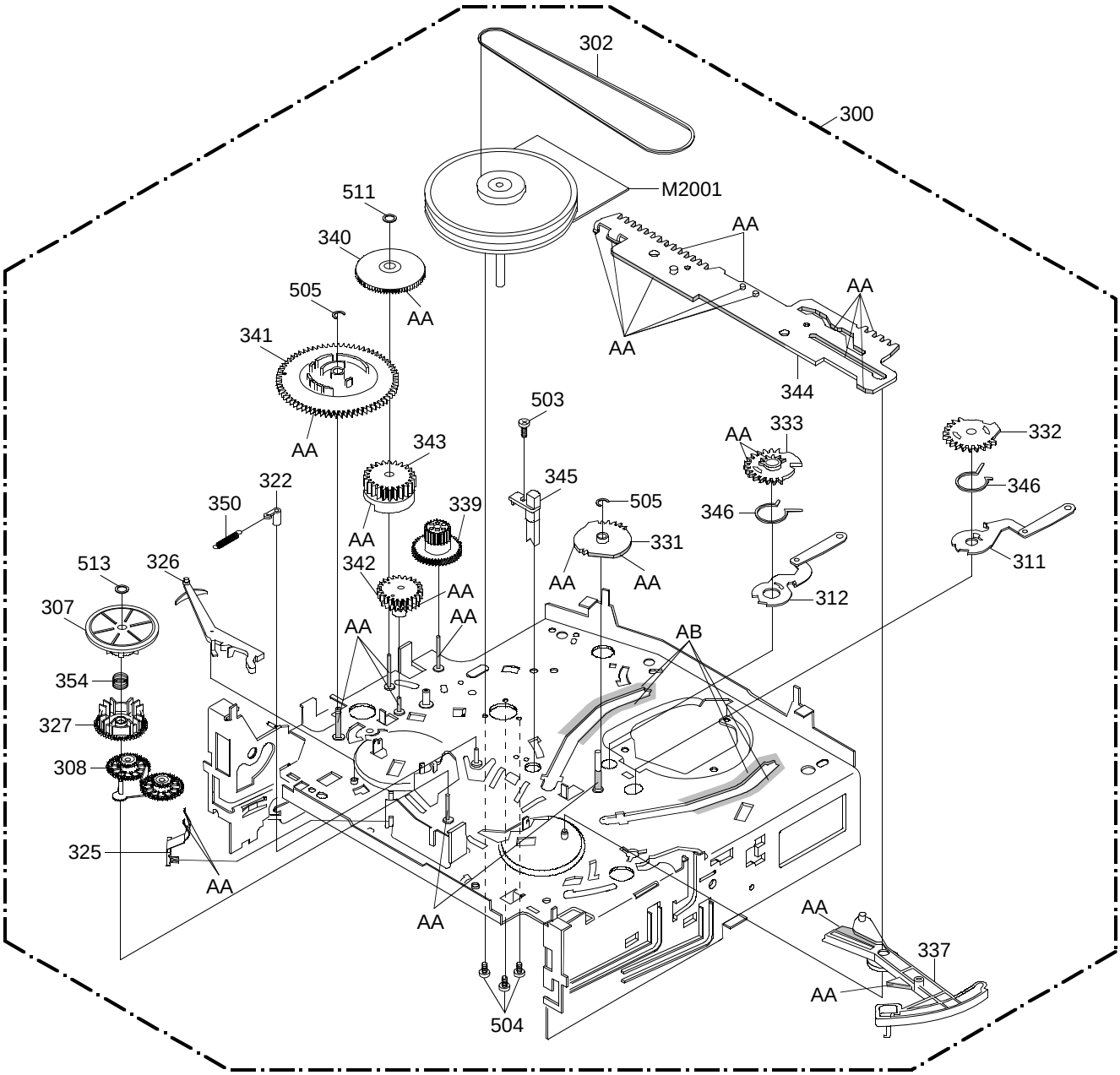
MECHANICAL EXPLODED VIEW



CHASSIS EXPLODED VIEW (TOP VIEW)



CHASSIS EXPLODED VIEW (BOTTOM VIEW)



CLASS	MARK
GREASE	AA
OIL	BA

NOTE: Applying positions AA and BA for the grease or oil are displayed for this section.
Check if the correct grease or oil is applied for each position.

MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	PART.NO	DESCRIPTION	
101	A57908A720	CABINET,FRONT ASSY	
102	701WPJA839	CABINET,FRONT	
103	711WPA0114	PLATE,FRONT	
104	712WPJ0621	FLAP	
105	713WPA0075	GUIDE,REMOCON	
106	735WPJ0114	BUTTON,FRAME	
107	735WPA0402	BUTTON,REC	
108	743WKA0032	SPRING,FLAP(COMBO)	
109	7230006830	SHEET,LED	
110	85OP700036	HOLDER EOT SENSOR	
111	753WSA0123	PLATE,SPEAKER	
112	800WFA0033	CUSHION	10x15xT6
113	800WQ00048	FELT,SHEET	75x75
114	741WUA0019	SPRING,EARTH	
115	7220001107	SHEET,HWC	
116	723000A853	FILM,DECORATION	
117	753WUAA006	SPRING,EARTH H/AMP	
118	753WSA0130	SHIELD,COVER H/AMP	
119	761WPA0196	HOLDER,DECK	
120	753WSA0118	PLATE,EARTH-SYSCON	
121	752WSA0209	SHIELD,CASE H/AMP	
122	752WSA0232	PLATE,DECK SHIELD ASS'Y	
123	702WPA0671	CABINET,BACK	
124	722A08A078	SHEET,RATING	
125	7220001119	SHEET,CSA WARNING	
126	7260000323	SHEET,CRT SERVICEMAN	
201	8110630A04	SCREW,TAP TITE(P) BRAZIER	3x10
202	8110630804	SCREW,TAP TITE(P) BRAZIER	3x8
203	8121F50B84	SCREW,TAPPING(BO) GW20 FLAT	5x28
204	8109I30A04	SCREW,TAP TITE(B) WH7	3x10
205	8109630802	SCREW,TAP TITE(B) BRAZIER	3x8
206	8110330804	SCREW,TAP TITE(P) FLAT	3x8
207	8117540B04	SCREW,TAPPING(B0) TRUSS	4x20
208	8117140A24	SCREW,TAPPING(B0) PAN	4x12
209	8117540A64	SCREW,TAPPING(B0) TRUSS	4x16
210	8117540804	SCREW,TAPPING(B0) TRUSS	4x8
211	8110630A24	SCREW,TAP TITE(P) BRAZIER	3x12
212	8107226604	SCREW,TAP TITE(S) BIND	2.6x6
---	792WHAA025	PACKAGE,TOP	
---	792WHAA026	PACKAGE,BOTTOM	
---	793WCDA976	GIFT BOX	
---	JA5K0100	POLY BAG	
---	J5790801	INSTRUCTION BOOK	
---	791WHA0025	LAMIFILM BAG	
---	A57908A975	INSTRUCTION BOOK KIT	

CHASSIS REPLACEMENT PARTS LIST

REF. NO.	PART.NO	DESCRIPTION
300	A57806A420A	DECK ASSY A57806A420A
301	85OA500022	AHC ASS'Y
302	85OP200290	BELT,CAPSTAN (S)
303	85OP900710	LEVER,REC
304	85OP500083	BASE,AC HEAD
305	85OP800324	SPRING,AC HEAD
306	85OA000449	MAIN CHASSIS ASS'Y (3V)
307	85OA200082	CLUTCH ASS'Y(S2)
308	85OA200088	ARM IDLER ASS'Y 3V
309	85OP600556	ARM,SS BRAKE (S)
310	85OP200292	REEL,T (S)
311	85OA300061	LOADING ARM S ASS'Y
312	85OA300062	LOADING ARM T ASS'Y
313	85OP900714	COVER SENSOR L3
314	85OA400220	INCLINED BASE S UNIT 3V
315	85OA400221	INCLINED BASE T UNIT 3V
316	85OA400199	P5-3 ARM ASS'Y(S)
317	85OA400205	PINCH ROLLER BLOCK
318	85OA400175	TENSION ARM ASS'Y
319	85OA400216	TENSION BAND ASS'Y 3V
320	85OA400178	PINCH ROLLER LEVER ASS'Y
321	85OA600197	BRAKE T ASS'Y 3V
322	85OP500087	HOLDER SPRING(SV)
323	85OA900223	LINK UNIT(SV)
324	85OP900716	LEVER,LINK(SV)
325	85OP200284	LEVER,CLUTCH (S)
326	85OP200285	ACTUATOR,CLUTCH
327	85OP200298	GEAR,COUPLING(S2)
328	85OP200291	REEL,S (S)
329	85OP600566	WORM(SV)
330	85OP600567	BRACKET,MOTOR(SV)
331	85OP300193	GEAR,MAIN LOADING
332	85OP300179	GEAR,LOADING S
333	85OP300180	GEAR,LOADING T
334	85OP300189	HOLDER,LOADING GEAR (S-ZV)
335	85OP400472	ADJUST,TENSION
336	85OP400492	HOLDER,TENSION
337	85OP400490	LEVER,TENSION
338	85OP400520	CAP.P4
339	85OP600543	GEAR,JOINT
340	85OP600544	GEAR,MIDDLE
341	85OP600572	CAM,MAIN(S)
342	85OP600546	CAM P5
343	85OP600565	CAM,PINCH ROLLER
344	85OP600561	ROD,MAIN(S)
345	85OP700035	REFLECTOR,LED
346	85OP800318	SPRING LOADING GEAR
347	85OP800334	SPRING,P5 (S)
348	85OP800335	SPRING,BRAKE T (S)
349	85OP800322	SPRING,TENSION
350	85OP800336	SPRING,CAP BRAKE (S)
351	85OP800342	SPRING,LOCKER (S)
352	85OP900695	BRACKET,TOP
353	85OP900713	LOCKER,R2
354	85OP800330	SPRING,RING
355	85OP800337	SPRING,SS BRAKE (S)
356	85OP900680	OPENER,CASS
357	85OP900722	CASS SIDE L(SV)
358	85OP900723	CASS SIDE R(SV)
359	85OP900728	TAPE GUIDE L(P,R)
360	85OP900694	SPRING,PACK
361	85OP800341	SPRING,P/R ARM
362	85OP900688	LEVER,FLAP
363	85OP900717	CASS HOLDER(SV)
364	85OP900696	SPRING,CASS EARTH
365	85OP900729	TAPE GUIDE R

REF. NO.	PART.NO	DESCRIPTION
501	8107126A04	SCREW,TAP TITE(S) PAN 2.6x10
502	8107226804	SCREW,TAP TITE(S) BIND 2.6x8
503	8107226604	SCREW,TAP TITE(S) BIND 2.6x6
504	8109126604	SCREW,TAP TITE(B) PAN 2.6x6
505	83ETW30000	E-RING 3
506	8107226404	SCREW,TAP TITE(S) BIND 2.6x4
507	8102120604	SCREW,PAN M2x6
508	810A126504	SCREW/WASHER(A) M2.6x5
509	810A130504	SCREW/WASHER(A) M3x5
510	810A123504	SEMS A M2.3x5.0
511	82P266005N	POLYSLIDER WASHER(CUT) 2.6x6.0xT0.5
512	82Q2647C5N	POLYSLIDER WASHER 2.6x4.7xT0.25
513	82P184505N	POLYSLIDER WASHER(CUT) 1.8x4.5xT0.5
CP101	069R740018	CONNECTOR PCB SIDE 52044-0445
H5001	1523D91034	HEAD (AUDIO CONTROL) HVMXA1072A
H5002	1543D02013	HEAD (FULL ERASE) HVFHP0032A
⚠ M101	1596P78001	MOTOR (LOADING) MXN13FB11H
⚠ M2001	1594S98001	CAPSTAN DD UNIT F2QSB36
⚠ M2003	1589S11014	MICRO MOTOR I2OAL03
PCB550	A4C831B550	PCB VE8851E
Q101	0000700320	TRANSISTOR,PHOTO RPT-38PB113
⚠ UN4001	A4E101A500	CYLINDER UNIT ASS'Y A4E101A500

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
		RESISTORS	
R410	R00202272J	RC	2.7K OHM 1/2W
⚠ R415	R002T22R2J	RC	2.2 OHM 1/2W
⚠ R420	R801R7682F	RC	6.8K OHM 1/10W
⚠ R439	R801R7223F	RC	22K OHM 1/10W
⚠ R440	R903N8513J	RC	51K OHM 1/8W
⚠ R441	R903N8563J	RC	56K OHM 1/8W
⚠ R442	R801R7153F	RC	15K OHM 1/10W
⚠ R444	R801R7273F	RC	27K OHM 1/10W
⚠ R447	R65582680J	R,FUSE	68 OHM 1/2W
⚠ R449	R65584680J	R,FUSE	68 OHM 1/4W
⚠ R450	R6558A2R2J	R,FUSE	2.2 OHM 2W
R500	R0G3K2275K	RC	2.7M OHM 1/2W
⚠ R501	R5Y2CD2R2J	R,CEMENT	2.2 OHM 5W
⚠ R508	R002T2563J	RC	56K OHM 1/2W
⚠ R510	R002T2124J	RC	120K OHM 1/2W
⚠ R512	R002T2563J	RC	56K OHM 1/2W
⚠ R529	R4X5T4272F	R,METAL	2.7K OHM 1/4W
⚠ R542	R33681R18J	R,METAL	0.18OHM 1W
⚠ R543	R635U4681J	R,FUSE	680 OHM 1/4W
R630	R002T4222J	RC	2.2K OHM 1/4W
⚠ R632	R3X18A221J	R,METAL OXIDE	220 OHM 2W
⚠ R802	R3X18A123J	R,METAL OXIDE	12K OHM 2W
⚠ R805	R3X18A123J	R,METAL OXIDE	12K OHM 2W
⚠ R810	R3X18A123J	R,METAL OXIDE	12K OHM 2W
R1080	R002T4010J	RC	1 OHM 1/4W
R1084	R002T4102J	RC	1K OHM 1/4W
R4068	R801R7225J	RC	2.2M OHM 1/10W
		CAPACITORS	
C354	E02LF2222M	CE	2200 UF 16V
C402	E02L04102M	CE	1000 UF 35V
⚠ C407	E02L03102M	CE	1000 UF 25V
C423	P4J7F3394J	CMPP	0.39 UF 250V PMS
⚠ C424	P4N8FJ682H	CMPP	C 0.0068UF 1.25KV
⚠ C425	C0JLYR7B3K	CC	0.0012UF 2KV YR
⚠ C431	E02LTD100M	CE	10 UF 250V
C432	P235W1104J	CMP	0.1 UF 100V MKT
C433	E02LT3470M	CE	47 UF 25V
⚠ C502	C0JTB0513K	CC	0.001 UF 500V B
⚠ C503	C0JTB0513K	CC	0.001 UF 500V B
⚠ C506	P2472B224M	CMP	0.22UF 275V PHE840
⚠ C507	E51CGC471M	CE	470 UF 200V
⚠ C510	E5EZT4101M	CE	100 UF 35V
⚠ C511	E5EZT3471M	CE	470 UF 25V
C514	C0JLYR7K3K	CC	0.0027UF 2KV YR
⚠ C516	C0JTB05Q2K	CC	470 PF 500V B
C517	C0JLYR7H3K	CC	0.0022UF 2KV YR
⚠ C521	E62NFB101M	CE	100 UF 160V
⚠ C522	E02LTB010M	CE	1 UF 160V
⚠ C523	E02LT4471M	CE	470 UF 35V
⚠ C524	E5EZ02222M	CE	2200 UF 16V
C525	E02L00102M	CE	1000 UF 6.3V
⚠ C530	C034F0JQ3M	CC	0.0047UF 125V MX
C535	C0JLYR7U2K	CC	680 PF 2KV YR
C560	C0JLYR713K	CC	0.001 UF 2KV YR
⚠ C659	E50HU0101M	CE	100 UF 6.3V
⚠ C660	CS0RF0415Z	CC	0.1 UF 50V F
C801	C0HHB07H3K	CC	0.0022UF 2KV B
C819	C0HHB07H3K	CC	0.0022UF 2KV B
C1007	CHGTF0415Z	CC	0.1 UF 50V F
C1091	CHGTX02L3M	CC	0.0033UF 16V X
C4025	E50HU0221M	CE	220 UF 6.3V
		DIODES	
D401	D2WT011E10	DIODE,SILICON	11E1-EIC
D402	D2LTPG06J0	DIODE,SILICON	RMPG06J-G3
D403	D97U03001B	DIODE,ZENER	MTZJ30B T-77
D404	D97U03001B	DIODE,ZENER	MTZJ30B T-77
D405	D2WT011E10	DIODE,SILICON	11E1-EIC
⚠ D408	D94TA27011	DIODE,ZENER	HZ27-1L TD
⚠ D409	D94TA11B13	DIODE,ZENER	HZ11B3L TD
D410	D97U06R81B	DIODE,ZENER	MTZJ6.8B T-77
⚠ D412	D2LTPG06J0	DIODE,SILICON	RMPG06J-G3
⚠ D413	D2LTPG06J0	DIODE,SILICON	RMPG06J-G3
⚠ D501	D4LZBL06L0	DIODE	GBL06L-6177
D502	D1VT001330	DIODE,SILICON	1SS133T-77
D504	D1VT001330	DIODE,SILICON	1SS133T-77
D505	D2WXB290S0	DIODE,SILICON	SB290S
D506	D2LTPG06J0	DIODE,SILICON	RMPG06J-G3

REF. NO.	PART NO.	DESCRIPTION	
		DIODES	
⚠ D507	D28015DF60	DIODE,SILICON	15DF6
D508	D1VT001330	DIODE,SILICON	1SS133T-77
⚠ D510	D2WXRU2AM0	DIODE,SILICON	RU2AM-EIC
⚠ D512	D2WXB290S0	DIODE,SILICON	SB290S
D513	D1VT001330	DIODE,SILICON	1SS133T-77
D514	D1VT001330	DIODE,SILICON	1SS133T-77
⚠ D515	D97U03301B	DIODE,ZENER	MTZJ33B T-77
⚠ D517	D2WT11ES10	DIODE,SILICON	11ES1-EIC
D518	D1VT001330	DIODE,SILICON	1SS133T-77
⚠ D519	D2WXB290S0	DIODE,SILICON	SB290S
D520	D28TQS04N0	DIODE,SCHOTTKY	11EQS04N-TA1B2
D521	D1VT001330	DIODE,SILICON	1SS133T-77
D524	D97U06R21B	DIODE,ZENER	MTZJ6.2B T-77
D525	D23U1003A3	DIODE,SCHOTTKY	SB10-03A3
D526	D23U1003A3	DIODE,SCHOTTKY	SB10-03A3
D527	D1VT001330	DIODE,SILICON	1SS133T-77
D528	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D601	D1VT001330	DIODE,SILICON	1SS133T-77
D602	D97U08R21A	DIODE,ZENER	MTZJ8.2AT-77
D605	D2WT11ES10	DIODE,SILICON	11ES1-EIC
D608	D23U1003A3	DIODE,SCHOTTKY	SB10-03A3
D609	D97U06R81B	DIODE,ZENER	MTZJ6.8B T-77
D610	D97U06R81B	DIODE,ZENER	MTZJ6.8B T-77
D611	D97U06R81B	DIODE,ZENER	MTZJ6.8B T-77
D612	D1VT001330	DIODE,SILICON	1SS133T-77
D613	D1VT001330	DIODE,SILICON	1SS133T-77
D614	D1VT001330	DIODE,SILICON	1SS133T-77
D615	D97U06R81B	DIODE,ZENER	MTZJ6.8B T-77
D618	D1VT001330	DIODE,SILICON	1SS133T-77
D619	D1VT001330	DIODE,SILICON	1SS133T-77
D620	D1VT001330	DIODE,SILICON	1SS133T-77
D621	D1VT001330	DIODE,SILICON	1SS133T-77
D791	002132Q040	LED	SLZ-936C-11-S-T1
D792	002132Q040	LED	SLZ-936C-11-S-T1
D793	002132Q040	LED	SLZ-936C-11-S-T1
D801	D1VT001330	DIODE,SILICON	1SS133T-77
D802	D1VT001330	DIODE,SILICON	1SS133T-77
D803	D1VT001330	DIODE,SILICON	1SS133T-77
D1003	0010600060	LED	SID1050CM
D1004	D1VT001330	DIODE,SILICON	1SS133T-77
D1014	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
		ICS	
⚠ IC351	I01DP75110	IC	AN7511
⚠ IC401	I01TD55220	IC	AN5522
⚠ IC502	I2BT066230	IC	STR-G6623
IC601	I06FC61206	IC	M61206FP
IC1001	I56F57059A	IC	OEC7059A
IC1003	IC7J0311A0	IC	R3111N311A/C-TR
IC1004	I03DQ18800	IC	LB11880
IC1099	A57908A015	IC	S-24C04BDP-LA
IC4001	I03F3200M0	IC	LA71200M-MPB
		TRANSISTORS	
Q401	TNAAC05002	COMPOUND TRANSISTOR	KRC103RTK
⚠ Q402	TAAT01281Y	TRANSISTOR,SILICON	KTA1281_Y
Q403	TNAAJ05003	COMPOUND TRANSISTOR	KRC111RTK
Q404	TPYJD05001	COMPOUND TRANSISTOR	DTA144EKAT146
⚠ Q405	TC3T02271E	TRANSISTOR,SILICON	2SC2271E-AE
⚠ Q406	TD30026270	TRANSISTOR,SILICON	2SD2627LS-CBC11
⚠ Q501	0002500450	PHOTO COUPLER	TLP621(GR)
⚠ Q505	TD3Q018250	TRANSISTOR,SILICON	2SD1825Z-YAC11
Q507	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
Q601	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q602	TCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT or
	TC5T021204	TRANSISTOR,SILICON	2SC2120Y(TPE2)
Q603	TCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT or
	TC5T021204	TRANSISTOR,SILICON	2SC2120Y(TPE2)
Q604	TCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT or
	TC5T021204	TRANSISTOR,SILICON	2SC2120Y(TPE2)
Q605	TCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT or
	TC5T021204	TRANSISTOR,SILICON	2SC2120Y(TPE2)
Q606	TCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT or
	TC5T021204	TRANSISTOR,SILICON	2SC2120Y(TPE2)
Q608	TNYJB05001	COMPOUMD TRANSISTOR	DTC114EKAT146
Q609	TNAAB05003	COMPOUND TRANSISTOR	KRC102RTK
Q611	TNAAB05003	COMPOUND TRANSISTOR	KRC102RTK
⚠ Q804	TC3F042170	TRANSISTOR,SILICON	2SC4217(D,E)-RAC
⚠ Q805	TC3F042170	TRANSISTOR,SILICON	2SC4217(D,E)-RAC

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
		TRANSISTORS	
⚠ Q806	TC3F042170	TRANSISTOR,SILICON	2SC4217(D,E)-RAC
Q1002	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q1003	0002700530	PHOTO COUPLER	RPI-352Q01R
Q1004	TNAAC05002	COMPOUND TRANSISTOR	KRC103RTK
Q1005	0002700590	PHOTO COUPLER	RPI-301
Q1007	TNAAB05003	COMPOUND TRANSISTOR	KRC102RTK
Q1008	TNAAB05003	COMPOUND TRANSISTOR	KRC102RTK
Q1009	0002700530	PHOTO COUPLER	RPI-352Q01R
Q1013	0000100380	PHOTO TRANSISTOR	PNA2604M010R
Q1023	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q4001	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
Q4002	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
Q4003	TPAAC05002	COMPOUND TRANSISTOR	KRA103RTK
Q4005	TAATA12660	TRANSISTOR,SILICON	KTA1266-AT(Y,GR)
Q4006	TCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT or
	TC5T021204	TRANSISTOR,SILICON	2SC2120Y(TPE2)
Q4007	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q4009	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q4010	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q4011	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q4012	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q4204	TNYJB05001	COMPOUMD TRANSISTOR	DTC114EKAT146
		COILS &TRANSFORMERS	
L401	021679472K	COIL	4.7 MH
⚠ L502	029T000092	COIL,LINE FILTER	1R0A103F24
⚠ L503	028R200029	COIL,DEGAUSS	8R200029
L601	0216A61R2K	COIL	1.2 UH
L603	02167F470J	COIL	47 UH
L605	021LA61R2K	COI	1.2 UH
L607	021LA6220K	COIL	22 UH
L612	021LA66R8K	COIL	6.8 UH
L801	021673101K	COIL	100 UH
L1001	021LA62R2K	COIL	2.2 UH
L4001	02167F220J	COIL	22 UH
L4003	02167F101J	COIL	100 UH
L4004	02167F101J	COIL	100 UH
L4005	02167F470J	COIL	47 UH
L4006	02167F470J	COIL	47 UH
L4009	02167F101J	COIL	100 UH
T401	03305Y0018	TRANS,HORIZONTAL DRIVE	305Y001
⚠ T501	048129015S	TRANSFORMER,SWITCHING	8129015S
T4001	031626009R	COIL,BIAS OSC	1626009
		JACKS	
⚠ J351	060G131014	RCA JACK	HTJ-035-28A
J701	060Q401075	RCA JACK	AV2-24D-5
⚠ J801	066C130015	SOCKET,CATHODE RAY TUBE	CVT3275-5102
		SWITCHES	
SW751	0504101T34	SWITCH,TACT	EVQ21505R
SW791	0504101T34	SWITCH,TACT	EVQ21505R
SW792	0504101T34	SWITCH,TACT	EVQ21505R
SW793	0504101T34	SWITCH,TACT	EVQ21505R
SW794	0504101T34	SWITCH,TACT	EVQ21505R
SW795	0504101T34	SWITCH,TACT	EVQ21505R
SW796	0504101T34	SWITCH,TACT	EVQ21505R
SW797	0504101T34	SWITCH,TACT	EVQ21505R
SW798	0504101T34	SWITCH,TACT	EVQ21505R
SW799	0504101T34	SWITCH,TACT	EVQ21505R
SW1001	0508221001	SWITCH (LEAF)	SPVF130100
		VARIABLE RESISTOR	
VR502	V1163L2BTC	VOLUME,SEMI FIXED	EVNCYAA03BY2
		P.C.BOARD ASSEMBLIES	
PCB030	A57909A03A	PCB ASS'Y	TEXA28A
PCB110	A57904A11A	PCB ASS'Y	TCX353A
PCB800	A57908A01A	PCB ASS'Y	VMX210A
		MISCELLANEOUS	
B402	024AT03655	CORE,BEADS	BL01RN1-A63T6
B502	024AT03482	CORE,BEADS	BL02RN2-R62T4
B503	024AT03655	CORE,BEADS	BL01RN1-A63T6
B505	024AT03482	CORE,BEADS	BL02RN2-R62T4
B602	024AT03655	CORE,BEADS	BL01RN1-A63T6
B604	024AT03481	CORE,BEADS	BL02RN1-R62T2
CD351	06CH27090A	CORD CONNECTOR	CH27090A
CD352	06CH12435A	CORD CONNECTOR	CH12435A
⚠ CD501	1207414905	CORD AC BUSH	7414905
CD757	06CH2A019A	CORD CONNECTOR	CH2A019A
CD801	06CU82039A	CORD CONNECTOR	SM1098-009-1A
CF601	1022T45R72	FILTER,SAW	SAF45MFY220ZR

REF. NO.	PART NO.	DESCRIPTION	
		MISCELLANEOUS	
CF603	1011T4R504	FILTER,CERAMIC	EFCT4R5YS5A
CF604	1011T4R517	FILTER,CERAMIC	EFCT4R5MW5
CP351	0694260139	CONNECTOR PCB SIDE	173979-6
CP353	0694270139	CONNECTOR PCB SIDE	173979-7
⚠ CP401	069X450029	CONNECTOR PCB SIDE	B05B-DVS
⚠ CP502	069W420029	CONNECTOR PCB SIDE	TV-50P-02-A1
CP757	06942A0139	CONNECTOR PCB SIDE	1-173979-0
CP801	069W320018	CONNECTOR PCB SIDE	TS-80P-02-V1
CD1001	122L040904	CORD JUMPER	2L040904
CD1002	122F071901	CORD JUMPER	2F071901
CD4001	122L061501	CORD JUMPER	2L061501
CP1003	0694240139	CONNECTOR PCB SIDE	173979-4
CP1004	0697280590	CONNECTOR PCB SIDE	TMC-J08P-B1
CP1005	069J770029	CONNECTOR PCB SIDE	IMSA-9604S-07Z14
CP1006	069J740029	CONNECTOR PCB SIDE	IMSA-9604S-04Z14
CP4001	0697240600	CONNECTOR PCB SIDE	TOC-C04X-B1
CP4002	069J760029	CONNECTOR PCB SIDE	IMSA-9604S-06Z1, or
	069X760019	CONNECTOR PCB SIDE	06FE-BT-VK-N
CP4003	0697120320	CONNECTOR PCB SIDE	TMC-T02X-E1
CP851A	067R010019	WIRE HOLDER	51048-1000
CP851B	067R010019	WIRE HOLDER	51048-1000
CUS011	800WFAA006	CUSHION A	
CUS012	800WFAA008	CUSHION C	
⚠ F501	081PC05004	FUSE	51MS050LCC
⚠ F502	081PC2R504	FUSE	51MS025LCC
⚠ FB401	043219011F	TRANSFORMER,FLYBACK	FQI-20B001
FH501	06710T0006	HOLDER,FUSE	EYF-52BC
FH502	06710T0006	HOLDER,FUSE	EYF-52BC
FH503	06710T0006	HOLDER,FUSE	EYF-52BC
FH504	06710T0006	HOLDER,FUSE	EYF-52BC
OS753	077Q037002	REMOTE RECEIVER	PIC-37143TH5 or
	077Q000017	REMOTE RECEIVER	PIC-28143TH5
⚠ SP351	070W133014	SPEAKER	P-300S-2
⚠ TH501	DF5EL3R0A0	DEGAUSS ELEMENT	ZPB45BL3R0A
TM101	076N0CG010	TRANSMITTER	RC-CG010
⚠ TU601	0145K00055	TUNER,VHF-UHF	TECC1040PG32D
⚠ V801	098Q200481	CRT W/DY	A48AGY13X77
X602	100CT3R505	CRYSTAL	HC-49/C
X1001	100CT01207	CRYSTAL	HC-49/U-S
X1002	100DA32R01	CRYSTAL	DT-26
X4001	100CT3R502	CRYSTAL	HC-49/U

RESISTOR

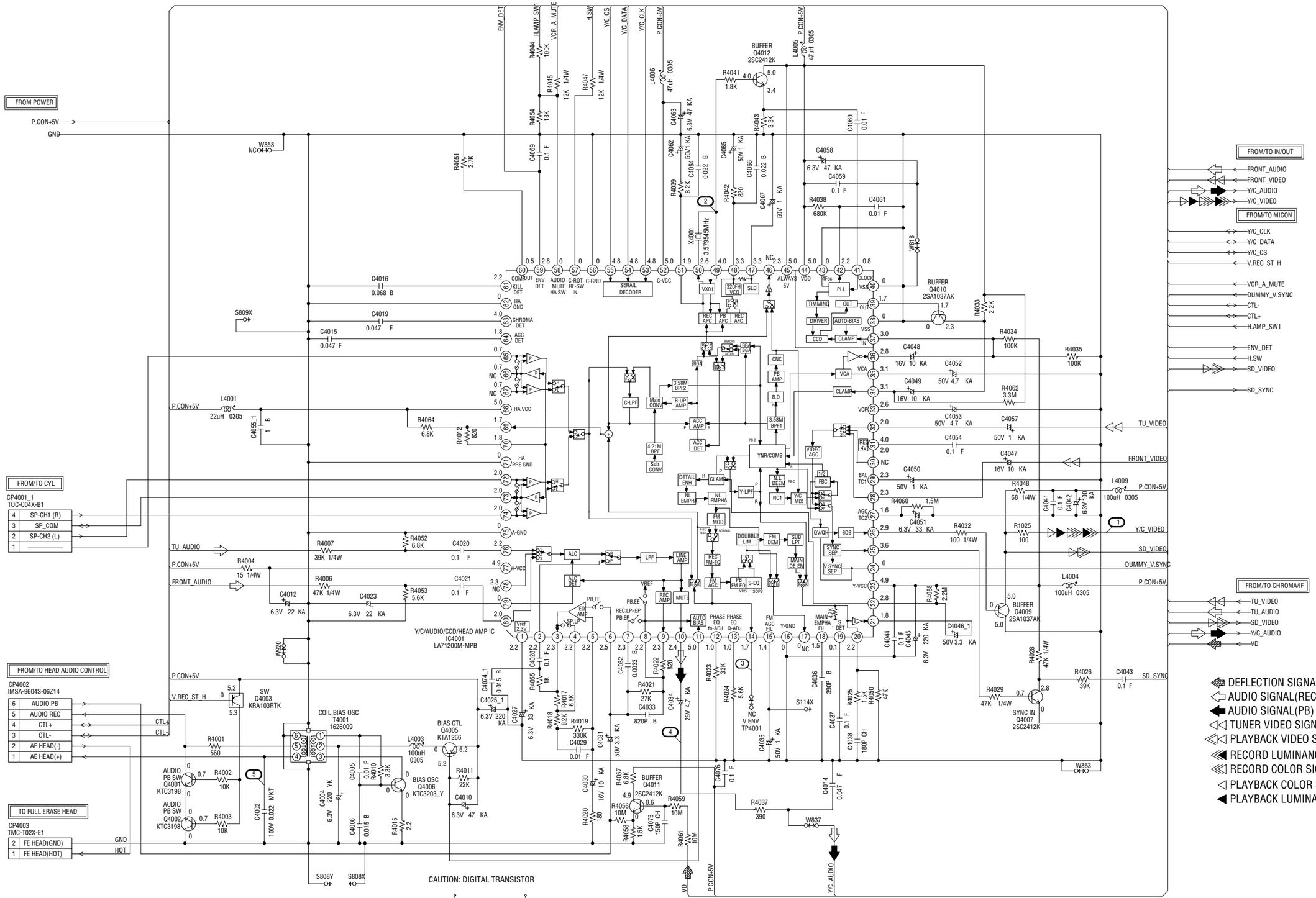
RC..... CARBON RESISTOR

CAPACITORS

CC..... CERAMIC CAPACITOR
CE..... ALUMI ELECTROLYTIC CAPACITOR
CP..... POLYESTER CAPACITOR
CPP..... POLYPROPYLENE CAPACITOR
CPL..... PLASTIC CAPACITOR
CMP..... METAL POLYESTER CAPACITOR
CMPL..... METAL PLASTIC CAPACITOR
CMPP..... METAL POLYPROPYLENE CAPACITOR

SPEC.NO.	M579-08A
O/R NO.	W145020

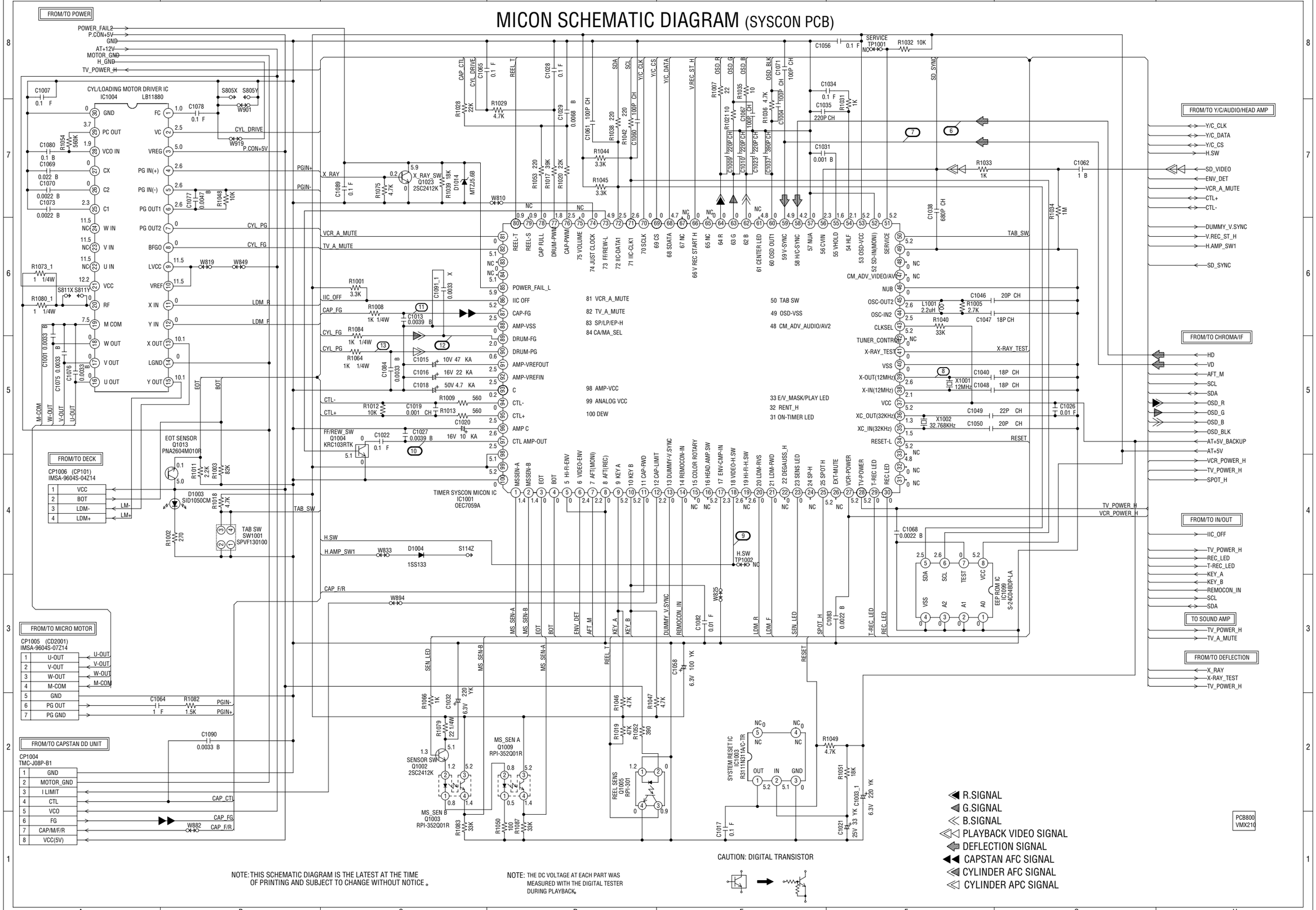
Y/C/AUDIO/CCD/HEAD AMP SCHEMATIC DIAGRAM
(SYSCON PCB)



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

MICON SCHEMATIC DIAGRAM (SYSCON PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK。

IN/OUT SCHEMATIC DIAGRAM
(SYCON PCB)

TEST POINT
CP351_1
173979-6
B.OUT 6
INT-MONI 5
IIC_OFF 4
SDA 3
SCL 2
GND 1

TEST POINT
CP1003
173979-4
Y/C_AUDIO 1
P.CON+5V 2
GND 3
Y/C_VIDEO 4

FROM/TO OPERATION
CP757 (CD757)
1-173979-0
NC 1
KEY_B 2
REC_LED 3
T-REC_LED 4
KEY_A 5
NC 6
POWER_ON_L 7
AT+5V 8
GND 9
REMOCON_IN 10

FROM/TO OPERATION
CP353_1 (CD351)
173979-7
GND 1
SP_OUT 2
SOUND_OUT 3
SOUND_GND 4
FRONT_AUDIO_IN 5
GND 6
FRONT_VIDEO_IN 7

S810X
S810Y
W806
W903 (AI)
W912 (AI)
W870
W822

FROM/TO MICON
IIC_OFF
SDA
SCL
T-REC_LED
REC_LED
KEY_B
KEY_A
REMOCON_IN
TV_POWER_H

REC LED SW(AI)
Q1007
KRC102RTK
3.6
0

ON TIM/T-REC LED SW(TO)
Q1008
KRC102RTK
3.6
0

TV POWER SW
Q4204
DTC114EKA
0
4.5

R4201
47K
1/5

FROM/TO Y/C/AUDIO/HEAD AMP
Y/C_AUDIO
Y/C_VIDEO
FRONT_AUDIO
FRONT_VIDEO

FROM/TO SOUND AMP
SOUND_GND
SOUND+
SP_OUT

FROM CHROMA/IF
AT+5V
INT-MONI
B.OUT

FROM POWER
GND
P.CON+5V

≪ B.SIGNAL
⇦ AUDIO SIGNAL(REC)
⬅ AUDIO SIGNAL(PB)
⋘◀ RECORD LUMINANCE SIGNAL
⋘ RECORD COLOR SIGNAL
◁ PLAYBACK COLOR SIGNAL
◀ PLAYBACK LUMINANCE SIGNAL
◁◁ TUNER VIDEO SIGNAL

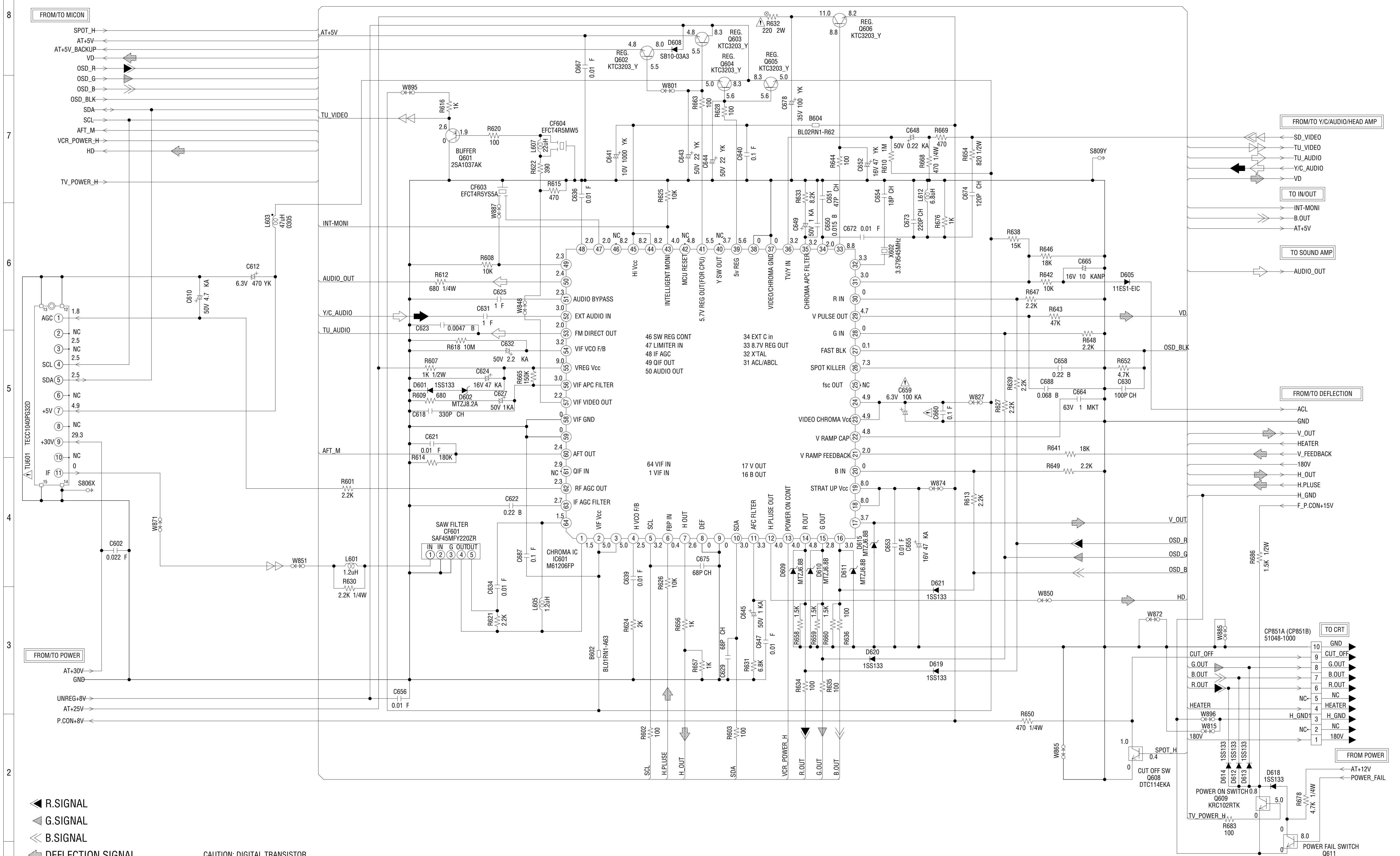
CAUTION: DIGITAL TRANSISTOR

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

PCB800
VMX210

CHROMA/IF SCHEMATIC DIAGRAM (SYSCON PCB)



R.SIGNAL
G.SIGNAL
B.SIGNAL
DEFLECTION SIGNAL
AUDIO SIGNAL(REC)
AUDIO SIGNAL(PB)
PLAYBACK VIDEO SIGNAL
TUNER VIDEO SIGNAL

CAUTION: DIGITAL TRANSISTOR

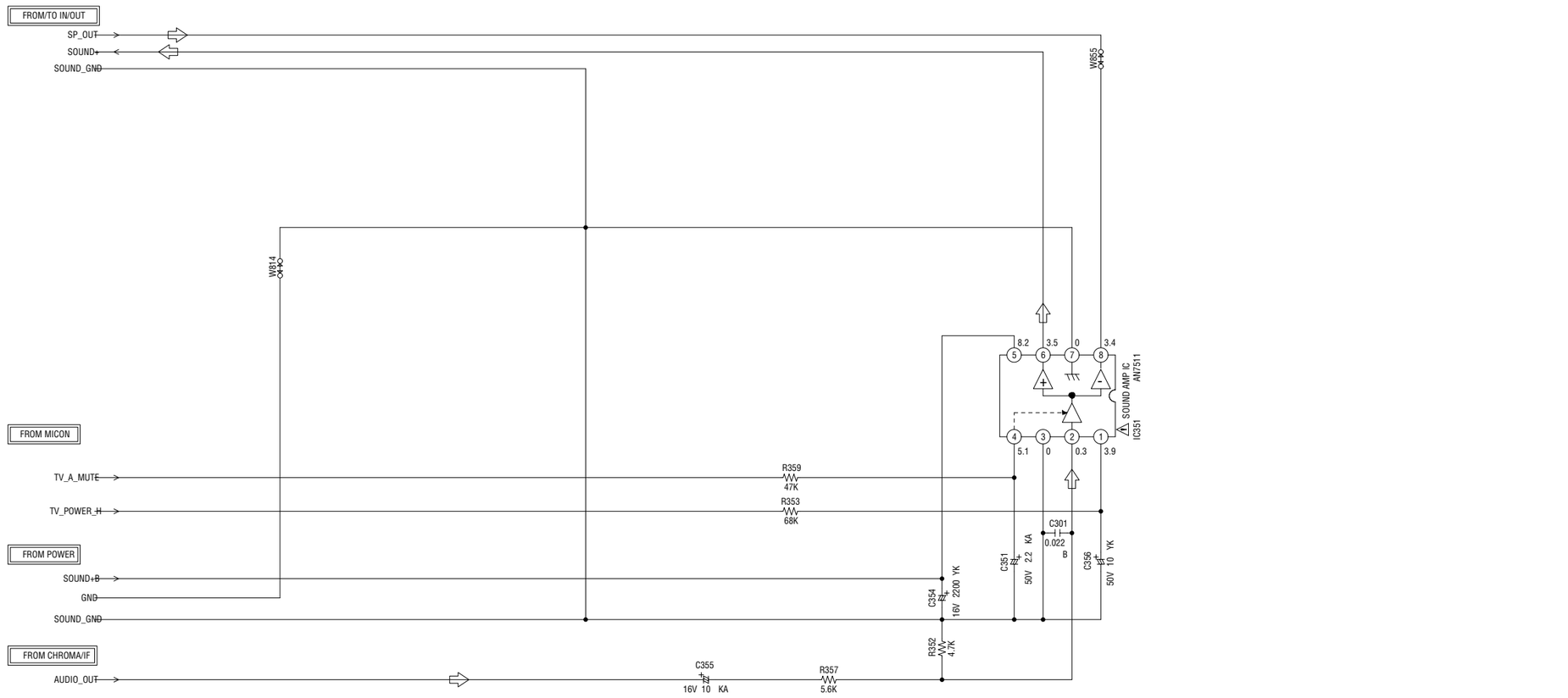
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

SOUND AMP SCHEMATIC DIAGRAM
(SYSCON PCB)



AUDIO SIGNAL(REC)

PCB800
VMX210

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK。

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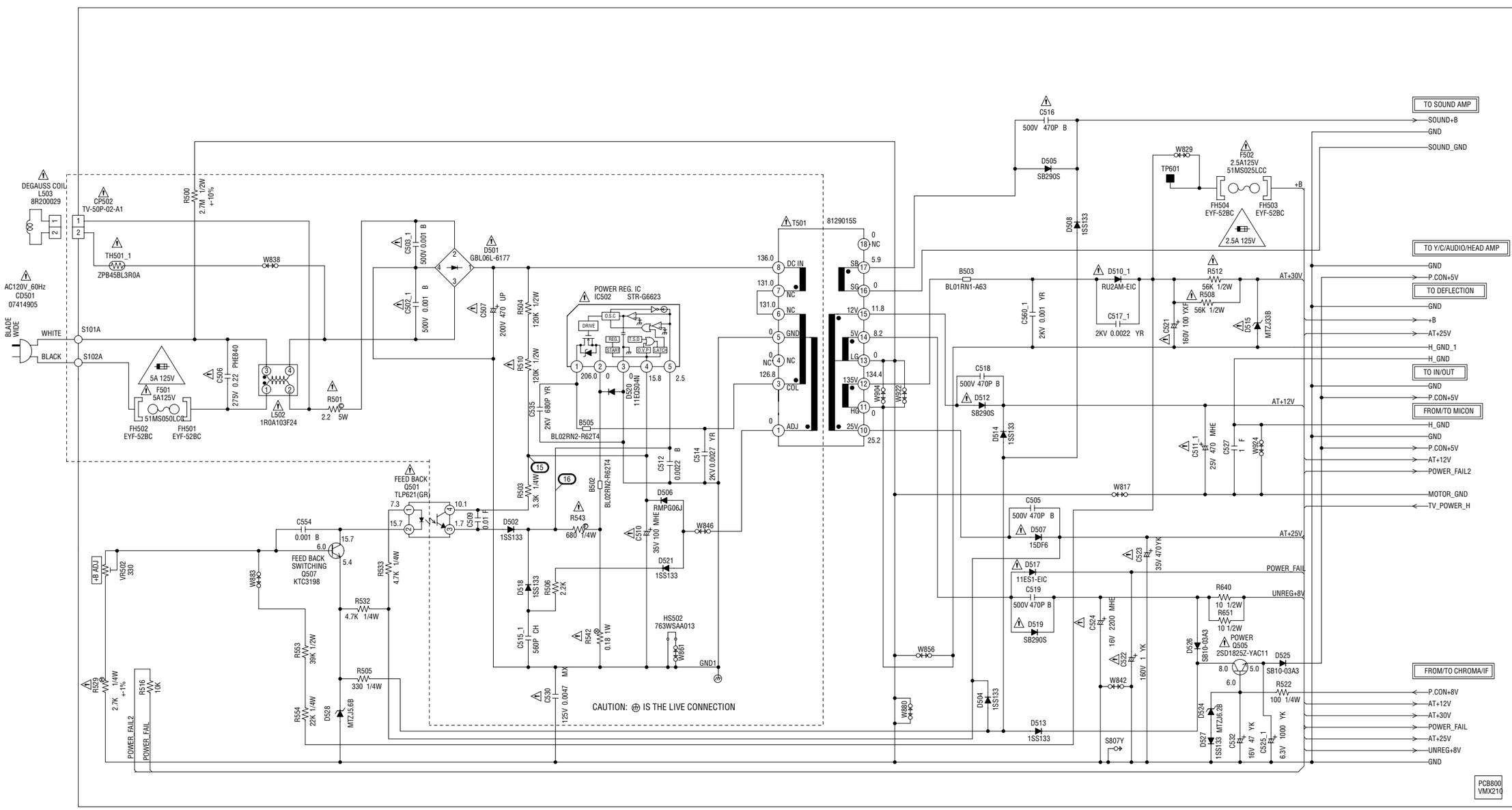
POWER SCHEMATIC DIAGRAM

(SYSCON PCB)



5A 125V 2.5A 125V

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE 5A 125V (F501) AND 2.5A 125V (F502)

ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D'INCEIE N'UTILISER QUE DES FUSIBLE DE MEME TYPE 5A 125V (F501) ET 2.5A 125V (F502)

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

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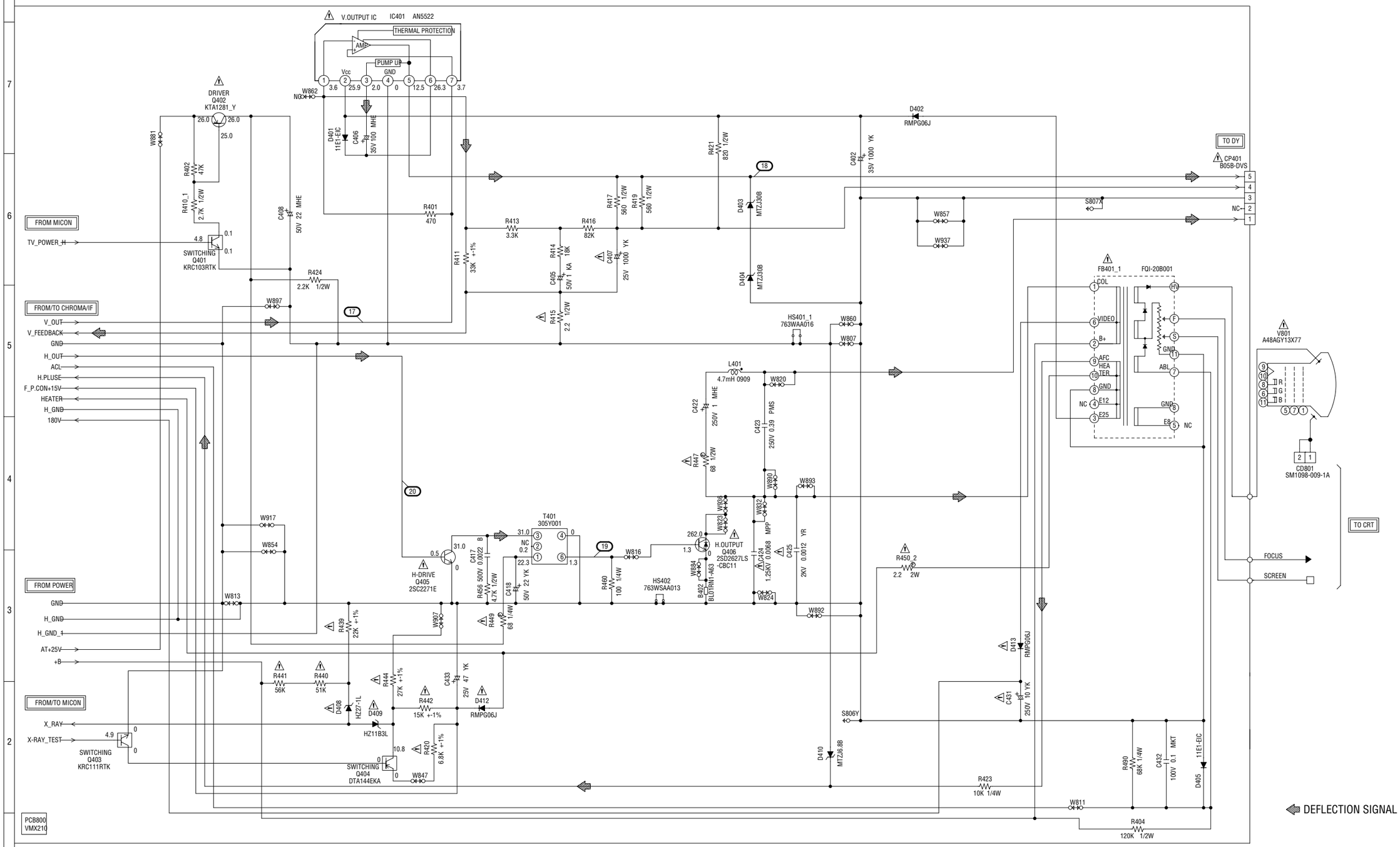
DEFLECTION SCHEMATIC DIAGRAM
(SYSCON PCB)



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

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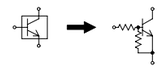
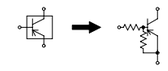
ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

CAUTION: DIGITAL TRANSISTOR

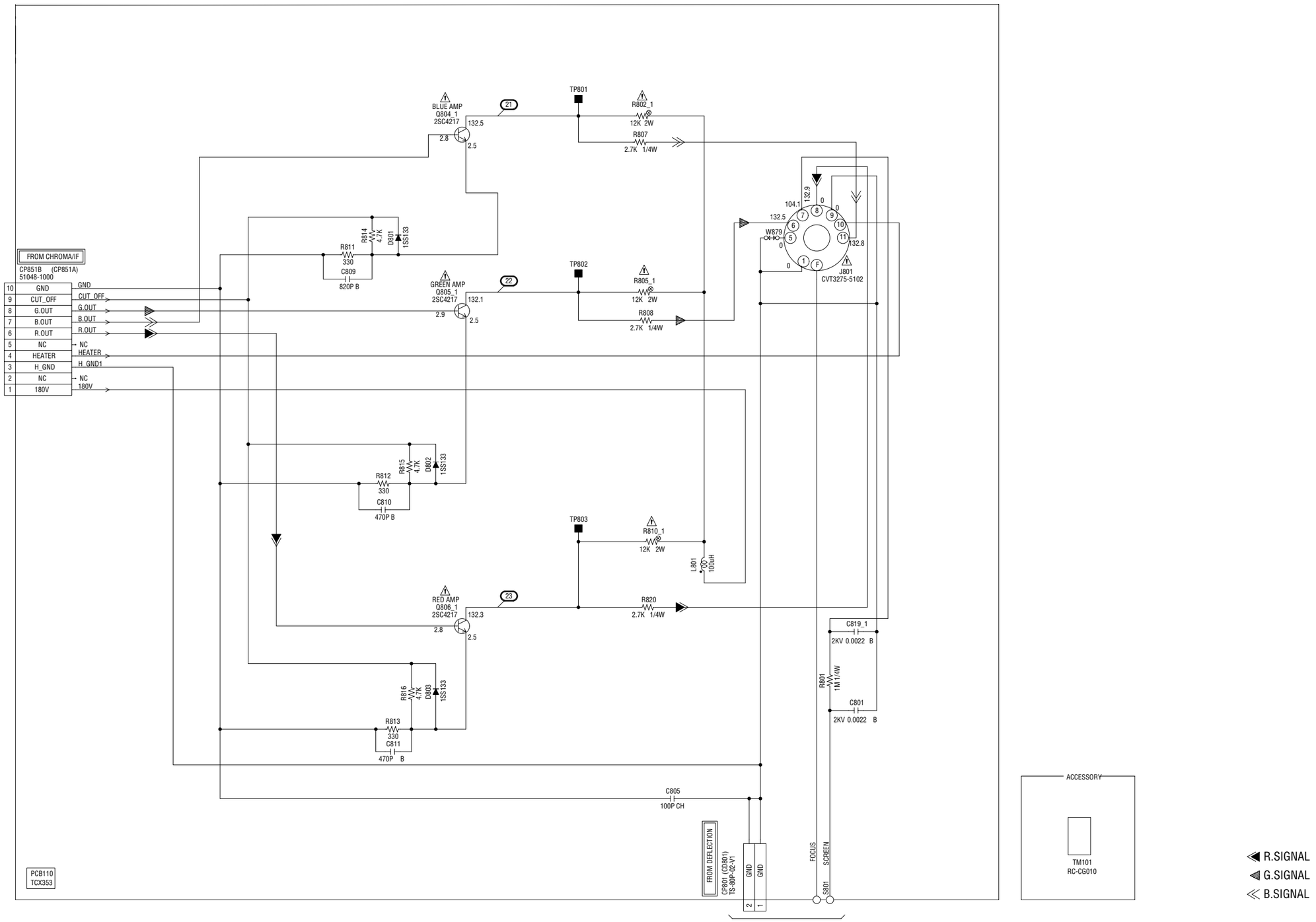


CAUTION: DIGITAL TRANSISTOR



CRT SCHEMATIC DIAGRAM

(CRT PCB)



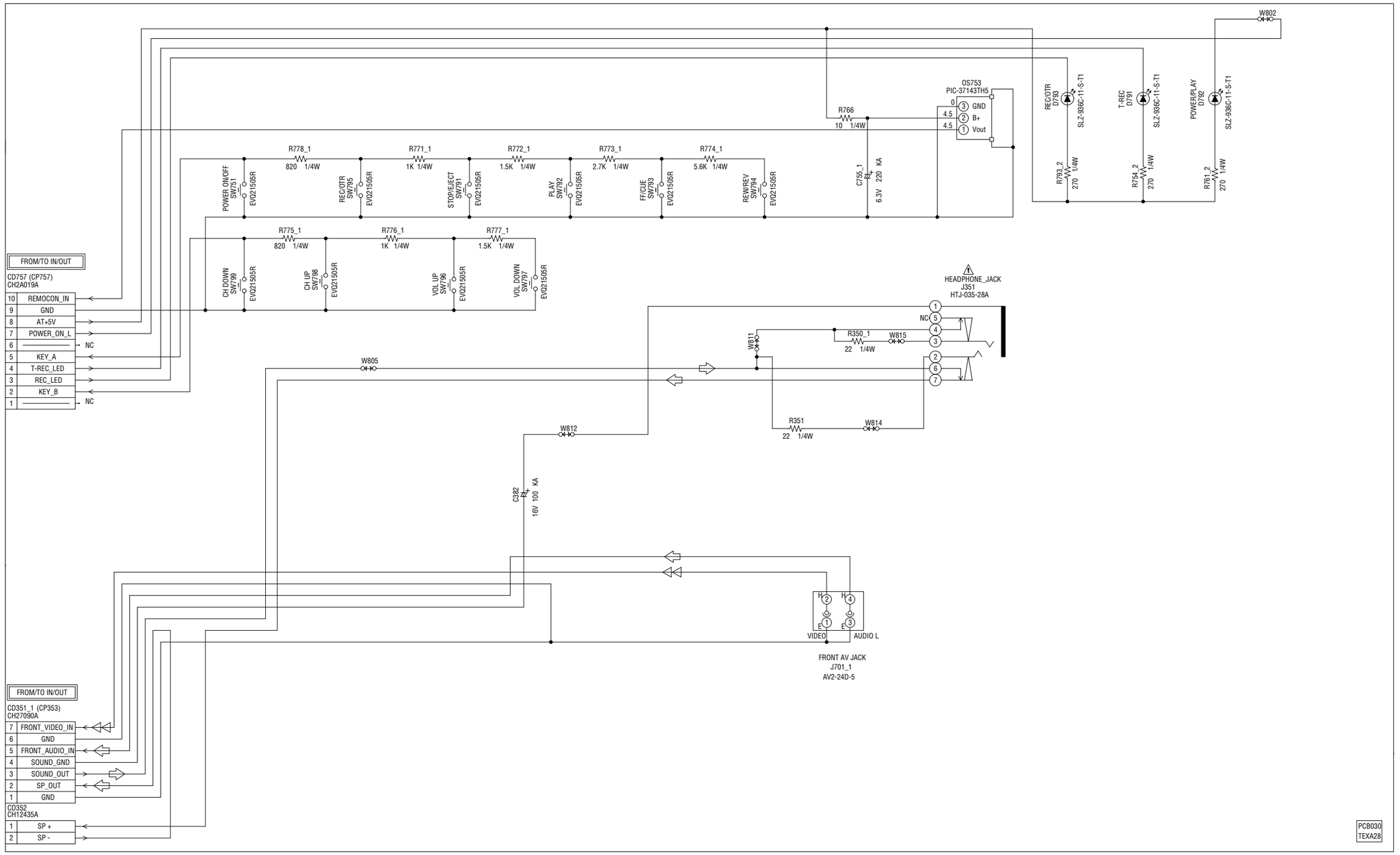
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

OPERATION SCHEMATIC DIAGRAM
(OPERATION PCB)



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

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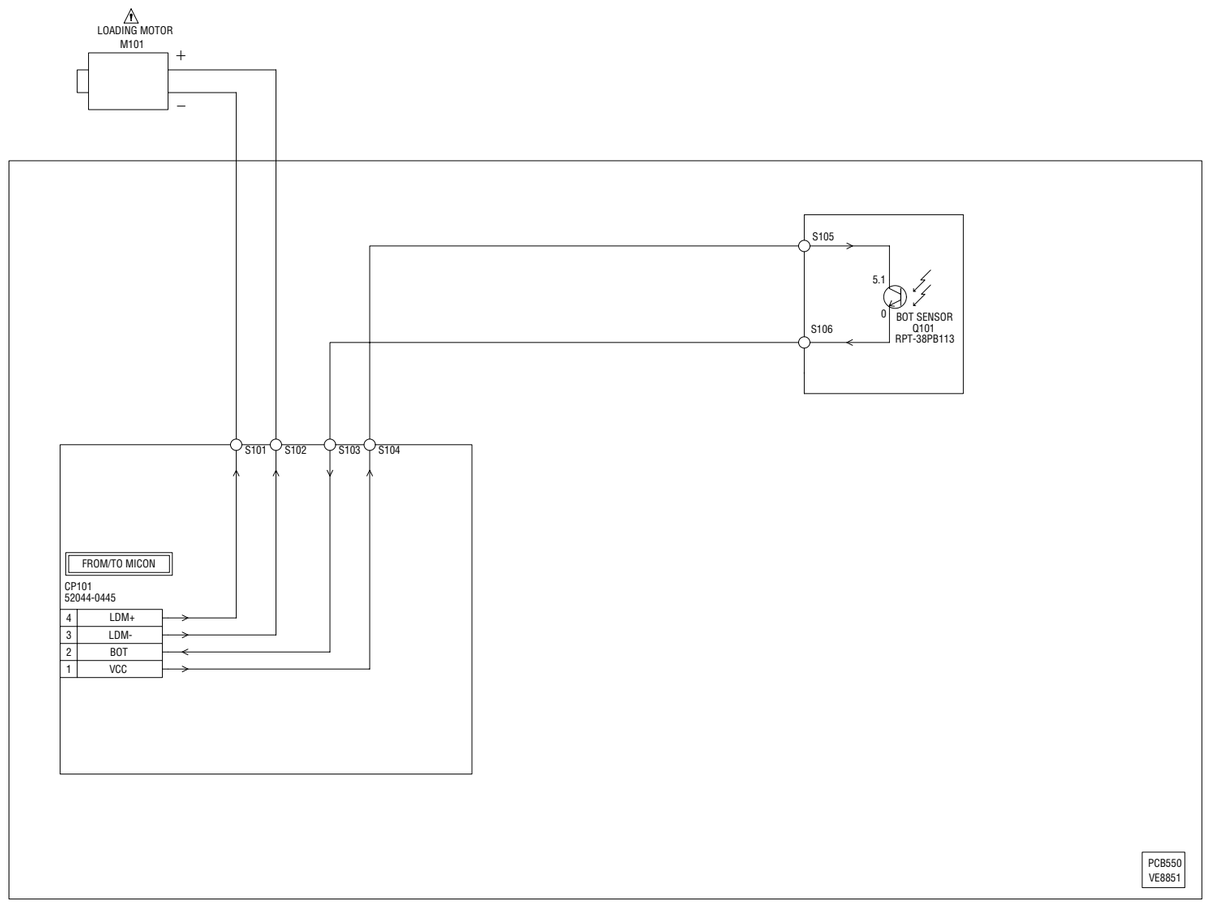
◁◁ TUNER VIDEO SIGNAL

◁ AUDIO SIGNAL(REC)

DECK SCHEMATIC DIAGRAM
(DECK PCB)



CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

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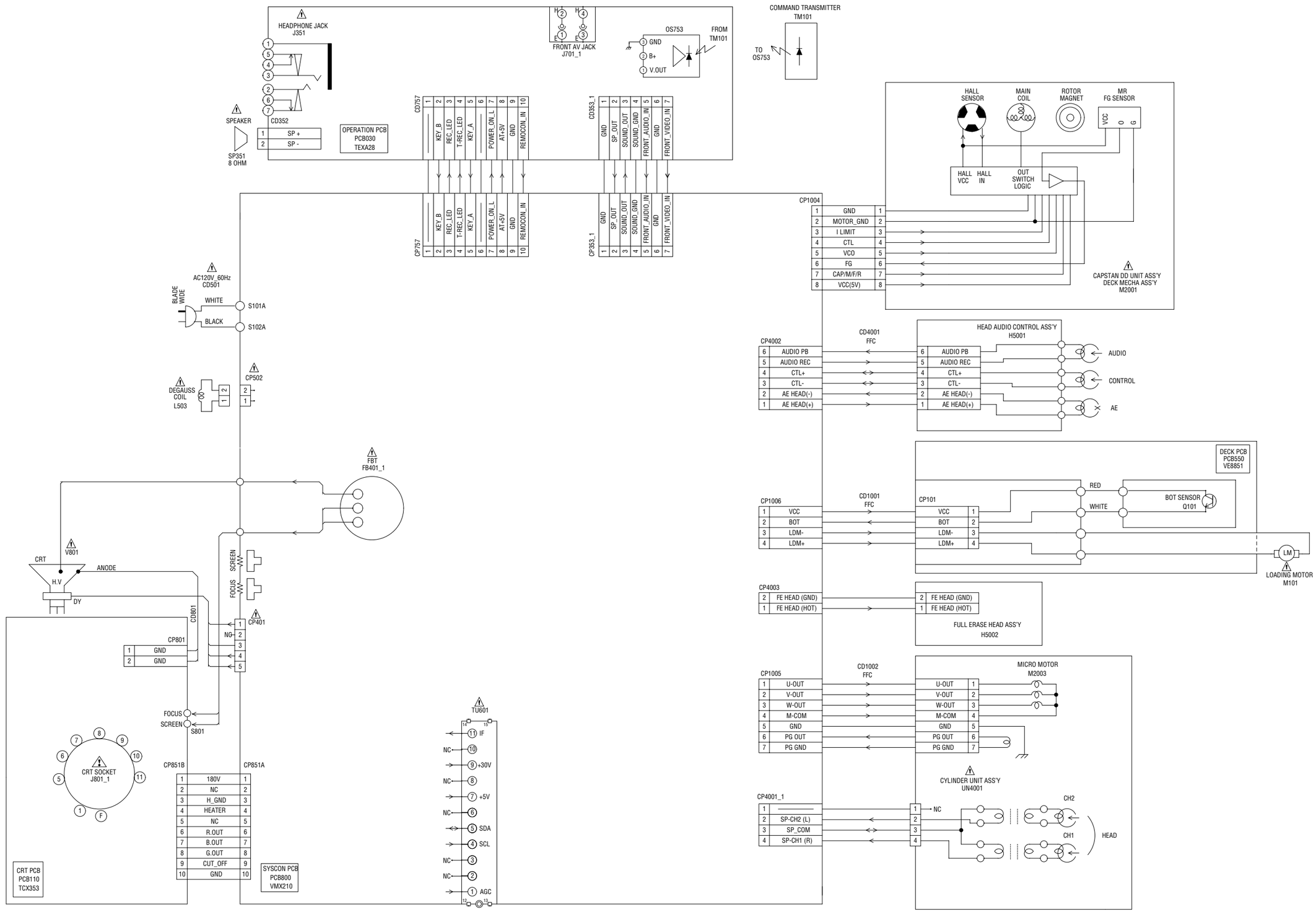
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

INTERCONNECTION DIAGRAM



NOTE: THIS INTERCONNECTION DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

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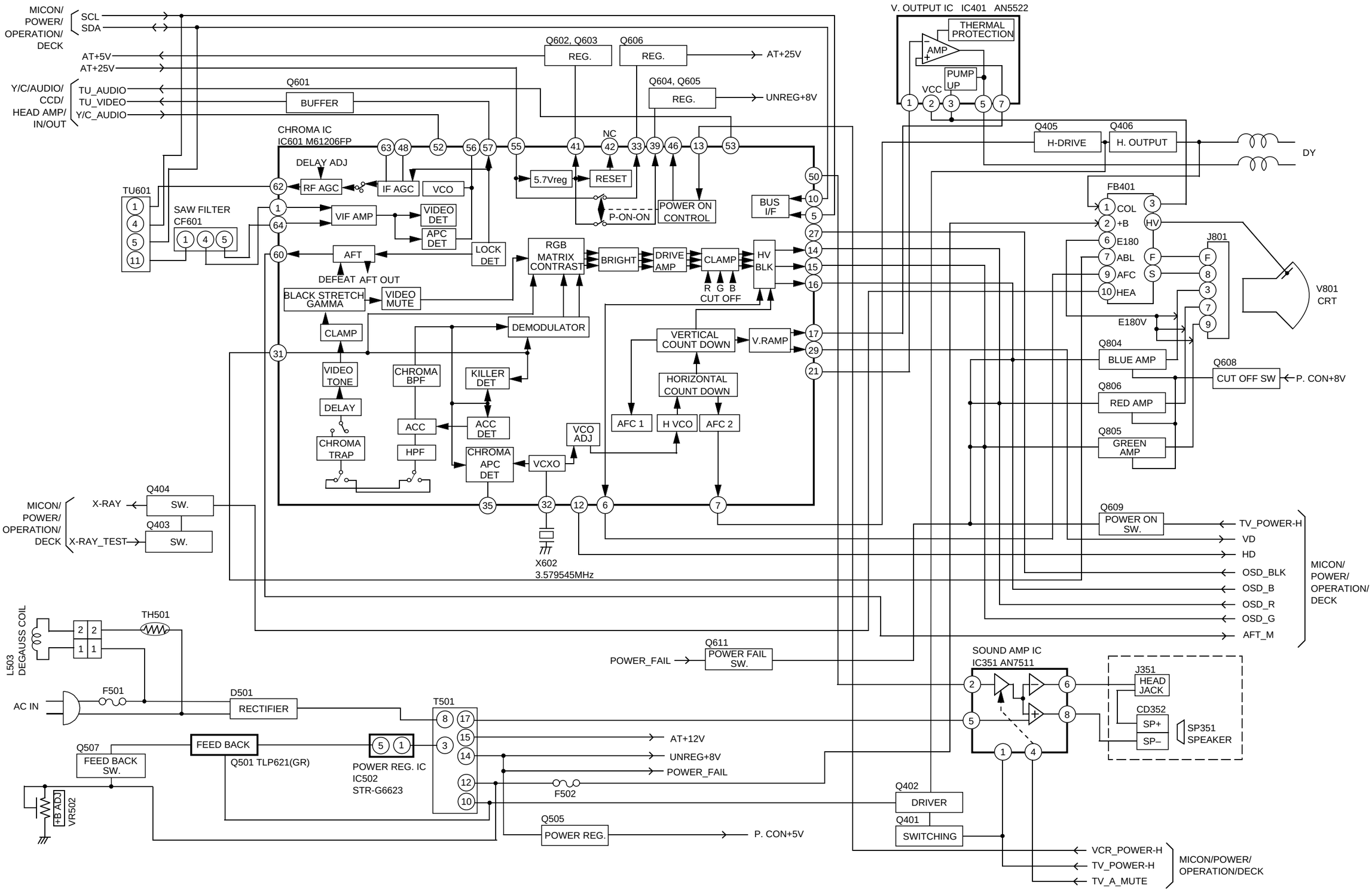
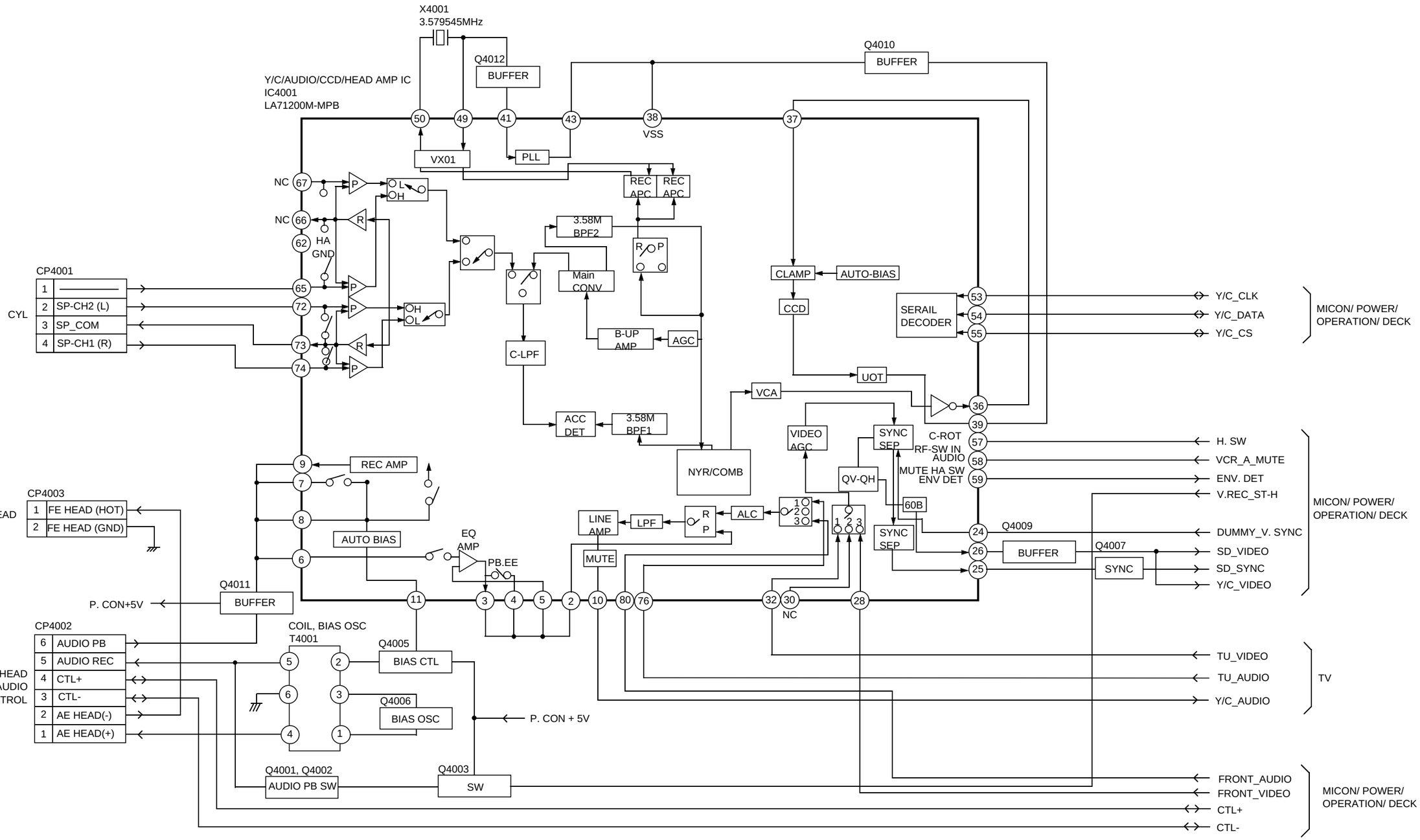
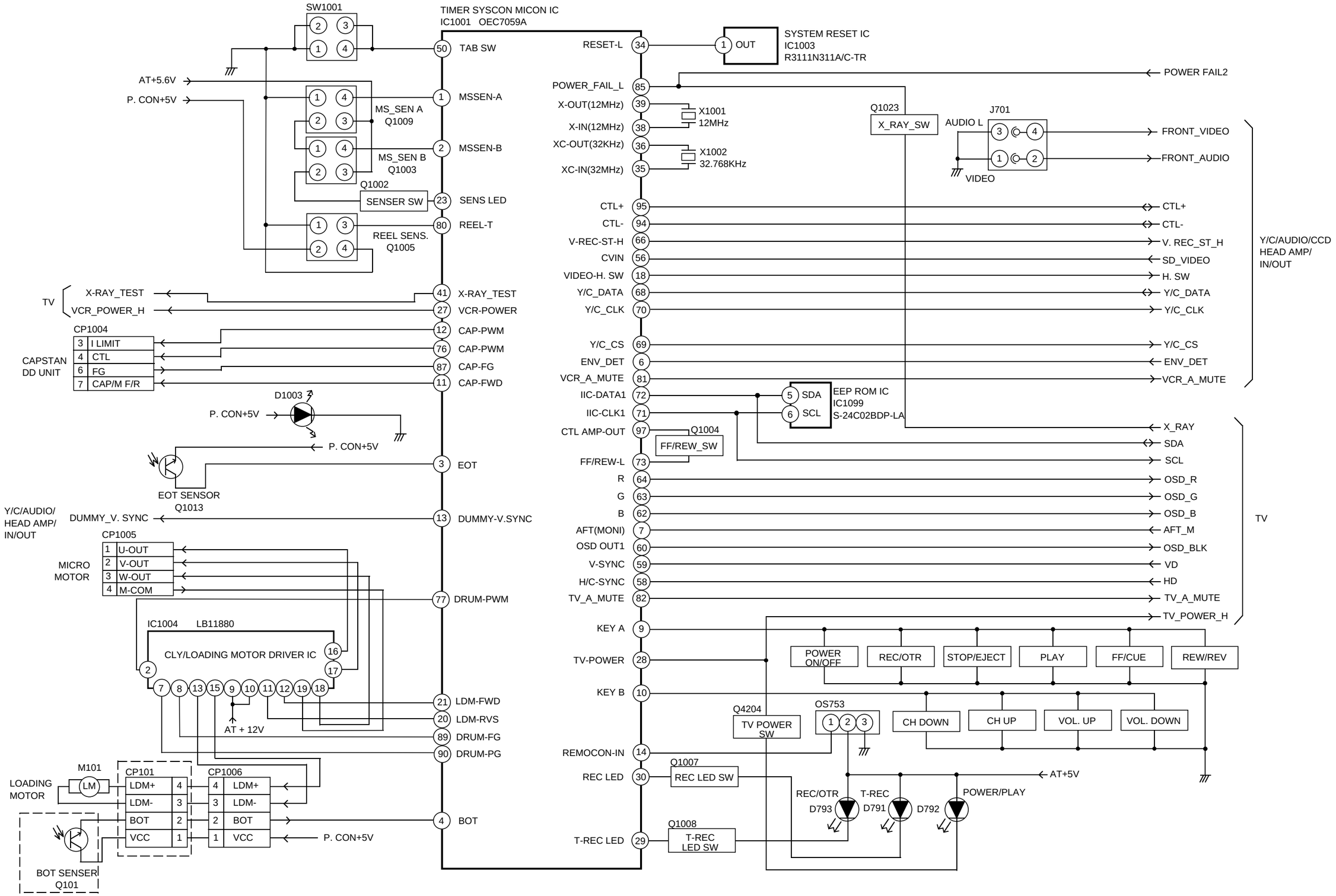
TV BLOCK DIAGRAM



Y/C/AUDIO/CCD/HEAD AMP BLOCK DIAGRAM

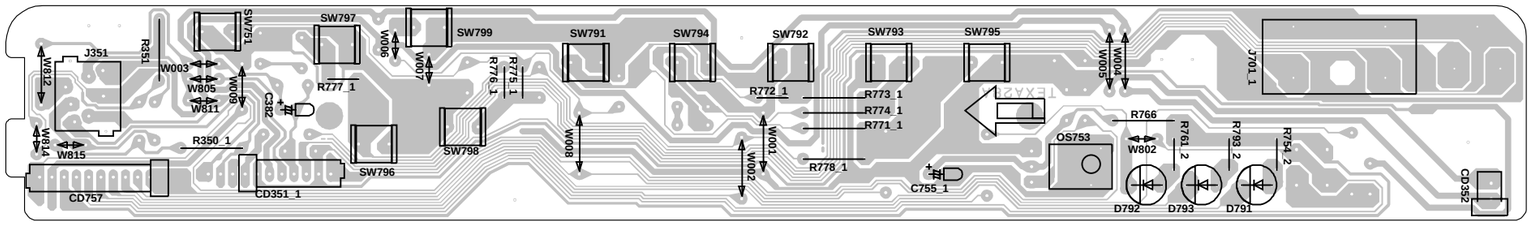


MICON/IN/OUT/OPERATION/DECK BLOCK DIAGRAM

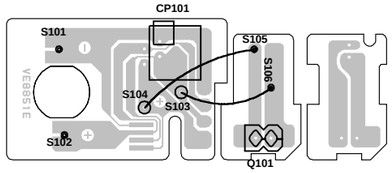


PRINTED CIRCUIT BOARDS

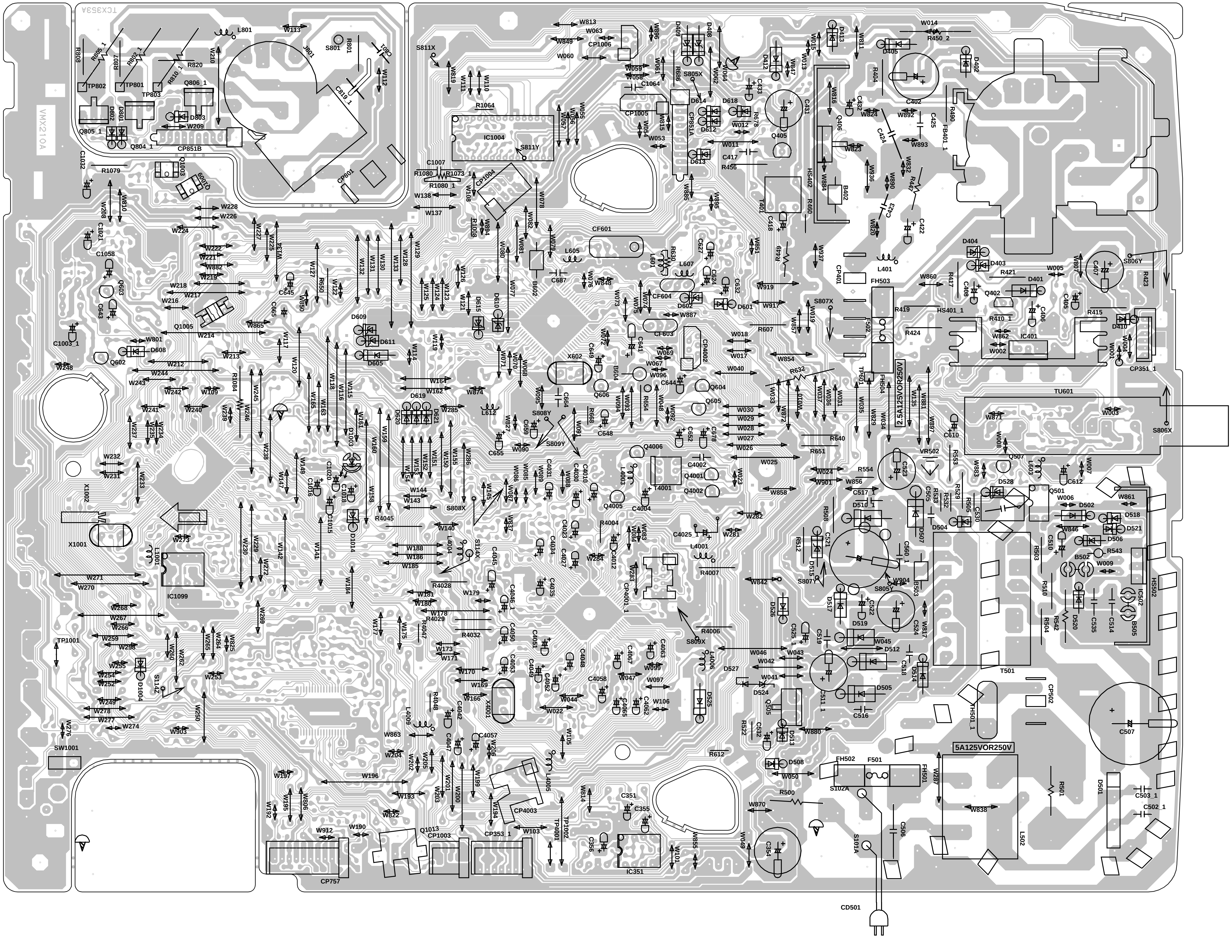
OPERATION
SOLDER SIDE



DECK
SOLDER SIDE



PRINTED CIRCUIT BOARDS
SYSCON/CRT (INSERTED PARTS)
SOLDER SIDE



SERVICING NOTICES ON CHECKING

1. KEEP THE NOTICES

As for the places which need special attentions, they are indicated with the labels or seals on the cabinet, chassis and parts. Make sure to keep the indications and notices in the operation manual.

2. AVOID AN ELECTRIC SHOCK

There is a high voltage part inside. Avoid an electric shock while the electric current is flowing.

3. USE THE DESIGNATED PARTS

The parts in this equipment have the specific characters of incombustibility and withstand voltage for safety. Therefore, the part which is replaced should be used the part which has the same character.
Especially as to the important parts for safety which is indicated in the circuit diagram or the table of parts as a ⚠ mark, the designated parts must be used.

4. PUT PARTS AND WIRES IN THE ORIGINAL POSITION AFTER ASSEMBLING OR WIRING

There are parts which use the insulation material such as a tube or tape for safety, or which are assembled in the condition that these do not contact with the printed board. The inside wiring is designed not to get closer to the pyrogenic parts and high voltage parts. Therefore, put these parts in the original positions.

5. TAKE CARE TO DEAL WITH THE CATHODE-RAY TUBE

In the condition that an explosion-proof cathode-ray tube is set in this equipment, safety is secured against implosion. However, when removing it or serving from backward, it is dangerous to give a shock. Take enough care to deal with it.

6. AVOID AN X-RAY

Safety is secured against an X-ray by considering about the cathode-ray tube and the high voltage peripheral circuit, etc.
Therefore, when repairing the high voltage peripheral circuit, use the designated parts and make sure not modify the circuit.
Repairing except indicates causes rising of high voltage, and it emits an X-ray from the cathode-ray tube.

7. PERFORM A SAFETY CHECK AFTER SERVICING

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the portions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

(INSULATION CHECK PROCEDURE)

1. Unplug the plug from the AC outlet.
2. Remove the antenna terminal on TV and turn on the TV.
3. Insulation resistance between the cord plug terminals and the eternal exposure metal **[Note 2]** should be more than 1M ohm by using the 500V insulation resistance meter **[Note 1]**.
4. If the insulation resistance is less than 1M ohm, the inspection repair should be required.

[Note 1]

If you have not the 500V insulation resistance meter, use a Tester.

[Note 2]

External exposure metal: Antenna terminal
Earphone jack

HOW TO ORDER PARTS

Please include the following informations when you order parts. (Particularly the VERSION LETTER.)

1. MODEL NUMBER and VERSION LETTER
   The MODEL NUMBER can be found on the back of each product and the VERSION LETTER can be found at the end of the SERIAL NUMBER.
2. PART NO. and DESCRIPTION
   You can find it in your SERVICE MANUAL.

CONTENTS

GENERAL SPECIFICATIONS

G-1	**TV System**	CRT		CRT Size / Visual Size	19 inch / 480.0mmV
				CRT Type	Normal
				Deflection	90 degree
				Magnetic Field BV/BH	+0.45G / 0.18G
		Color System			NTSC
		Speaker			1Speaker
				Position	Front
				Size	3 Inch
				Impedance	8 ohm
		Sound Output		MAX	1.5 W
				10%(Typical)	1.0 W
G-2	**VCR System**	System			VHS Player / Recorder
		Video System			NTSC
		Hi-Fi STEREO			No
		NTSC PB			-
		Deck		DECK	OVD-6S
				Loading System	Front
				Motor	3
		Heads	Video Head		2 Head
			FM Audio Head		No
			Audio /Control		Mono
			Erase(Full Track Erase)		Yes
		Tape Speed	Rec	PAL	-
				NTSC	SP/SLP
			Play	PAL	-
				NTSC	SP/LP/SLP
		Fast Forward / Rewind Time (Approx.)			FF:4'50"/REW:2'30" at T-120
		Forward/Reverse Picture Search		NTSC or PAL-M	SP/LP/SLP=3x,5x/7x,9x/9x,15x
		Frame Advance		Slow	-
		Slow Speed		Variable Slow	-
G-3	**Tuning System**	Broadcasting System			US Sysytem M
		Tuner and Receive CH		System	1Tuner
				Destination	USA/CANADA+CATV
				Tuning System	F-Synth
				Input Impedance	VHF/UHF 75 ohm
				CH Coverage	2~69, 4A,A-5~A-1, A~I, J~W,W+1~W+84
		Intermediate Frequency		Picture(FP)	45.75MHz
				Sound(FS)	41.25MHz
				FP-FS	4.5MHz
		Preset CH			No
		Stereo/Dual TV Sound			No
G-4	**Signal**	Video Signal		Input Level	1 V p-p/75 ohm
				Output Level	-
				S/N Ratio (Weighted)	50 dB
				Horizontal Resolution at SP Mode	220 Lines
		Audio Signal		Input Level	RCA-8dB/50Kohm
				Output Level	-
		Hi-Fi Audio Signal		Dynamic Range : More than	-
				Wow And Flutter : Less than	-
				Channel Separation : More than	-
				Harmonic Distortion : Less than	-
G-5	**Power**	Power Source		AC	120V 60Hz
				DC	-
		Power Consumption		at AC	86 W at 120V 60Hz
				at DC	-
				Stand by (at AC)	5 W at 120V 60 Hz
				Per Year	-
		Protector		Power Fuse	Yes
				Dew Sensor	No
G-6	**Regulation**			Safety	UL/CSA
				Radiation	FCC/DOC
				X-Radiation	DHHS/HWC
G-7	**Temperature**			Operation	+5oC ~ +40oC
				Storage	-20oC ~ +60oC
G-8	**Operating Humidity**				Less then 80% RH

GENERAL SPECIFICATIONS

G-9	**On Screen Display**	Menu			Yes	
			Menu	Type	Character	
			Timer Rec Set		Yes	
			Channel Setup		Yes	
				TV/CATV	Yes	
				Auto ch Memory	Yes	
				Add/Delete	Yes	
				Guide ch Set		No
			TV Setup		Yes	
				V-chip Set		No
				On/Off Timer Set	Yes	
				Picture	Yes	
				Audio		No
				Sap On/Off		No
			Auto Repeat On/Off		Yes	
			System Setup		Yes	
				Clock Set	Yes	
				Language	Yes	
				Auto Clock On/Off	Yes	
				Standard Time	Yes	
				Daylight Saving Time	Yes	
			Commercial Advance			No
				Marking On/Off		No
				Blueback On/Off		No
				Playback Auto/Manual		No
				Unmarked Tape		No
			Movie Advance			No
				Go To Movie		No
				Go To Preview		No
		G-CODE(or SHOWVIEW or PLUSCODE)No. Entry				No
		Clock			Yes	
		CH/AV			Yes	
		Tape Counter(Linear Counter)			Yes	
		Tape Speed			Yes	
		Sleep Time			Yes	
		Stereo/Audio Output				No
				Bilingal		No
				SAP		No
		Control Level	Volume		Yes	
			Bright / Contrast / Sharpness/Color		Yes	
			Tint		Yes	
			Bass/Treble/Balance			No
			Manual Tracking		Yes	
		Play/Stop/FF/Rew/Rec/OTR/T-Rec/Pause/Eject/Tape In (Symbol Mark)			Yes	
		Auto Tracking/Manual Tracking			Yes	
		Caption / Text			Yes	
		Index				No
		Muting			Yes	
		Hi-Fi				No
		Repeat			Yes	
		Zero Return				No
		DEW				No
G-10	**OSD Language**				English French Spanish	
			OSD Language Setting		English	
G-11	**Clock,Timer and Timer Back-up**	Calendar			1990/1/1 ~ 2081/12/31	
		Timer Events			8 prog/ 1 month	
		One Touch Recording Max Time			5 Hours	
		OTPB Valid Time			No	
		Sleep Timer		Max Time	120	min.
				Step	10	min.
		On/Off Timer		Program(On Tim / Off Tim)	1	prog.
		Auto Shut Off		No Signal	15	min.
				No Operation	-	
		Timer Back-up (at Power Off Mode)			5	sec.

GENERAL SPECIFICATIONS

G-12	**Remote Control**	Unit		RC-CG
		Glow in Dark Remocon		Yes
		Power Source	Voltage(D.C)	3V
			UM size x pcs	UM-3 x 2 pcs
		Total Keys		41 Keys
		Keys	Power	Yes
			1	Yes
			2	Yes
			3	Yes
			4	Yes
			5	Yes
			6	Yes
			7	Yes
			8	Yes
			9	Yes
			0	Yes
			CH Up	Yes
			CH Down	Yes
			Volume Up	Yes
			Volume Down	Yes
			Input Select	Yes
			Play	Yes
			F.Fwd	Yes
			Rew	Yes
			Pause/Still	Yes
			Stop	Yes
			Rec/OTR	Yes
			Eject	Yes
			Counter Reset	Yes
			Speed	Yes
			Timer Rec	Yes
			TV Monitor	Yes
			Quick View	Yes
			Program	Yes
			Slow	No
			Auto Tracking	Yes
			Set/Tracking+	Yes
			Set/Tracking -	Yes
			Menu	Yes
			Enter	Yes
			Cancel	Yes
			Call	Yes
			TV/Caption/Text	Yes
			Sleep Timer	Yes
			Muting	Yes
			Zero Return	Yes
			CM Skip	Yes
			Audio Select	No
G-13	**Features**	Auto Head Cleaning		Yes
		Auto Tracking		Yes
		HQ (VHS Standard High Quality)		Yes
		Auto Power On, Auto Play, Auto Rewind, Auto Eject		Yes
		VIDEO PLUS+(SHOWVIEW,G-CODE)		No
		Auto Clock		Yes
		Forward / Reverse Picture Search		Yes
		One Touch Playback		No
		Auto CH Memory		Yes
		Closed Caption		Yes
		TV Auto Shut off Function		Yes
		End Call		No
		Index Search		No
		SQPB		No
		CATV		Yes
		CM Skip(30sec x 6 Times)		Yes
		Comb Filter		No
		TV Monitor		Yes
		Program Extend		No
		Choke Coil		No
		Energy Star		Yes
		Dirty Head		No
		V-chip	USA V-chip	YES
			CANADA V-chip	No
		CM Advance		No
		Movie Advance		No

GENERAL SPECIFICATIONS

G-14	**Accessories**	Owner's Manual		Language	English/French
				w/Guarantee Card	Yes
		Remote Control Unit			Yes
		Rod Antenna			No
				Poles	-
				Terminal	-
				w/300 ohm to 75 ohm Antenna Adapter	-
		Loop Antenna			No
				Terminal	-
		U/V Mixer			No
		DC Car Cord (Center+)			No
		Guarantee Card			No
		Warning Sheet			No
		Circuit Diagram			No
		Antenna Change Plug			No
		Service Facility List			NO
		Important Safeguard			No
		Dew/AHC Caution Sheet			No
		AC Plug Adapter			No
		Quick Set-up Sheet			No
		Battery			No
				UM size x pcs	-
		AC Cord			No
		AV Cord (2Pin-1Pin)			No
		Registration Card			No
		ESP Card			No
		300 ohm to 75 ohm Antenna Adapter			No
G-15	**Interface**	Switch		Power	Yes
				Play	Yes
				Pause/Still	No
				System Select	No
				One Touch Playback	No
				Channel Up	Yes
				Channel Down	Yes
				F.FWD/Cue	Yes
				Eject/Stop	Yes
				Main Power SW	No
				Volume Up	Yes
				Volume Down	Yes
				Rew/Rev	Yes
				Rec/OTR	Yes
				Input Select	No
		Indicator		Power	Red
				Rec/OTR	Red
				T-Rec	Red
				On Timer	No
				CS	No
		Key Light up		Rec/OTR	No
				One Touch Playback	No
				Play	No
		Terminals	Front	Video Input	RCAx1
				Audio Input	RCAx1
				Other Terminal	Head Phone(Stereo & Mono, 3.5mm)
			Rear	Video Input	No
				Audio Input	No
				Video Output	No
				Audio Output	No
				Euro Scart	No
				Diversity	No
				Ext Speaker	No
				DC Jack 12V(Center +)	No
				VHF/UHF Antenna Input	F Type
				AC Inlet	No
G-16	**Set Size**			Approx. W x D x H (mm)	489 x 470.5 x 479.5
G-17	**Weight**			Net (Approx.)	19.0 kg (41.8 lbs)
				Gross (Approx.)	22.0 kg (48.5 lbs)

GENERAL SPECIFICATIONS

G-18	**Carton**	Master Carton		No
			Content	-
			Material	-
			Dimensions W x D x H(mm)	-
			Description of Origin	-
		Gift Box		Yes
			Material	Double/White
			Dimensions W x D x H(mm)	559 x 538 x 555
			Design	As per Buyer's
			Description of Origin	No
		Drop Test	Natural Dropping At	1 Corner / 3 Edges / 6 Surfaces
			Height (cm)	46
		Container Stuffing(40' container)		352 Sets
G-19	**Cabinet Material**		Cabinet Front	PS 94V0 DECABROM
			Cabinet Rear	PS 94V0

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS

1-1: BACK CABINET (Refer to Fig. 1-1)

1. Remove the 4 screws ①.
2. Remove the screw ②.
3. Remove the AC cord from the AC cord hook ③.
4. Remove the Back Cabinet in the direction of arrow.

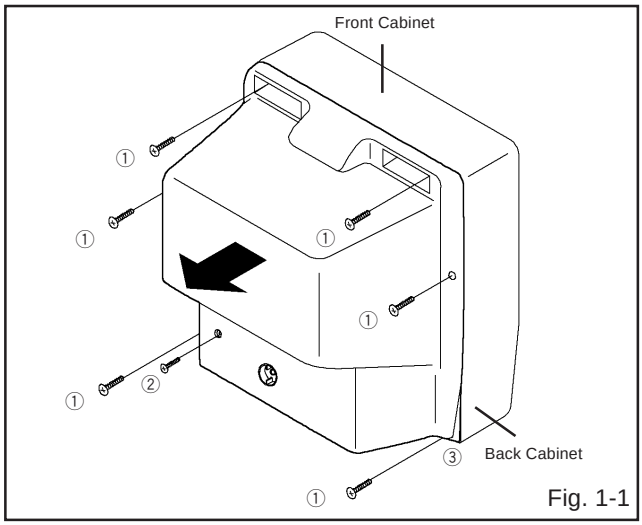


Fig. 1-1

1-2: CRT PCB (Refer to Fig. 1-2)

CAUTION: BEFORE REMOVING THE ANODE CAP, DISCHARGE ELECTRICITY BECAUSE IT CONTAINS HIGH VOLTAGE. BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB, UNPLUG THE POWER CORD FROM THE AC SOURCE.

1. Remove the Anode Cap.
   (Refer to REMOVAL OF ANODE CAP)
2. Disconnect the following connectors:
   (CP801 and CP851).
3. Remove the CRT PCB in the direction of arrow.

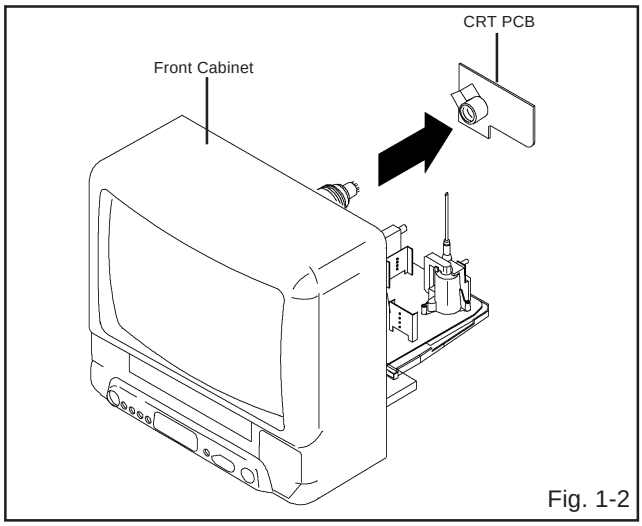


Fig. 1-2

1-3: TV/VCR BLOCK (Refer to Fig. 1-3)

1. Remove the 2 screws ①.
2. Disconnect the following connectors:
   (CP757, CP353, CP401 and CP502).
3. Unlock the support ②.
4. Remove the TV/VCR Block in the direction of arrow.

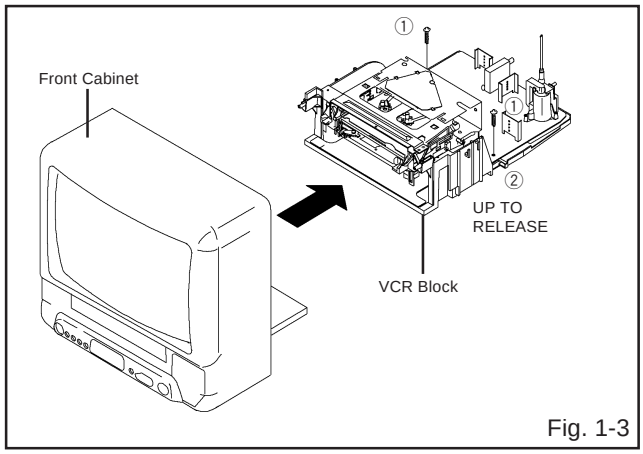


Fig. 1-3

1-4: DECK CHASSIS AND SYSCON PCB (Refer to Fig. 1-4)

1. Remove the 3 screws ①.
2. Remove the 2 screws ②.
3. Remove the screw ③.
4. Remove the screw ④.
5. Disconnect the following connectors:(CP1004, CP1005, CP1006, CP4001, CP4002 and CP4003).
6. Remove the Deck Chassis and Deck Shield Plate in the direction of arrow (A).
7. Remove the screw ⑤.
8. Remove the Syscon PCB in the direction of arrow (B).

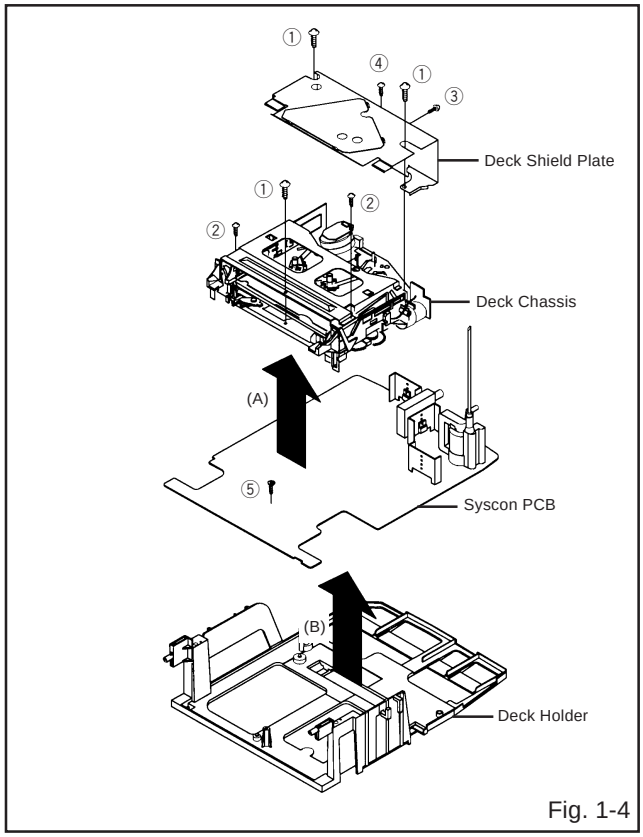


Fig. 1-4

DISASSEMBLY INSTRUCTIONS

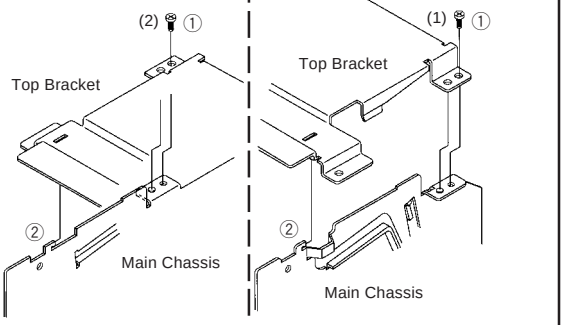
2. REMOVAL OF DECK PARTS

2-1: TOP BRACKET (Refer to Fig. 2-1)

1. Remove the 2 screws ①.
2. Slide the 2 supports ② and remove the Top Bracket.

NOTE

When you install the Top Bracket, install the screw (1) first, then install the screw (2).



• Screw Torque: 5 ± 0.5kgf•cm

Fig. 2-1

2-2: FLAP LEVER/TAPE GUIDE R (Refer to Fig. 2-2)

1. Move the Cassette Holder Ass'y to the back side.
2. Remove the Polyslider Washer ①.
3. Remove the Flap Lever.
4. Unlock the 3 supports ② and remove the Tape Guide R.

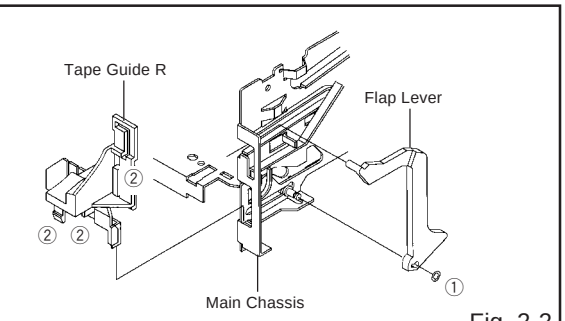
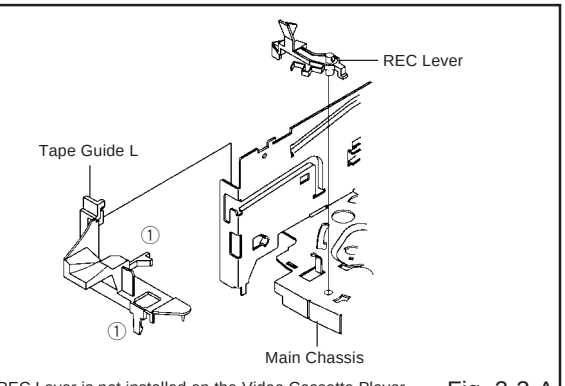


Fig. 2-2

2-3: TAPE GUIDE L (Refer to Fig. 2-3-A)

1. Move the Cassette Holder Ass'y to the back side.
2. Unlock the 2 supports ① and remove the Tape Guide L.
3. Remove the REC Lever. (Recorder only)

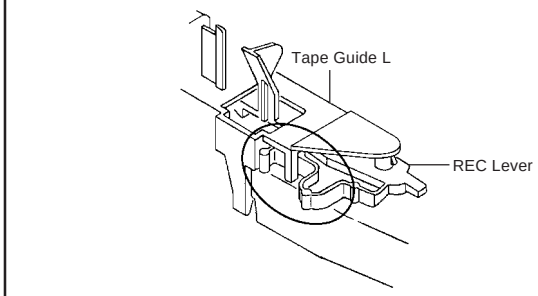


• The REC Lever is not installed on the Video Cassette Player.

Fig. 2-3-A

NOTE

When you install the Tape Guide L, install as shown in the circle of Fig. 2-3-B. **(Refer to Fig. 2-3-B)**



• The REC Lever is not installed on the Video Cassette Player.

Fig. 2-3-B

2-4: CASSETTE HOLDER ASS'Y (Refer to Fig. 2-4)

1. Move the Cassette Holder Ass'y to the front side so that the Link Ass'y doesn't slip out.
2. Push the Locker R to remove the Cassette Side R.
3. Remove the Cassette Side L.

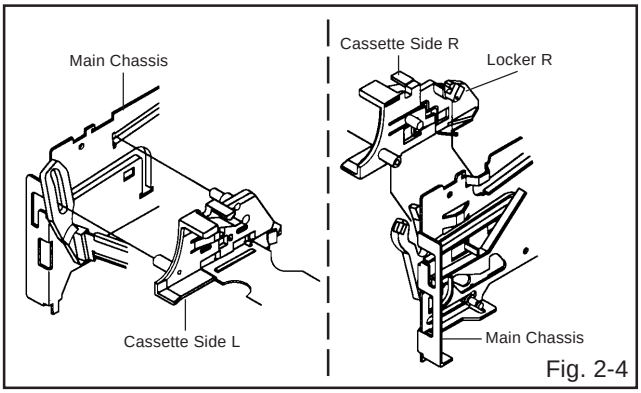


Fig. 2-4

2-5: CASSETTE SIDE L/R (Refer to Fig. 2-5)

1. Unlock the 4 supports ① and then remove the Cassette Side L/R.
2. Remove the Cassette Earth Spring.

NOTE

1. When you install the Cassette Side R, be sure to move the Locker R after installing.
2. After the installation of the Cassette Holder, then install the Cassette Earth Spring.

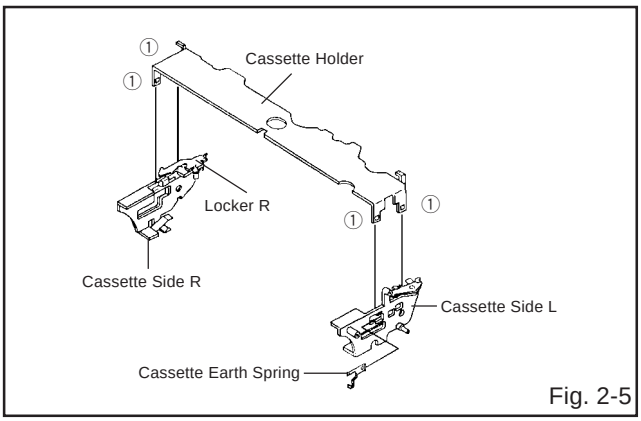


Fig. 2-5

DISASSEMBLY INSTRUCTIONS

2-6: LINK UNIT (Refer to Fig. 2-6)

1. Set the Link Unit to the Eject position.
2. Remove the (A) side of the Link Unit first, then remove the (B) side.

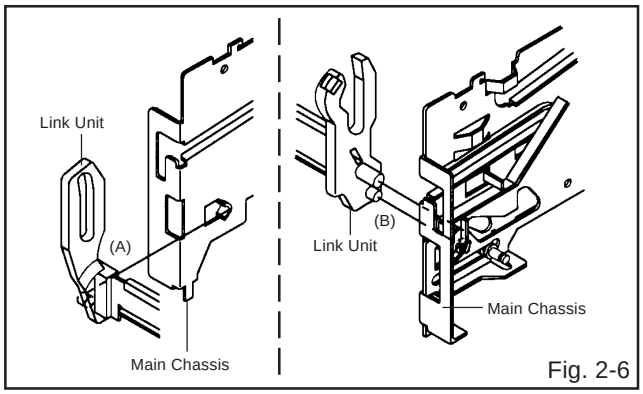


Fig. 2-6

2-7: LOADING MOTOR ASS'Y (Refer to Fig. 2-7)

1. Remove the Link Lever.
2. Remove the screw ①.
3. Remove the Loading Motor Ass'y.
4. Unlock the 2 supports ② and remove the Deck PCB (BOT).

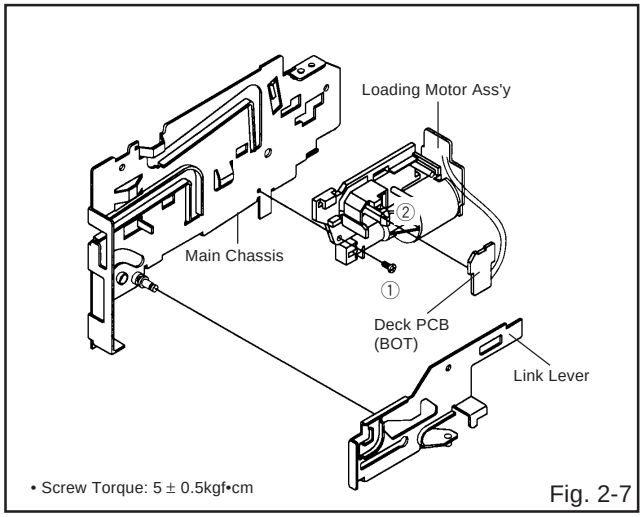


Fig. 2-7

2-8: SENSOR COVER L3 (Refer to Fig. 2-8)

1. Unlock the support ① and remove the Sensor Cover L3.

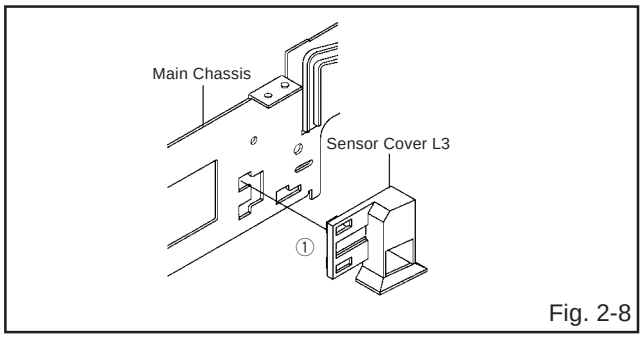


Fig. 2-8

2-9: TENSION ASS'Y (Refer to Fig. 2-9-B)

1. Move the Inclined S Ass'y to the back side.
2. Remove the Tension Spring.
3. Unlock the support ① and remove the Tension Arm Ass'y.
4. Remove the Tension Adjust.
5. Unlock the 2 supports ② and remove the Tension Band Ass'y.
6. Float the hook ③ and turn it clockwise then remove the Tension Holder.
7. Remove the SS Brake Spring.
8. Remove the SS Arm Brake.

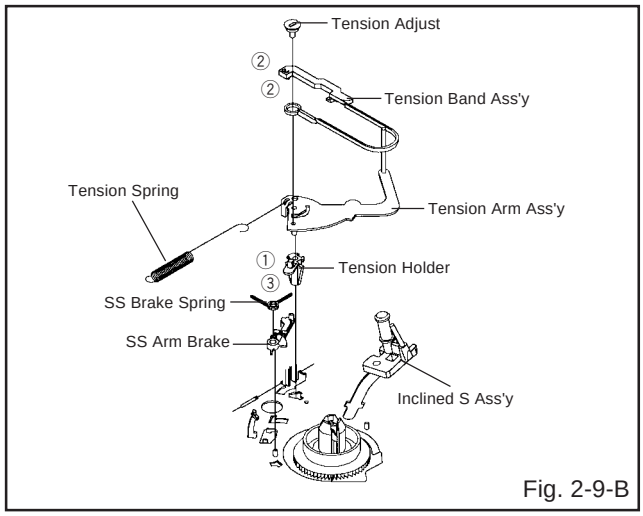


Fig. 2-9-B

NOTE

When you install the Tension Adjust, install as shown in Fig. 2-9-C. **(Refer to Fig. 2-9-C)**

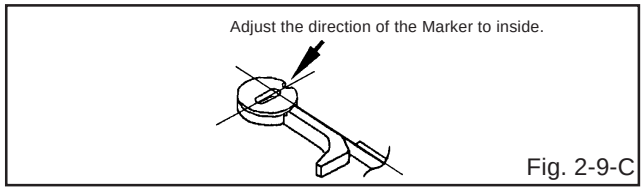


Fig. 2-9-C

2-10: T BRAKE ASS'Y (Refer to Fig. 2-10)

1. Remove the T Brake Spring.
2. Turn the T Brake Ass'y clockwise and bend the hook section to remove it.

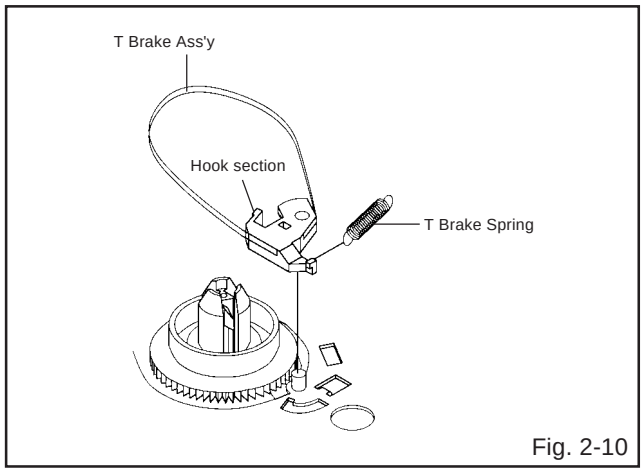


Fig. 2-10

DISASSEMBLY INSTRUCTIONS

2-11: S REEL/T REEL (Refer to Fig. 2-11)

1. Remove the S Reel and T Reel.
2. Remove the 2 Polyslider Washers ①.

NOTE

1. Take care not to damage the gears of the S Reel and T Reel.
2. The Polyslider Washer may be remained on the back of the reel.
3. Take care not to damage the shaft.
4. Do not touch the section "A" of S Reel and T Reel. (Use gloves.) **(Refer to Fig. 2-11)** Do not adhere the stains on it.
5. When you install the reel, clean the shaft and oil it. (If you do not oil, noise may be heard in FF/REW mode.)
6. After installing the reel, adjust the height of the reel. **(Refer to MECHANICAL ADJUSTMENT)**

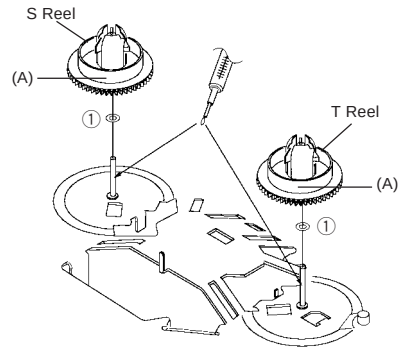
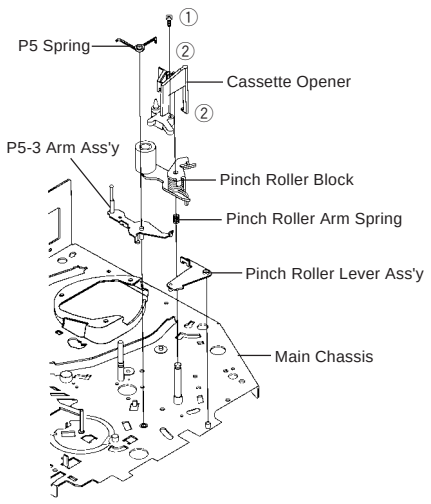


Fig. 2-11

2-12: PINCH ROLLER BLOCK/P5-3 ARM ASS'Y (Refer to Fig. 2-12-A)

1. Remove the P5 Spring.
2. Remove the screw ①.
3. Unlock the 2 supports ② and remove the Cassette Opener.
4. Remove the Pinch Roller Block, Pinch Roller Arm Spring, Pinch Roller Lever Ass'y and P5-3 Arm Ass'y.



• Screw Torque: 5 ± 0.5kgf•cm

Fig. 2-12-A

NOTE

1. Do not touch the Pinch Roller. (Use gloves.)
2. When you install the Pinch Roller Block, install as shown in the circle of Fig. 2-12-B. **(Refer to Fig. 2-12-B)**

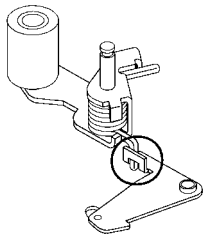


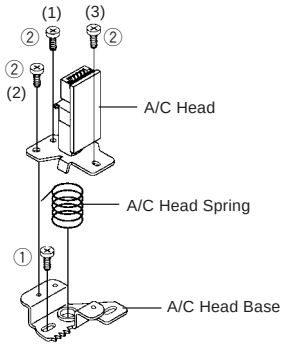
Fig. 2-12-B

2-13: A/C HEAD (Refer to Fig. 2-13-A)

1. Remove the screw ①.
2. Remove the A/C Head Base.
3. Remove the 3 screws ②.
4. Remove the A/C Head and A/C Head Spring.

NOTE

1. Do not touch the A/C Head. (Use gloves.)
2. When you install the A/C Head Spring, install as shown in Fig. 2-13-B. **(Refer to Fig. 2-13-B)**
3. When you install the A/C Head, tighten the screw (1) first, then tighten the screw (2), finally tighten the screw (3).



• Screw Torque: 5 ± 0.5kgf•cm (Screw ①)

Fig. 2-13-A

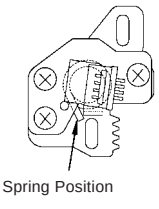
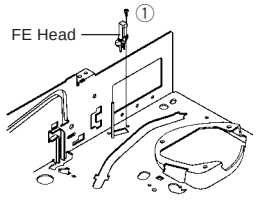


Fig. 2-13-B

2-14: FE HEAD (RECORDER ONLY) (Refer to Fig. 2-14)

1. Remove the screw ①.
2. Remove the FE Head.



• The FE Head is not installed on the Video Cassette Player.
• Screw Torque: 4 ± 0.5kgf•cm

Fig. 2-14

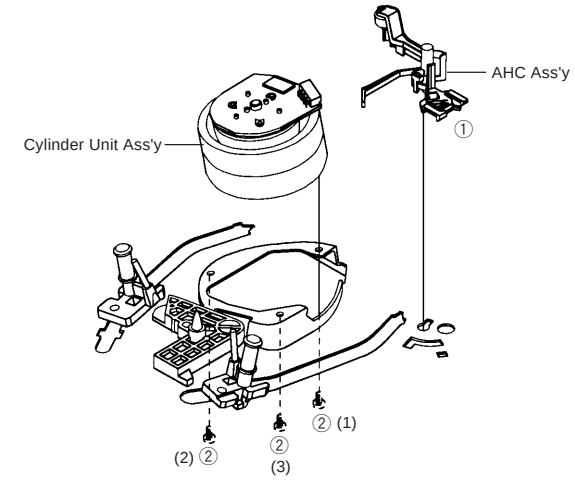
DISASSEMBLY INSTRUCTIONS

2-15: AHC ASS'Y/CYLINDERUNITASS'Y (Refer to Fig. 2-15)

1. Unlock the support ① and remove the AHC Ass'y.
2. Remove the 3 screws ②.
3. Remove the Cylinder Unit Ass'y.

NOTE

When you install the Cylinder Unit Ass'y, tighten the screws from (1) to (3) in order while pulling the Ass'y toward the left front direction.

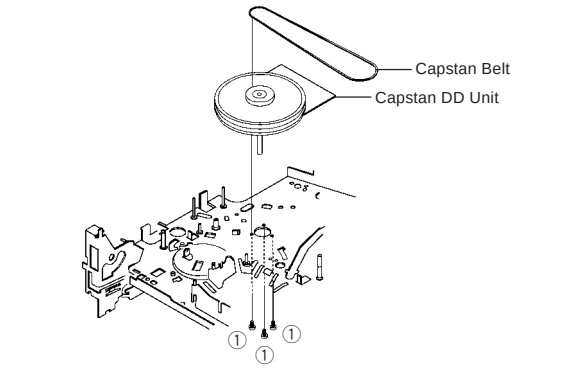


• Screw Torque: 3 ± 0.5kgf•cm

Fig. 2-15

2-16: CAPSTAN DD UNIT (Refer to Fig. 2-16)

1. Remove the Capstan Belt.
2. Remove the 3 screws ①.
3. Remove the Capstan DD Unit.



• Screw Torque: 5 ± 0.5kgf•cm

Fig. 2-16

2-17: MIDDLE GEAR/MAIN CAM (Refer to Fig. 2-17- A)

1. Remove the Polyslider Washer ①, then remove the Middle Gear.
2. Remove the E-Ring, then remove the Main Cam, P5 Cam, Pinch Roller Cam and Joint Gear.

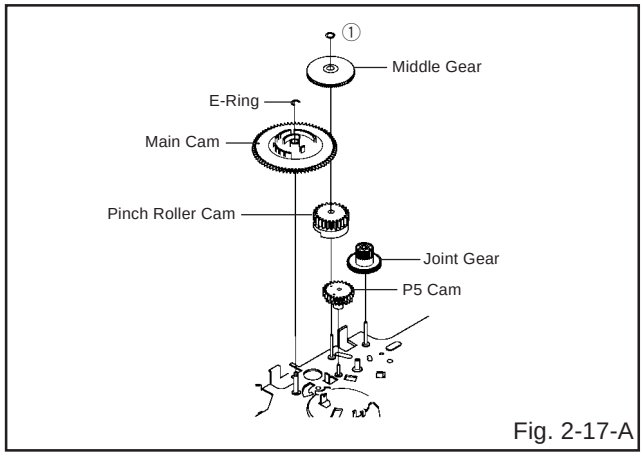


Fig. 2-17-A

NOTE

When you install the Pinch Roller Cam, P5 Cam and Main Cam, align each marker. **(Refer to Fig. 2-17- B)**

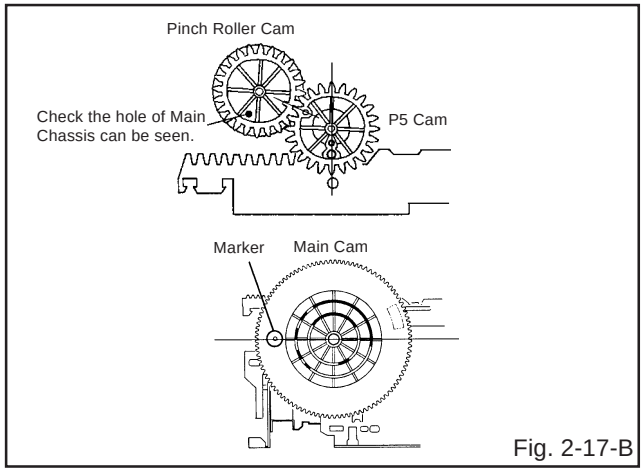


Fig. 2-17-B

2-18: CLUTCH ASS'Y (Refer to Fig. 2-18)

1. Remove the Capstan Brake Spring.
2. Remove the Polyslider Washer ①.
3. Remove the Clutch Ass'y, Ring Spring and Coupling Gear.
4. Unlock the 2 supports ② and remove the Clutch Lever.

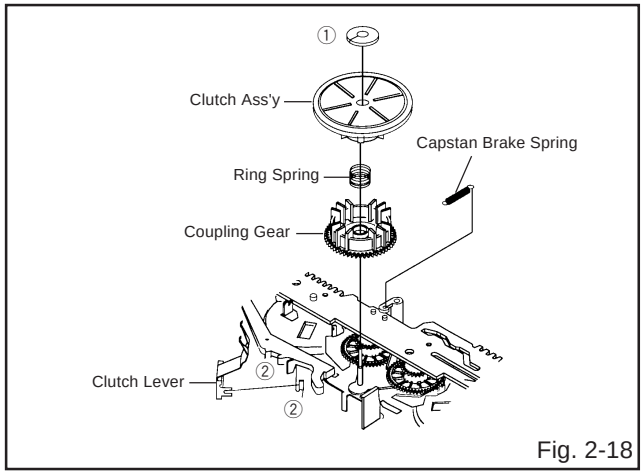


Fig. 2-18

DISASSEMBLY INSTRUCTIONS

2-19: LOADING GEAR S/T ASS'Y (Refer to Fig. 2-19-A)

1. Remove the E-Ring ① and remove the Main Loading Gear.
2. Slide the Main Rod and remove the Spring Holder.
3. Remove the Main Rod, Tension Lever, Clutch Actuator, Idler Arm Ass'y.
4. Remove the screw ②.
5. Remove the LED Reflecter.
6. Remove the Loading Arm S Ass'y and Loading Arm T Ass'y.
7. Remove the Loading Gear S and Loading Gear T.
8. Remove the Loading Gear Spring.

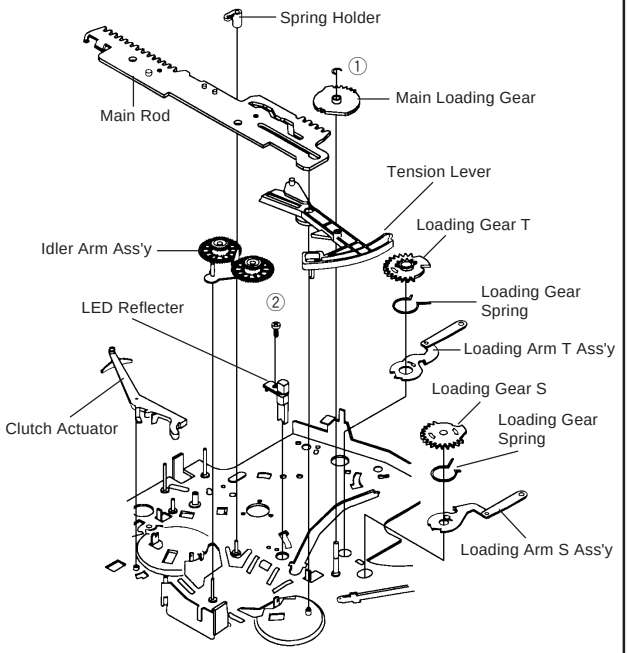


Fig. 2-19-A

NOTES

1. When you install the Loading Arm S Ass'y, Loading Arm T Ass'y and Main Loading Gear, align each marker. **(Refer to Fig. 2-19-B)**

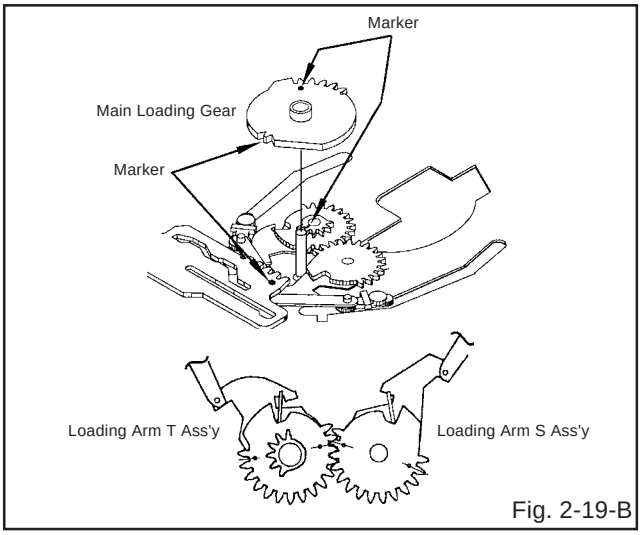


Fig. 2-19-B

2. When you install the Clutch Actuator, install as shown in the circle of Fig. 2-19-C. **(Refer to Fig. 2-19-C)**

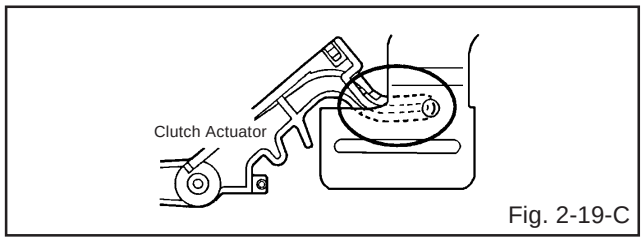


Fig. 2-19-C

2-20: INCLINED S/T ASS'Y (Refer to Fig. 2-20)

1. Remove the Cap P4.
2. Remove the screw ①.
3. Unlock the support ② and remove the Loading Gear Holder.
4. Remove the Inclined S Unit.
5. Remove the Inclined T Unit.

NOTE

Do not touch the roller of Guide Roller.

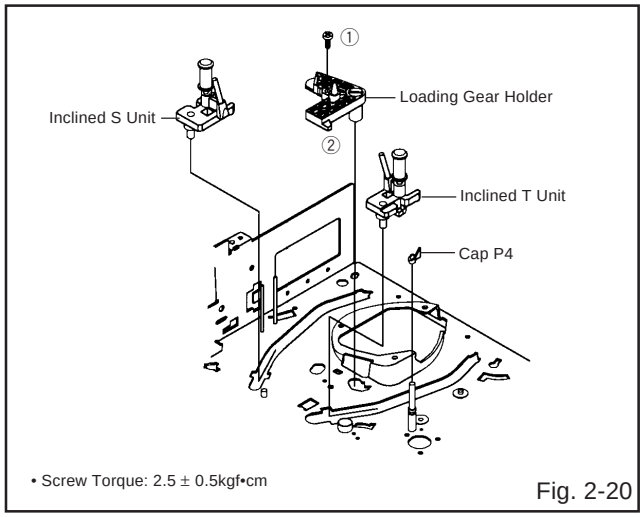


Fig. 2-20

DISASSEMBLY INSTRUCTIONS

3. REMOVAL OF ANODE CAP

Read the following **NOTED** items before starting work.

* After turning the power off there might still be a potential voltage that is very dangerous. When removing the Anode Cap, make sure to discharge the Anode Cap's potential voltage.
* Do not use pliers to loosen or tighten the Anode Cap terminal, this may cause the spring to be damaged.

REMOVAL

1. Follow the steps as follows to discharge the Anode Cap. **(Refer to Fig. 3-1.)**
   Connect one end of an Alligator Clip to the metal part of a flat-blade screwdriver and the other end to ground.
   While holding the plastic part of the insulated Screwdriver, touch the support of the Anode with the tip of the Screwdriver.
   A cracking noise will be heard as the voltage is discharged.

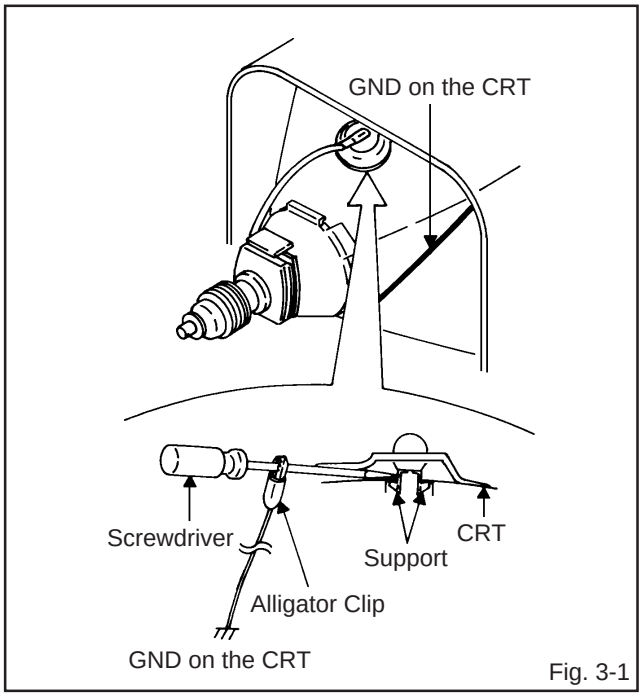


Fig. 3-1

2. Flip up the sides of the Rubber Cap in the direction of the arrow and remove one side of the support. **(Refer to Fig. 3-2.)**

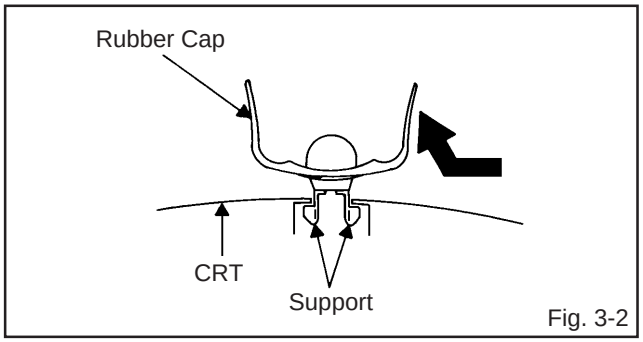


Fig. 3-2

3. After one side is removed, pull in the opposite direction to remove the other.

NOTE

Take care not to damage the Rubber Cap.

INSTALLATION

1. Clean the spot where the cap was located with a small amount of alcohol. **(Refer to Fig. 3-3.)**

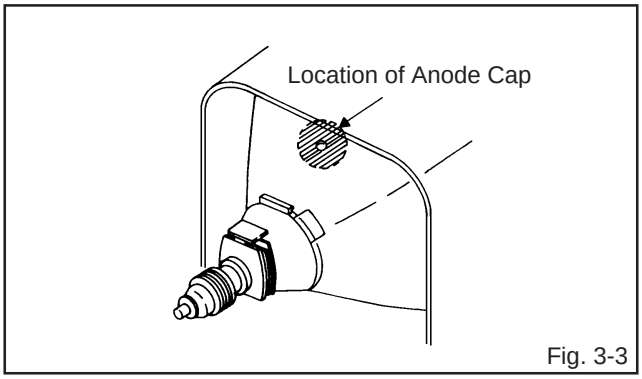


Fig. 3-3

NOTE

Confirm that there is no dirt, dust, etc. at the spot where the cap was located.

2. Arrange the wire of the Anode Cap and make sure the wire is not twisted.
3. Turn over the Rubber Cap. **(Refer to Fig. 3-4.)**

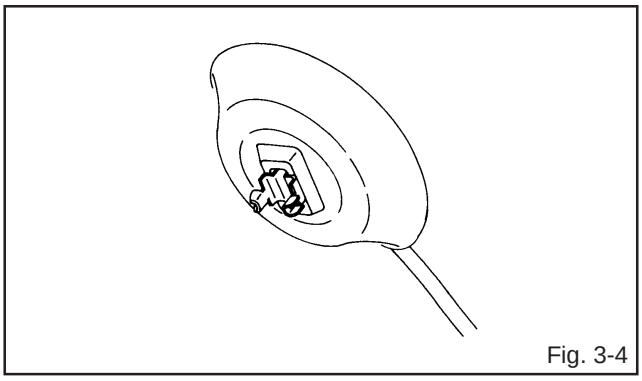


Fig. 3-4

4. Insert one end of the Anode Support into the anode button, then the other as shown in **Fig. 3-5**.

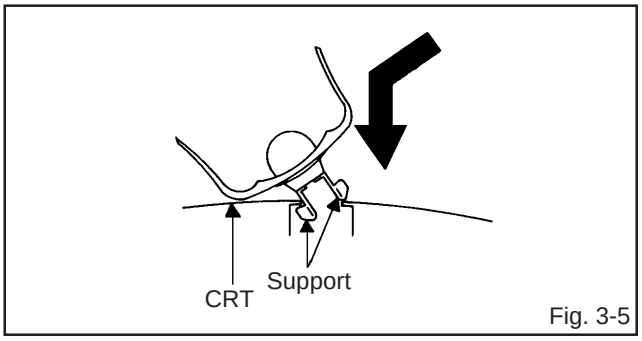


Fig. 3-5

5. Confirm that the Support is securely connected.
6. Put on the Rubber Cap without moving any parts.

KEY TO ABBREVIATIONS

A	**A/C**	:	Audio/Control
	ACC	:	Automatic Color Control
	AE	:	Audio Erase
	AFC	:	Automatic Frequency Control
	AFT	:	Automatic Fine Tuning
	AFT DET	:	Automatic Fine Tuning Detect
	AGC	:	Automatic Gain Control
	AMP	:	Amplifier
	ANT	:	Antenna
	A.PB	:	Audio Playback
	APC	:	Automatic Phase Control
	ASS'Y	:	Assembly
	AT	:	All Time
	AUTO	:	Automatic
	A/V	:	Audio/Video
B	**BGP**	:	Burst Gate Pulse
	BOT	:	Beginning of Tape
	BPF	:	Bandpass Filter
	BRAKE SOL	:	Brake Solenoid
	BUFF	:	Buffer
	B/W	:	Black and White
C	**C**	:	Capacitance, Collector
	CASE	:	Cassette
	CAP	:	Capstan
	CARR	:	Carrier
	CH	:	Channel
	CLK	:	Clock
	CLOCK (SY-SE)	:	Clock (Syscon to Servo)
	COMB	:	Combination, Comb Filter
	CONV	:	Converter
	CPM	:	Capstan Motor
	CTL	:	Control
	CYL	:	Cylinder
	CYL-M	:	Cylinder-Motor
	CYL SENS	:	Cylinder-Sensor
D	**DATA (SY-CE)**	:	Data (Syscon to Servo)
	dB	:	Decibel
	DC	:	Direct Current
	DD Unit	:	Direct Drive Motor Unit
	DEMOD	:	Demodulator
	DET	:	Detector
	DEV	:	Deviation
E	**E**	:	Emitter
	EF	:	Emitter Follower
	EMPH	:	Emphasis
	ENC	:	Encoder
	ENV	:	Envelope
	EOT	:	End of Tape
	EQ	:	Equalizer
	EXT	:	External
F	**F**	:	Fuse
	FBC	:	Feed Back Clamp
	FE	:	Full Erase
	FF	:	Fast Forward, Flipflop
	FG	:	Frequency Generator
	FL SW	:	Front Loading Switch
	FM	:	Frequency Modulation
	FSC	:	Frequency Sub Carrier
	FWD	:	Forward
G	**GEN**	:	Generator
	GND	:	Ground
H	**H.P.F**	:	High Pass Filter
	H.SW	:	Head Switch
	Hz	:	Hertz
I	**IC**	:	Integrated Circuit
	IF	:	Intermediate Frequency
	IND	:	Indicator
	INV	:	Inverter
K	**KIL**	:	Killer
L	**L**	:	Left
	LED	:	Light Emitting Diode
	LIMIT AMP	:	Limiter Amplifier
	LM, LDM	:	Loading Motor
	LP	:	Long Play
	L.P.F	:	Low Pass Filter
	LUMI.	:	Luminance
M	**M**	:	Motor
	MAX	:	Maximum
	MINI	:	Minimum
	MIX	:	Mixer, mixing
	MM	:	Monostable Multivibrator
	MOD	:	Modulator, Modulation
	MPX	:	Multiplexer, Multiplex
	MS SW	:	Mecha State Switch
N	**NC**	:	Non Connection
	NR	:	Noise Reduction
O	**OSC**	:	Oscillator
	OPE	:	Operation
P	**PB**	:	Playback
	PB CTL	:	Playback Control
	PB-C	:	Playback-Chrominance
	PB-Y	:	Playback-Luminance
	PCB	:	Printed Circuit Board
	P. CON	:	Power Control
	PD	:	Phase Detector
	PG	:	Pulse Generator
	P-P	:	Peak-to Peak
R	**R**	:	Right
	REC	:	Recording
	REC-C	:	Recording-Chrominance
	REC-Y	:	Recording-Luminance
	REEL BRK	:	Reel Brake
	REEL S	:	Reel Sensor
	REF	:	Reference
	REG	:	Regulated, Regulator
	REW	:	Rewind
	REV, RVS	:	Reverse
	RF	:	Radio Frequency
	RMC	:	Remote Control
	RY	:	Relay
S	**S. CLK**	:	Serial Clock
	S. COM	:	Sensor Common
	S. DATA	:	Serial Data
	SEG	:	Segment
	SEL	:	Select, Selector
	SENS	:	Sensor
	SER	:	Search Mode
	SI	:	Serial Input
	SIF	:	Sound Intermediate Frequency
	SO	:	Serial Output
	SOL	:	Solenoid
	SP	:	Standard Play
	STB	:	Serial Strobe
	SW	:	Switch

KEY TO ABBREVIATIONS

S	**SYNC**	:	Synchronization
	SYNC SEP	:	Sync Separator, Separation
T	**TR**	:	Transistor
	TRAC	:	Tracking
	TRICK PB	:	Trick Playback
	TP	:	Test Point
U	**UNREG**	:	Unregulated
V	**V**	:	Volt
	VCO	:	Voltage Controlled Oscillator
	VIF	:	Video Intermediate Frequency
	VP	:	Vertical Pulse, Voltage Display
	V.PB	:	Video Playback
	VR	:	Variable Resistor
	V.REC	:	Video Recording
	VSF	:	Visual Search Fast Forward
	VSR	:	Visual Search Rewind
	VSS	:	Voltage Super Source
	V-SYNC	:	Vertical-Synchronization
	VT	:	Voltage Tuning
X	**X'TAL**	:	Crystal
Y	**Y/C**	:	Luminance/Chrominance

SERVICE MODE LIST

This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily.

To enter SERVICE MODE, unplug AC cord till lost actual clock time. Then press and hold Vol (-) button of main unit and remocon key simultaneously.

The both pressing of set key and remote control key will not be possible if clock has been set. To reset clock, either unplug AC cord and allow at least 5 seconds before Power On.

Set Key	Remocon Key	Operations
VOL. (-) MIN	0	Releasing of V-CHIP PASSWORD.
VOL. (-) MIN	1	Initialization of the factory. NOTE: Do not use this for the normal servicing.
VOL. (-) MIN	2	Horizontal position adjustment of OSD. NOTE: Also can be adjusted by using the Adjustment MENU. Refer to the "ELECTRICAL ADJUSTMENT" (OSD HORIZONTAL).
VOL. (-) MIN	3	Adjust the PG SHIFTER automatically. Refer to the "ELECTRICAL ADJUSTMENT" (PG SHIFTER).
VOL. (-) MIN	4	Adjust the PG SHIFTER manually. Refer to the "ELECTRICAL ADJUSTMENT" (PG SHIFTER).
VOL. (-) MIN	5	Adjusting of the Tracking to the center position. NOTE: Also can be adjusted by pressing the ATR button for more than 2 seconds during PLAY.
VOL. (-) MIN	6	POWER ON total hours and PLAY/REC total hours are displayed on the screen. Refer to the "PREVENTIVE CHECKS AND SERVICE INTERVALS" (CONFIRMATION OF USING HOURS). Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "NOTE FOR THE REPLACING OF MEMORY IC".
VOL. (-) MIN	8	Writing of EEPROM initial data. NOTE: Do not use this for the normal servicing.
VOL. (-) MIN	9	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).

Method	Operations
Press the ATR button on the remote control for more than 2 seconds during PLAY.	Adjusting of the Tracking to the center position. Refer to the "MECHANICAL ADJUSTMENT" (GUIDE ROLLER) and "ELECTRICAL ADJUSTMENT" (PG SHIFTER).
Make the short circuit between the test point of SERVICE and the GND.	The EOT/BOT/Reel sensor do not work at this moment. Refer to the "PREPARATION FOR SERVICING"

PREVENTIVE CHECKS AND SERVICE INTERVALS

The following standard table depends on environmental conditions and usage. Unless maintenance is properly carried out, the following service intervals may be quite shortened as harmful effects may be had on other parts. Also, long term storage or misuse may cause transformation and aging of rubber parts.

Time / Parts Name	500 hours	1,000 hours	1,500 hours	2,000 hours	3,000 hours	Notes
Audio Control Head	■	■	■	■	■	Clean those parts in contact with the tape.
Full Erase Head (Recorder only)	■	■	■	■	■	
Capstan Belt			■	■	●	Clean the rubber, and parts which the rubber touches.
Pinch Roller	■	■	■	■	■ ●	
Capstan DD Unit					●	
Loading Motor					●	
Tension Band					●	
Capstan Shaft	■	■	■	■	■	
Tape Running Guide Post	■	■	■	■	■	Replace when rolling becomes abnormal.
Cylinder Unit	■	■	■	■	●	Clean the Head

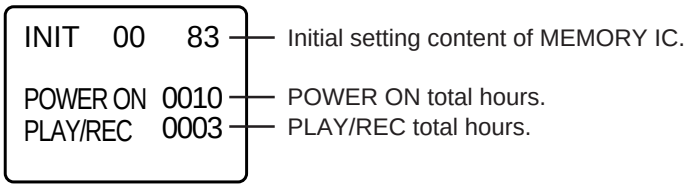
■ : Clean
● : Replace

CONFIRMATION OF USING HOURS

POWER ON total hours and PLAY/REC total hours can be checked on the screen.
Total hours are displayed in 16 system of notation.

NOTE: The confirmation of using hours will not be possible if clock has been set. To reset clock, either unplug AC cord and allow at least 5 seconds before Power On.

1. Set the VOLUME to minimum.
2. While holding down VOLUME button on front cabinet, press key 6 on remote control simultaneously.
3. After the confirmation of using hours, turn off the power.



(16 x 16 x 16 x thousands digit value) + (16 x 16 x hundreds digit value) + (16 x tens digit value) + (ones digit value)

PREVENTIVE CHECKS AND SERVICE INTERVALS

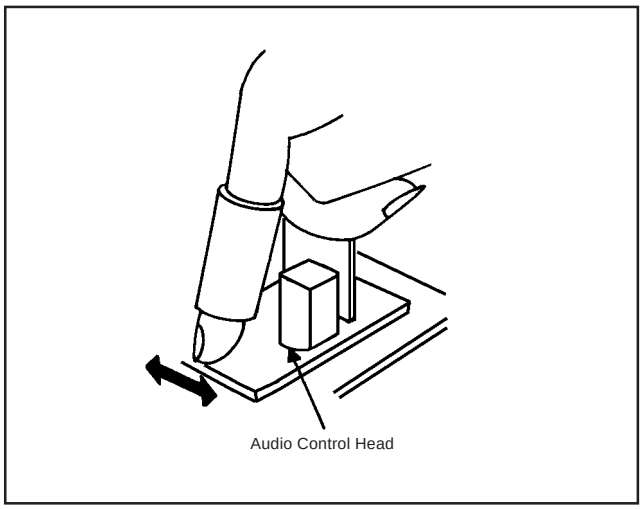
CLEANING

NOTE

After cleaning the heads with isopropyl alcohol, do not run a tape until the heads dry completely. If the heads are not completely dry and alcohol gets on the tape, damage may occur.

1. AUDIO CONTROL HEAD

Wrap a piece of chamois around your finger. Dip it in isopropyl alcohol and clean the audio control head by wiping it horizontally. Clean the full erase head in the same manner. **(Refer to the figure below.)**



2. TAPE RUNNING SYSTEM

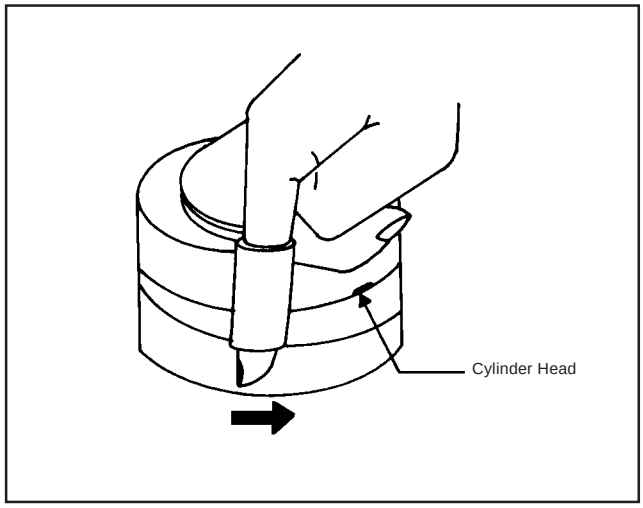
When cleaning the tape transport system, use the gauze moistened with isopropyl alcohol.

3. CYLINDER

Wrap a piece of chamois around your finger. Dip it in isopropyl alcohol. Hold it to the cylinder head softly. Turn the cylinder head counterclockwise to clean it (in the direction of the arrow). **(Refer to the figure below.)**

NOTE

Do not exert force against the cylinder head. Do not move the chamois upward or downward on the head.
Use the chamois one by one.



NOTE FOR THE REPLACING OF MEMORY IC

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to TABLE 1.

NOTE: Initial Data setting will not be possible if clock has been set. To reset clock, either unplug AC cord and allow at least 5 seconds before Power On.

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	88	1B	C2	63	43	14	34	09	51	38	10	96	19	00	00	21
10	B2	9A	92	93	00	00	00	15	08	00	A9	0F	04	3E	06	04
20	06	29	01	15	10	60	32	3A	DA	D7	10	15	20	25	26	27
30	28	29	2A	2C	2E	30	32	34	36	38	3A	3C	3E	40	41	42
40	43	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F	50	51	52
50	53	54	55	56	57	58	59	5A	5B	5C	5D	5E	5F	60	61	62
60	63	64	66	69	6D	74	79	7C	7E	7F	---	---	---	---	---	---

Table 1

1. Enter DATA SET mode by setting VOLUME to minimum.
2. While holding down VOLUME button on front cabinet, press key 6 on remote control simultaneously. ADDRESS and DATA should appear as FIG 1.

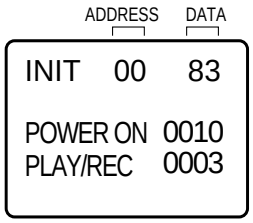
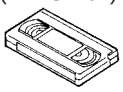
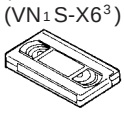
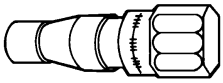
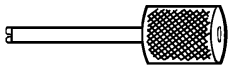
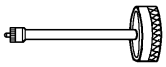
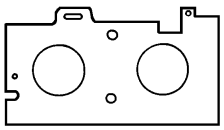
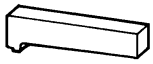
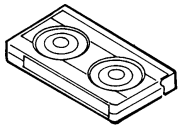
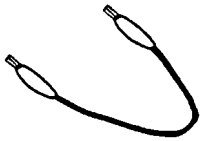
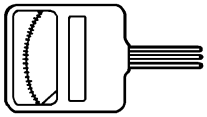


Fig. 1

3. ADDRESS is now selected and should "blink". Using the PLAY or STOP button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
4. Press ENTER to select DATA. When DATA is selected, it will "blink".
5. Again, step through the DATA using PLAY or STOP until required DATA value has been selected.
6. Pressing ENTER will take you back to ADDRESS for further selection if necessary.
7. Repeat steps 3 to 6 until all data has been checked.
8. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input.

The unit will now have the correct DATA for the new MEMORY IC.

SERVICING FIXTURES AND TOOLS

(For 2 heads model) VHS Alignment Tape JG001 (VN$_2$S-LI6^3) JG001A (VN$_2$S-CO1^3) JG001Q (VN$_2$S-LI6^{3}H) JG001T (VN$_2$S-X6^3) 	**(For 4 heads model)** VHS Alignment Tape JG001B (VN$_1$S-LI6^3) JG001I (VN$_1$S-CO1^3) JG001P (VN$_1$S-LI6^{3}H) JG001S (VN$_1$S-X6^3) 	JG002B Adapter JG002E Dial Torque Gauge (10~90gf•cm) JG002F (60~600gf•cm) 	JG005 Post Adjustment Screwdriver Part No. SV-TG0-030-000 (small) 
JG153 X Value Adjustment Screwdriver 	JG022 Master Plane 	JG024A Reel Disk Height Adjustment Jig 	JG100A Torque Tape (VHT-063) 
JG154 Cable 	Tentelometer 		

Ref. No.	Part No.	Remarks
JG001	APJG001000	Monoscope, 6KHz **(For 2 heads model)**
JG001A	APJG001A00	Color Bar, 1KHz **(For 2 heads model)**
JG001Q	APJG001Q00	Hi-Fi Audio **(For 2 heads Hi-Fi model)**
JG001T	APJG001T00	X Value Adjustment **(For 2 heads model)**
JG001B	APJG001B00	Monoscope, 6KHz **(For 4 heads model)**
JG001I	APJG001I00	Color Bar, 1KHz **(For 4 heads model)**
JG001P	APJG001P00	Hi-Fi Audio **(For 4 heads Hi-Fi model)**
JG001S	APJG001S00	X Value Adjustment **(For 4 heads model)**
JG002B	APJG002B00	VSR Torque, Brake Torque (S Reel/T Reel Ass'y)
JG002E	APJG002E00	Brake Torque (T Reel Ass'y)
JG002F	APJG002F00	VSR Torque, Brake Torque (S Reel)
JG005	APJG005000	Guide Roller Adjustment
JG153	APJG153000	X Value Adjustment
JG022/JG024A	APJG022000/APJG024A00	Reel Disk Height Adjustment
JG100A	APJG100A00	Playback Torque, Back Tension Torque During Playback
JG154	APJG154000	Used to connect the test point of SERVICE and GROUND

PREPARATION FOR SERVICING

How to use the Servicing Fixture

1. Unplug the connector CP757 and CP353, then remove the TV/VCR Block from the set.
2. Remove the Operation PCB from the set, then connect it with the Syscon PCB.
   If necessary, connect CP353. (Front A/V Jack Input Terminal)
3. Short circuit between **TP1001** and **Ground** with the cable JG154.
   (Refer to MAJOR COMPONENTS LOCATION GUIDE)
4. The EOT, BOT and Reel Sensor do not work at this moment.
   At that time, the STOP/EJECT button is available to insert and eject the Cassette Tape.

MECHANICAL ADJUSTMENTS

1. CONFIRMATION AND ADJUSTMENT

Read the following NOTES before starting work.

- Place an object which weighs between 450g~500g on the Cassette Tape to keep it steady when you want to make the tape run without the Cassette Holder. (Do not place an object which weighs over 500g.)
- When you activate the deck without the Cassette Holder, short circuit between **TP1001** and **GND**. **(Refer to ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE)** In this condition the BOT/EOT/Reel Sensor will not function.

1-1: CONFIRMATION AND ADJUSTMENT OF REEL DISK HEIGHT

1. Turn on the power and set to the STOP mode.
2. Set the master plane **(JG022)** and reel disk height adjustment jig **(JG024A)** on the mechanism framework, taking care not to scratch the drum, as shown in **Fig. 1-1-A.**
3. Confirm that "A" of the reel disk is lower than "B" of the reel disk height adjustment jig **(JG024A)** , and is higher than "C". If it is not enough height, adjust to 10(+0.2, -0) mm with the height adjustment washer.
4. Adjust the other reel in the same way.

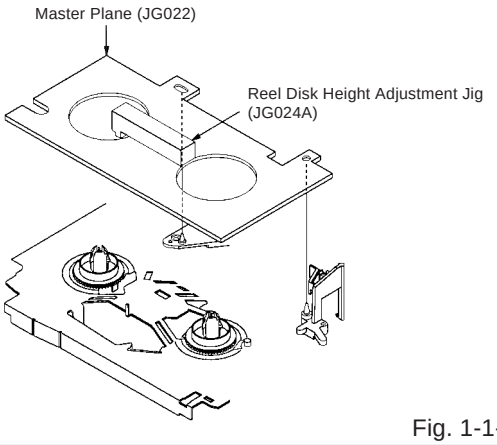


Fig. 1-1-A

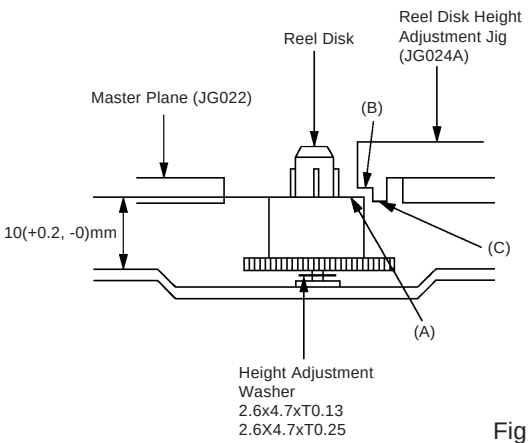


Fig. 1-1-B

1-2: CONFIRMATION AND ADJUSTMENT OF TENSION POST POSITION

1. Set to the PLAY mode.
2. Adjust the Tension Adjust until the edge of the Tension Arºm is positioning within 0.5mm range from the standard line center of Main Chassis.
   After this adjustment, confirm that the cut position is located in "A" area as shown in **Fig. 1-2-B**. If it is located in "B" area, adjust again.
3. While turning the S Reel clockwise, confirm that the edge of the Tension Arm is located in the position described above.

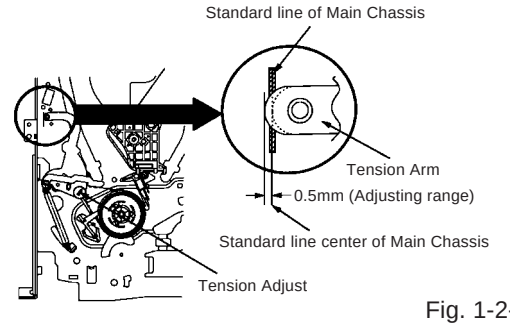


Fig. 1-2-A

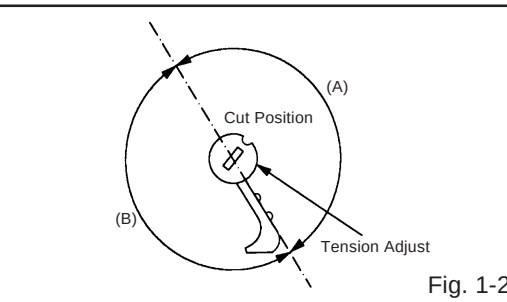


Fig. 1-2-B

1-3: CONFIRMATION OF PLAYBACK TORQUE AND BACK TENSION TORQUE DURING PLAYBACK

1. Load a video tape (T-120) recorded in standard speed mode. Set the unit to the PLAY mode.
2. Install the tentelometer as shown in **Fig. 1-3** . Confirm that the meter indicates 20 ± 2gf in the beginning of playback.

• USING A CASSETTE TYPE TORQUE TAPE **(JG100A)**

1. After confirmation and adjustment of Tension Post position **(Refer to item 1-2)**, load the cassette type torque tape **(JG100A)** and set to the PLAY mode.
2. Confirm that the right meter of the torque tape indicates 60~110gf•cm during playback in SP mode.
3. Confirm that the left meter of the torque tape indicates 25~40gf•cm during playback in SP mode.

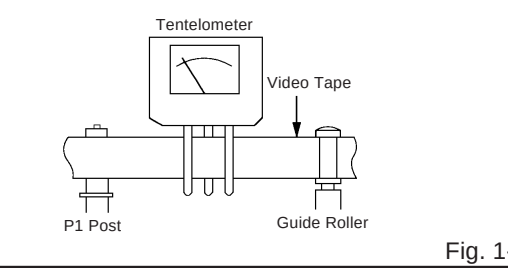


Fig. 1-3

MECHANICAL ADJUSTMENTS

1-4: CONFIRMATION OF VSR TORQUE

1. Operate within 4~5 seconds after the reel disk begins to turn.
2. Install the Torque Gauge **(JG002F)** and Adapter **(JG002B)** on the S Reel. Set to the Rewind mode. **(Refer to Fig.1-4)**
3. Then, confirm that it indicates 120~180gf•cm.

NOTE

Install the Torque Gauge on the reel disk firmly. Press the REW button to turn the reel disk.

1-5: CONFIRMATION OF REEL BRAKE TORQUE

(S Reel Brake) **(Refer to Fig. 1-4)**

1. Set to the STOP mode.
2. Move the Idler Ass'y from the S Reel.
3. Install the Torque Gauge **(JG002F)** and Adapter **(JG002B)** on the S Reel. Turn the Torque Gauge **(JG002F)** clockwise.
4. Then, confirm that it indicates 60~100gf•cm.

(T Reel Brake) **(Refer to Fig. 1-4)**

1. Set to the STOP mode.
2. Move the Idler Ass'y from the T Reel.
3. Install the Torque Gauge **(JG002E)** and Adapter **(JG002B)** on the T reel. Turn the Torque Gauge **(JG002E)** counterclockwise.
4. Then, confirm that it indicates 45~70gf•cm.

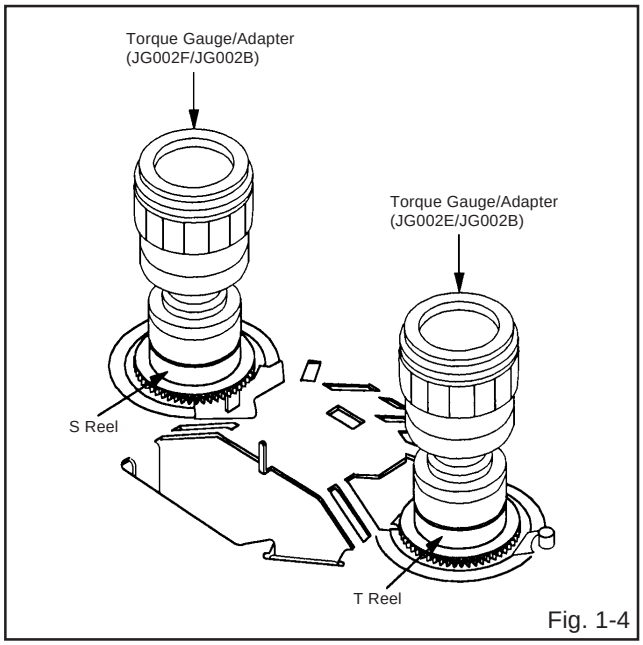


Fig. 1-4

NOTE

If the torque is out of the range, replace the following parts.

Check item	Replacement Part
1-4	Idler Ass'y/Clutch Ass'y
1-5	T Brake Spring/Tension Spring

2. CONFIRMATION AND ADJUSTMENT OF TAPE RUNNING MECHANISM

Tape Running Mechanism is adjusted precisely at the factory. Adjustment is not necessary as usual. When you replace the parts of the tape running mechanism because of long term usage or failure, the confirmation and adjustment are necessary.

2-1: GUIDE ROLLER

1. Playback the VHS Alignment Tape **(JG001 or JG001B)**. **(Refer to SERVICING FIXTURE AND TOOLS)**
2. Connect CH-1 of the oscilloscope to **TP4001 (Envelope)** and CH-2 to **TP1002 (SW Pulse)**.
3. Press and hold the Tracking-Auto button on the remote control for more than 2 seconds to set tracking to center.
4. Trigger with SW Pulse and observe the envelope. **(Refer to Fig. 2-1-A)**
5. When observing the envelope, adjust the Adjusting Driver **(JG005)** slightly until the envelope will be flat.
   Even if you press the Tracking Button, adjust so that flatness is not moved so much.
6. Adjust so that the A : B ratio is better than 3 : 2 as shown in **Fig. 2-1-B**, even if you press the Tracking Button to move the envelope (The envelope waveform will begin to decrease when you press the Tracking Button).
7. Adjust the PG shifter during playback.
   (Refer to the ELECTRICAL ADJUSTMENTS)

NOTE

After adjustment, confirm and adjust A/C head.
(Refer to item 2-2)

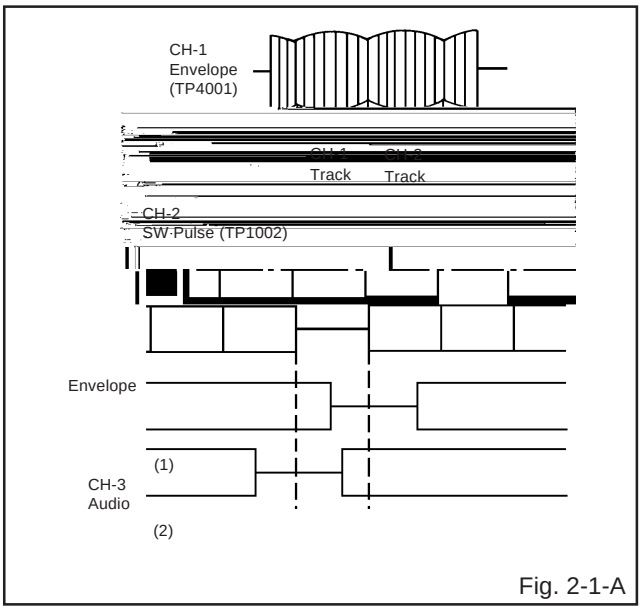


Fig. 2-1-A

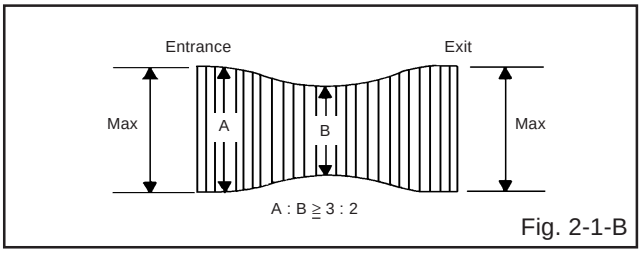


Fig. 2-1-B

MECHANICAL ADJUSTMENTS

2-2: CONFIRMATION AND ADJUSTMENT OF AUDIO/ CONTROL HEAD

When the Tape Running Mechanism does not work well, adjust the following items.

1. Playback the VHS Alignment Tape **(JG001 or JG001B)**. **(Refer to SERVICING FIXTURE AND TOOLS)**
2. Confirm that the reflected picture of stamp mark is appeared on the tape prior to P4 Post as shown in **Fig. 2-2-A.**
   a) When the reflected picture is distorted, turn the screw ① clockwise until the distortion is disappeared.
   b) When the reflected picture is not distorted, turn the screw ① counterclockwise until little distortion is appeared, then adjust the a).
3. Turn the screw ② to set the audio level to maximum.
4. Confirm that the bottom of the Audio/ Control Head and the bottom of the tape is shown in **Fig. 2-2-C**.
   c) When the height is not correct, turn the screw ③ to adjust the height. Then, adjust the 1~3 again.

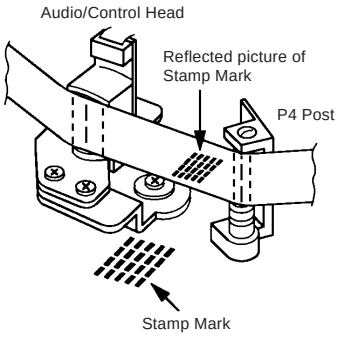


Fig. 2-2-A

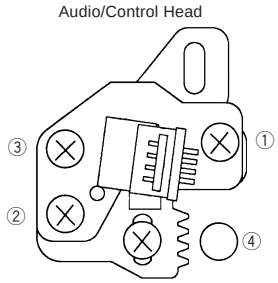


Fig. 2-2-B

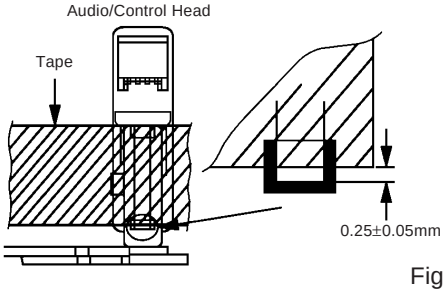


Fig. 2-2-C

2-3: TAPE RUNNING ADJUSTMENT (X VALUE ADJUSTMENT)

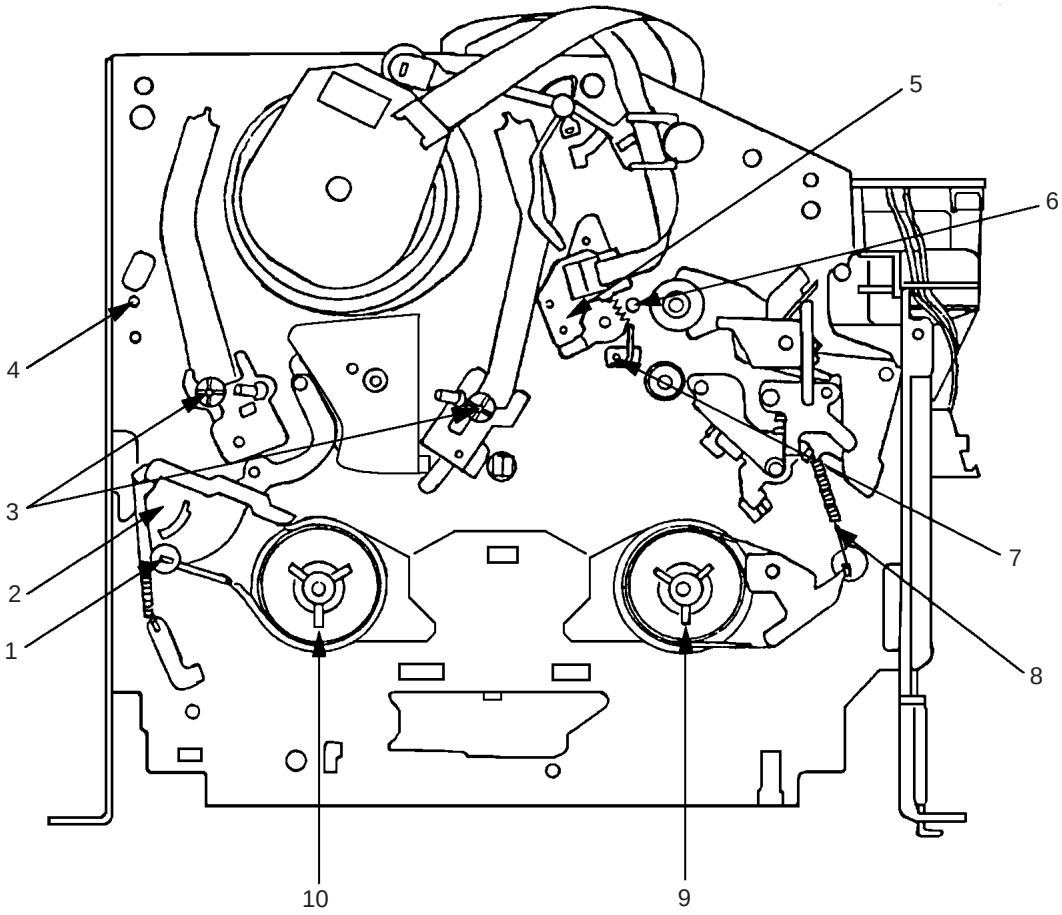
1. Confirm and adjust the height of the Reel Disk. **(Refer to item 1-1)**
2. Confirm and adjust the position of the Tension Post. **(Refer to item 1-2)**
3. Adjust the Guide Roller. **(Refer to item 2-1)**
4. Confirm and adjust the Audio/Control Head. **(Refer to item 2-2)**
5. Connect CH-1 of the oscilloscope to **TP4001**, CH-2 to **TP1002** and CH-3 to **HOT side of Audio Out Jack.**
6. Playback the VHS Alignment Tape **(JG001S or JG001T). (Refer to SERVICING FIXTURE AND TOOLS)**
7. Press and hold the Tracking-Auto button on the remote control for more than 2 seconds to set tracking to center.
8. Set the X Value adjustment driver **(JG153)** to the ④ of **Fig. 2-2-B**. Adjust X value so that the envelope waveform output becomes maximum. Check if the relation between Audio and Envelope waveform becomes (1) or (2) of **Fig. 2-1-A.**

2-4: CONFIRM HI-FI AUDIO (Hi-Fi model only)

1. Connect CH-1 of the oscilloscope to **TP4001**, CH-2 to **TP1002** and CH-3 to the **Hi-Fi Audio Out Jack.**
2. Playback the VHS Alignment Tape **(JG001P or JG001Q). (Refer to SERVICING FIXTURE AND TOOLS)**
3. Press and hold the Tracking-Auto button on the remote control for more than 2 seconds to set tracking to center.
4. Press the Tracking Up button and count number of steps which the audio output is changed from Hi-Fi (10KHz) to MONO (6KHz).
5. Press the Tracking Down button and count number of steps which the audio output is changed from Hi-Fi (10KHz) to MONO (6KHz).
6. Confirm that the difference between these counted steps number in the above items are within 2 steps. If the difference are more than 3 steps, do Tape Running Adjustment again. **(Refer to item 2-3)**

MECHANICAL ADJUSTMENTS

3. MECHANISM ADJUSTMENT PARTS LOCATION GUIDE



1. Tension Adjust
2. Tension Arm
3. Guide Roller
4. P1 Post
5. Audio/Control Head
6. X value adjustment driver hole
7. P4 Post
8. T Brake Spring
9. T Reel
10. S Reel

ELECTRICAL ADJUSTMENTS

1. BEFORE MAKING ELECTRICAL ADJUSTMENTS

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

CAUTION

- Use an isolation transformer when performing any service on this chassis.
- Before removing the anode cap, discharge electricity because it contains high voltage.
- When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.
  Inferior silicon grease can damage IC's and transistors.
- When replacing IC's and transistors, use only specified silicon grease (YG6260M).
  Remove all old silicon before applying new silicon.

On-Screen Display Adjustment

1. Unplug the AC plug for more than 5 seconds to set the clock to the non-setting state. Then, set the volume level to minimum.
2. Press the VOL. DOWN button on the set and the Channel button **(9)** on the remote control simultaneously to appear the adjustment mode on the screen as shown in **Fig. 1-1.**

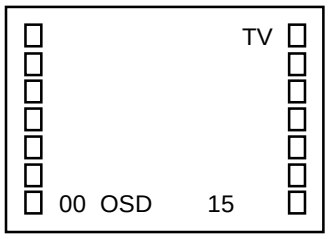


Fig. 1-1

3. Use the Channel UP/DOWN button or Channel button **(0-9)** on the remote control to select the options shown in **Fig. 1-2.**
4. Press the MENU button on the remote control to end the adjustments.

NO.	FUNCTION	NO.	FUNCTION
00	OSD H	13	BRIGHTNESS
01	CUT OFF	14	CONTRAST
02	RF DELAY	15	COLOR
03	VIF VCO	16	TINT
04	H VCO	17	SHARPNESS
05	H PHASE	18	FM LEVEL
06	V SIZE	19	LEVEL
07	V SHIFT	20	SEPARATION 1
08	R DRIVE	21	SEPARATION 2
09	B DRIVE	22	TEST MONO
10	R CUT OFF	23	TEST STEREO
11	G CUT OFF	24	X-RAY TEST
12	B CUT OFF		

Fig. 1-2

2. BASIC ADJUSTMENTS (VCR SECTION)

2-1: PG SHIFTER

1. Connect CH-1 on the oscilloscope to **TP1002** and CH-2 to **pin 4 of CP1003.**
2. Playback the alignment tape. **(JG001A)**
3. Press and hold the Tracking-Auto button on the remote control more than 2 seconds to set tracking to center.
4. Press the VOL. DOWN button on the set and the channel button **(3)** on the remote control simultaneously until the indicator REC disappears. If the indicator REC disappears, adjustment is completed.

(If the above adjustments doesn't work well:)

5. Press the VOL. DOWN button on the set and the channel button **(3)** on the remote control simultaneously until the indicator REC disappears.
6. When the REC indicator is blinking, press both VOL. DOWN button on the set and the channel button **(4)** on the remote control simultaneously and adjust the Tracking +/- button until the arising to the down of Head Switching Pulse becomes 6.5 ± 0.5H.
   (Refer to Fig. 2-1-A, B)
7. Press the Tracking Auto button.

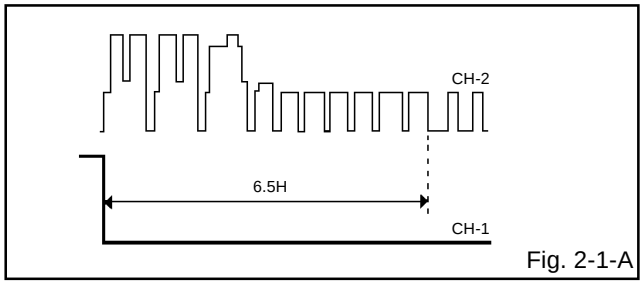


Fig. 2-1-A

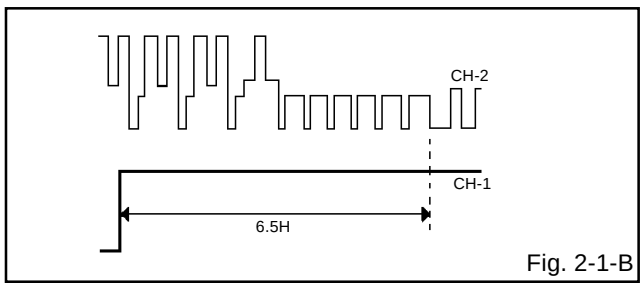


Fig. 2-1-B

2-2: VCO FREERUN

1. Place the set with Aging Test for more than 10 minutes.
2. Receive the VHF HIGH.
3. Disconnect the Antenna while receiving the VHF HIGH and set to the Noise screen.
4. Once turn off the Power and turn on the Power again.
5. Approxi. 3 seconds later, input the Antenna again.
6. Connect the digital voltmeter between the **pin 5 of CP351** and the **pin 1 (GND) of CP351.**
7. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(03)** on the remote control to select "VIF VCO".
8. Press the VOL. UP/DOWN button on the remote control until the digital voltmeter is 2.5V.
9. After the 2.5V adjustment, countdown the VIF VCO step **No.** by 1 step with the VOL. DOWN button.

ELECTRICAL ADJUSTMENTS

2-3: RF AGC

1. Receive the VHF HIGH (63dB).
2. Connect the digital voltmeter between the **pin 5 of CP351** and the **pin 1 (GND) of CP351.**
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(02)** on the remote control to select "RF DELAY".
4. Press the VOL. UP/DOWN button on the remote control until the digital voltmeter is 2.9V.

(TV SECTION)

2-4: CONSTANT VOLTAGE

1. Connect the digital voltmeter to the **TP601.**
2. Set condition is AV MODE without signal.
3. Using the remote control, set the brightness and contrast to normal position.
4. Adjust the **VR502** until the digital voltmeter is 135 ± 0.5V.

2-5: CUT OFF

1. Adjust the unit to the following settings.
   R CUT OFF=128, G CUT OFF=128, B CUT OFF=128, BRIGHTNESS=128, CONTRAST=100
2. Place the set with Aging Test for more than 15 minutes.
3. Set condition is AV MODE without signal.
4. Using the remote control, set the brightness and contrast to normal position.
5. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(01)** on the remote control to select "CUT OFF".
6. Adjust the **Screen Volume** until a dim raster is obtained.

2-6: WHITE BALANCE

NOTE: Adjust after performing CUT OFF adjustment.

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the color bar pattern.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(10)** on the remote control to select "R CUT OFF".
5. Using the VOL. UP/DOWN button on the remote control, adjust the R CUT OFF.
6. Press the CH. UP/DOWN button on the remote control to select the "R DRIVE", "B DRIVE", "G CUT OFF" or "B CUT OFF".
7. Using the VOL. UP/DOWN button on the remote control, adjust the R DRIVE, B DRIVE, G CUT OFF or B CUT OFF.
8. Perform the above adjustments 6 and 7 until the white color is looked like a white.

2-7: FOCUS

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Turn the Focus Volume fully counterclockwise once.
4. Adjust the **Focus Volume** until picture is distinct.

2-8: HORIZONTAL PHASE

1. Receive the center cross signal from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(05)** on the remote control to select "H PHASE".
4. Press the VOL. UP/DOWN button on the remote control until the right and left screen size of the vertical line becomes the same.

2-9: VERTICAL SHIFT

1. Receive the center cross signal from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(07)** on the remote control to select "V SHIFT".
4. Press the VOL. UP/DOWN button on the remote control until the horizontal line becomes fit to the notch of the shadow mask.

2-10: VERTICAL SIZE

1. Receive the cross hatch signal from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(06)** on the remote control to select "V SIZE".
4. Press the VOL. UP/DOWN button on the remote control until the rectangle on the center of the screen becomes square.
5. Receive a broadcast and check if the picture is normal.

2-11: SUB BRIGHTNESS

1. Receive the monoscope pattern. (RF Input)
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(13)** on the remote control to select "BRIGHTNESS".
4. Press the VOL. UP/DOWN button on the remote control until the white 10% is starting to be visible
5. Receive the monoscope pattern. (Audio Video Input)
6. Press the INPUT SELECT button on the remote control to set to the AV mode. Then perform the above adjustments 2~4.

2-12: SUB CONTRAST

1. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(14)** on the remote control to select "CONTRAST".
2. Press the VOL. UP/DOWN button on the remote control until the contrast step No. becomes "100"
3. Press the INPUT SELECT button on the remote control to set to the AV mode.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(14)** on the remote control.
5. Press the VOL. UP/DOWN button on the remote control until the contrast step No. becomes "100"

ELECTRICAL ADJUSTMENTS

2-13: SUB TINT

1. Receive the color bar pattern. (RF Input)
2. Connect the oscilloscope to **TP801.**
3. Using the remote control, set the brightness, contrast, color and tint to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(16)** on the remote control to select "TINT".
5. Press the VOL. UP/DOWN button on the remote control until the section "A" becomes a straight line. **(Refer to Fig. 2-2.)**
6. Receive the color bar pattern. (Audio Video Input)
7. Press the INPUT SELECT button on the remote control to set to the AV mode. Then perform the above adjustments 2~5.

Fig. 2-2

2-14: SUB COLOR

1. Receive the color bar pattern. (RF Input)
2. Connect the oscilloscope to **TP803.**
3. Using the remote control, set the brightness, contrast, color and tint to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(15)** on the remote control to select "COLOR".
5. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 4 scales on the screen of the oscilloscope.
6. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to 110% of the white level. **(Refer to Fig. 2-3)**
7. Receive the color bar pattern. (Audio Video Input)
8. Press the INPUT SELECT button on the remote control to set to the AV mode. Then perform the above adjustments 2~6.

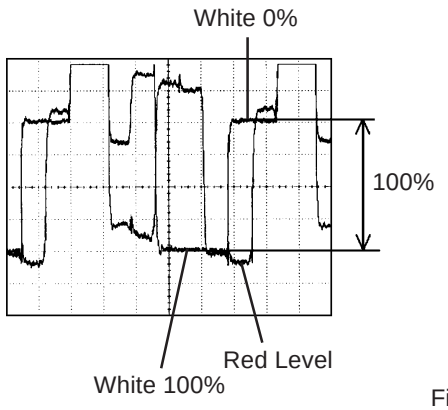


Fig. 2-3

2-15: OSD HORIZONTAL

1. Activate the adjustment mode display of **Fig. 1-1.**
2. Press the VOL. UP/DOWN button on the remote control until the difference of A and B becomes minimum. **(Refer to Fig. 2-4)**

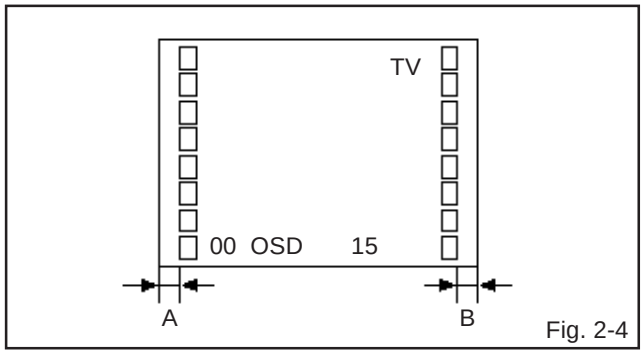
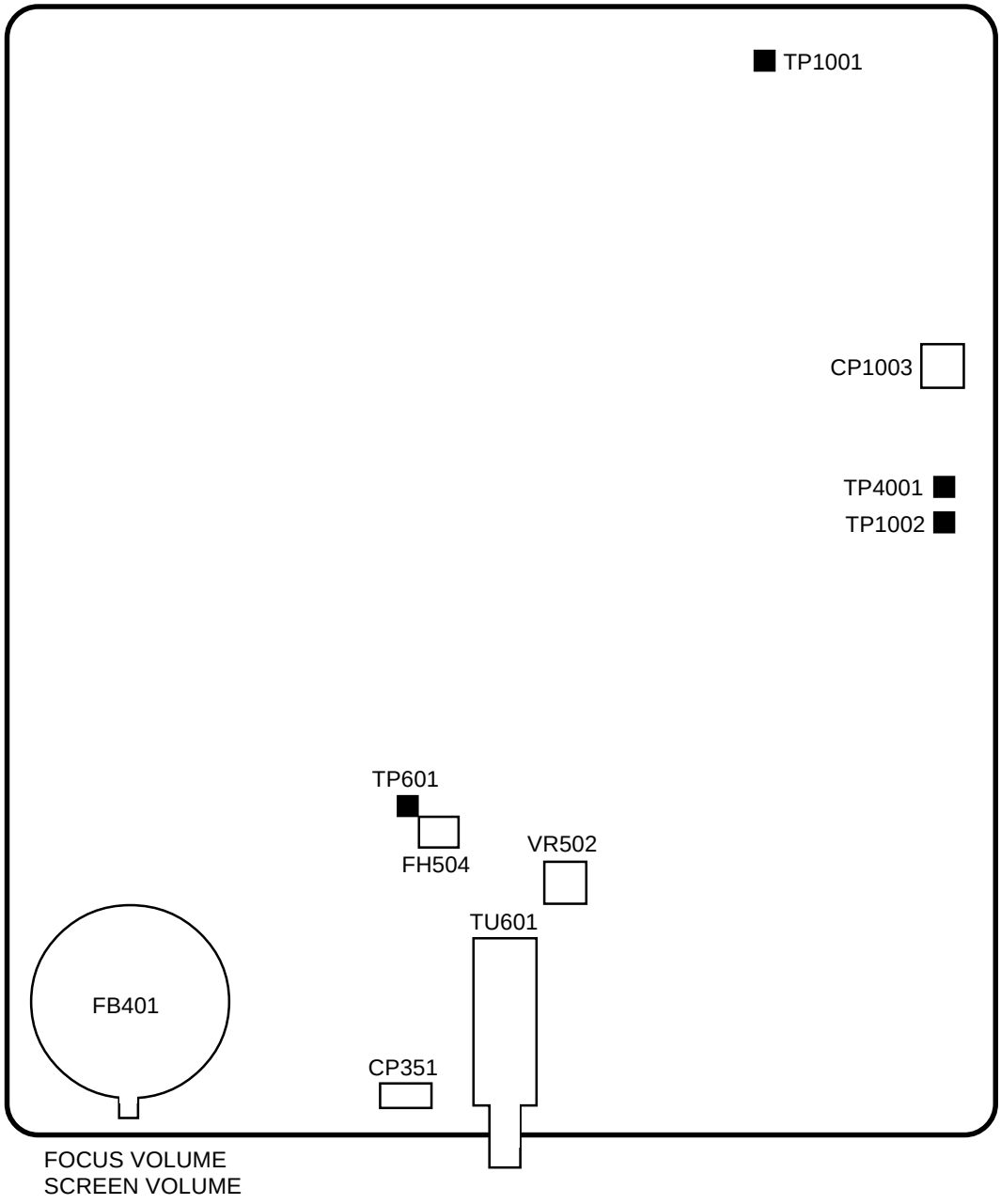


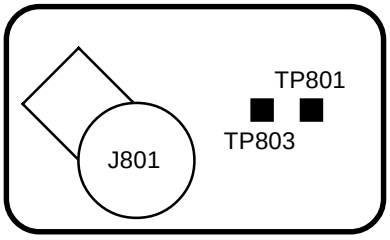
Fig. 2-4

ELECTRICAL ADJUSTMENTS

3. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE



SYSCON



CRT

ELECTRICAL ADJUSTMENTS

4. PURITY AND CONVERGENCE ADJUSTMENTS

NOTE

1. Turn the unit on and let it warm up for at least 30 minutes before performing the following adjustments.
2. Place the CRT surface facing east or west to reduce the terrestrial magnetism.
3. Turn ON the unit and demagnetize with a Degauss Coil.

4-1: STATIC CONVERGENCE (ROUGH ADJUSTMENT)

1. Tighten the screw for the magnet. Refer to the adjusted CRT for the position. **(Refer to Fig. 4-1)**
   If the deflection yoke and magnet are in one body, untighten the screw for the body.
2. Receive the green raster pattern from the color bar generator.
3. Slide the deflection yoke until it touches the funnel side of the CRT.
4. Adjust center of screen to green, with red and blue on the sides, using the pair of purity magnets.
5. Switch the color bar generator from the green raster pattern to the crosshatch pattern.
6. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
7. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.
8. Adjust the crosshatch pattern to change to white by repeating steps 6 and 7.

4-2: PURITY

NOTE

Adjust after performing adjustments in section 4-1.

1. Receive the green raster pattern from color bar generator.
2. Adjust the pair of purity magnets to center the color on the screen.
   Adjust the pair of purity magnets so the color at the ends are equally wide.
3. Move the deflection yoke backward (to neck side) slowly, and stop it at the position when the whole screen is green.
4. Confirm red and blue colors.
5. Adjust the slant of the deflection yoke while watching the screen, then tighten the fixing screw.

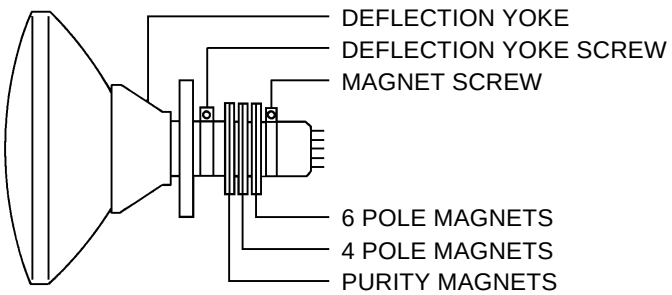


Fig. 4-1

4-3: STATIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 4-2.

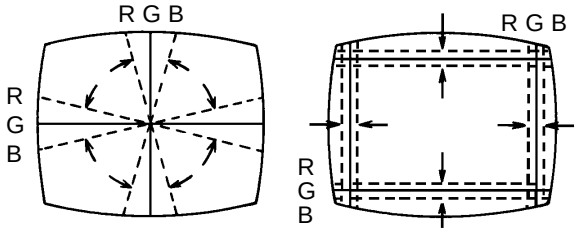
1. Receive the crosshatch pattern from the color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

4-4: DYNAMIC CONVERGENCE

NOTE

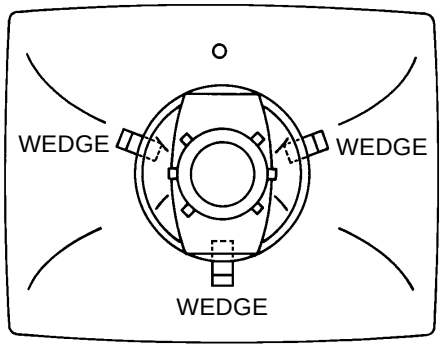
Adjust after performing adjustments in section 4-3.

1. Adjust the differences around the screen by moving the deflection yoke upward/downward and right/left. **(Refer to Fig. 4-2-a)**
2. Insert three wedges between the deflection yoke and CRT funnel to fix the deflection yoke. **(Refer to Fig. 4-2-b)**



UPWARD/DOWNWARD SLANT RIGHT/LEFT SLANT

Fig. 4-2-a



WEDGE POSITION

Fig. 4-2-b

Memorex®

MVT2197 Serise A

SERVICE MANUAL

COLOR TELEVISION/VIDEO CASSETTE RECORDER

REVISION 1
MFR'S VERSION C

VHS

MFR'S VERSION	CRT
B	A48LGS30X19N45
C	A48AGY13X77

Please file the revision with the original version.

Change of CRT

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	MFR'S VERSION B		MFR'S VERSION C	
	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
⚠ V801	098Y200480	CRT W/DY A48LGS30X19N45	098Q200481	CRT W/DY A48AGY13X77
⚠ R450	R6558A3R3J	R,FUSE 3.3 OHM 2W	R6558A2R2J	R,FUSE 2.2 OHM 2W
⚠ C424	P4N8FJ562H	CMPP 0.0056UF 1.25KV	P4N8FJ682H	CMPP 0.0068UF 1.25KV
C425	C03L0R713K	CC 0.001 UF 2KV R	C03L0R7E3K	CC 0.0015UF 2KV R
PCB010	A5A403C010	SYSCON PCB ASS'Y (VERSION B) VMA227A	A5A403A010	SYSCON PCB ASS'Y (VERSION C) VMA227A
C809	CS0RB04S2K	CC 560 PF 50V B	CS0KB04Q2K	CC 470 PF 50V B
C810	CS0RB04N2K	CC 390 PF 50V B	CS0RB04Q2K	CC 470 PF 50V B
C811	CS0RB04N2K	CC 390 PF 50V B	CS0KB04Q2K	CC 470 PF 50V B
⚠ J801	066X120014	SOCKET,CRT HPS3200-010501	066C130015	SOCKET,CRT CVT3275-5102
PCB110	A5A403CA110	CRT PCB ASS'Y (VERSION B) TCA377A	A5A402A110	CRT PCB ASS'Y (VERSION C) TCA377A

SYSCON PCB's and CRT PCB's are not interchangeable.

SPEC.NO.	M5A4-03A
O/R NO.	W215017