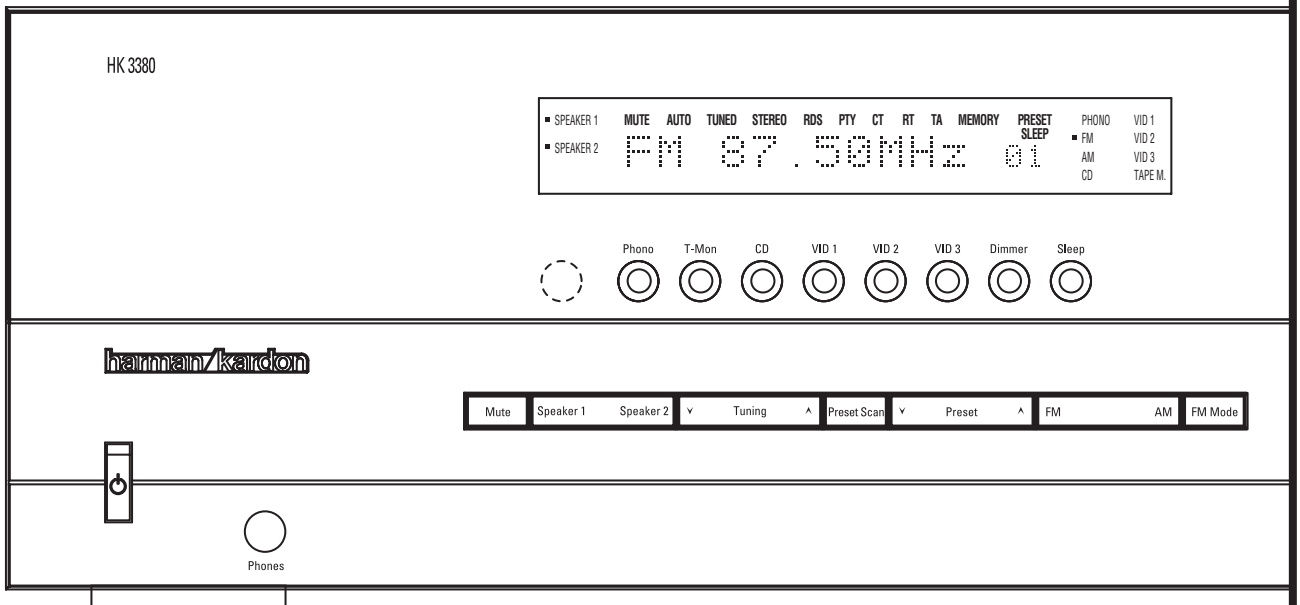


HK 3380 HK3480 Stereo Receiver

SERVICE MANUAL



harman/kardon®

Power for the Digital Revolution®

Technical Specifications HK3380/230

Audio Section

Stereo Mode	
Continuous Average Power (FTC)	
80 Watts per channel, 20Hz–20kHz	
@ < 0.07% THD, both channels driven into 8 ohms	
100 Watts per channel, 20Hz–20kHz	
@ < 0.2% THD, both channels driven into 4 ohms	
Input Sensitivity/Impedance	
Linear (High Level)	200mV/47kohms
Signal-to-Noise Ratio (IHF-A)	95dB
Frequency Response	
@ 1W (+0dB, -3dB)	10Hz–110kHz
High Instantaneous Current Capability (HCC)	±42 Amps
Transient Intermodulation Distortion (TIM)	Unmeasurable
Rise Time	16 µsec
Slew Rate	40V/µsec

FM Tuner Section

Frequency Range	87.5–108MHz
Usable Sensitivity	IHF: 1.12 µV/13.5dBf
Signal-to-Noise Ratio	Mono/Stereo: 73/72dBA (DIN)
Distortion	Mono/Stereo: 0.3/0.4%
Stereo Separation	40dB @ 1kHz
Selectivity	±400kHz, 65dB
Image Rejection	>80dB
IF Rejection	>100dB

AM Tuner Section

Frequency Range	520–1710kHz
Signal-to-Noise Ratio	>40dB
Usable Sensitivity	Loop: 500 µV/M
Distortion	1kHz, 50% Mod: 0.8%
Selectivity	±10kHz: >25dB

Video Section

Television System	NTSC/PAL/SECAM
Signal Format	Composite
Input Level	1Vp-p
Input Impedance	75 ohms, unbalanced
Sync Polarity	Negative
Output Level	1Vp-p
Output Impedance	75 ohms, unbalanced
Video Frequency Response	10Hz – 10MHz

General

Power Requirement	AC 230V/50Hz
Power Consumption	3W standby, 200W maximum (both channels driven)

Dimension (Max)

Width	442mm
Height	168mm
Depth	382mm
Weight	9.5kg

Depth measurement includes knobs, buttons and terminal connections. Height measurement includes feet and chassis.

All features and specifications are subject to change without notice.

Harman Kardon and Power for the Digital Revolution are registered trademarks of Harman International Industries, Incorporated.

Technical Specifications HK3480

Audio Section

Stereo Mode	
Continuous Average Power (FTC)	
100 Watts per channel, 20Hz–20kHz	
@ < 0.07% THD, both channels driven into 8 ohms	
135 Watts per channel, 20Hz–20kHz	
@ < 0.2% THD, both channels driven into 4 ohms	
Input Sensitivity/Impedance	
Linear (High Level)	200mV/47kohms
Signal-to-Noise Ratio (IHF-A)	95dB
Frequency Response	
@ 1W (+0dB, -3dB)	10Hz – 110kHz
High Instantaneous Current Capability (HCC)	±40 Amps
Transient Intermodulation Distortion (TIM)	Unmeasurable
Rise Time	16 µsec
Slew Rate	40V/µsec

FM Tuner Section

Frequency Range	87.5–108MHz
Usable Sensitivity	IHF: 1.12 µV/13.5dBf
Signal-to-Noise Ratio	Mono/Stereo: 71/67dBA (DIN)
Distortion	Mono/Stereo: 0.3/0.4%
Stereo Separation	40dB @ 1kHz
Selectivity	±300kHz, 60dB
Image Rejection	>80dB
IF Rejection	>100dB

AM Tuner Section

Frequency Range	520–1710kHz
Signal-to-Noise Ratio	>40dB
Usable Sensitivity	Loop: 500µV/M
Distortion	1kHz, 50% Mod: 0.8%
Selectivity	±9kHz: >25dB

General

Power Requirement	AC 230V/50Hz
Power Consumption	72W idle, 470W maximum (both channels driven)

Dimension (Max)

Width	442mm
Height	156mm
Depth	415mm
Weight	12.1kg

Depth measurement includes knobs, buttons and terminal connections. Height measurement includes feet and chassis.

All features and specifications are subject to change without notice.

Harman Kardon is a registered trademark, and Power for the digital revolution is a trademark, of Harman Kardon, Inc.

VMAx is a registered trademark of Harman International Industries, Inc., and is an implementation of Cooper Bauck Transaural Stereo under patent license.

DISASSEMBLY PROCEDURES

<1> TOP-CABINET(21) REMOVAL

1. Remove 13 screws(S1) and then remove the Top-cabinet.

<2> FRONT PANEL ASS'Y REMOVAL

1. Remove the Top-cabinet, referring to the previous step<1>.
2. Disconnect the lead wire(BN71-12P,BN72-5P) on the Tone PCB(38) from connector(CN71,CN72) on the Main PCB(44).
3. Disconnect the lead wire(BN82-7P) on the Front PCB(37) from connector(CN82) on the Main PCB(44).
4. Disconnect the connector(CN81-20P wire assy) on the Front PCB(37) from connector(CN81) on the Main PCB(44).
5. Disconnect the lead wire(BN73-3P) on the Phone PCB(40) from connector(CN73) on the Main PCB(44).
6. Disconnect the lead wire(BN89-7P) on the Front PCB(37) from connector(CN73) on the Download PCB(44).
7. Remove 1 screw(S10) and then lead wire(JW73-2P) on the Phone PCB(40).
8. Remove 1 screw(S10) and then lead wire(JW72-1P) on the Tone PCB(38).
9. Remove 9 screws(S1) and then remove the Front Panel ASS'Y.

<3> TONE PCB(38) REMOVAL

1. Remove the Top-cabinet, referring to the previous step<1>.
2. Remove the Front Panel ASS'Y, referring to the previous step<2>.
3. Pull out the Volume Knob ASS'Y & 3 Rotary Knobs(5).
4. Remove 9 screws(S1,S11) and then remove the Tone PCB(38).
5. Disconnect the lead wire(BN83-4P) from connector(CN83) on the Tone PCB(38).

<4>PHONE PCB(40) REMOVAL

1. Remove the Top-cabinet, referring to the previous step<1>.
2. Remove the Front Panel ASS'Y, referring to the previous step<2>.
3. Remove 2 screws(S2,S3) and then remove the Phone PCB(16).

<5>POWER LED PCB(39) REMOVAL

1. Remove the Top-cabinet, referring to the previous step<1>.
2. Remove the Front Panel ASS'Y, referring to the previous step<2>.
3. Remove 2 screws(S2) and then remove the Power led PCB(39).
4. Disconnect the lead wire(BN84-4P) from connector(CN84) on the Power led PCB(39).

<6>FRONT PCB(37) REMOVAL

1. Remove the Top-cabinet, referring to the previous step<1>.
2. Remove the Front Panel ASS'Y, referring to the previous step<2>.
3. Remove the Tone PCB(38), referring to the previous step<3>.
4. Remove the Phone PCB(40), referring to the previous step<4>.
5. Remove the Power led PCB(39), referring to the previous step<5>.
6. Remove 13 screws(S2) and then remove the Front PCB(37).

<7>TUNER MODULE(34) REMOVAL

1. Remove the Top-cabinet, referring to the previous step<1>.
2. Disconnect the connector(CON1-Card cable) from connector(CN26) on the Main PCB ASS'Y(44).
3. Remove 2 screws(S8) and then remove the Tuner Module(34).

<8>VIDEO PCB(43) REMOVAL

1. Remove the Top-cabinet, referring to the previous step<1>.
2. Disconnect the connector (CN91) on the Main PCB ASS'Y(44) from lead wire(BN91-9P) on the Video PCB(43).
3. Remove 4 screws(S8,S13) and then remove the Video PCB(43).

<9>DOWNLOAD PCB(42) REMOVAL

1. Remove the Top-cabinet, referring to the previous step<1>.
2. Disconnect the connector (CN89) from lead wire(BN89-7P) on the Front PCB(37).
3. Remove 2 screws(S4) and then remove the Download PCB(42).

<10>POWER TRANS(30) REMOVAL

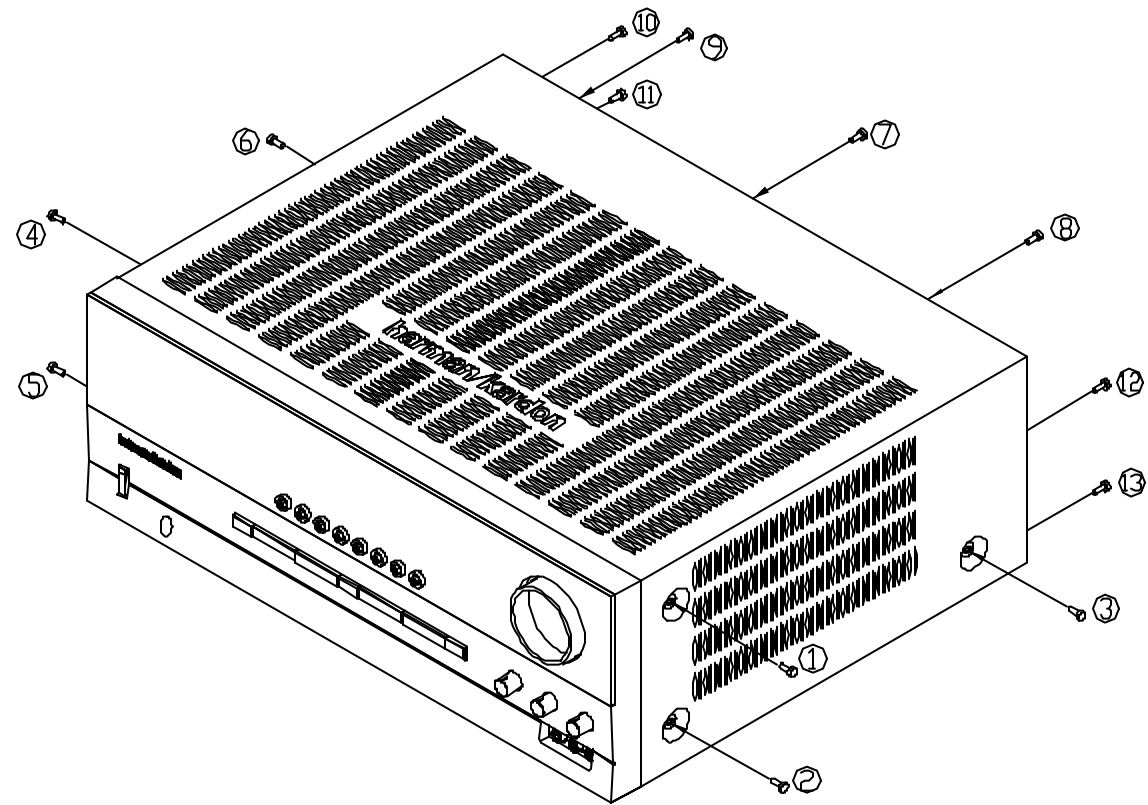
1. Remove the Top-cabinet, referring to the previous step<1>.
2. Disconnect the connector (CN62,CN63,CN64) on the Trans PCB from lead wire(BN62-2P,BN63-3P,BN64-6P) on the Main PCB(44).
3. Remove 4 Trans screws(S9) and then remove the Power Trans(30).

<11>MAIN PCB ASS'Y(44) REMOVAL

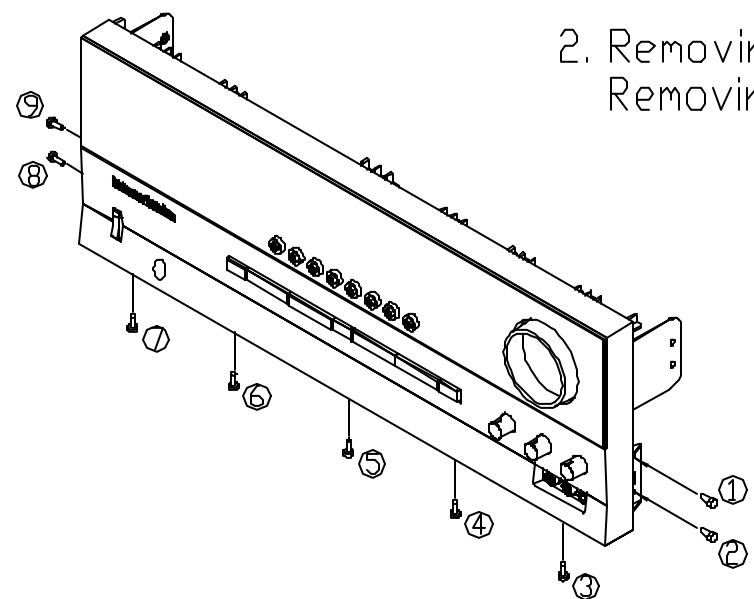
1. Remove the Top-cabinet, referring to the previous step<1>.
2. Remove the Power Trans(30), referring to the previous step<10>.
3. Disconnect the connector(CN81-20P wire ass'y) from connector(CN81-7P) on the Front PCB(37).
4. Disconnect the connector(CN82) from lead wire(BN82-7P) on the Front PCB(37).
5. Disconnect the connector(CN71) from lead wire(BN71-12P) on the Tone PCB(38).
6. Disconnect the connector(CN72) from lead wire(BN72-5P) on the Tone PCB(38).
7. Disconnect the connector(CN73) from lead wire(BN73-3P) on the Phone PCB(40).
8. Disconnect the connector(CN91) from lead wire(BN91-9P) on the Video PCB(43).
9. Disconnect the connector(CN26-Card cable) from lead wire(CON1) on the Tuner Module(34).
10. Disconnect the connector(CN61) from Power cord(35).
11. Remove 21 screws(S8-11EA, S13-1EA, S4-2EA, S6-2EA, S15-1EA, S12-3EA, S5-1EA) and then remove the Main PCB ASS'Y(44).

DISASSEMBLY

1. Removing the Top Cabinet
Removing the Screws ①~⑬

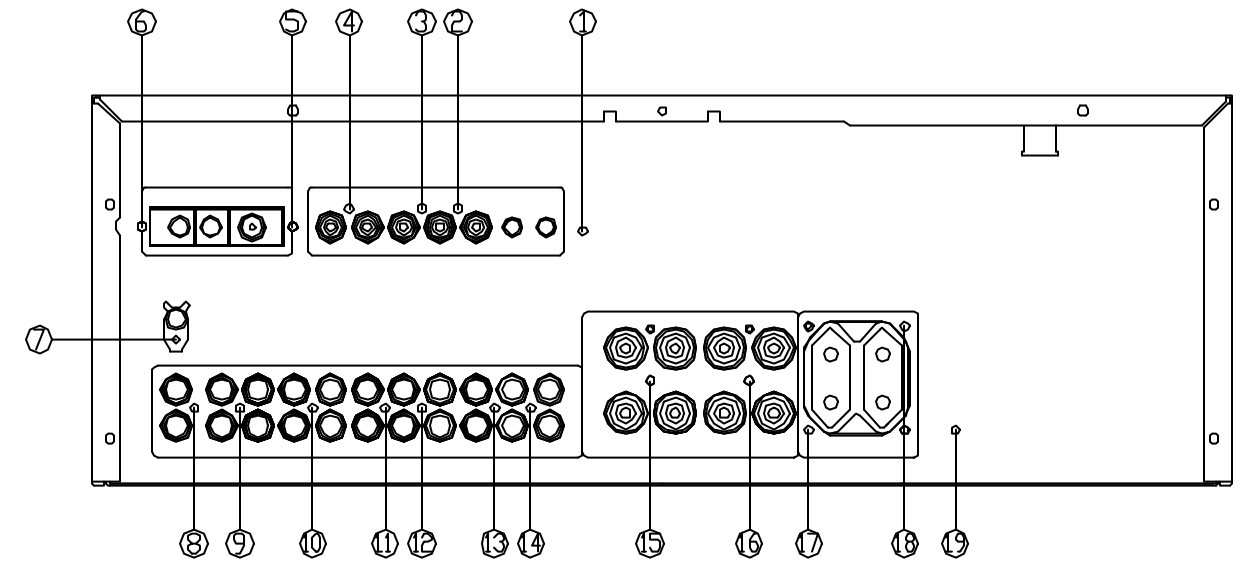


2. Removing the Front Panel
Removing the Screws ①~⑨

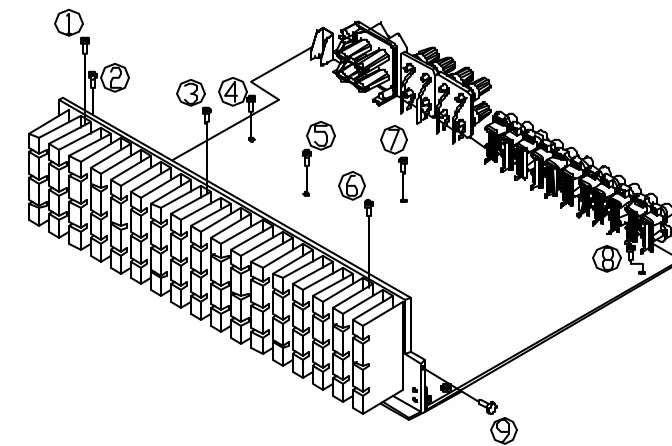


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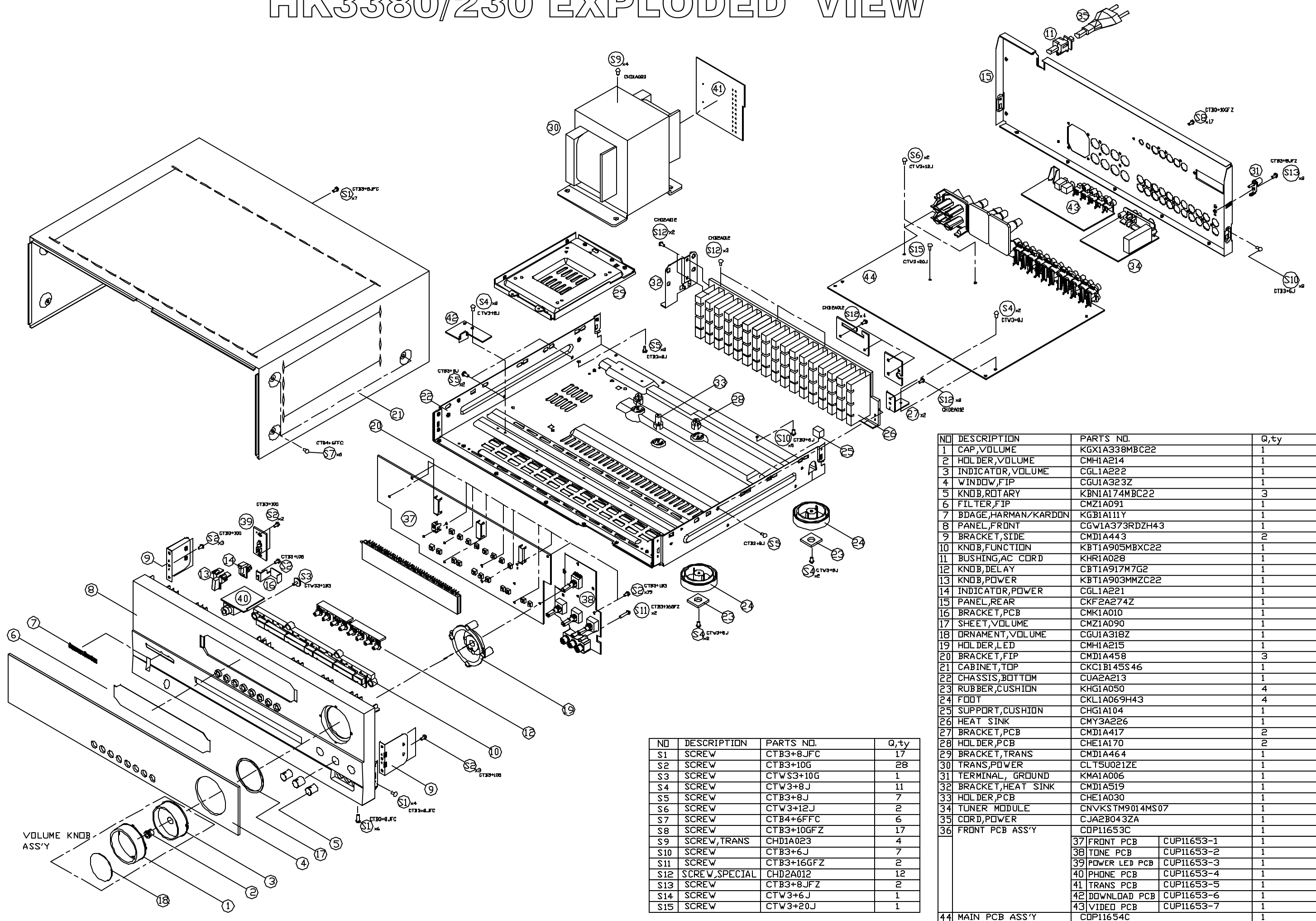
3. Removing the Rear Panel
Removing the Screws ①~⑱



3. Removing the Main PCB
Removing the Screws ①~⑥



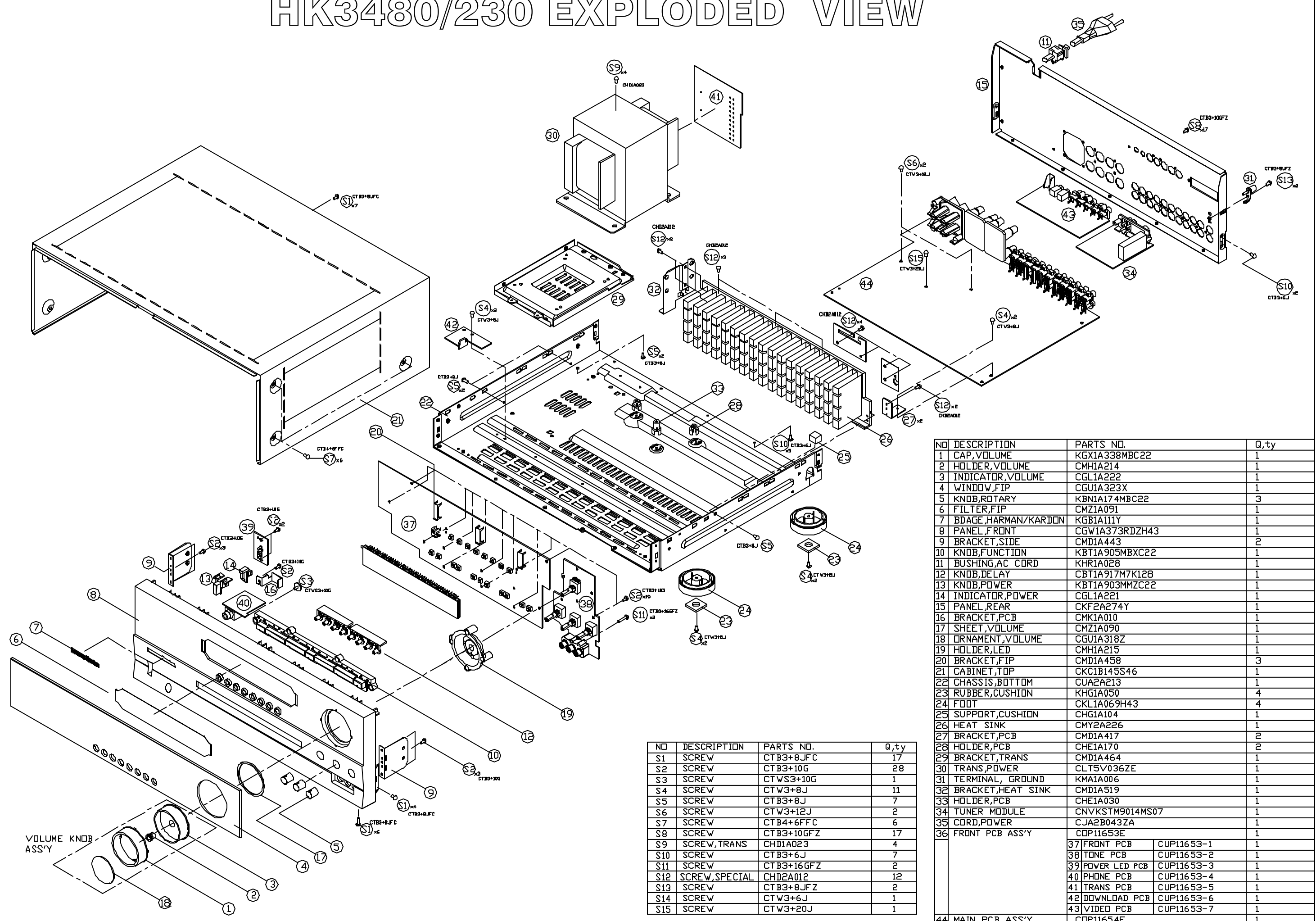
HK3380/230 EXPLODED VIEW



NO	DESCRIPTION	PARTS NO.	Q,ty	
1	CAP,VOLUME	KGX1A338MBC22	1	
2	HOLDER,VOLUME	CMH1A214	1	
3	INDICATOR,VOLUME	CGL1A222	1	
4	WINDOW,FIP	CGU1A323Z	1	
5	KNOB,ROTARY	KBN1A174MBC22	3	
6	FILTER,FIP	CMZ1A091	1	
7	BDAGE,HARMAN/KARDON	KG81A111Y	1	
8	PANEL,FRONT	CGW1A373RDZH43	1	
9	BRACKET,SIDE	CMD1A443	2	
10	KNOB,FUNCTION	KBT1A905MBC22	1	
11	BUSHING,AC CORD	KHR1A028	1	
12	KNOB,DELAY	CBT1A917M7G2	1	
13	KNOB,POWER	KBT1A903MMZC22	1	
14	INDICATOR,POWER	CGL1A221	1	
15	PANEL,REAR	CKF2A274Z	1	
16	BRACKET,PCB	CMK1A010	1	
17	SHEET,VOLUME	CMZ1A090	1	
18	ORNAMENT,VOLUME	CGU1A318Z	1	
19	HOLDER,LED	CMH1A215	1	
20	BRACKET,FIP	CMD1A458	3	
21	CABINET, TOP	CKC1B145S46	1	
22	CHASSIS,BOTTOM	CUA2A213	1	
23	RUBBER,CUSHION	KHG1A050	4	
24	FOOT	CKL1A069H43	4	
25	SUPPORT,CUSHION	CHG1A104	1	
26	HEAT SINK	CMY3A226	1	
27	BRACKET,PCB	CMD1A417	2	
28	HOLDER,PCB	CHE1A170	2	
29	BRACKET,TRANS	CMD1A464	1	
30	TRANS,POWER	CLT5U021ZE	1	
31	TERMINAL, GROUND	KMA1A006	1	
32	BRACKET,HEAT SINK	CMD1A519	1	
33	HOLDER,PCB	CHE1A030	1	
34	TUNER MODULE	CNVKSTM9014MS07	1	
35	CORD,POWER	CJA2B043ZA	1	
36	FRONT PCB ASS'Y	CDP11653C	1	
		37 FRONT PCB	CUP11653-1	1
		38 TONE PCB	CUP11653-2	1
		39 POWER LED PCB	CUP11653-3	1
		40 PHONE PCB	CUP11653-4	1
		41 TRANS PCB	CUP11653-5	1
		42 DOWNLOAD PCB	CUP11653-6	1
		43 VIDED PCB	CUP11653-7	1
44	MAIN PCB ASS'Y	CDP11654C	1	

NO	DESCRIPTION	PARTS NO.	Q,ty
S1	SCREW	CTB3+8JFC	17
S2	SCREW	CTB3+10G	28
S3	SCREW	CTWS3+10G	1
S4	SCREW	CTW3+8J	11
S5	SCREW	CTB3+8J	7
S6	SCREW	CTW3+12J	2
S7	SCREW	CTB4+6FFC	6
S8	SCREW	CTB3+10GFZ	17
S9	SCREW,TRANS	CHD1A023	4
S10	SCREW	CTB3+6J	7
S11	SCREW	CTB3+16GFZ	2
S12	SCREW,SPECIAL	CHD2A012	12
S13	SCREW	CTB3+8JFZ	2
S14	SCREW	CTW3+6J	1
S15	SCREW	CTW3+20J	1

HK3480/230 EXPLODED VIEW

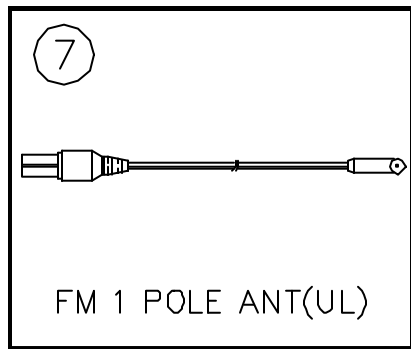
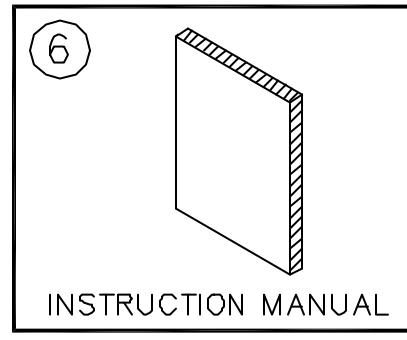
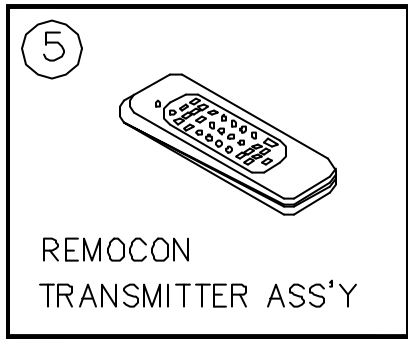
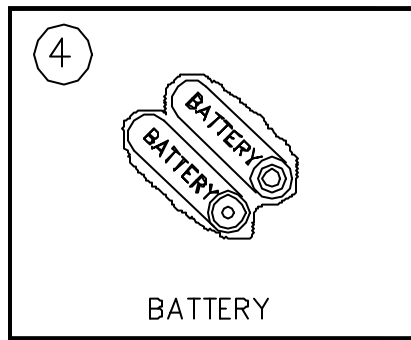
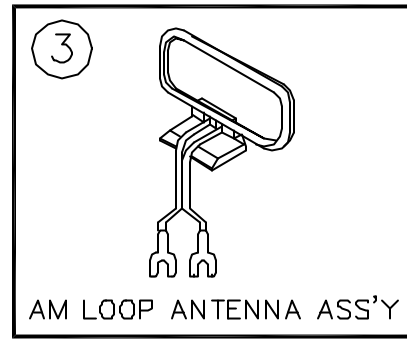
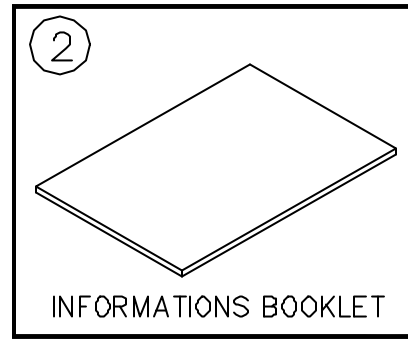
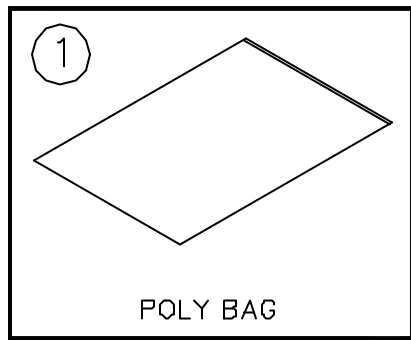


NO	DESCRIPTION	PARTS NO.	Q,ty	
1	CAP,VOLUME	KGX1A338MBC22	1	
2	HOLDER,VOLUME	CMH1A214	1	
3	INDICATOR,VOLUME	CGL1A222	1	
4	WINDOW,FIP	CGU1A323X	1	
5	KNOB,ROTARY	KBN1A174MBC22	3	
6	FILTER,FIP	CMZ1A091	1	
7	BDAGE,HARMAN/KARDON	KGB1A111Y	1	
8	PANEL,FRONT	CGW1A373RDZH43	1	
9	BRACKET,SIDE	CMD1A443	2	
10	KNOB,FUNCTION	KBT1A905MBC22	1	
11	BUSHING,AC CORD	KHR1A028	1	
12	KNOB,DELAY	CBT1A917M7K128	1	
13	KNOB,POWER	KBT1A903MMZC22	1	
14	INDICATOR,POWER	CGL1A221	1	
15	PANEL,REAR	CKF2A274Y	1	
16	BRACKET,PCB	CMK1A010	1	
17	SHEET,VOLUME	CMZ1A090	1	
18	ORNAMENT,VOLUME	CGU1A318Z	1	
19	HOLDER,LED	CMH1A215	1	
20	BRACKET,FIP	CMD1A458	3	
21	CABINET, TOP	CKC1B145S46	1	
22	CHASSIS,BOTTOM	CUA2A213	1	
23	RUBBER,CUSHION	KHG1A050	4	
24	FOOT	CKL1A069H43	4	
25	SUPPORT,CUSHION	CHG1A104	1	
26	HEAT SINK	CMY2A226	1	
27	BRACKET,PCB	CMD1A417	2	
28	HOLDER,PCB	CHE1A170	2	
29	BRACKET,TRANS	CMD1A464	1	
30	TRANS,POWER	CLT5V036ZE	1	
31	TERMINAL, GROUND	KMA1A006	1	
32	BRACKET,HEAT SINK	CMD1A519	1	
33	HOLDER,PCB	CHE1A030	1	
34	TUNER MODULE	CNVKSTM9014MS07	1	
35	CORD,POWER	CJA2B043ZA	1	
36	FRONT PCB ASS'Y	COP11653E	1	
		37 FRONT PCB	CUP11653-1	1
		38 TONE PCB	CUP11653-2	1
		39 POWER LED PCB	CUP11653-3	1
		40 PHONE PCB	CUP11653-4	1
		41 TRANS PCB	CUP11653-5	1
		42 DOWNLOAD PCB	CUP11653-6	1
		43 VIDEO PCB	CUP11653-7	1
44	MAIN PCB ASS'Y	COP11654E	1	

NO	DESCRIPTION	PARTS NO.	Q,ty
S1	SCREW	CTB3+8JFC	17
S2	SCREW	CTB3+10G	28
S3	SCREW	CTWS3+10G	1
S4	SCREW	CTW3+8J	11
S5	SCREW	CTB3+8J	7
S6	SCREW	CTW3+12J	2
S7	SCREW	CTB4+6FFC	6
S8	SCREW	CTB3+10GFZ	17
S9	SCREW,TRANS	CHD1A023	4
S10	SCREW	CTB3+6J	7
S11	SCREW	CTB3+16GFZ	2
S12	SCREW,SPECIAL	CHD2A012	12
S13	SCREW	CTB3+8JFZ	2
S14	SCREW	CTW3+6J	1
S15	SCREW	CTW3+20J	1

VOLUME KNOB ASS'Y

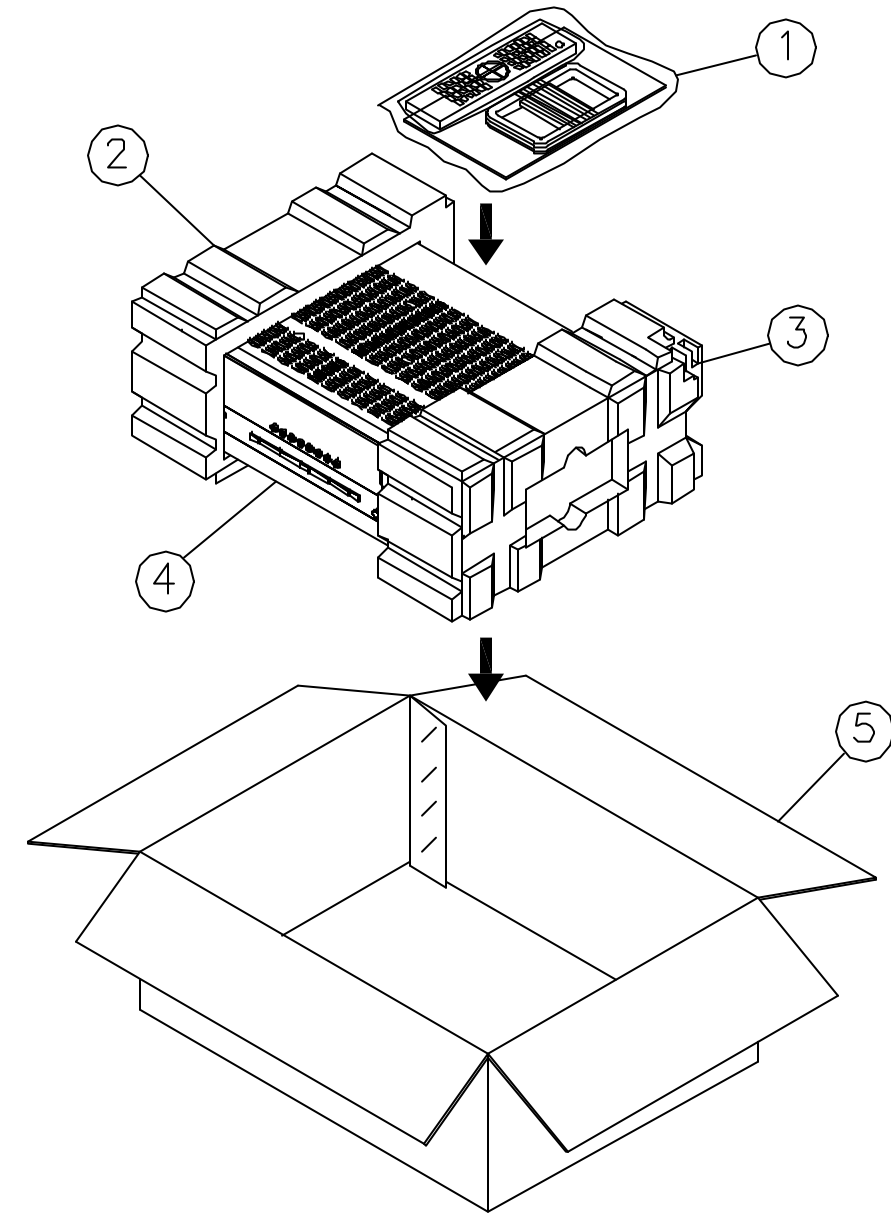
1. Instruction manual ass'y – Accessories



NO	DESCRIPTION	PARTS NO.	Q,ty
1	POLY BAG	CPB1061Y	1
2	INFORMATIONS BOOKLET	CQE1A180Z	1
3	AM LOOP ANTENNA ASS'Y	CSA3A012Z	1
4	BATTERY	HABAAAM1.5V	2
5	REMOCON TRANSMITTER ASS'Y	HARTHK3380	1
6	INSTRUCTION MANUAL	CQX1A888Z	1
7	FM 1 POLE ANT	CSA1A018Z	1

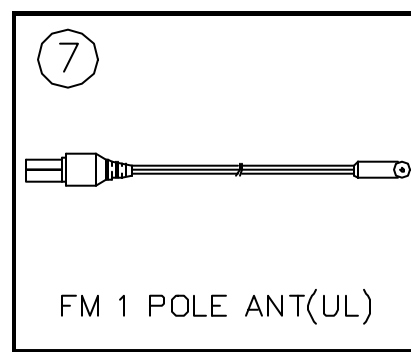
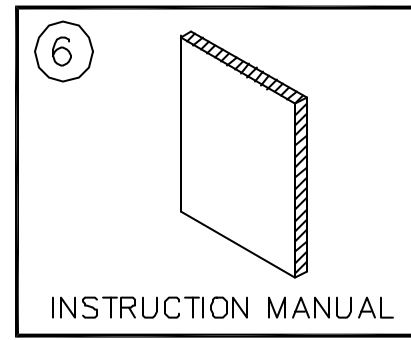
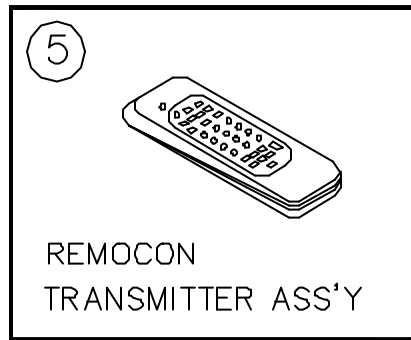
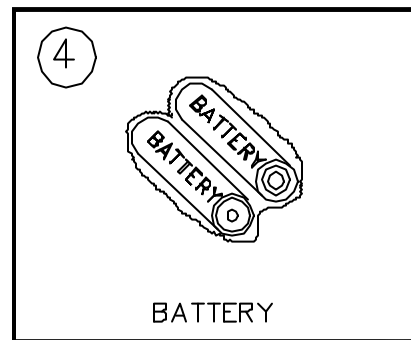
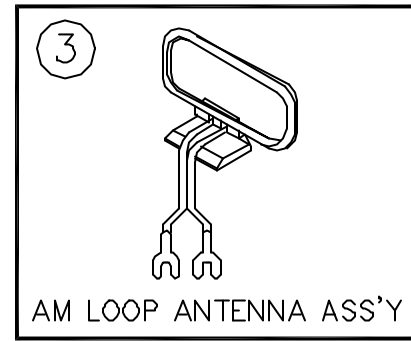
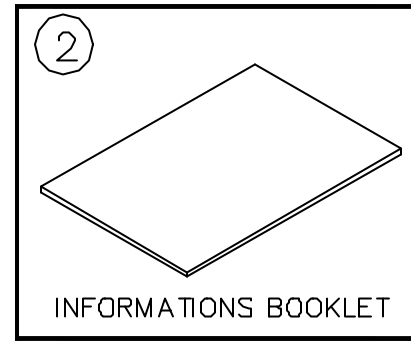
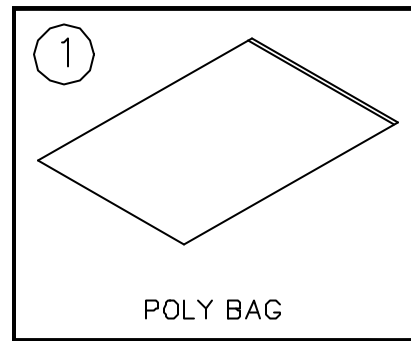
2. Package Drawing

HK3380/230



NO	DESCRIPTION	PARTS NO.	Q,ty
1	INSTRUCTION MANUAL ASS'Y	CQXHK3380/230	1
2	SNOW PAD(L)	CPS4A564	1
3	SNOW PAD(R)	CPS4A565	1
4	SET	HK3380/230SET	1
5	BOX	CPG1A743Y	1

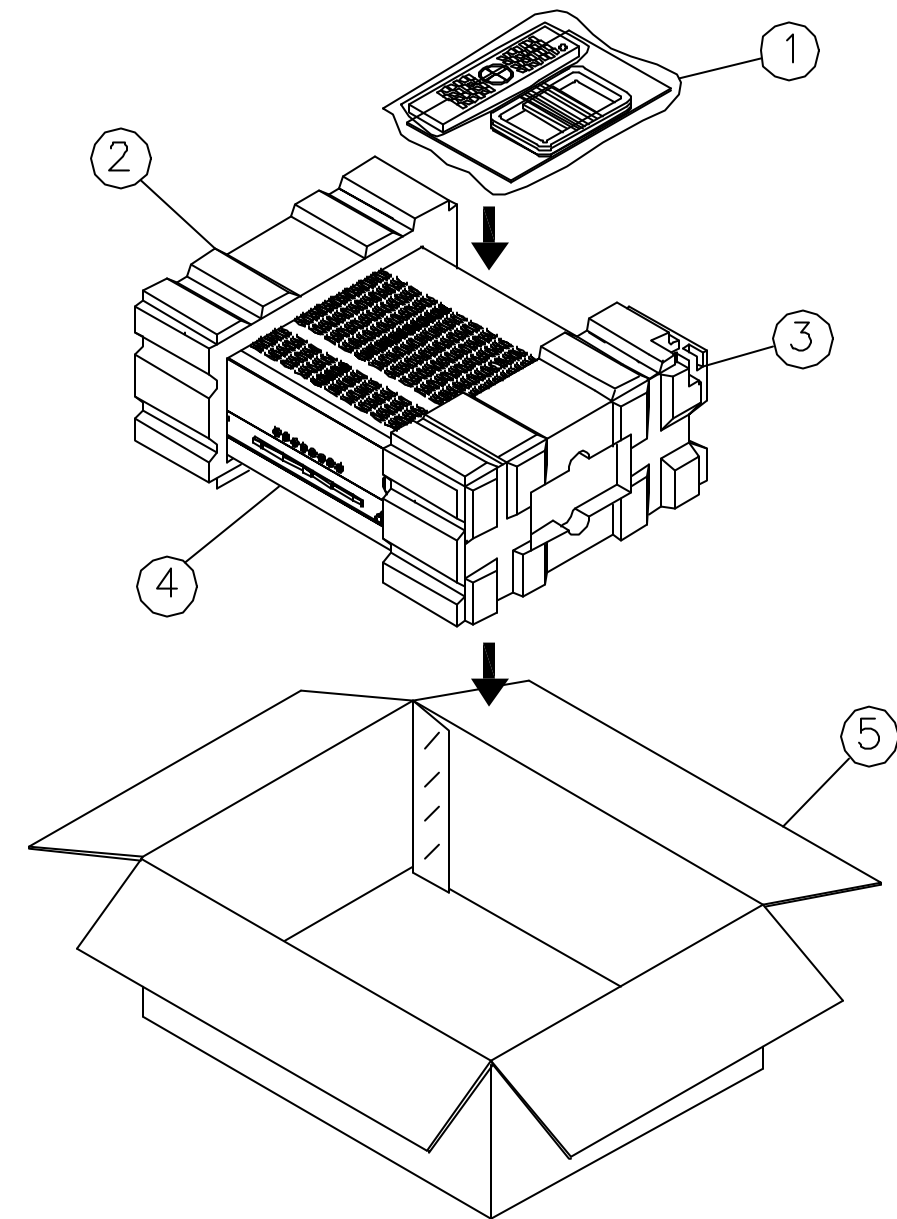
1. Instruction manual ass'y – Accessories



NO	DESCRIPTION	PARTS NO.	Q.ty
1	POLY BAG	CPB1061Y	1
2	INFORMATIONS BOOKLET	CQE1A180Z	1
3	AM LOOP ANTENNA ASS'Y	CSA3A012Z	1
4	BATTERY	HABAAAM1.5V	2
5	REMOCON TRANSMITTER ASS'Y	HARTHK3480	1
6	INSTRUCTION MANUAL	CQX1A890Z	1
7	FM 1 POLE ANT	CSA1A018Z	1

2. Package Drawing

HK3480/230



NO	DESCRIPTION	PARTS NO.	Q.ty
1	INSTRUCTION MANUAL ASS'Y	CQXHK3480/230	1
2	SNOW PAD(L)	CPS4A564	1
3	SNOW PAD(R)	CPS4A565	1
4	SET	HK3480/230SET	1
5	BOX	CPG1A743W	1

FRONT PCB CUP11653Y (VIDEO PCB CUP11653-7)			HK3380/230
REF NO.	PART NO.	1st DESCRIPTION	2nd DESCRIPTION
►CAPACITOR			
C603,604,605,606	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J
C701,702,711~714	CCEA1HKS100T	CAP , ELECT	UF10 50V KS
C802,817			
C703,704,726	HCBS1H101KBT	CAP , CERAMIC	100PF 50V K
C707, 708	CCEA1CKS470T	CAP , ELECT	47UF/16V
C709,710,813,814	HCBS1H470JT	CAP , CERAMIC	47PF 50V J
C715,716,719,720	KCFE1J183JBT	CAP , FILM	0.018UF 63V J
C717,718	KCFE1J823JBT	CAP , FILM	0.082UF 63V J
C721,722	KCFE1J332JBT	CAP , FILM	0.0033UF 63V J
C723,724	HCBS1H221KBT	CAP , CERAMIC	220PF 50V K
C727,744,808,809	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
C819,838,839,914			
C728,729,730,804			
C811,815,816,818	HCBS1H223ZFT	CAP , CERAMIC	0.022UF 50V Z
C830,834,837,911			
C912,828			
C741,742	HCQI1H122JZT	CAP , MYLAR	1200PF 50V J
C745	HCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V Z
C801	CCKT1H104ZF	CAP , CERAMIC	50V 0.1UF
C803,812	CCEA1AH471T	CAP , ELECT	470UF 10V
C805,806	HCBS1H150JCT	CAP , CERAMIC	15PF 50V
C807,823,824,840	HCBS1H821KBT	CAP , CERAMIC	820PF 50V K
C810, 829	CCEA1AKS101T	CAP. ELECT	100UF 10V
C820	CCEA1CH331T	CAP , ELECT	330UF 16V
C821	CCEA1CKS4R7T	CAP. ELECT	4.7UF 16V
C822	HCBS1H151KBT	CAP , CERAMIC	150PF 50V K
C831	CCEA1CKS2R2T	CAP , ELECT HK3480 only	2.2UF 16V
C832,833	HCBS1H102KBT	CAP , CERAMIC	1000PF 50V K
C835	CCEA0JH102T	CAP , ELECT	1000UF 6.3V
C904~908	CCKT1H101KB	CAP , CERAMIC	100PF 50V KB
C909,910,921,922	CCEA1CH101T	CAP , ELECT	100UF 16V
C913	CCEA1EH220T	CAP , ELECT	22UF/25V
C825, 826	HCBS1H390JT	CAP , CERAMIC	39PF 50V J
C827	HCBS1H561KBT	CAP , CERAMIC	560PF 50V K
►DIODE			
D701~705	CVD52CSBBCEAB2	BLUE L.E.D	
D706	CVD50BOGDWGA	L.E.D , 2 COLOR	
D707,708,802~808	HVD1SS133MT	DIODE	1SS133T-77
D901~903			
►COIL			
L801	HLQ02C100KT	COIL , AXAIL	
►TRANSISTOR			
Q801,803,805,807	HVTKRC107MT	T.R	KRC107M
Q808,813			
Q802,806,814,901	HVTKRA107MT	T.R	KRA107M
Q804	HVTKTA1271YT	T.R	KTA1271Y
Q809	KVTKSA1175YT	T.R	KSA1175Y
Q810	KVTKSC2785YT	T.R	KSC2785Y
Q811,812	HVTKSC945CYT	T.R	KSC945CY

FRONT PCB CUP11653Y (VIDEO PCB CUP11653-7)		HK3380/230	
REF NO.	PART NO.	1st DESCRIPTION	2nd DESCRIPTION
►RESISTOR			
R705,706,829,830 R870,918,871	CRD20TJ101T	RES , CARBON	100 OHM 1/5W J
R701,702,707,708 R709,710,723,724	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J
R711,712	CRD20TJ105T	RES , CARBON	1M OHM 1/5W J
R713,714	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J
R715,716,919	CRD20TJ392T	RES , CARBON	3.9K OHM 1/5W J
R717,718,824,872	CRD20TJ222T	RES , CARBON	2.2K OHM 1/5W J
R719,720	CRD20TJ681T	RES , CARBON	680 OHM 1/5W J
R721,722,745	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J
R725,901~905	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J
R726	CRD20TJ560T	RES , CARBON	56 OHM 1/5W J
R727,728,820,856 R866	CRD20TJ272T	RES , CARBON	2.7K OHM 1/5W J
R729,809,825~827			
R835,853,860,863 R908,911,912,913	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J
R873,874			
R733,734	CRD20TJ331T	RES , CARBON	330 OHM 1/5W J
R742,828,833,834 R836,909,910,877	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J
R744	CRD20TJ181T	RES , CARBON	180 OHM 1/5W J
R801	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J
R806,807,808,822 R823,837~839,841 R842,845,847~852 R876,818	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J
R831,832,844,846 R843,857,867,906 R907,917	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J
R854,861,864	CRD20TJ332T	RES , CARBON	3.3K OHM 1/5W J
R855,862,865	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J
R858,868	CRD20TJ182T	RES , CARBON	1.8K OHM 1/5W J
R859,869	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J
R875	CRD20TJ752T	RES , CARBON	7.5K OHM 1/5W J
R878	CRD20TJ820T	RES , CARBON	82 OHM 1/5W J
R915	CRD20TJ273T	RES , CARBON	27K OHM 1/5W J
R916	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J
R920	CRD20TJ470T	RES , CARBON	47 OHM 1/5W J
R921,922	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J
	CRG2ANJ470H	RES , METAL OXIDE FILM	47 OHM 2W J
►TACT SWITCH			
S701,801~819	HST1A020ZT	SW , TACT	
►WIRE ASS'Y			
BN71	CWZHK3380BN71	WIRE ASS'Y	
BN72	CWZHK3380BN72	WIRE ASS'Y	
BN73	CWB2B903350EN	WIRE ASS'Y	
BN82	CWB2B907350EN	WIRE ASS'Y	
BN83,84	CWB2B904070EN	WIRE ASS'Y	
BN89	CWB2B907160EN	WIRE ASS'Y	
BN91	CWB2B909200EN	WIRE ASS'Y	
BN81	CWZHK3380BN81	WIRE ASS'Y	

FRONT PCB CUP11653Y (VIDEO PCB CUP11653-7)			HK3380/230
REF NO.	PART NO.	1st DESCRIPTION	2nd DESCRIPTION
►CONNECTOR			
CN62	KJP02GA89ZM	WAFER	MOLEX35328-02
CN63	KJP03GA90ZM	WAFER	MOLEX35313-0310
CN64	KJP06GA01ZM	WAFER	MOLEX 5267-06A
CN81	CJP20GB163ZW	WAFER	
CN83,84	KJP04GA19ZM	WAFER	
CN89	KJP07GA19ZM	WAFER	MOLEX53014-0710
CN90	KJP07HA37ZM	WAFER	
►F.I.P			
FIP1	HFLHCA16ML08-1	F.I.P	
►I.C			
IC71	HVINJM2068MDTE1	I.C , OP AMP	NJM2068MD-TE1
IC81	HVIST72F321R	I.C , FLASH U-COM	
IC82	BVISAA6579TV1	I.C , RDS FILTER	SAA6579T/V1
IC83	HVIAT24C08N10SC	I.C	AT24C08N10SC2.7
IC84	HVIS-80145ALMC	I.C RESET	S-80145ALMC
IC85	HVIRE5VL28CATZ	I.C , RESET	
IC87	HVIL7805CP	I.C, REGULATOR	
IC88	HVIL7905CP	I.C, REGULATOR	
IC91	HVINJM2296M	I.C , VIDEO SW	NJM2296M
IC92	BVIKP1010B	I.C, PHOTO COUPLER	
►JACK			
JK71	CJJ2E026Z	JACK , HEADPHONE	
JK72	CJJ4S023Y	JACK , BOARD	
JK91	CJJ4N043Z	JACK , BOARD	
JK92	CJJ4S010Z	JACK , BOARD	
JK93,94	CJJ2D008Z	JACK , STEREO	
JW72	CWE8202110RV	WIRE, ASS'Y	
JW73	CWZAVR2550JW82	WIRE , ASS'Y	
►REMOCON SENSER			
RC81	HRVKSM603TH2	REMOCON SENSER CN	KSM-603TH2
►VARIABLE RESISTOR			
VR71,72	CVV2X07C104Z	RES , VARIABLE(TONE)	RK14128030214C
VR73	CVV2X05M104Z	RES , VARIABLE(BALANCE)	RK14128030214Y
►ENCODER			
VR81	HSR2A026Z	VR , ENCODER	
►CRYSTAL			
X801	HOX04000E150C	CRYSTAL , 4MHZ	
X802	HOX04332E200C	CRYSTAL , 4.332MHZ	

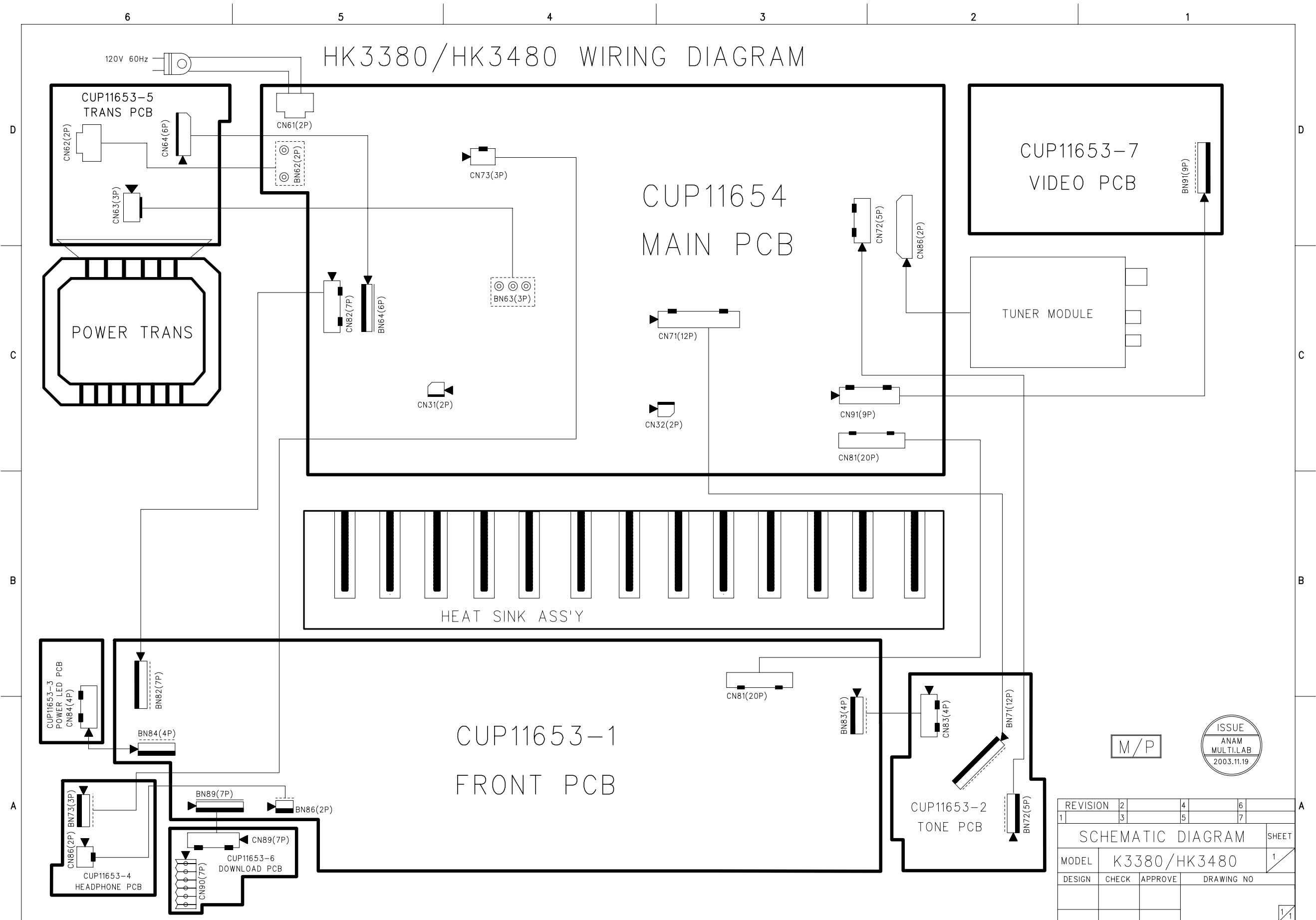
PCB, MAIN CUP11654Y		HK3380/230	
REF NO.	PART NO.	1st DESCRIPTION	2nd DESCRIPTION
►CAPACITOR			
C101,102,105,106	CCKT1H101KB	CAP , CERAMIC	100PF 50V KB
C103,104,117,118	CCEA1VH100T	CAP , ELECT	10UF 35V
C191~194,301,302			
C107,108,111,112			
C121,122,123,124			
C175,176,181,182	CCEA1CH101T	CAP , ELECT	100UF 16V
C195,196,219,220			
C305,306			
C307~310	HCEA1JH471E	CAP , ELECT HK 3480 only	470UF 63V
C109,110,213,214	HCQI1H102JZT	CAP , MYLAR	1000PF 50V J
C222			
C113,114,331~336	HCQI1H562JZT	CAP , MYLAR	5600PF 50V J
C115,116	HCQI1H152JZT	CAP , MYLAR	1500PF 50V J
C119,120	HCQI1H183JZT	CAP , MYLAR	0.018UF 50V J
C125~130	HCBS1H471KBT	CAP , CERAMIC	470PF 50V K
C131~144	HCBS1H221KBT	CAP , CERAMIC	220PF 50V K
C145,146	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
C183~185,303,304	CCKT1H471KB	CAP , CERAMIC	470PF 50V KB
C197,198,342,615			
C616,623,624,627	CCKT1H223ZF	CAP , CERAMIC	0.022UF 50V ZF
C201~204	HCBS1H101KBT	CAP , CERAMIC	100PF 50V K
C211,212,215	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V
C216,341,620			
C240	CCEA1HH1R0T	CAP , ELECT	1UF 50V
C311,312	HCBS1H120JCT	CAP , CERAMIC	12PF 50V J
C313,314	HCBS1H330JT	CAP , CERAMIC	33PF 50V
C315,316,317	CCEA1HH100TS	CAP , ELECT	10UF/50V 105°C
C318	CCEA1HH100T	CAP , ELECT	10UF/50V
C319,320,607~609	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J
C343	CCEA1AH471T	CAP , ELECT	470UF 10V
C351,352	HCBS1H681KBT	CAP , CERAMIC	680PF 50V K
C401,402,405,406	CCEA1EH470T	CAP , ELECT HK 3480 only	47UF 25V
C409	KCFE1J334JBT	CAP , FILM HK 3480 only	0.33UF 63V J
C613,614,622	CCEA1EH101T	CAP , ELECT	100UF 25V
C619,629	CCEA1HH470T	CAP , ELECT	47UF/50V
C626	CCEA1AH101T		100UF 10V
C628,630	HCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V Z
C307~310	CCEA1JH221E	CAP , ELECT	220UF 63V
C601,602	CCET63VKL5103NK	CAP , ELECT HK 3380 only	10000/63V
C601,602	CCET63VKL5153NK	CAP , ELECT HK 3480 only	15000UF 63V
C611	HCEA1EH332E	CAP , ELECT	3300UF 25V
C612	CCEA1EH222E	CAP , ELECT.	2200UF 25V
C621	KCKDKS472ME	CAP , CERAMIC(X1/Y2/SC)	0.0047UF/2.5KV
C625	CCEA1EH102E	CAP , ELECT	1000UF 25V
C631	BCQE2E104KDE	CAP , LINE ACROSS	0.1UF 250V KD
C632	CCEA1JH101E	CAP , ELECT	100UF 63V
►DIODE			
D101~110,112~115			
D301~309,606,612	HVD1SS133MT	DIODE	1SS133T-77
D613,614			
D602~605,607,615	KVD1N4003ST	DIODE	1N4003
D616~618			
D608,609	HVDMTZJ15BT	DIODE , ZENER	15V 1/2W
D611	HVDMTZJ6.2BT	DIODE , ZENER	6.2V 1/2W
D601	HVDGBJ806MF	DIODE , BRIDGE	

PCB, MAIN CUP11654Y		HK3380/230	
REF NO.	PART NO.	1st DESCRIPTION	2nd DESCRIPTION
►COIL			
L101,102	HLQ02C470KT	COIL , AXAIL	
►TRANSISTOR			
Q204~208	HVTKTC2874BT	T.R , MUTE	KTC2874B
Q209,332,337,338	HVTKRA107MT	T.R	KRA107M
Q602			
Q210,335,336	HVTKRC107MT	T.R	KRC107M
Q301~306,311,312	HVTKTC3200GRT	T.R	KTC3200GR
Q307~310	HVTKTA1268GRT	T.R	KTA1268GR
Q323,324,333,334			
Q601	KVTKSC2785YT	T.R	KSC2785Y
Q331	KVTKSA1175YT	T.R	KSA1175Y
Q603	HVTKTA1271YT	T.R	KTA1271Y
Q313,314	HVTKTA1360Y	T.R , PRE DRIVE	KTA1360Y
Q315,316	HVTKTC3423Y	T.R , PRE DRIVE	KTC3423Y
Q317	HVTKTC3114A	T.R , BIAS	KTC3114A
Q318	HVTKTC3114A	T.R , BIAS	KTC3114A
Q319	BVT2SD2401P	T.R , POWER(DARINGTON)	
Q320	BVT2SD2401P	T.R , POWER(DARINGTON)	
Q321	BVT2SB1570P	T.R , POWER(DARINGTON)	
Q322	BVT2SB1570P	T.R , POWER(DARINGTON)	
►RESISTOR			
R101,102,359,360	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J
R363,364,386			
R103~106,117,118			
R213,214,221,222	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J
R618			
R107,108,121,123			
R124,171,172,181	CRD20TJ101T	RES , CARBON	100 OHM 1/5W J
R182,195,196,201			
R202~204,219,220			
R109,110	CRD20TJ564T	RES , CARBON	560K OHM 1/5W J
R111,112,173,174			
R367,368,385	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J
R113,114	CRD20TJ751T	RES , CARBON	750 OHM 1/5W J
R115,116,125~144			
R183~185,211,305	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J
R306			
R122	CRD25TJ101T	RES , CARBON	100 OHM 1/4W J
R151~164	CRD20TJ474T	RES , CARBON	470K OHM 1/5W J
R191~194,205~208	CRD20TJ184T	RES , CARBON	180K OHM 1/5W J
R212	CRD25TJ471T	RES , CARBON	470 OHM 1/4W J
R215,216	CRD20TJ202T	RES , CARBON	2K OHM 1/5W J
R217,218,617	CRD20TJ222T	RES , CARBON	2.2K OHM 1/5W J
R223,224,315~318			
R384	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J
R234	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J
R235~239	CRD20TJ332T	RES , CARBON	3.3K OHM 1/5W J
R240,365,366	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J
R241	CRD20TJ822T	RES , CARBON	8.2K OHM 1/5W J
R255	CRD20TJ105T	RES , CARBON	1M OHM 1/5W J
R303,304,319,320			
R383	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J

PCB, MAIN CUP11654Y		HK3380/230	
REF NO.	PART NO.	1st DESCRIPTION	2nd DESCRIPTION
R307,308	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J
R309,310	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J
R311~314	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J
R321,322,343,344 R611	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J
R323~334	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J
R335~338	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J
R339~342	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J
R345,346	CRD20TJ331T	RES , CARBON	330 OHM 1/5W J
R347~350,621	KRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J
R351~354	KRD25FJ180T	RES , CARBON	18 OHM 1/4W J
R357,358	CRD20TJ511T	RES , CARBON	510 OHM 1/5W J
R361,362,609,610 R619,620	CRD20TJ182T	RES , CARBON	1.8K OHM 1/5W J
R371~374	CRD25TJ470T	RES , CARBON	47 OHM 1/4W J
R381,382	CRD20TJ273T	RES , CARBON	27K OHM 1/5W J
R383	CRD20TJ433T	RES , CARBON HK 3480 only	43K OHM 1/5W J
R391~393	CRD20TJ470T	RES , CARBON	47 OHM 1/5W J
R601~604	CRD25TJ393T	RES , CARBON	39K OHM 1/4W J
R607,608	CRD20TJ123T	RES , CARBON	12K OHM 1/5W J
R612,613	CRD20TJ560T	RES , CARBON	56 OHM 1/5W J
R614	CRD20TJ820T	RES , CARBON	82 OHM 1/5W J
R355,356	CRF5EKR22HX2	RES , CEMENT	0.22OHM(*2), 5W
R375,376	CRG1ANJ100H	RES , METAL OXIDE FILM	10 OHM 1W J
R377,378	CRG1ANJ221H	RES , METAL OXIDE FILM	220 OHM 1W J
R605,606	KRQ1AJR47H	RES , FUSE	0.47 OHM 1W J
R615	KRQ1AJ100H	RES , FUSE	10 OHM 1W J
R427	CRD20TJ151T	RES , CARBON HK 3480 only	150 OHM 1/5W J
R413,414	CRD20TJ220T	RES , CARBON HK 3480 only	22 OHM 1/5W J
R434	CRD20TJ4R7T	RES , CARBON HK 3480 only	4.7 OHM 1/5W J
R426,429,430,435	CRD20TJ512T	RES , CARBON HK 3480 only	5.1K OHM J
R421,423	CRD20TJ622T	RES , CARBON HK 3480 only	6.2K OHM 1/5W J
►SEMI RESISTOR			
VR31,32	HVN1RA221B01T	RES , SEMI FIXED(220 OHM)	RH0615C100221
►WIRE ASS'Y			
BN62	CWB4FA32120PU	WIRE ASS'Y	
BN63	CWB3FE03280UP	WIRE ASS'Y	
BN64	CWB1C906200BM	WIRE ASS'Y	
JW31	CWE7202050AA	WIRE ASS'Y	
JW32	CWE7202070AA	WIRE ASS'Y	
JW33	CWE7202060AA	WIRE ASS'Y	
JW34,35	CWE7202090AA	WIRE ASS'Y	
►CONNECTOR			
CN26	CJP13GA115ZY	WAFER , CARD CABLE	
CN31,32	KJP02GA01ZM	WAFER	MOLEX 5267-02A
CN61	KJP02KA060ZY	WAFER	7.92MM(YUNHO)
CN71	KJP12GA19ZM	WAFER	
CN73,74	KJP03GA19ZM	WAFER	
CN75	KJP02GA19ZM	WAFER	
CN81	CJP20GA147ZW	20 DUAL WAFER	JWT
CN82	KJP07GA19ZM	WAFER	MOLEX53014-0710
CN91	KJP09GA19ZM	WAFER	MOLEX53014-0910
►I.C			
IC11,14,16,21 IC41~43	HVINJM2068MDTE1	I.C , OP AMP	NJM2068MD-TE1
IC12	HVITC9164AF	I.C , FUNCTION	TC9164AF
IC13	HVITC9163AF	I.C , FUNCTION	TC9163AF
IC15	HVITC9459F	I.C , VOLUME	
IC61	HVIL7805CP	I.C, REGULATOR	
IC64	CVIL7815CPVA	I.C ASS'Y	
IC65	CVIL7915CPVA	I.C ASS'Y	

PCB, MAIN		CUP11654Y	HK3380/230
REF NO.	PART NO.	1st DESCRIPTION	2nd DESCRIPTION
▶JACK			
JK10	CJJ4N060Z	JACK , BOARD 2P (GOLD)	
JK11,12	CJJ4P014W	JACK , IN/OUT	
JK13	CJJ4R019W	TERMINAL , IN/OUT	
JK14	CJJ4R021W	JACK , IN/OUT	
JK15	CJJ5Q006Z	TERMINAL , SPEAKER	
▶COIL			
L301,302	CLEY0R5KAK	COIL , SPEAKER	0.5UH K
▶OUTLET			
OL61	KJJ7A025Z	OUTLET , EUR (2P)	A3-04-D007-2P
▶RELAY			
RY31,32	HSL4A004ZU	RELAY	OSA-SS-212DM3
RY61	HSL1A008ZE	RELAY	SDT-S-112DMR
▶POSISTOR			
TH31	KRTP42T7D330B	THERMAL SENSOR , POSISTOR	P42T7D330BW20
▶SUB TRANS			
T602	CLT5J033ZE	TRANS , SUB	
▶CARD CABLE			
BN26	CWC1C4A13B170B	CARD , CABLE	
▶FUSE			
F601	KBA2C4000TLEY	FUSE HK3380/230	T 4A L 250V
F601	KBA2C6300TLEY	FUSE HK3480/230	T 6.3A L 250V
F602	KBA2D2500TLET	FUSE	T 2.5A L 250V
F603,604	KBA2C6300TLEY	FUSE HK3380/230	T 6.3A L 250V
F603,604	KBA2C8000TLEY	FUSE HK 3480/230	T 8A L 250V
▶OTHERS			
T601	CLT5U021ZE	TRANS , POWER HK3380/230	
	CLT5V036ZE	TRANS , POWER HK3480/230	

HK3380/HK3480 WIRING DIAGRAM

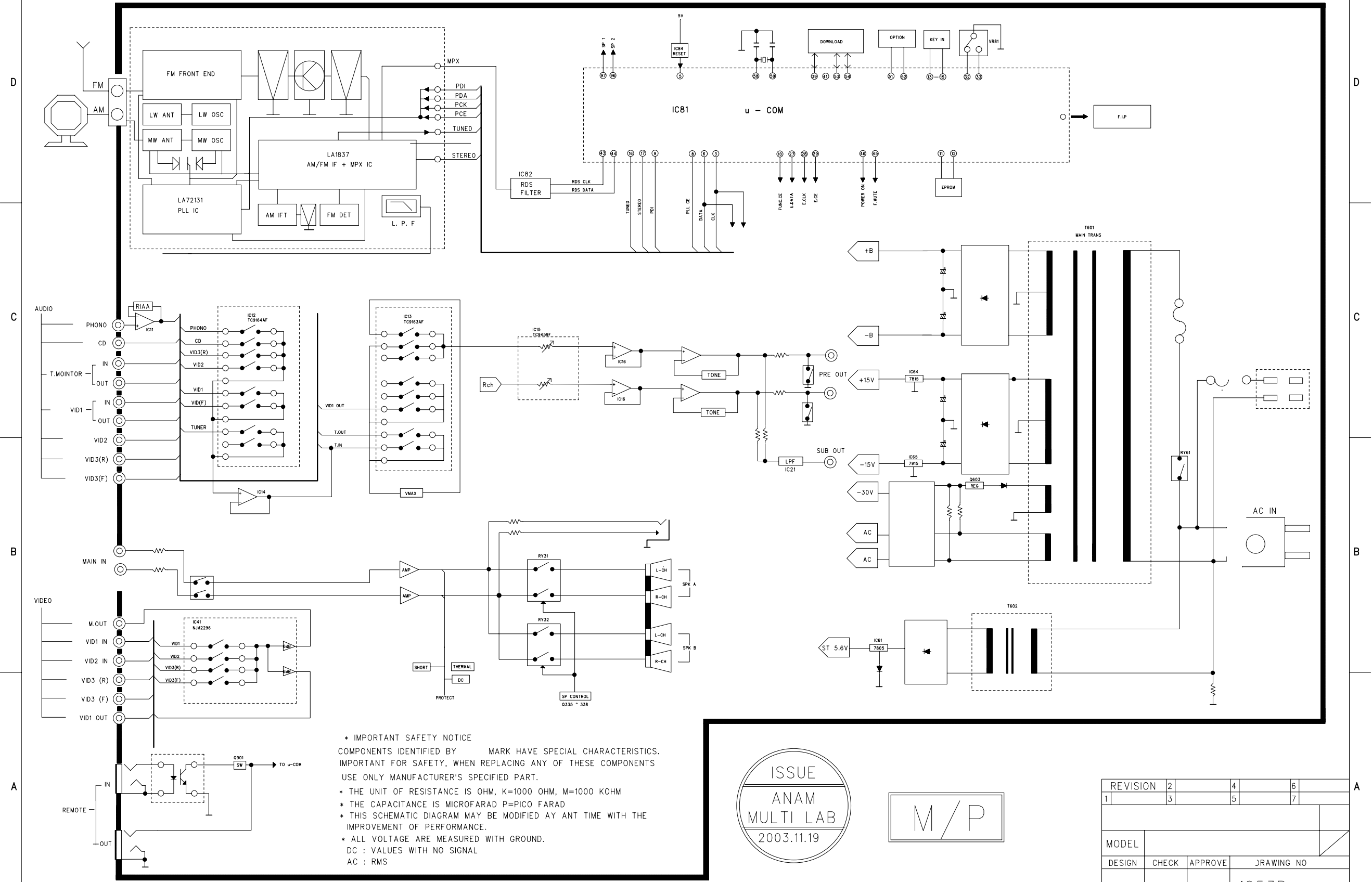


M/P

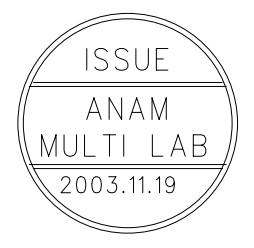
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REVISION	2	4	6
1	3	5	7
SCHEMATIC DIAGRAM			SHEET
MODEL	K3380/HK3480		1
DESIGN	CHECK	APPROVE	DRAWING NO
			1/1

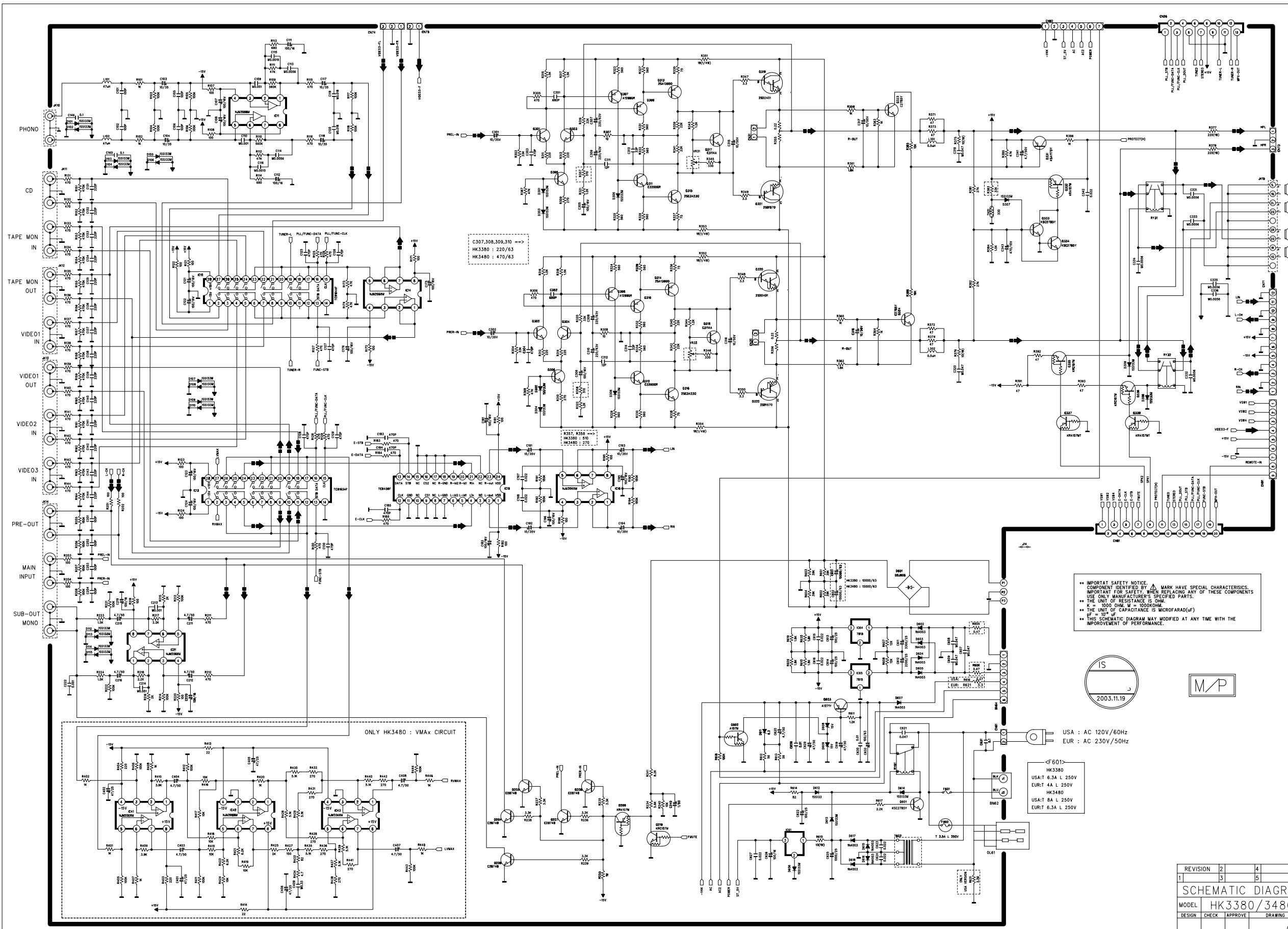
HK3380/HK3480 BLOCK DIAGRAM



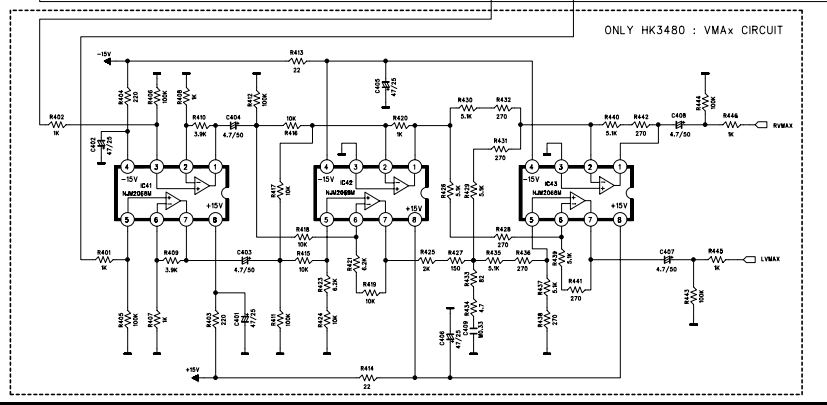
*** IMPORTANT SAFETY NOTICE**
 COMPONENTS IDENTIFIED BY MARK HAVE SPECIAL CHARACTERISTICS.
 IMPORTANT FOR SAFETY, WHEN REPLACING ANY OF THESE COMPONENTS
 USE ONLY MANUFACTURER'S SPECIFIED PART.
 * THE UNIT OF RESISTANCE IS OHM, K=1000 OHM, M=1000 KOHM
 * THE CAPACITANCE IS MICROFARAD P=PICO FARAD
 * THIS SCHEMATIC DIAGRAM MAY BE MODIFIED AT ANY TIME WITH THE
 IMPROVEMENT OF PERFORMANCE.
 * ALL VOLTAGE ARE MEASURED WITH GROUND.
 DC : VALUES WITH NO SIGNAL
 AC : RMS



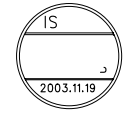
REVISION	2	4	6
1	3	5	7
MODEL			
DESIGN	CHECK	APPROVE	DRAWING NO
			1653P



C307,308,309,310 =>
 HK3380 : 220/63
 HK3480 : 470/63



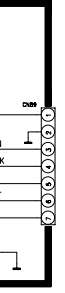
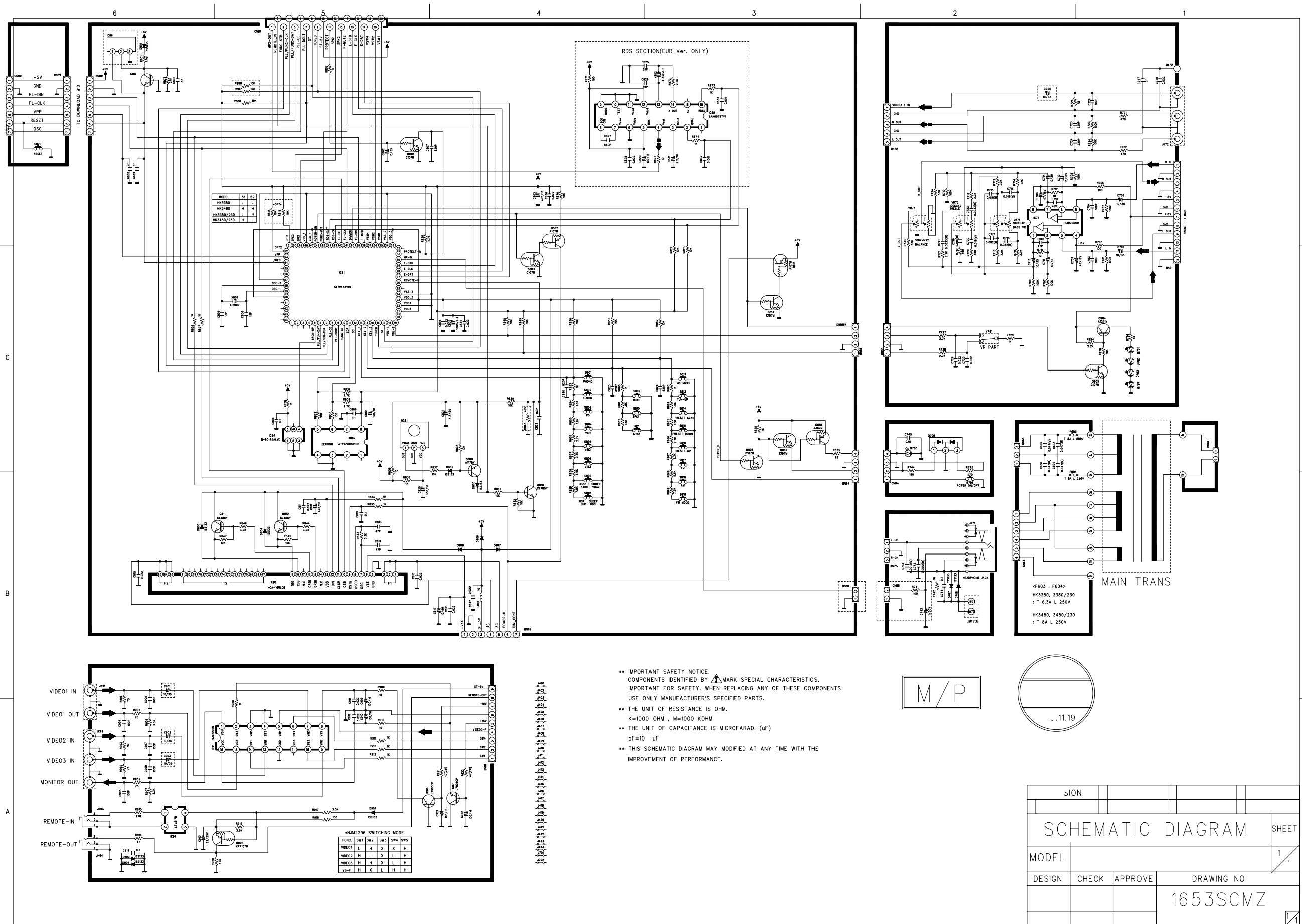
*** IMPORTANT SAFETY NOTICE. COMPONENT IDENTIFIED BY Δ MARK HAVE SPECIAL CHARACTERISTICS. IMPORTANT FOR SAFETY, WHEN REPLACING ANY OF THESE COMPONENTS USE ONLY MANUFACTURER'S SPECIFIED PARTS.
 ** THE UNIT OF RESISTANCE IS OHM.
 K = 1000 OHM, M = 10000 OHM.
 ** THE UNIT OF CAPACITANCE IS MICROFARAD(μ F) OF 10^{-6} F.
 *** THIS SCHEMATIC DIAGRAM MAY MODIFIED AT ANY TIME WITH THE IMPROVEMENT OF PERFORMANCE.



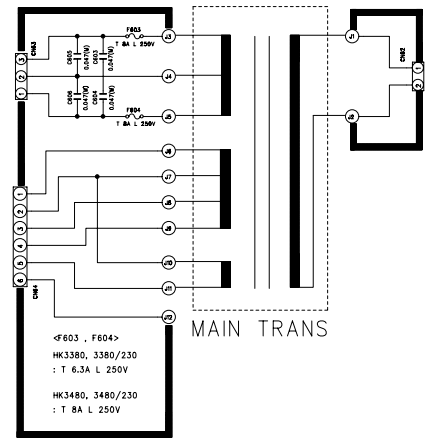
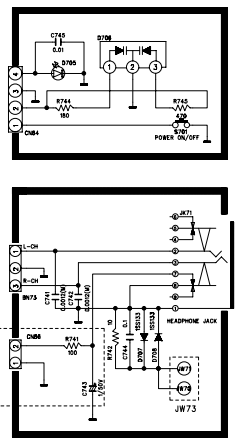
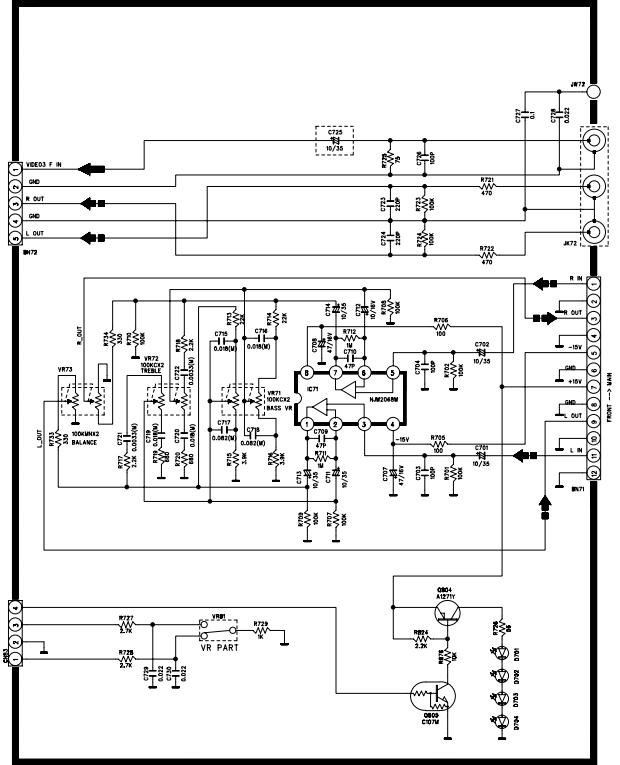
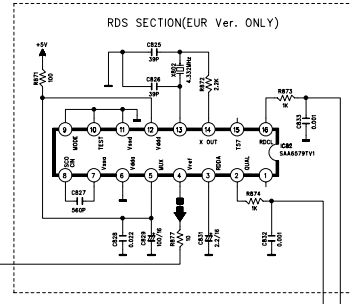
USA : AC 120V/60Hz
 EUR : AC 230V/50Hz

<F601>
 HK3380
 USA:T 6.3A L 250V
 EUR:T 4A L 250V
 HK3480
 USA:T 8A L 250V
 EUR:T 6.3A L 250V

REVISION	2	4	6
1	3	5	7
SCHEMATIC DIAGRAM SHEET			
MODEL	HK 3380/3480		
DESIGN	CHECK	APPROVE	DRAWING NO
03.07.			CMZ

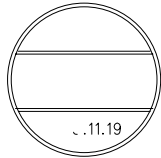


MODEL	S1	S2
HW3380	L	L
HW3480	H	H
HW3480/230	L	H
HW3480/230	H	L



<F603, F604>
 HW3380, 3380/230
 : T 6.3A L 250V
 HW3480, 3480/230
 : T 8A L 250V

M/P

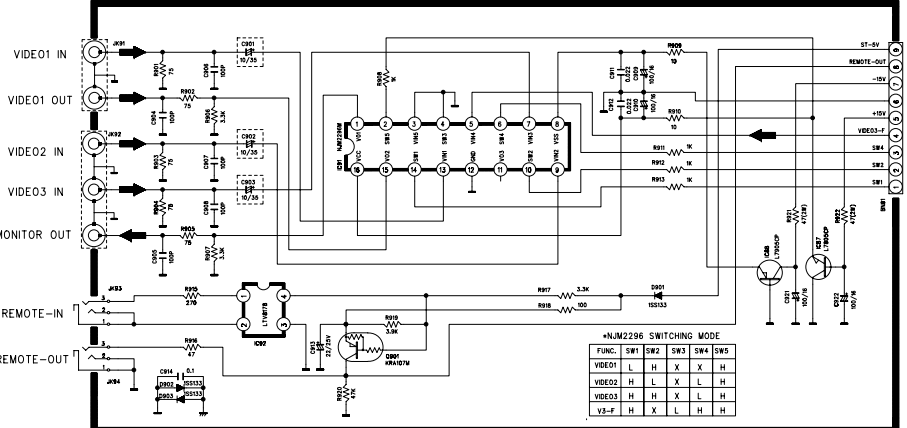


•• IMPORTANT SAFETY NOTICE.
 COMPONENTS IDENTIFIED BY MARK SPECIAL CHARACTERISTICS.
 IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS
 USE ONLY MANUFACTURER'S SPECIFIED PARTS.

•• THE UNIT OF RESISTANCE IS OHM.
 K=1000 OHM , M=1000 KOHM

•• THE UNIT OF CAPACITANCE IS MICROFARAD. (uF)
 pF=10 uF

•• THIS SCHEMATIC DIAGRAM MAY MODIFIED AT ANY TIME WITH THE
 IMPROVEMENT OF PERFORMANCE.



+NM2296 SWITCHING MODE					
FUNC.	SW1	SW2	SW3	SW4	SW5
VIDEO1	L	H	X	X	H
VIDEO2	H	L	X	L	H
VIDEO3	H	H	X	L	H
VS-F	H	X	L	H	H

SION			
SCHEMATIC DIAGRAM			SHEET
MODEL			1
DESIGN	CHECK	APPROVE	DRAWING NO
			1653SCMZ

AMPLIFIER SECTION BIAS ADJUSTMENT

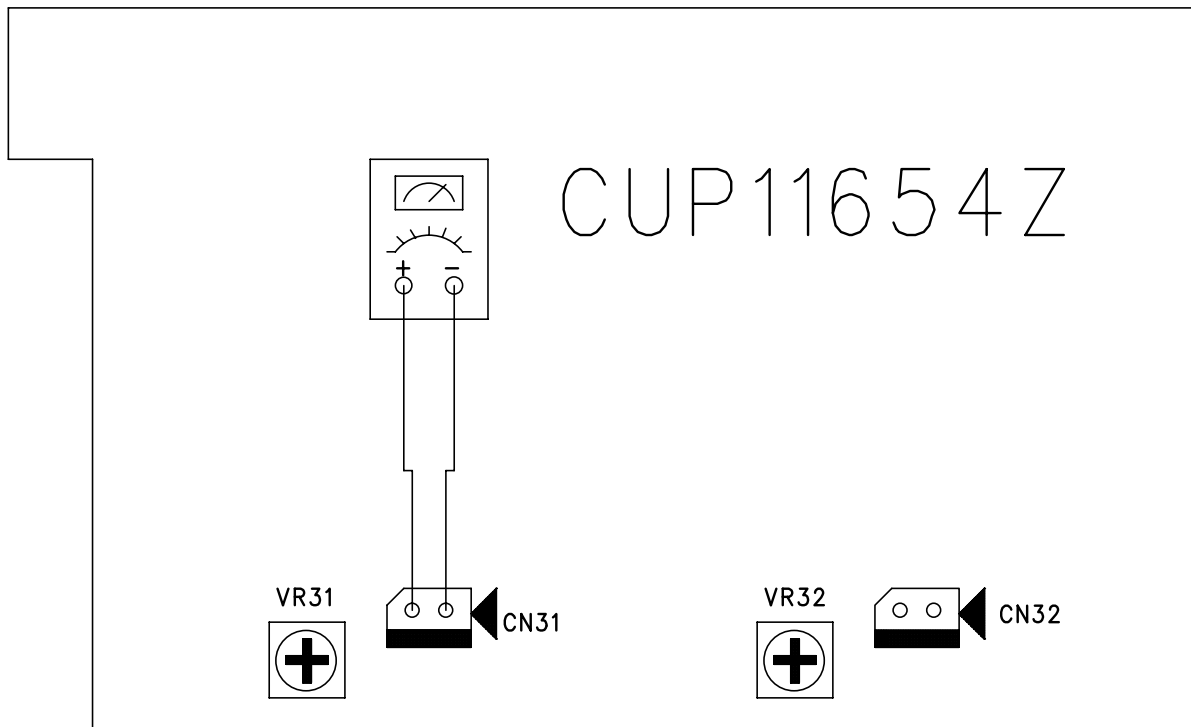
Measurement condition

; No input signal or volume position is minimum.

Standard value

; Ideal current = 48mA (±5%)

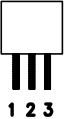
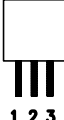
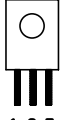
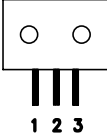
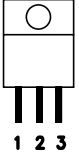
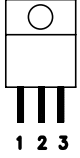
; Ideal DC Voltage = 21.12mV (±5%)



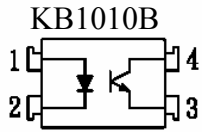
DC VOLTMETERConnect to CN31 , CN32

NO.	CHENNEL	ADJUST FOR	ADJUSTMENT
1	L CH	21.12mV (±5%)	VR31
2	R CH	21.12mV (±5%)	VR32

TRANSISTOR , REGULATOR IC BLOCK DIAGRAM

<p style="text-align: center;">T0-92M</p> <div style="text-align: center;">  </div> <p style="text-align: center;">1 2 3</p> <p style="text-align: center;">1. Emitter 2. Collector 3. Base</p> <p style="text-align: center;">KRA107M KRC107M KSA1175Y KSC2785Y KTC2874B</p>	<p style="text-align: center;">T0-92</p> <div style="text-align: center;">  </div> <p style="text-align: center;">1 2 3</p> <p style="text-align: center;">1. Emitter 2. Collector 3. Base</p> <p style="text-align: center;">KTA1271Y KSC945CY KTA1268GR KTC3200GR</p>	<p style="text-align: center;">T0-126</p> <div style="text-align: center;">  </div> <p style="text-align: center;">1 2 3</p> <p style="text-align: center;">1. Emitter 2. Collector 3. Base</p> <p style="text-align: center;">KTA1360Y KTC3423Y KTC3114A</p>
<p style="text-align: center;">T0-3P</p> <div style="text-align: center;">  </div> <p style="text-align: center;">1 2 3</p> <p style="text-align: center;">1. Base 2. Collector 3. Emitter</p> <p style="text-align: center;">2SB1570 2SD2401</p>	<p style="text-align: center;">T0-220</p> <div style="text-align: center;">  </div> <p style="text-align: center;">1 2 3</p> <p style="text-align: center;">1. INPUT 2. GND 3. OUTPUT</p> <p style="text-align: center;">L7805CP L7815CP</p>	<p style="text-align: center;">T0-220</p> <div style="text-align: center;">  </div> <p style="text-align: center;">1 2 3</p> <p style="text-align: center;">1. GND 2. INPUT 3. OUTPUT</p> <p style="text-align: center;">L7905CP L7915CP</p>

SCHEMATIC : TOP VIEW



1. Anode
2. Cathode
3. Emitter
4. Collector

DISPLAY

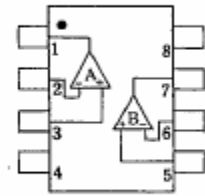
PIN CONNECTION

* TS : Test pin. Be left open if not used.

PIN NO.	85	84	83	82	81~67	66~20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	F2	F2	F2	NP	TS	NP	16G	15G	NC	GRI5	GRI6	NC	V _{DD}	DIN	CLKB	CSB	RSTB	OSCO	OSCI	V _{EE}	GND	NP	F1	F1	F1

PIN CONFIGURATION

- PIN FUNCTION
1. A OUTPUT
 2. A-INPUT
 3. A+INPUT
 4. V⁻
 5. B+INPUT
 6. B-INPUT
 7. B OUTPUT
 8. V⁺



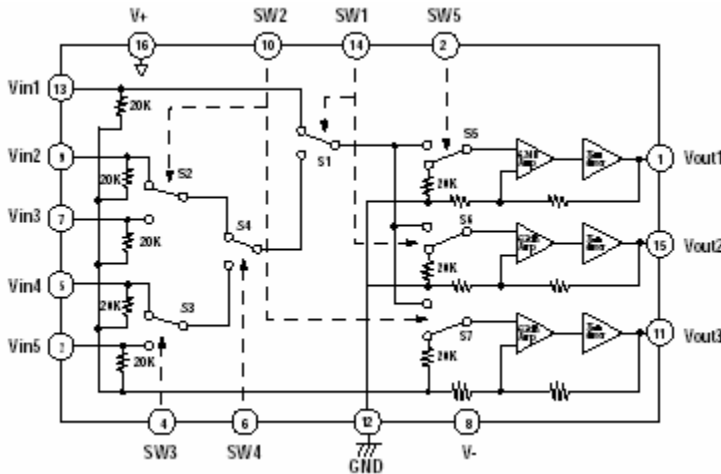
NJM2068D
NJM2068M
NJM2068V

NJM2068

*Notes

- Fn : Filament Pin
- NP : No Pin
- NC : No connection

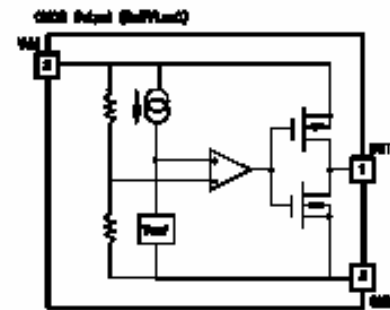
SAA6579TV1



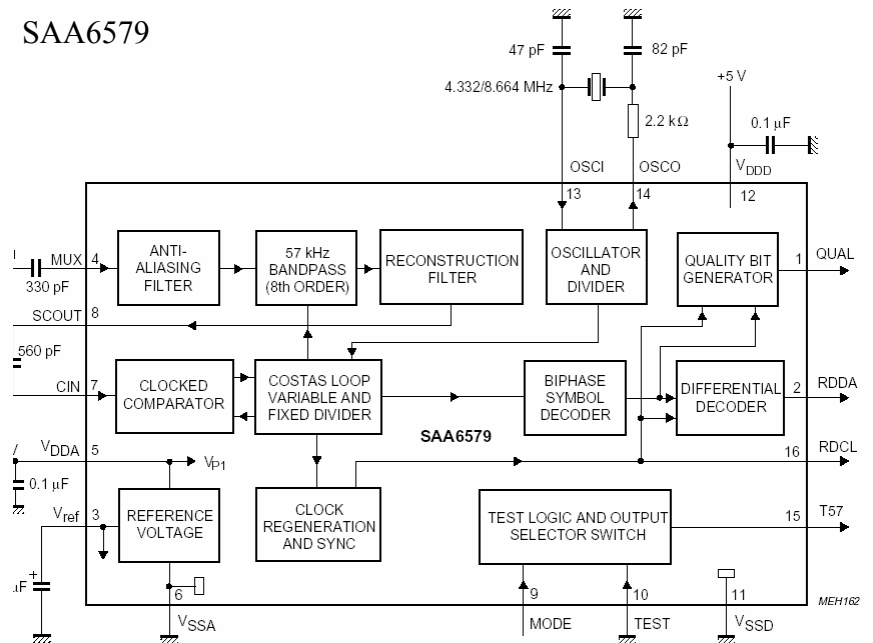
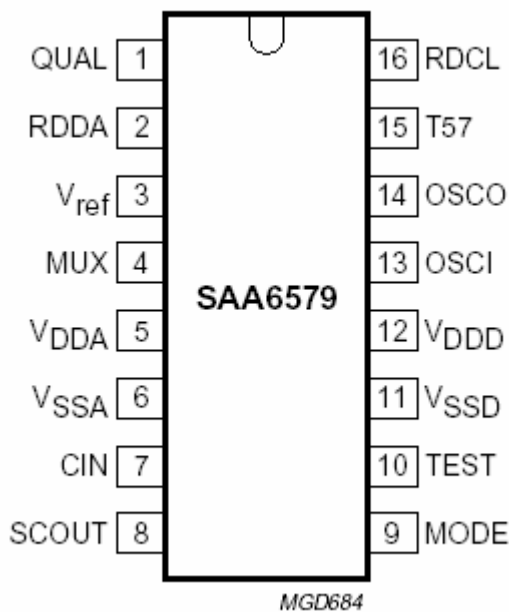
RE5VL28

RE5VL28CATZ (VOLTAGE DETECTOR : IC85)

■ BLOCK DIAGRAM

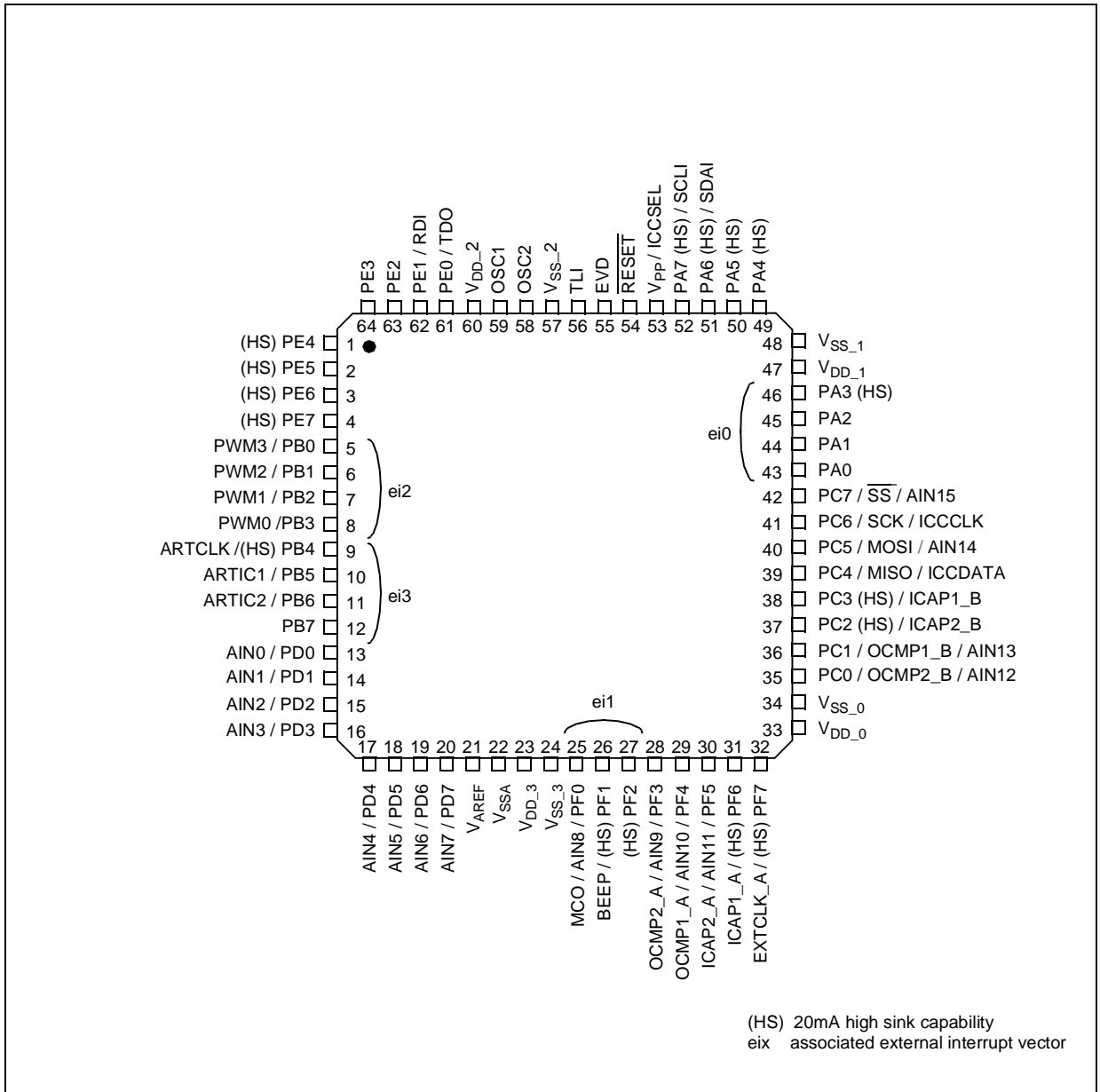


SAA6579



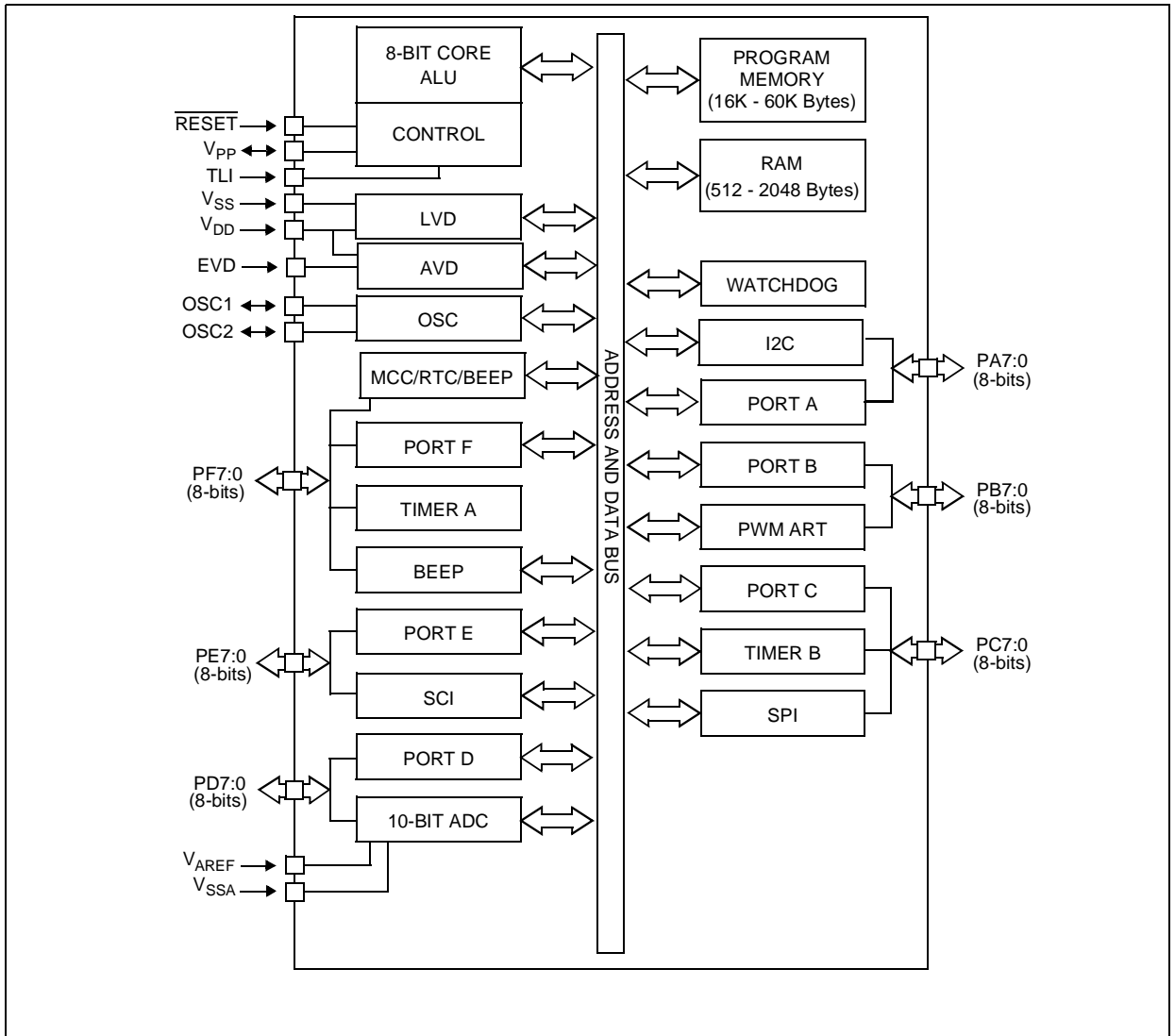
2 PIN DESCRIPTION

Figure 2. 64-Pin TQFP 14x14 and 10x10 Package Pinout

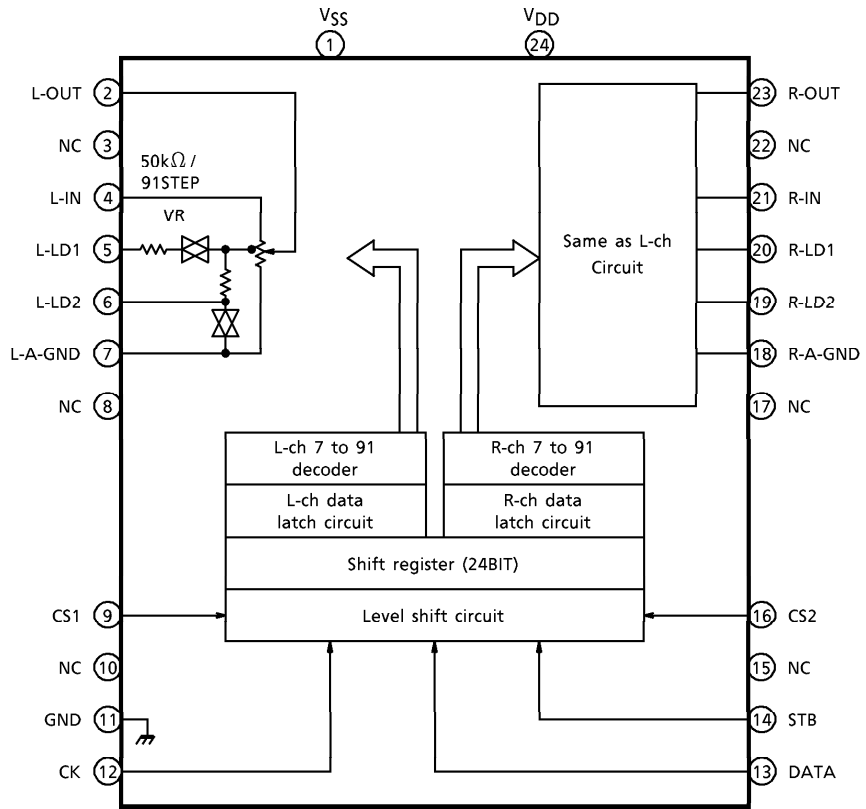


HVIST72F321R (U-COM) : IC81

Figure 1. Device Block Diagram

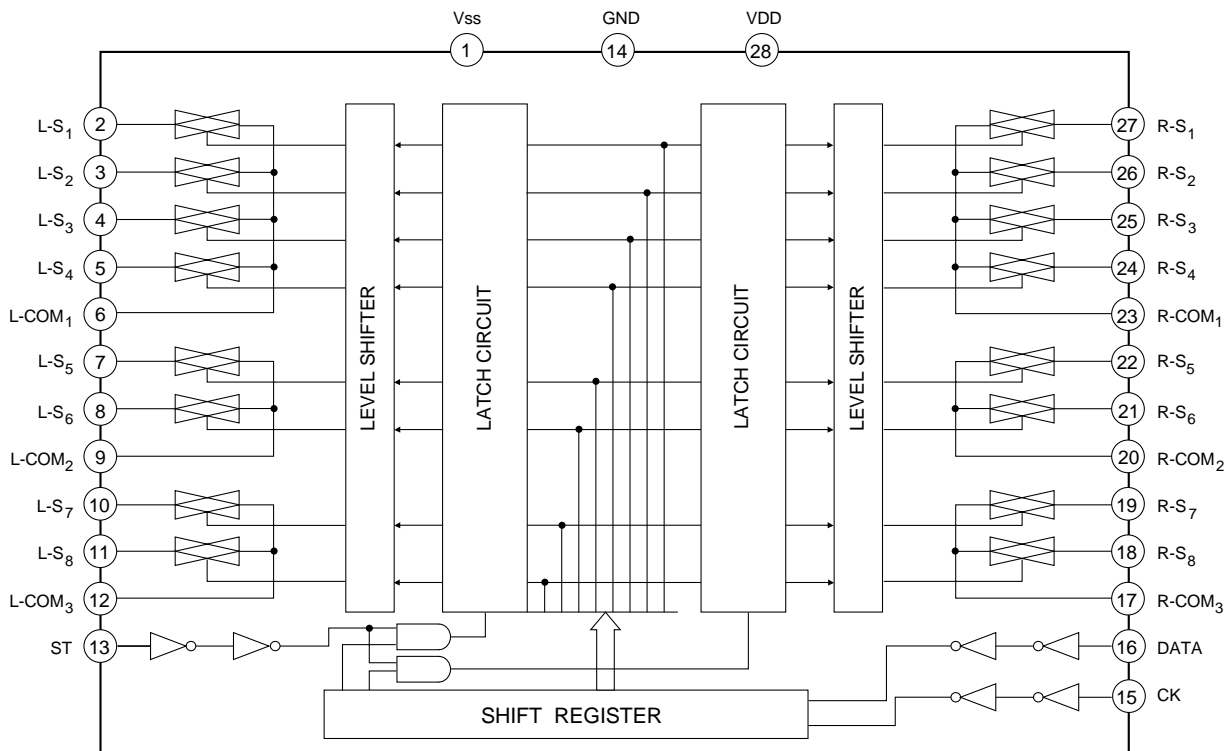


BLOCK DIAGRAM (TC9459F)



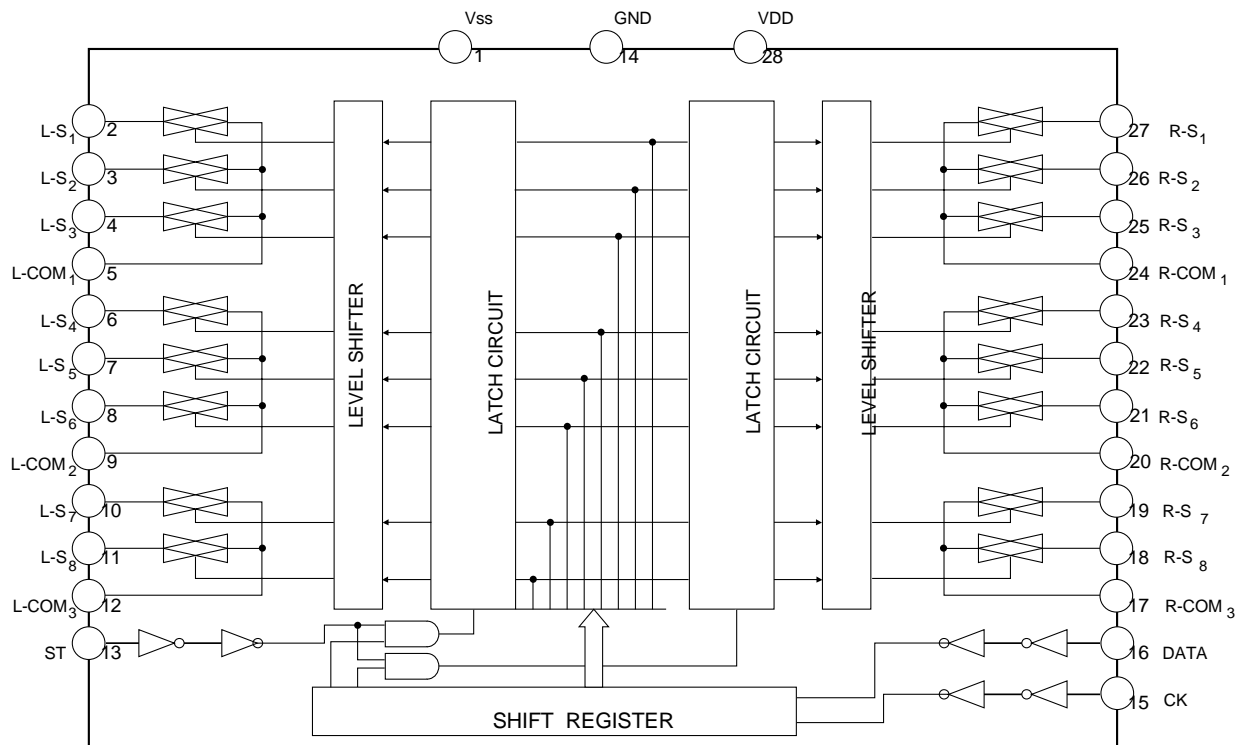
TC9164AF (FUNCTION/INPUT) : IC12

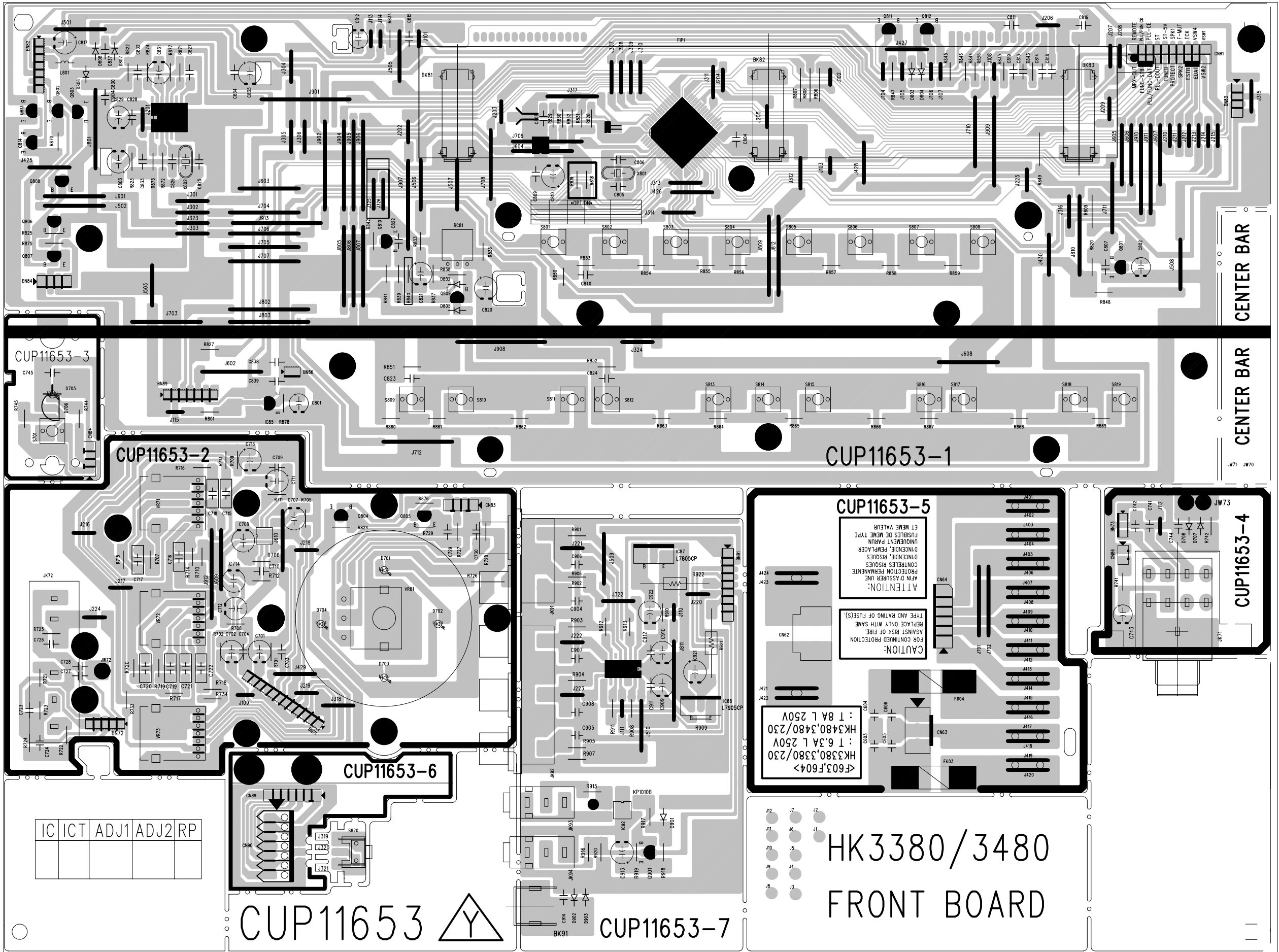
■ BLOCK DIAGRAM



TC9163AF (FUNCTION/INPUT) : IC13

■ BLOCK DIAGRAM





CUP11653-3

C745

D705

R715

S701

R714

R714

R714

R714

CUP11653-2

C709

C711

C712

C713

C714

C715

C716

C717

C718

C719

C720

C721

C722

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C724

C725

C726

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C728

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CUP11653-7

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CUP11653-5

ATTENTION:

ET NEVE VALTEUR
FUSIBLES DE NEVE TYPE
UNIFORMEMENT PARIN
D'INCENDIE, REMPLACER
CONTRELES FUSIBLES
PROTECTION PERMANENTE
AFIN D'ASSURER UNE
FOR CONTINUED PROTECTION
AGAINST RISK OF FIRE
REPLACE ONLY WITH SAME
TYPE AND RATING OF FUSE(S)

CAUTION:

HK3380,3380/230
: T 6,3A L 250V
HK3480,3480/230
: T 8A L 250V

F603, F604

CN63

CN64

F604

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IC	ICT	ADJ1	ADJ2	RP

CUP11653



HK3380/3480
FRONT BOARD

CENTER BAR

CENTER BAR

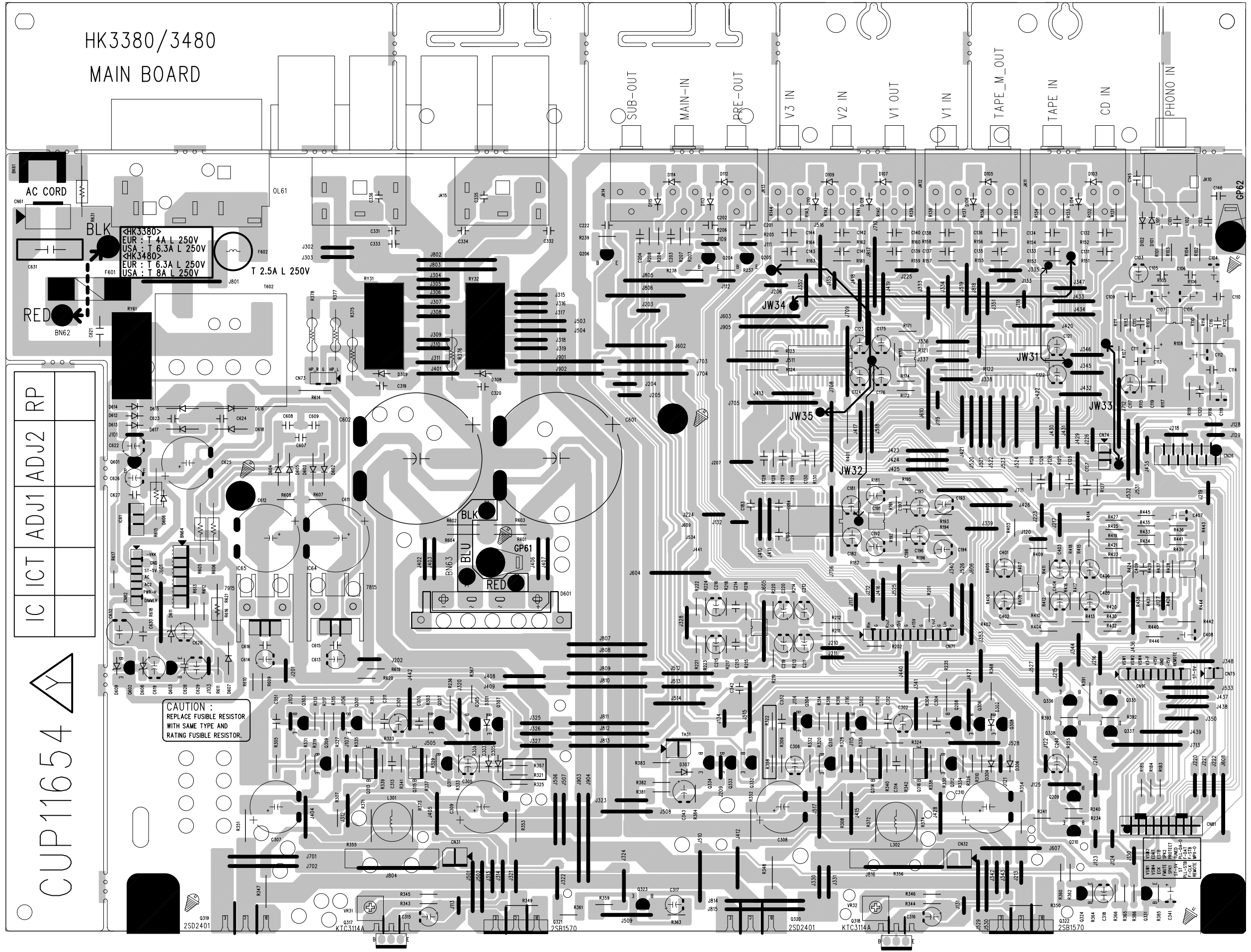
CUP11653-4

CUP11653-5

CUP11653-6

CUP11653-7

HK3380/3480
MAIN BOARD



IC	ICT	ADJ1	ADJ2	RP

CUP11654

CAUTION:
REPLACE FUSIBLE RESISTOR
WITH SAME TYPE AND
RATING FUSIBLE RESISTOR.

V3 IN	V2 IN	V1 OUT	V1 IN	TAPE_M_OUT	TAPE IN	CD IN	PHONO IN