

M4 C/AH
STEREO
FM/AM/DAB/XM TUNER

SERVICE MANUAL

M4 C/AH
STEREO
FM/AM/DAB/XM TUNER



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SECTION 1

SUMMARY

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PRODUCT SAFETY SERVICING GUIDELINES FOR AUDIO PRODUCTS

CAUTION : DO NOT ATTEMPT TO MODIFY THIS PRODUCT IN ANY WAY, NEVER PERFORM CUSTOMIZED INSTALLATIONS WITHOUT MANUFACTURER'S APPROVAL. UNAUTHORIZED MODIFICATIONS WILL NOT ONLY VOID THE WARRANTY, BUT MAY LEAD TO YOUR BEING LIABLE FOR ANY RESULTING PROPERTY DAMAGE OR USER INJURY.

SERVICE WORK SHOULD BE PERFORMED ONLY AFTER YOU ARE THOROUGHLY FAMILIAR WITH ALL OF THE FOLLOWING SAFETY CHECKS AND SERVICING GUIDELINES. TO DO OTHERWISE, INCREASES THE RISK OF POTENTIAL HAZARDS AND INJURY TO THE USER.

WHILE SERVICING, USE AN ISOLATION TRANSFORMER FOR PROTECTION FROM A.C. LINESHOCK.

SAFETY CHECKS

AFTER THE ORIGINAL SERVICE PROBLEM HAS BEEN CORRECTED. A CHECK SHOULD BE MADE OF THE FOLLOWING.

SUBJECT : FIRE & SHOCK HAZARD

1. BE SURE THAT ALL COMPONENTS ARE POSITIONED IN SUCH A WAY AS TO AVOID POSSIBILITY OF ADJACENT COMPONENT SHORTS. THIS IS ESPECIALLY IMPORTANT ON THOSE MODULES WHICH ARE TRANSPORTED TO AND FROM THE REPAIR SHOP.

2. NEVER RELEASE A REPAIR UNLESS ALL PROTECTIVE DEVICES SUCH AS INSULATORS, BARRIERS, COVERS, SHIELDS, STRAIN RELIEFS, POWER SUPPLY CORDS, AND OTHER HARDWARE HAVE BEEN REINSTALLED PER ORIGINAL DESIGN. BE SURE THAT THE SAFETY PURPOSE OF THE POLARIZED LINE PLUG HAS NOT BEEN DEFEATED.

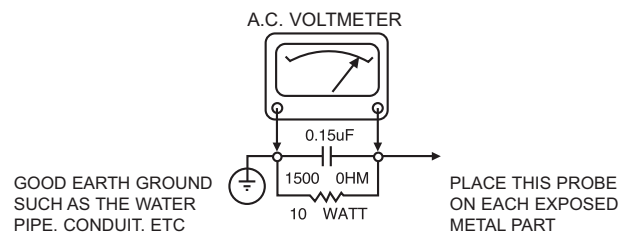
3. SOLDERING MUST BE INSPECTED TO DISCOVER POSSIBLE COLD SOLDER JOINTS, SOLDER SPLASHES OR SHARP SOLDER POINTS. BE CERTAIN TO REMOVE ALL LOOSE FOREIGN PARTICLES.

4. CHECK FOR PHYSICAL EVIDENCE OF DAMAGE OR DETERIORATION TO PARTS AND COMPONENTS. FOR FRAYED LEADS, DAMAGED INSULATION (INCLUDING A.C. CORD). AND REPLACE IF NEEDED.

5. NO LEAD OR COMPONENT SHOULD TOUCH A RECEIVING TUBE OR A RESISTOR RATED AT 1 WATT OR MORE. LEAD TENSION AROUND PROTRUDING METAL SURFACES MUST BE AVOIDED.

6. ALL CRITICAL COMPONENTS SUCH AS FUSES, FLAMEPROOF RESISTORS, CAPACITORS, ETC. MUST BE REPLACED WITH EXACT FACTORY TYPES, DO NOT USE REPLACEMENT COMPONENTS OTHER THAN THOSE SPECIFIED OR MAKE UNRECOMMENDED CIRCUIT MODIFICATIONS.

7. AFTER RE-ASSEMBLY OF THE SET ALWAYS PERFORM AN A.C. LEAKAGE TEST ON ALL EXPOSED METALLIC PARTS OF THE CABINET, (THE CHANNEL SELECTOR KNOB, ANTENNA TERMINALS. HANDLE AND SCREWS) TO BE SURE THE SET IS SAFE TO OPERATE WITHOUT DANGER OF ELECTRICAL SHOCK. DO NOT USE A LINE ISOLATION TRANSFORMER DURING THIS TEST USE AN A.C. VOLTMETER, HAVING 5000 OHMS PER VOLT OR MORE SENSITIVITY, IN THE FOLLOWING MANNER; CONNECT A 1500 OHM 10 WATT RESISTOR, PARALLELED BY A .15 MFD. 150.V A.C. TYPE CAPACITOR BETWEEN A KNOWN GOOD EARTH GROUND (WATER PIPE, CONDUIT, ETC.) AND THE EXPOSED METALLIC PARTS, ONE AT A TIME. MEASURE THE A.C. VOLTAGE ACROSS THE COMBINATION OF 1500 OHM RESISTOR AND .15 MFD CAPACITOR. REVERSE THE A.C. PLUG AND REPEAT A.C. VOLTAGE MEASUREMENTS FOR EACH EXPOSED METALLIC PART. VOLTAGE MEASURED MUST NOT EXCEED 75 VOLTS R.M.S. THIS CORRESPONDS TO 0.5 MILLIAMPS A.C. ANY VALUE EXCEEDING THIS LIMIT CONSTITUTES A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED IMMEDIATELY.



SUBJECT: GRAPHIC SYMBOLS



THE LIGHTNING FLASH WITH APROWHEAD SYMBOL. WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK.



THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF IMPORTANT SAFETY INFORMATION IN SERVICE LITERATURE.

SERVICING PRECAUTIONS

CAUTION: Before servicing the Stereo Tuner covered by this service data and its supplements and addends, read and follow the SAFETY PRECAUTIONS. NOTE: if unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions in this publication, always follow the safety precautions.

Remember Safety First:

General Servicing Precautions

1. Always unplug the Stereo Tuner AC power cord from the AC power source before:

- (1) Removing or reinstalling any component, circuit board, module, or any other assembly.
- (2) Disconnecting or reconnecting any internal electrical plug or other electrical connection.
- (3) Connecting a test substitute in parallel with an electrolytic capacitor.

Caution: A wrong part substitute or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.

2. Do not spray chemicals on or near this Stereo Tuner or any of its assemblies.
3. Unless specified otherwise in this service data, clean electrical contacts by applying an appropriate contact cleaning solution to the contacts with a pipe cleaner, cottontipped swab, or comparable soft applicator. Unless specified otherwise in this service data, lubrication of contacts is not required.
4. Do not defeat any plug/socket B+ voltage interlocks with which instruments covered by this service manual might be equipped.
5. Do not apply AC power to this Stereo Tuner and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.
6. Always connect test instrument ground lead to the appropriate ground before connecting the test instrument positive lead. Always remove the test instrument ground lead last.

Insulation Checking Procedure

Disconnect the attachment plug from the AC outlet and turn the power on. Connect an insulation resistance meter (500V) to the blades of the attachment plug. The insulation resistance between each blade of the attachment plug and accessible conductive parts (Note 1) should be more than 1 M-ohm. Note 1: Accessible Conductive Parts including Metal panels, Input terminals, Earphone jacks, etc.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical Es devices are integrated circuits and some field effect transistors and semiconductor chip components.

The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reason prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an antistatic solder removal device. Some solder removal devices not classified a "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freonpropelled chemicals. These can generate electrical charge sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil, or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

Caution: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Normally harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

SPECIFICATIONS

AM TUNER SECTION

Usable Sensitivity (999/1000kHz)	30dB μ
S/N Ratio (5mV in)	38dB
THD (5mV in)	<3%
IF Rejection (450kHz)	>36dB
Image Rejection (F+2xIF)	28dB
Selectivity	17dB
Output	130mV \pm 20mV
Loop Sensitivity (20dB S/N)	
999/1000 kHz	66 dB
603/600 kHz	66 dB
1404/1400 kHz	66 dB
Frequency response (100 - 2.3 kHz, 5mV)	\pm 6 dB

FM TUNER SECTION

Usable Sensitivity (98 MHz)	6 dB μ
Signal / Noise Ratio Mono (60 dB μ , IHF wtd) Stereo	72 dB >66 dB
Frequency Response (20 Hz - 15 kHz, 60 dB μ)	\pm 1.0 dB
Channel Separation (60 dB μ)	
30 Hz	>33 dB
1 kHz	>42 dB
10 kHz	>35 dB
Alternate Channel Sensitivity (40 dB μ , \pm 400 kHz)	60 dB
Capture Ratio (40 dB μ)	1.5 dB
AM Suppression (60 dB μ , 100% Mod.FM, 30% Mod.AM)	65 dB
Image Rejection (119.4 MHz)	85 dB
I.F. Rejection (10.7 MHz)	80 dB
Pilot Suppression (60 dB μ)	60 dB
THD (60 dB μ , L=R 75 kHz for North America version; 40 kHz deviation for Europe version)	

	Mono	0.20%
	Stereo	0.25%
Auto-Search		
	Sensitivity On	24dB μ
	Sensitivity Off	15 dB μ
RDS Decode Sensitivity		25 dB μ

DAB SECTION

Band III		174MHz-240MHz
Input		50 Ohm, nominal
Max signal		~ -3dBm
Sensitivity		~ -96dBm
Adjacent Channel Rejection		~ 35dB
Display		2-line by 16-character DOT Matrix
Audio Output Stereo		2.5Vp-p
	48kHz sample rate	16 bit sample Resolution
Optical S/PDIF		IEC60958 Compliant
	48kHz sample rate	24 bit sample resolution

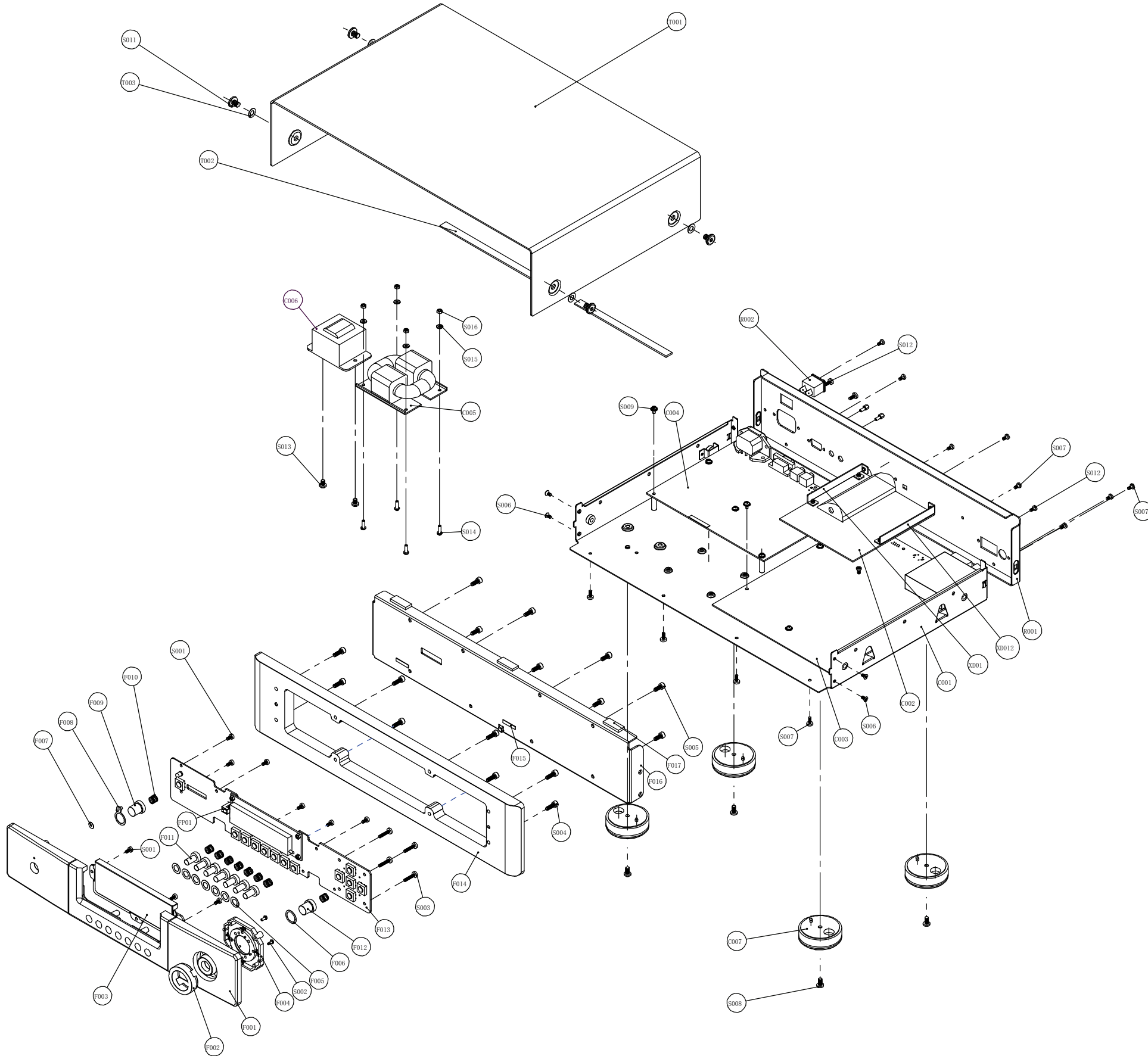
SECTION 2

CABINET & MAIN CHASSIS

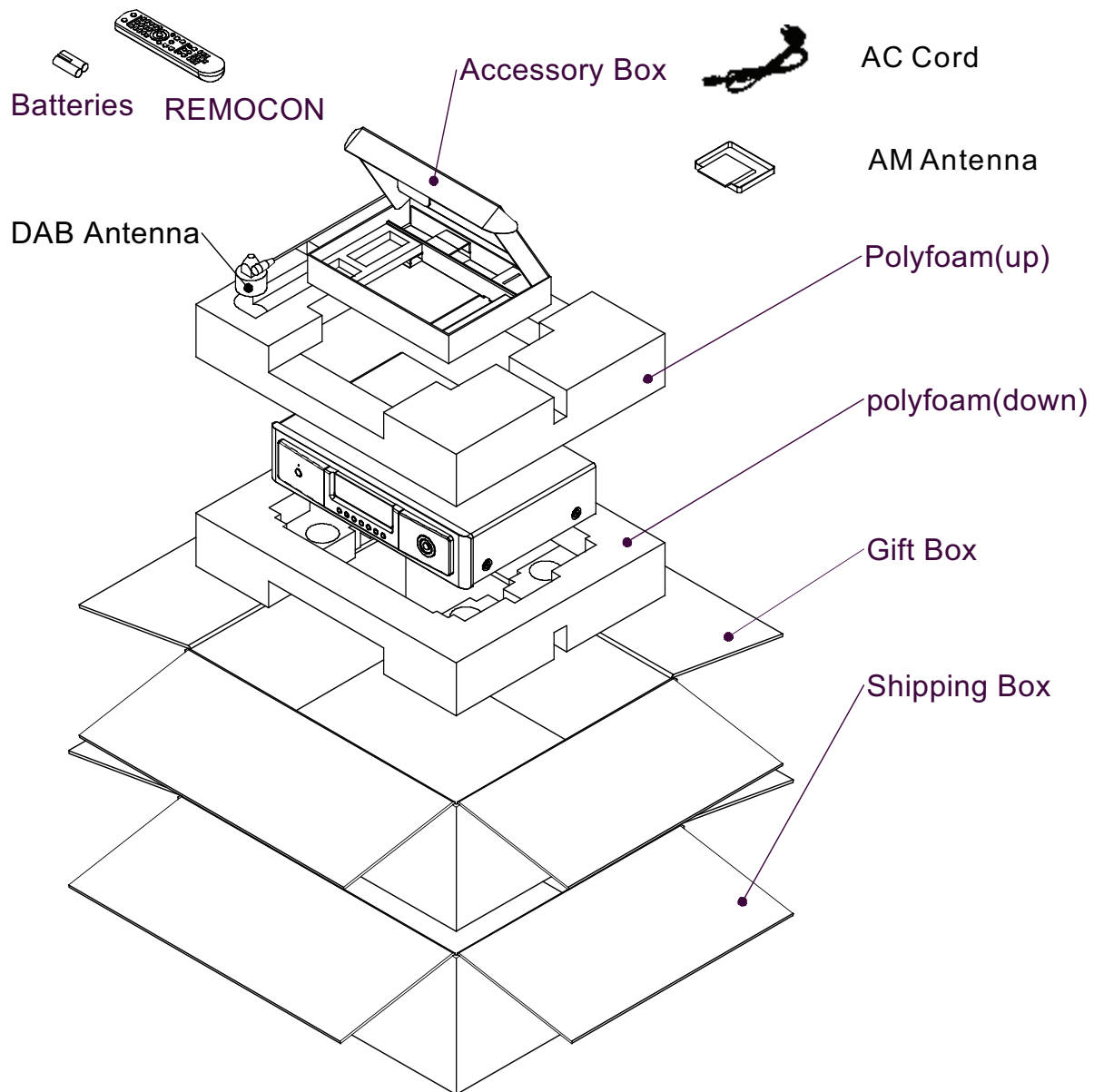
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M4 EXPLODED VIEWS



M4 Packing Accessory Section



M4 EXPLODED VIEW PARTS LIST

REF.NO.	PART NO.	DESCRIPTION	Qty.	REF.NO.	PART NO.	DESCRIPTION	Qty.
C001	67-074001-2	Chassis	1	FP01	66-048002-0	IR Bracket	1
C002	01-50404-10	XM BOARD(AH)	1				
	01-50403-20	DAB BOARD includes DB1 (C)	1				
C003	01-54245-20	C425 Main Board(AH Version)	1	S001	61-023206-1	Self Taping Screw (BTB3X6)	13
	01-54245-10	C425 Main Board(C Version)	1	S002	61-022506-6	Machine Screw (MB2.5X6-Ni)	2
C004	01-50401-10	MAIN BOARD(AH Version)	1	S003	61-023616-0	Self Taping Screw(TBBT3×16)	4
	01-50401-20	MAIN BOARD(C Version)	1	S004	61-224512-1	Hex Head Screw (M4X12)	8
C005	A18-50420-00	R Type Transformer	1	S005	61-224508-1	Hex Head Screw (M4X8)	8
C006	A18-50407-00	standby Transformer	1	S006	61-063106-0	Self Taping Screw (STF3X6)	4
C007	83-043001-0	Foot Assembly	4	S007	61-023106-2	Self Taping Screw (STB3X6)	15
				S008	61-024108-1	Self Taping Screw (STB4X8)	4
				S009	61-373506-0	Machine Screw (MB3X6W.S-Ni)	8
F001	70-074001-0	Fascia2	1	S010	61-023106-1	Self Taping Screw (STB3X6-Ni)	2
F002	70-051002-0	Ring Cursor	1	S011	61-246508-0	Machine Screw (MB6X8-Cr)	4
F003	76-048010-0	VFD window	1	S012	61-023208-0	Self Taping Screw (BTB3X8)	C:9
F004	77-074001-1	Cursor Holder	1				AH:6
F005	87-048002-0	Input Button Pad	7	S013	61-024106-0	Self Taping Screw (STB4×6)	2
F006	87-048003-0	Power Button Pad	2	S014	61-023508-0	Machine Screw (MB3X8)	4
F007	86-046001-0	Led Lens Gum	1	S015	63-020308-1	Spring Washer	4
F008	76-008001-0	Led Lens	1	S016	62-010302-2	Nut(M3)	4
F009	70-048013-0	Power Button	1				
F010	92-048001-0	Spring for Button	9				
F011	70-048012-1	Input Button	7				
F012	70-051007-0	Enter Button	1				
F013	01-50402-00	FPP Board	1				
F014	J70-074002-0	Fascia1	1				
F015	86-046002-0	Fascia Padding	2				
F016	67-074003-0	Subfascia	1				
F017	86-010004-0	3mm Rubber Pad	3				
R001	67-074002-1	Rear Panel (C Version)	1				
	67-074004-1	Rear Panel (AH Version)	1				
R002	11-01101-03	Rocker Switch	1				
T001	67-051002-0	Top Cover	1				
T002	89-019015-0	CR Pad	1/2x2				
T003	76-046001-0	Screw Washer	4				
XD01	66-083003-0	PCB Left Bracket	1				
XD02	66-083004-0	PCB Right Bracket	1				

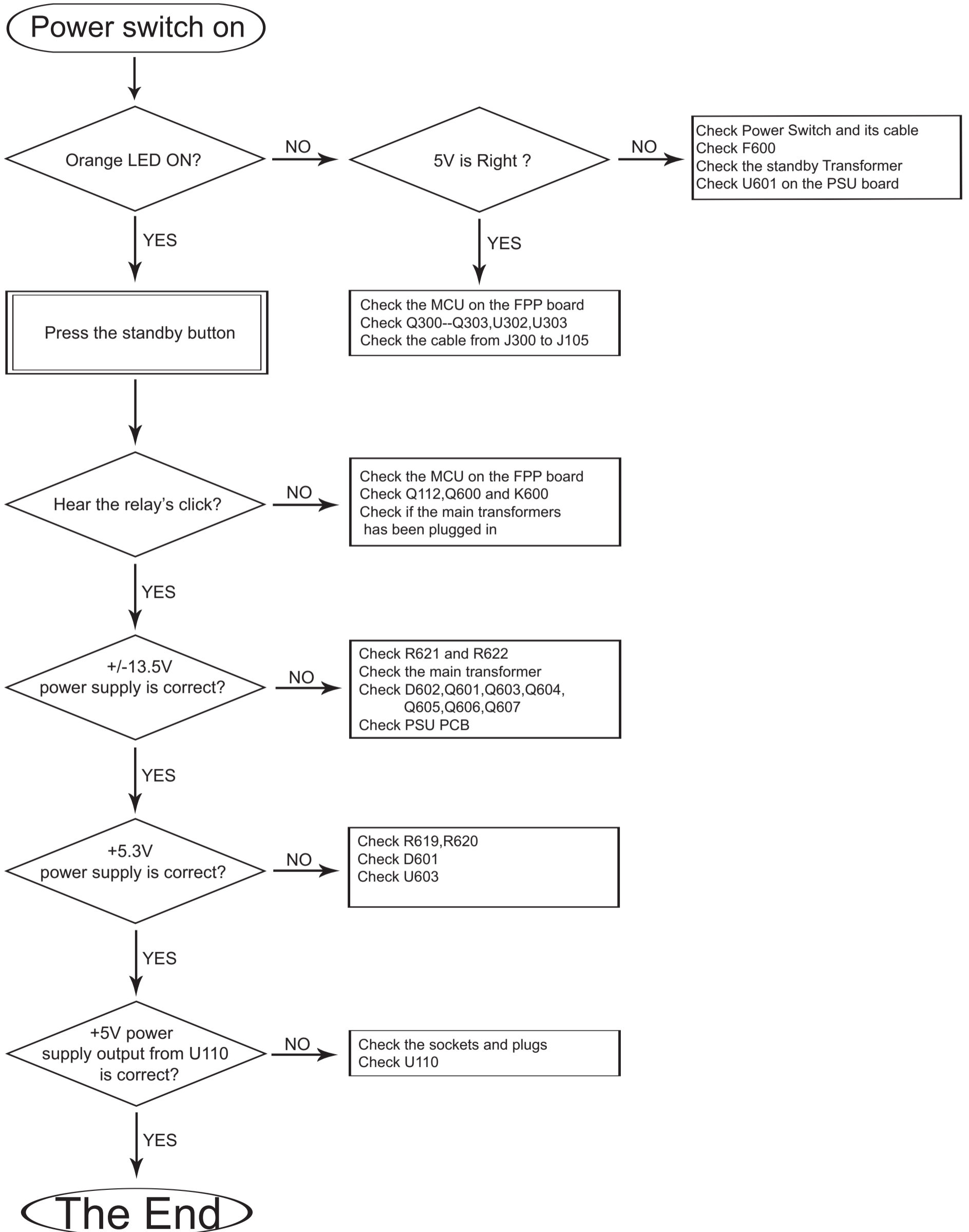
SECTION 3

ELECTRICAL CONTENTS

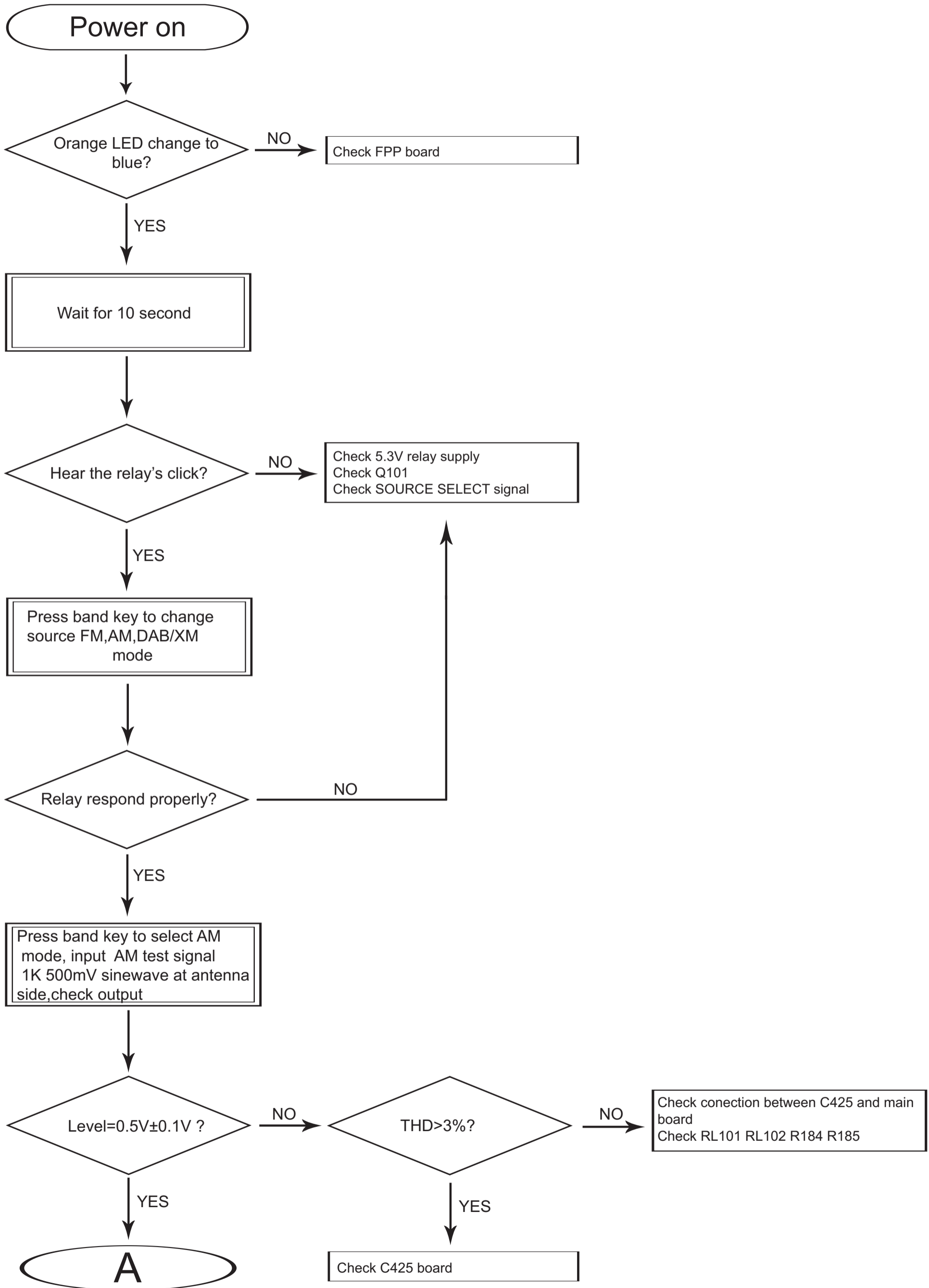
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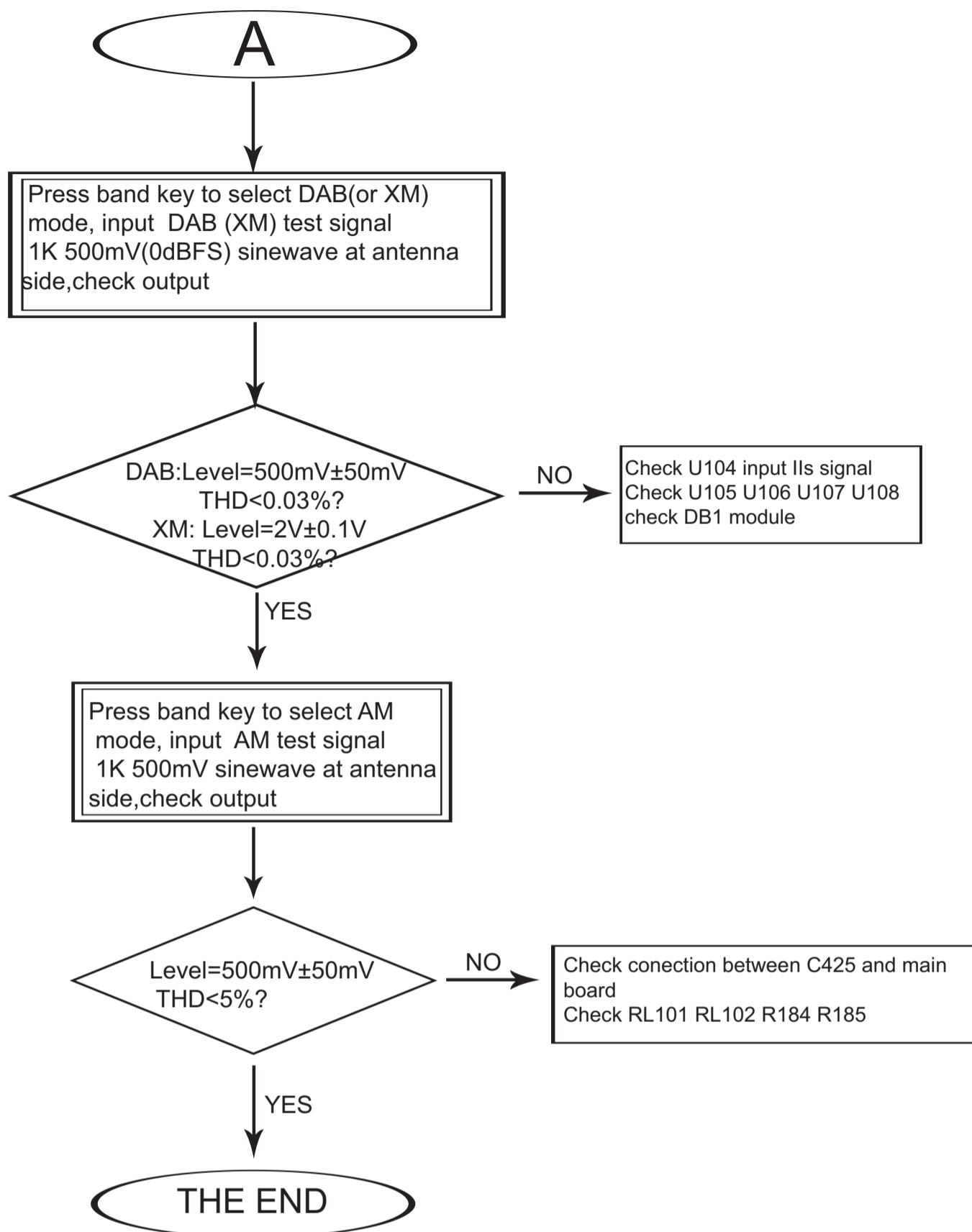
ELECTRICAL TROUBLESHOOTING GUIDE

1. Power Check Flow

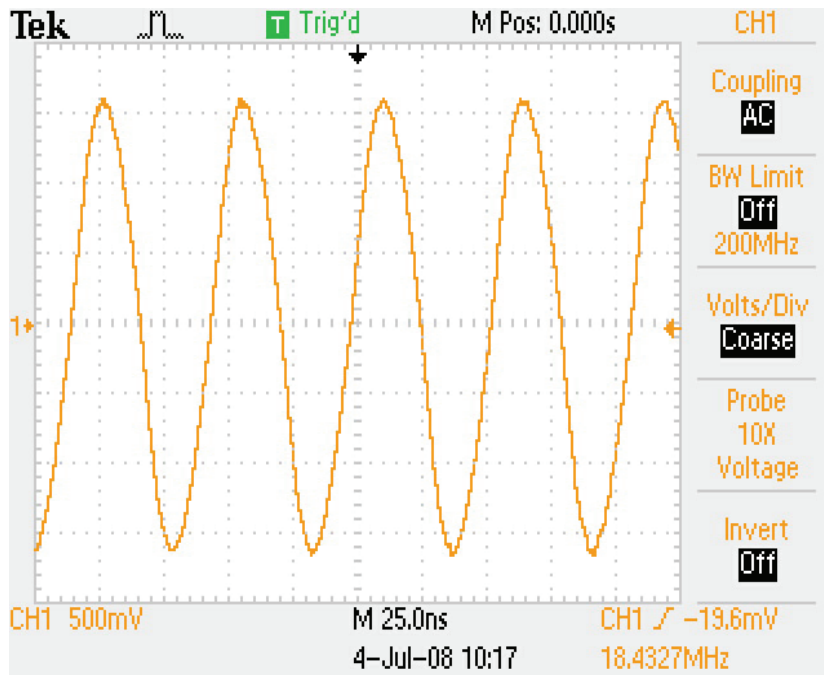


2. Operation flow

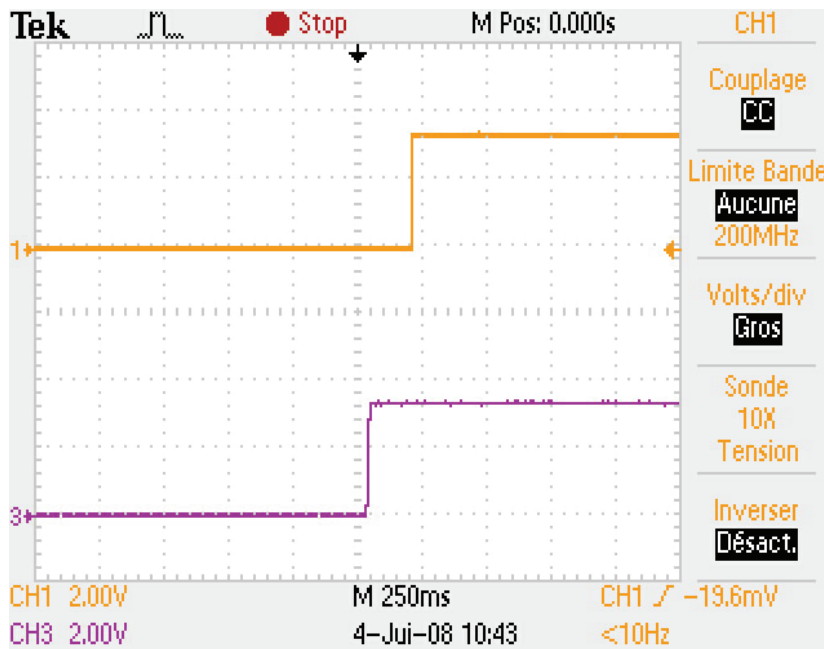




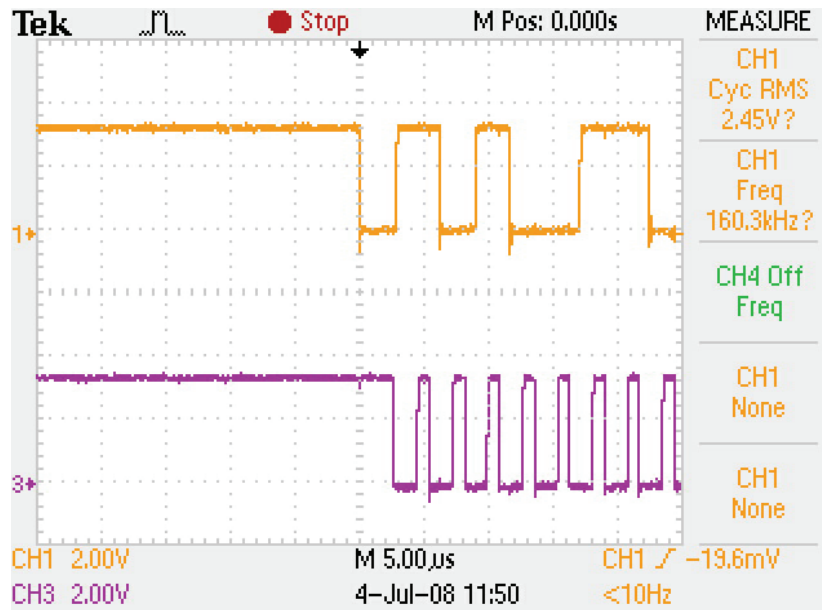
DETAILS AND WAVEFORMS ON SYSTEM TEST AND DEBUGGING



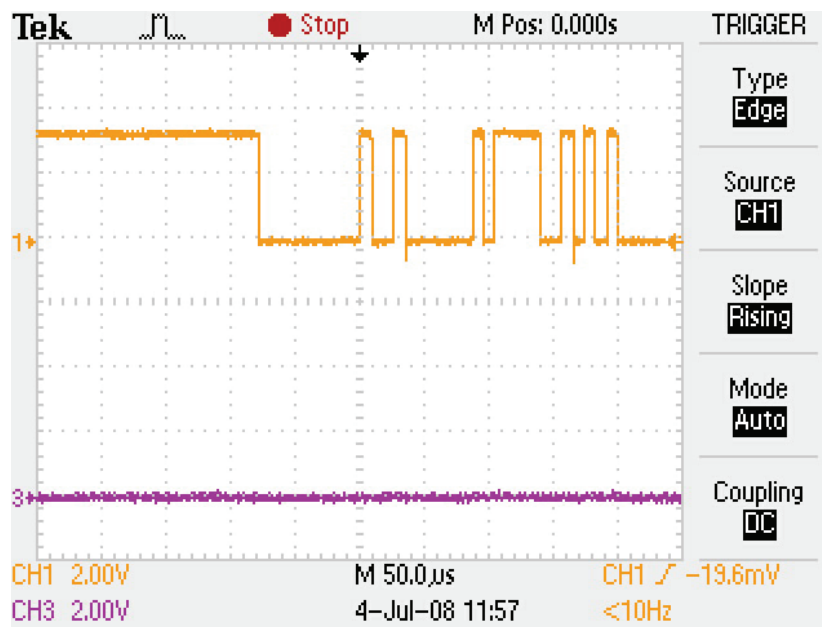
1. SYSTEM 18.432MHz CLOCK



2. M30281 reset in low active

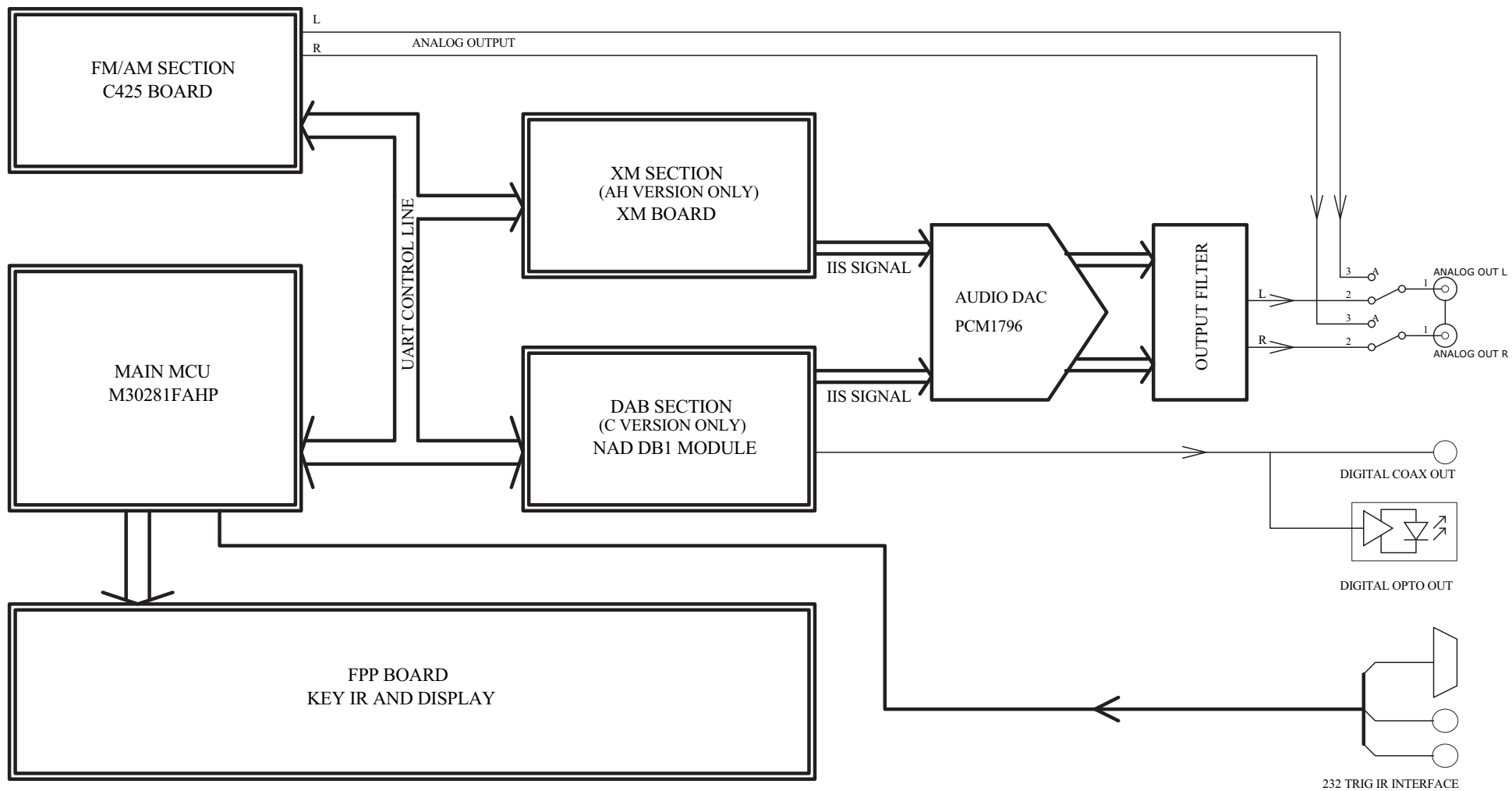


3. I2C control SDA and SCL



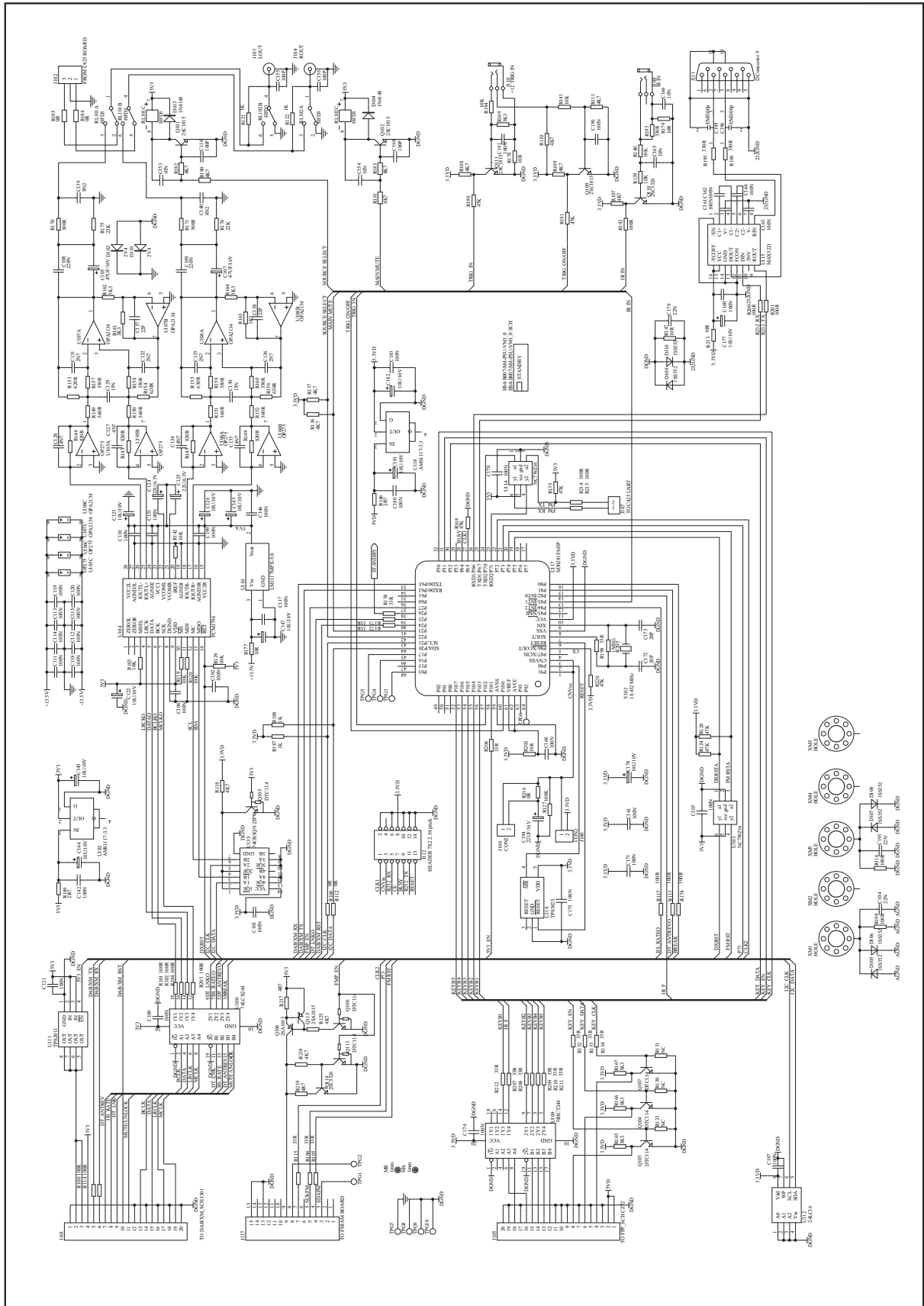
4. DAB/XM control RXD

M4 BLOCK DIAGRAM



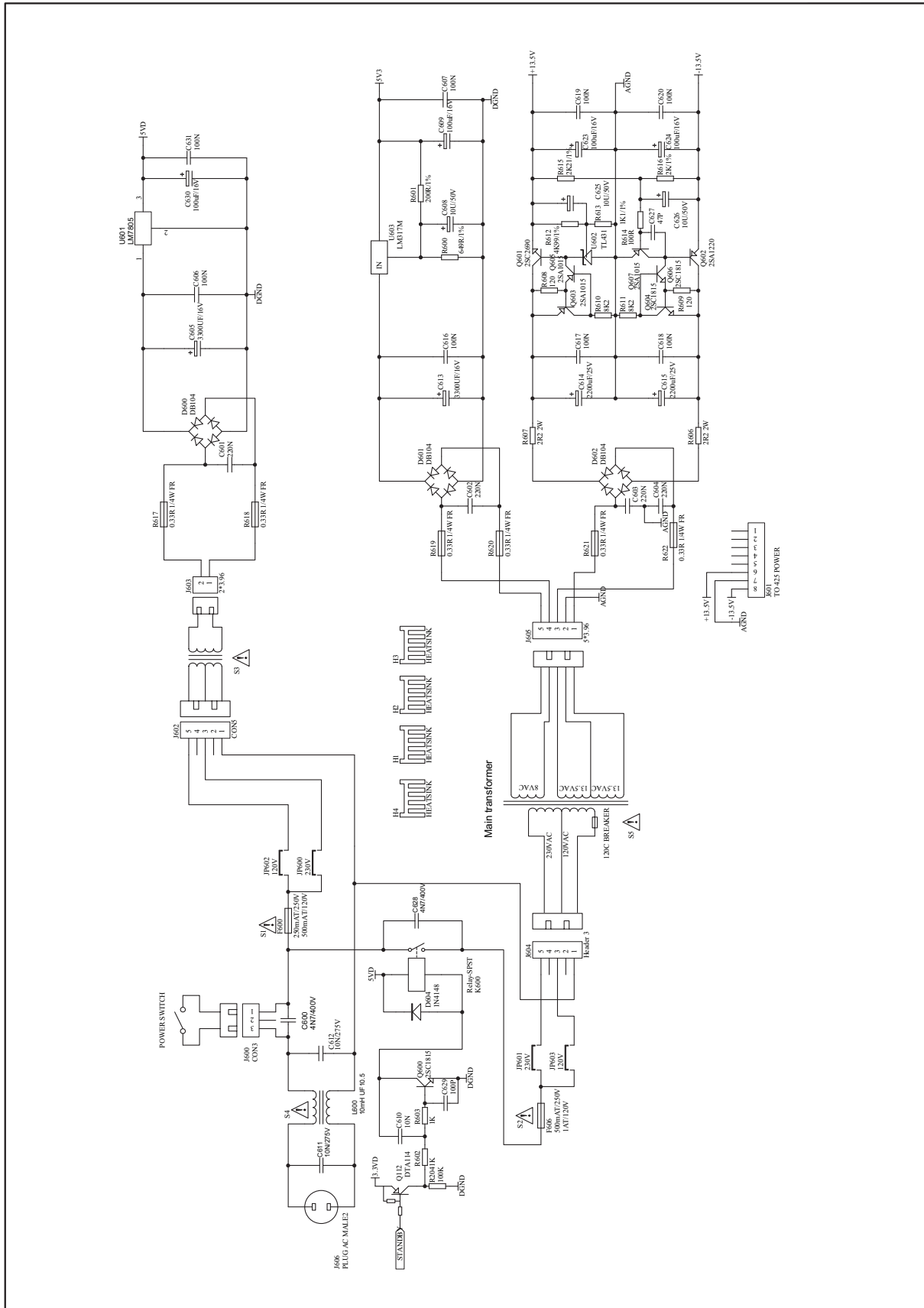
CIRCUIT DIAGRAMS

1.MAIN BOARD DIG SECTION



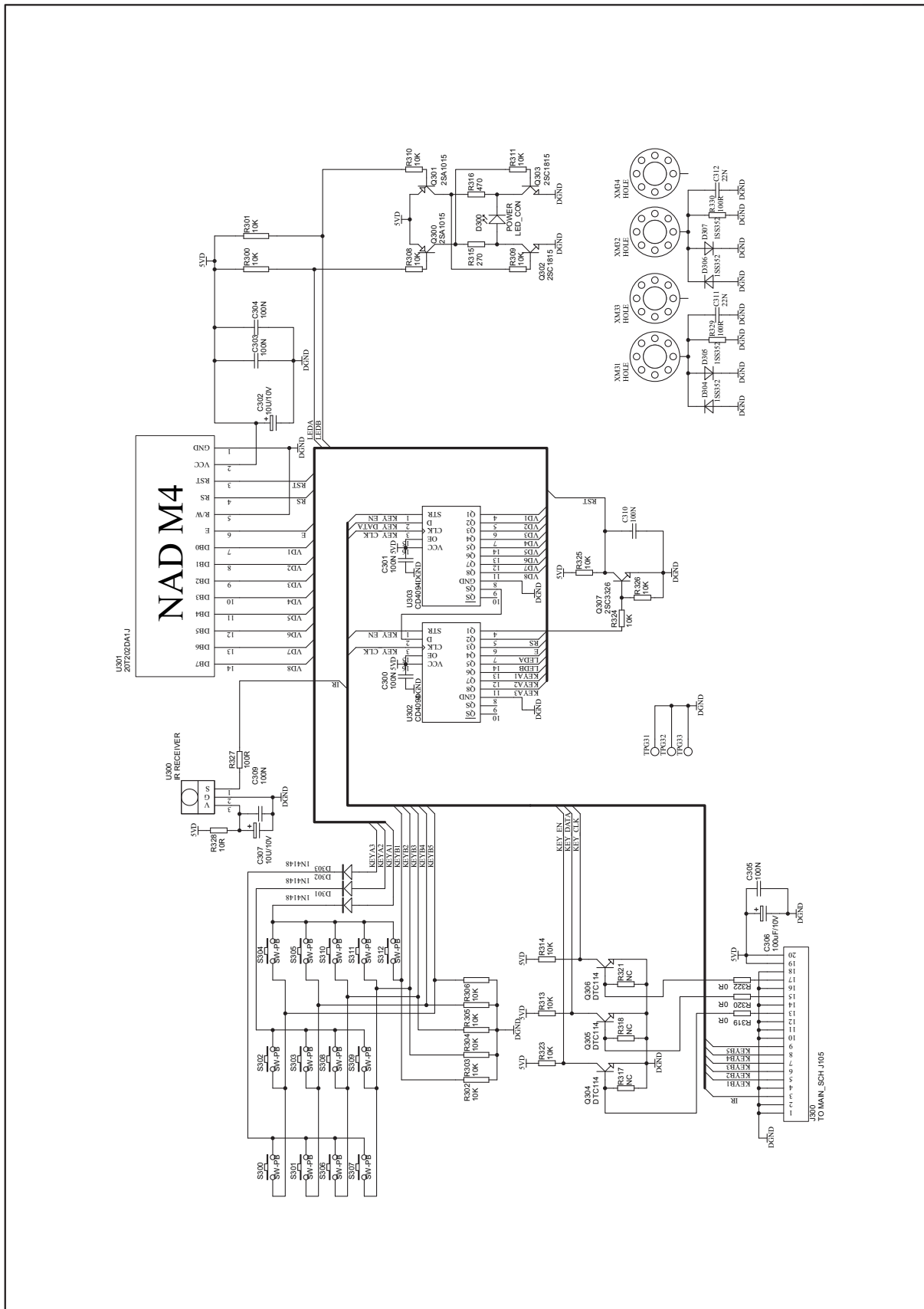
CIRCUIT DIAGRAMS

2.MAIN BOARD PSU SECTION



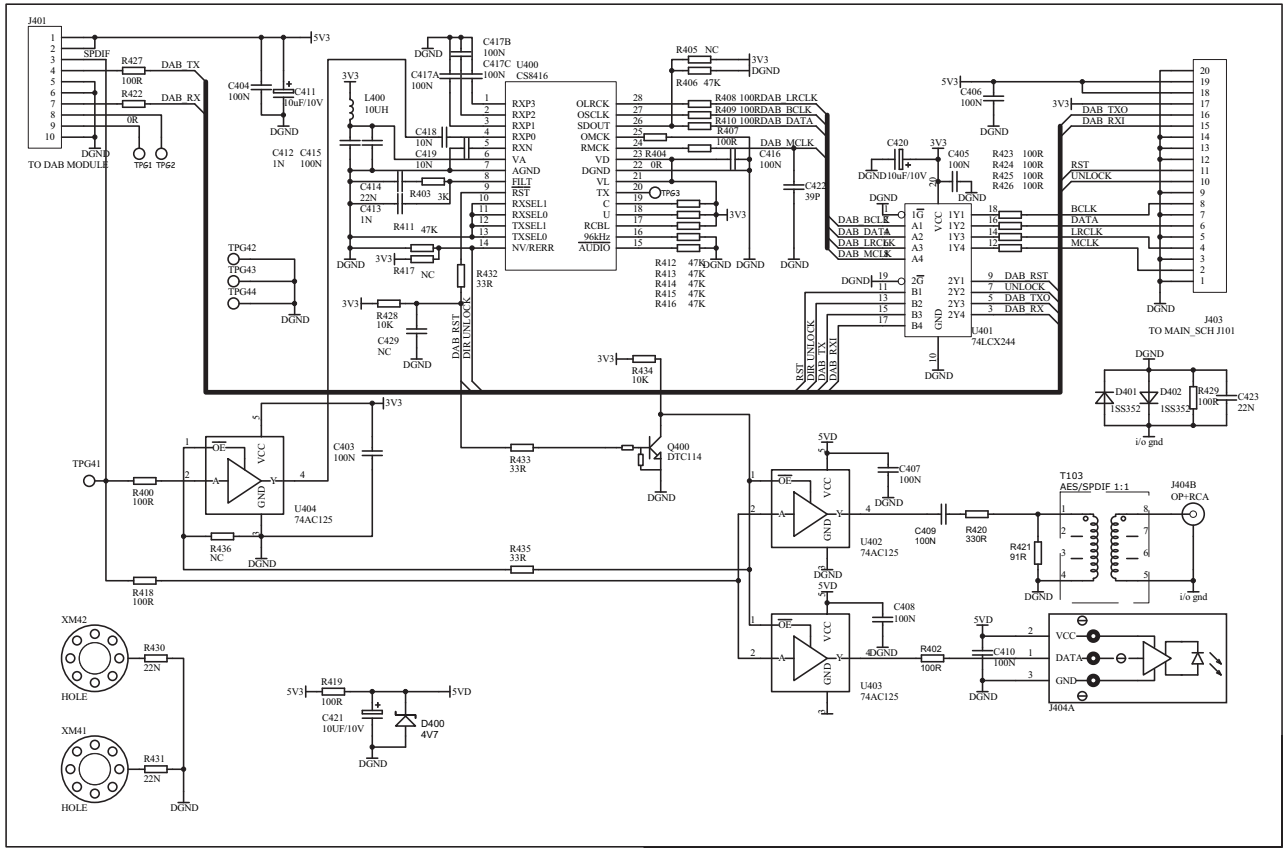
CIRCUIT DIAGRAMS

3.FRONT PANEL BOARD

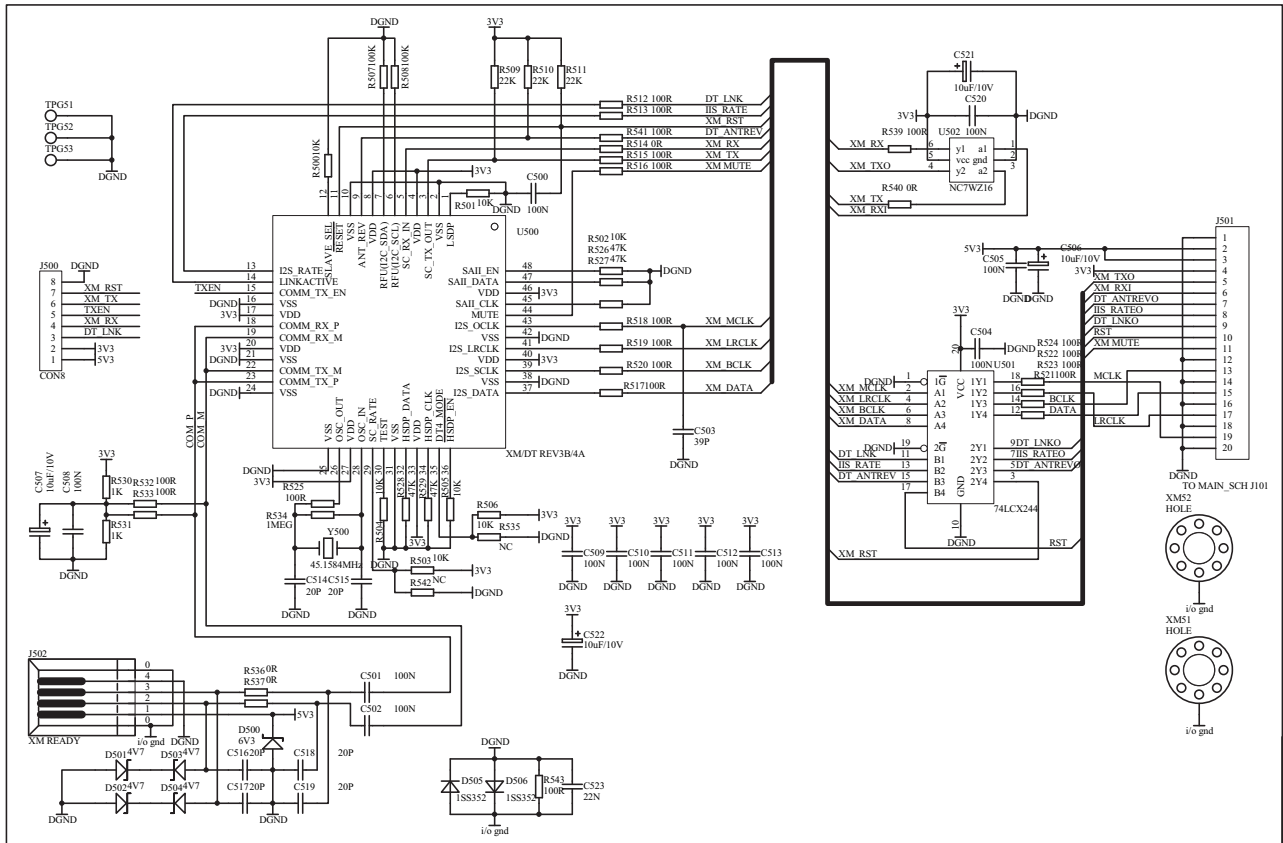


CIRCUIT DIAGRAMS

4. DAB BOARD (C VERSION ONLY)



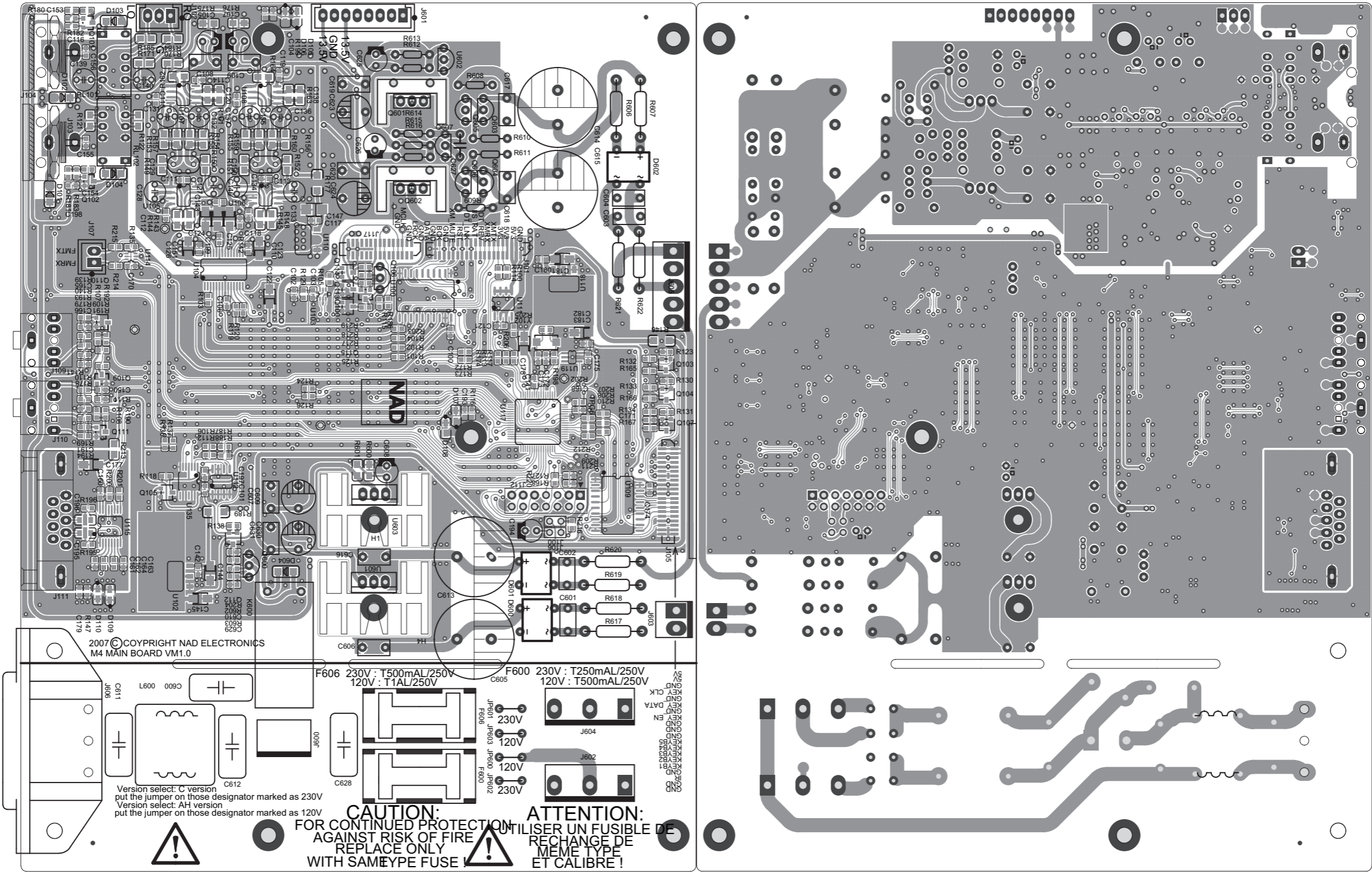
5. XM BOARD (AH VERSION ONLY)



PRINTED CIRCUIT DIAGRAMS

1. MAIN BOARD

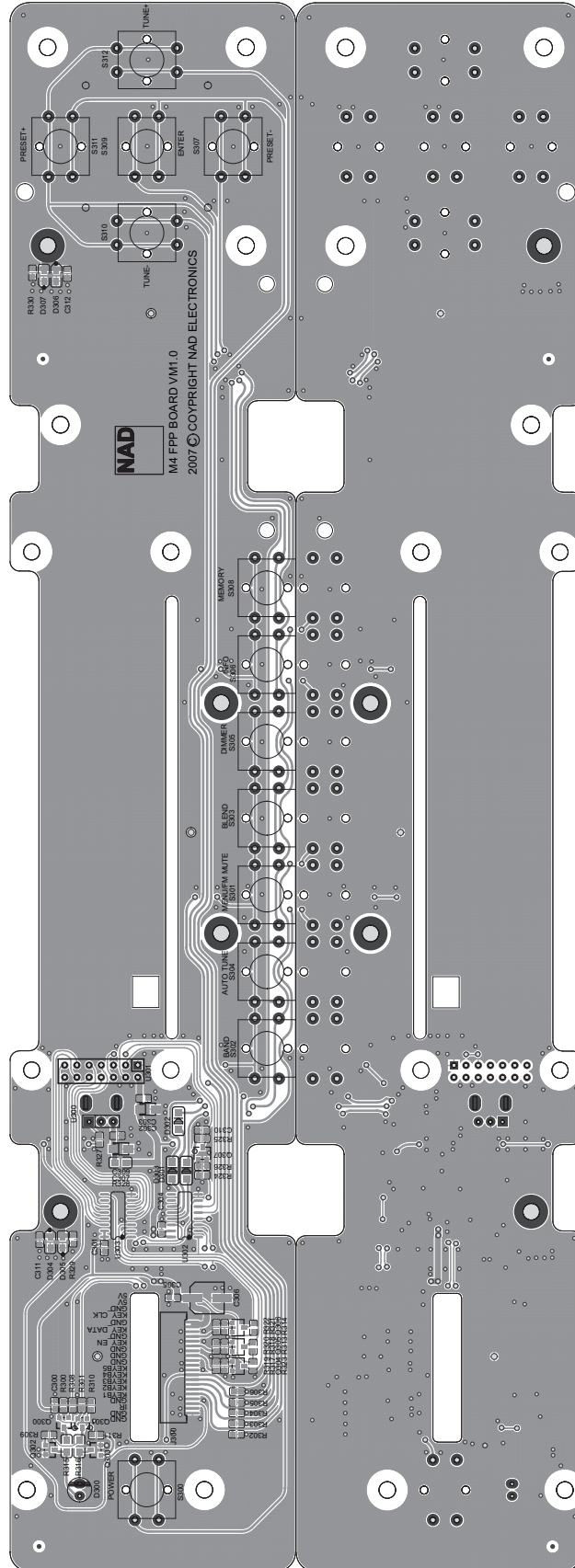
TOP BOTTOM



PRINTED CIRCUIT DIAGRAMS

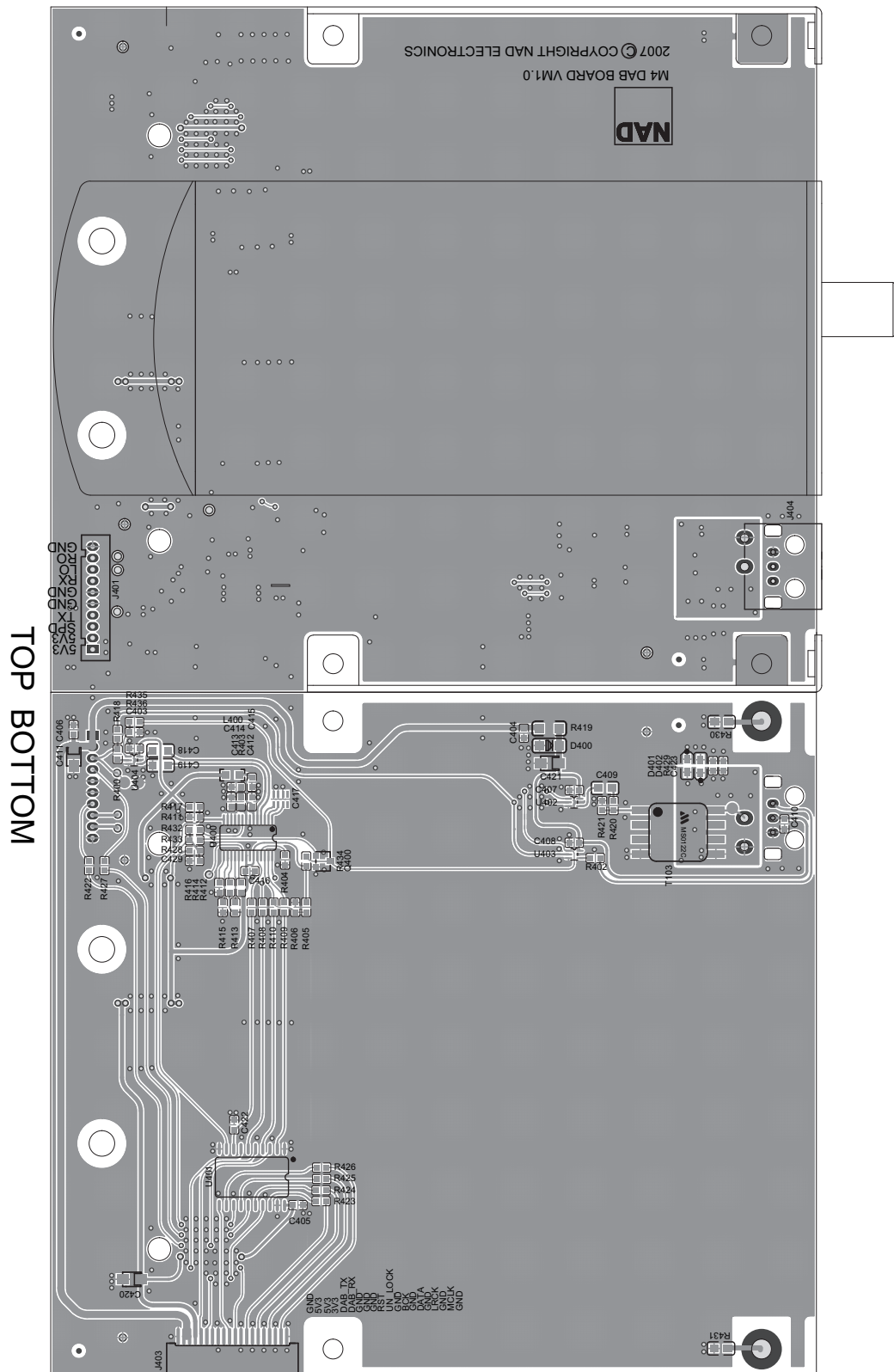
2. FRONT PANEL BOARD

TOP BOTTOM



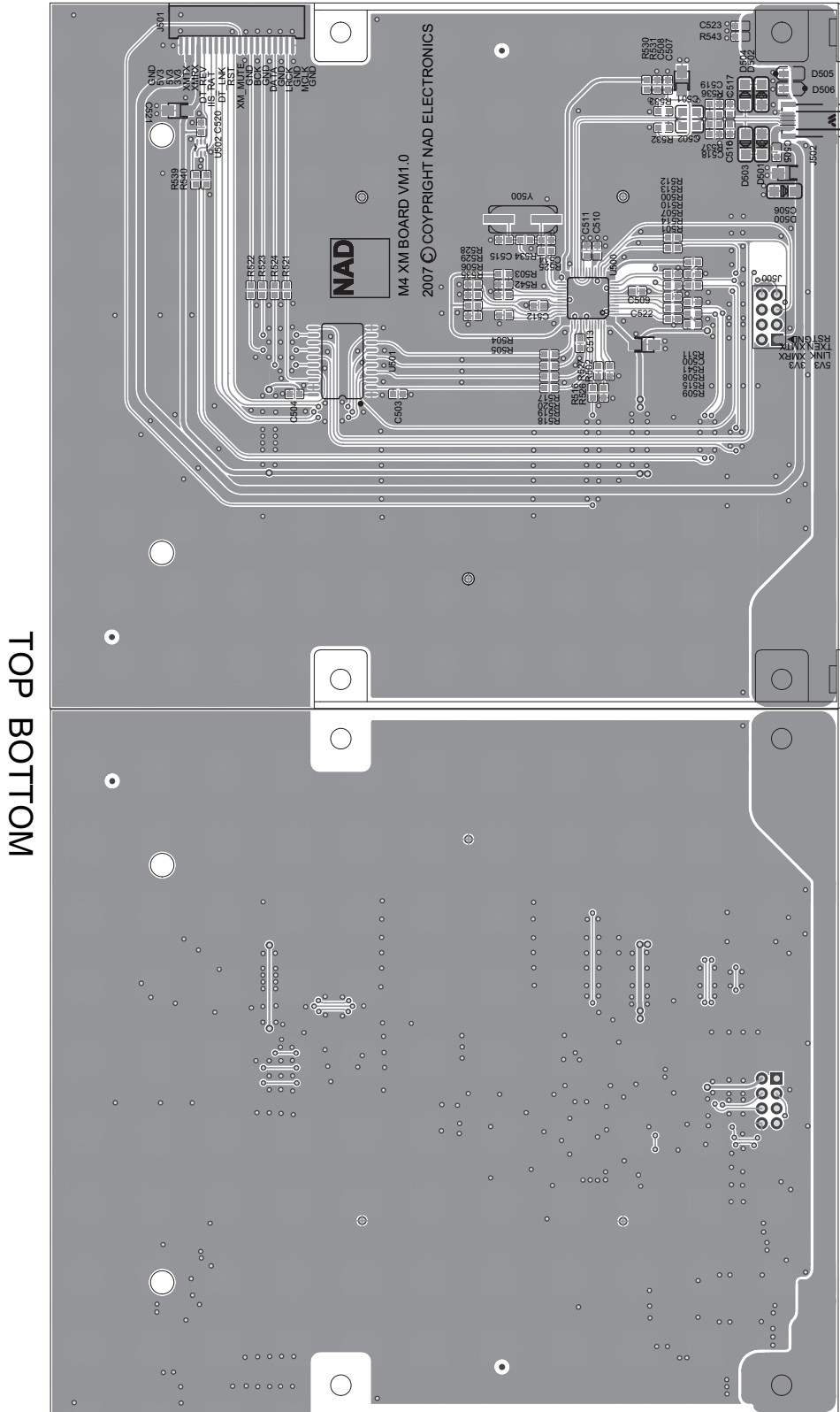
PRINTED CIRCUIT DIAGRAMS

3. DAB BOARD (C VERSION ONLY)



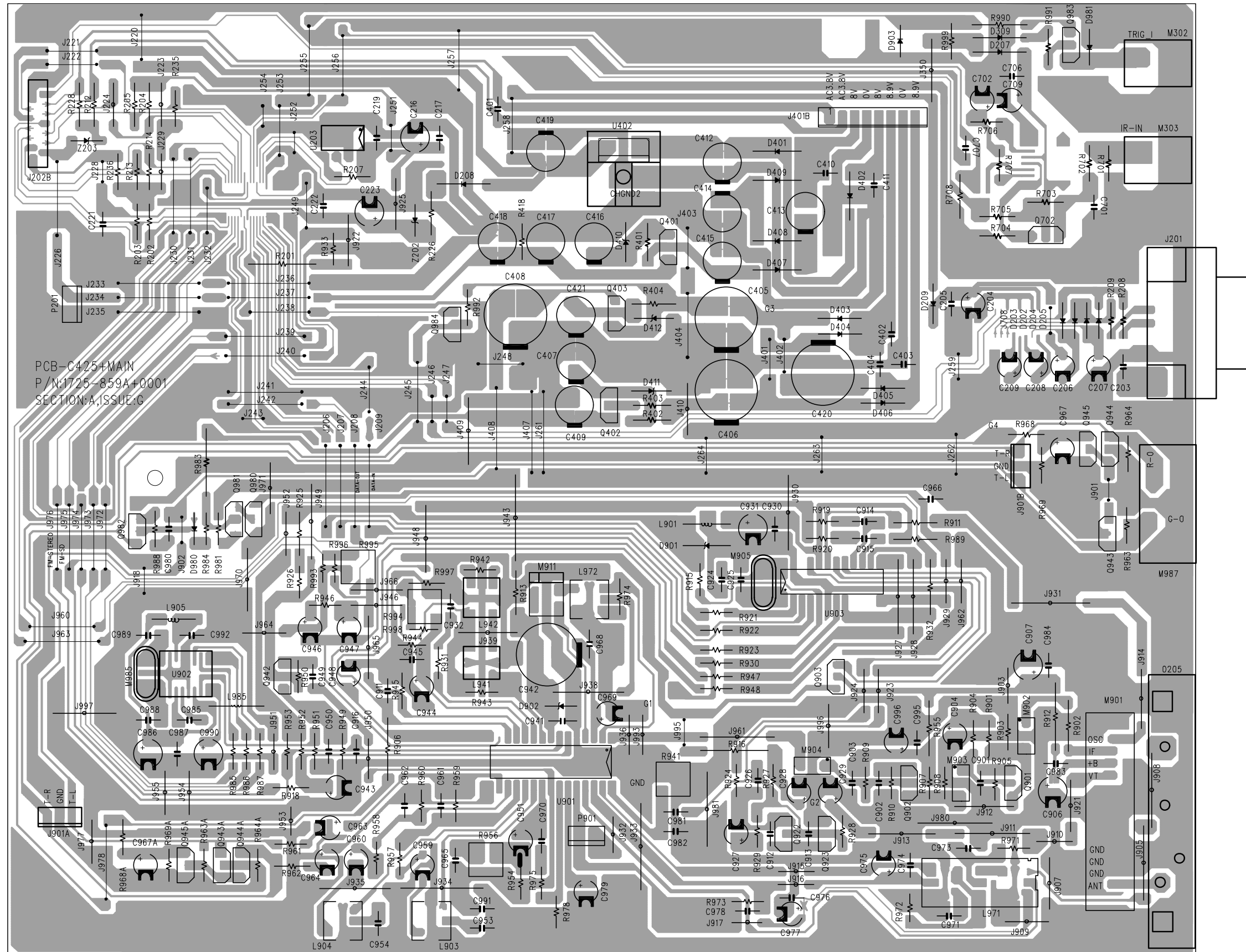
PRINTED CIRCUIT DIAGRAMS

3. XM BOARD (AH VERSION ONLY)



PRINTED CIRCUIT DIAGRAMS

4. AM FM TUNER BOARD AH & C



SECTION 4 REPLACEMENT PARTS LIST

MODEL: M4 C/AH(NAD)							
RUN DATE:HS40-M4_B17VM1.8							
L	CP	P/N	Description	Part Type	Designator	Footprint	Qty
0		00-50400-10	AH VERSION				1
0		00-50400-20	C VERSION				1
.1		01-50401-10	MAIN BOARD	AH			1
.1		01-50401-20	MAIN BOARD	C			1
..2		02-50401-00	MAIN BOARD	SMT			1
PCB							
...3		A16-50401-21	MAIN PCB	FR-4, 1.6mm, 193mm×150mm			1
DIODE							
...3		33-40352-01	DIODE	1SS352	D105, D106, D107, D108, D109, D110	SOD-323	6
...3		33-44148-11	Switch Diode	LL4148	D103, D104, D604	LL34	3
...3		33-12409-01	Zener Diode SMD	2.4V, 1/2W	D101, D102	LL34	2
TRANSISTOR							
...3		31-01815-01	Transistor	2SC1815	Q101, Q102, Q109, Q111	SOT-23	4
...3		31-01015-01	Transistor	2SA1015	Q115	SOT-23	1
...3		31-00114-05	Transistor	DTC114EKA	Q100, Q105, Q113, Q103, Q104, Q107	SOT-23	6
...3		31-00114-01	Transistor	DTA114EKA	Q112	SOT-23	1
...3		J31-03326-01	NPN TRANS	2SC3326A	Q110, Q114	SC59	2
ICS							
...3		03-02416-02	EEPROM	24LC16A	U112	SO8	1
...3		03-30281-10	MCU	M30281FAHP	U117	SSOP64	1
...4		J03-30281-01	MCU	M30281FAHP		SSOP64	1
...3		03-03825-33	RESET	TPS3825-33DBVT	U119	SOT23-5	1
...3		J03-02134-00	Opamp	OPA2134UA	U107, U108	SO8	2
...3		J03-00275-01	Opamp	OP275GSZ	U105, U106	SO8	2
...3		03-01117-33	Regulator	LM1117MPX-3.3/AMS1117-3.3	U102, U118	SOT223	2
...3		03-01117-11	Regulator	LM1117MPX-5.0	U110	SOT-223	1
...3		03-02011-01	POWER-DISTRIBUTION	TPS2011D	U111	SOIC8	1
...3		03-00716-01	Octal Buffer	NC7WZ16P6X	U103, U114	SC70	2
...3		03-00244-05	Octal Buffer	MM74HCT244WM/MC74HCT244ADW/M74HCT244M/SN74HCT244DWR	U109	SOIC20	1
...3		03-00244-01	Octal Buffer	74LCX244WM/MC74LCX244DW/SN74LVC244ADW	U100	SOIC20	1
...3		J03-01796-01	Digital to analog convertor	PCM1796DB	U104	SSOP28	1
...3		03-03125-01	BUS SWITCH	SN74CB3Q3125PW	U135	TSSOP16	1
...3		J03-03221-02	RS232 RECEIVER	MAX3221CDBR/MAX3221CAE	U115	SSOP16	1
Capacitor							
...3		26-20051-00	Ceramic Chip Capacitor	20pF, 50V, ±5%, NPO	C172, C173	0603-CAP	2
...3		26-10151-00	Ceramic Chip Capacitor	100pF, 50V, ±5%, NPO	C116, C198, C629, C155, C156	0603-CAP	5
...3		26-10351-00	Ceramic Chip Capacitor	10nF, 50V, ±10%, X7R	C153, C154, C165, C610, C166	0603-CAP	5
...3		26-22351-00	Ceramic Chip Capacitor	22nF, 50V, ±10%, X7R	C104, C193, C179	0603-CAP	3
...3		26-10451-00	Ceramic Chip Capacitor	100nF, 50V, ±20%, Y5V	C100, C101, C102, C103, C106, C110, C111, C112, C113, C114, C115, C117, C118, C119, C120, C121, C141, C142, C146, C150, C151, C160, C161, C162, C163, C164, C168, C171, C175, C180, C183, C191, C197, C199, C170, C174	0603-CAP	36
...3		26-22051-01	Ceramic Chip Capacitor	22pF, 50V, ±5%, NPO	C137, C138	0805-CAP	2
...3		26-10151-11	Low ESL Feed Through	EMI100p Low ESL Feed Through, 0805, X5R, 100p, 50V, Tape	C195, C196	CKD510	2
...3		06-10011-11	Chip Tantalum Electrolytic Capacitor	10uF/10V, ±20%	C123, C126, C143, C144, C145, C177, C178, C181, C182, C122	3216A	10
...3		27-10011-00	Chip Tantalum Electrolytic Capacitor	10uF/16V, ±20%	C147	3528B	1
...3		06-22060-02	Chip Tantalum Electrolytic Capacitor	22uF/6.3V, ±20%	C124, C125	3216A	2
RESISTOR							
...3		07-90000-00	Chip Resistor	0603, 0Ω, ±5%	R216, R106, R112	0603	3
...3		07-90479-00	Chip Resistor	0603, 4.7Ω, ±5%	R217, R219	0603	2
...3		07-90100-00	Chip Resistor	0603, 10Ω, ±5%	R178, R179, R202, R147	0603	4
...3		07-90330-00	Chip Resistor	0603, 33Ω, ±5%	R132, R133, R134, R207, R208, R209, R210, R211, R105, R172, R173, R115, R186, R206, R212, R138, R198	0603	17
...3		07-90101-00	Chip Resistor	0603, 100Ω, ±5%	R100, R101, R102, R104, R203, R200, R201, R113, R192, R114, R116, R117, R174, R199, R214, R215	0603	16
...3		07-90331-00	Chip Resistor	0603, 330Ω, ±5%	R193, R195, R196	0603	3
...3		07-90102-00	Chip Resistor	0603, 1KΩ, ±5%	R187, R188, R602, R603,	0603	4

L	CP	P/N	Description	Part Type	Designator	Footprint	Qty
...3		07-90332-00	Chip Resistor	0603,3.3KΩ, ±5%	R165, R166, R167, R169	0603	4
...3		07-90472-00	Chip Resistor	0603,4.7KΩ, ±5%	R107, R108, R109, R110, R111, R118, R125, R180, R181, R182, R183, R136, R137, R218	0603	14
...3		07-90103-00	Chip Resistor	0603,10KΩ, ±5%	R139, R140, R141, R142, R194, R103, R119, R120, R129	0603	9
...3		07-90473-00	Chip Resistor	0603,47KΩ, ±5%	R190, R191, R124, R126, R135, R168, R220	0603	7
...3		07-90104-00	Chip Resistor	0603,100KΩ, ±5%	R127, R204	0603	2
...3		07-90105-00	Chip Resistor	0603,1MEG, ±5%	R205	0603	1
...3		07-90000-01	Chip Resistor	0805,0Ω, ±5%	R184, R185	0805	2
...3		07-90100-01	Chip Resistor	0805,10Ω, ±5%	R213	0805	1
...3		07-92000-01	Chip Resistor	0805,200Ω, ±1%	R601	0805	1
...3		07-90101-01	Chip Resistor	0805,100Ω, ±5%	R170, R171	0805	2
...3		07-93300-01	Chip Resistor	0805,330Ω, ±1%	R157, R158, R159, R160	0805	4
...3		07-93600-01	Chip Resistor	0805,360Ω, ±1%	R149, R150, R151, R152	0805	4
...3		07-96200-01	Chip Resistor	0805,620Ω, ±1%	R153, R154, R155, R156	0805	4
...3		07-96490-01	Chip Resistor	0805,649Ω, ±1%	R600	0805	1
...3		07-98200-01	Chip Resistor	0805,820Ω, ±1%	R143, R144, R145, R148	0805	4
...3		07-90102-01	Chip Resistor	0805,1KΩ, ±5%	R121, R122	0805	2
...3		07-93301-01	Chip Resistor	0805,3.3KΩ, ±1%	R161, R162, R163, R164	0805	4
...3		07-90223-01	Chip Resistor	0805,22KΩ, ±5%	R175, R176	0805	2
...3		07-90279-02	Chip Resistor	2.7Ω, ±5%	R146, R189	1206	2
...3		07-90100-02	Chip Resistor	10Ω, ±5%	R177	1206	1
CONNECTOR							
...3		13-21020-01	FPC Connector SMD	1.0-9-20PB	J101, J105	SMD20*1.0mm	2
...3		13-21015-00	FPC Connector SMD	1.0-9-15PB	J117	SMD15*1.0mm W	1
CRYSTAL							
...3		04-11842-01	CRYSTAL	18.432MHz	Y102	SMD(5*3.2)	1
RECTIFIER BRIDGE							
..2		33-30142-00	Rectifier Bridge	DB104	D600, D601, D602	DIP4	3
TRANSISTOR							
..2		31-01015-00	Transistor	2SA1015-GR	Q106, Q603, Q605, Q607	TO-92	4
..2		31-01815-00	Transistor	2SC1815-GR	Q600, Q604, Q606	TO-92	3
..2		31-01220-00	Transistor	KSA1220AYSTU	Q602	TO-126MOD	1
..2		31-02690-00	Transistor	KSC2690AYSTU	Q601	TO-126MOD	1
ICS							
..2		03-00431-00	ICRegulator	TL431/AE431/KA431	U602	TO-92	1
..2		03-00317-00	Regulator	LM317T	U603	TO-220	1
..2		03-07805-00	Regulator	LM7805CT	U601	TO-220	1
RESISTOR							
..2		07-20101-50	Metal Film Resistor	100Ω, 1/6W, ±5%	R614	Pitch=7.5mm	1
..2		07-20121-50	Metal Film Resistor	120Ω, 1/6W, ±5%	R608, R609	Pitch=7.5mm	2
..2		07-21101-50	Metal Film Resistor	1.1kΩ, 1/6W, ±1%	R613	Pitch=7.5mm	1
..2		07-22001-50	Metal Film Resistor	2kΩ, 1/6W, ±1%	R616	Pitch=7.5mm	1
..2		07-22211-50	Metal Film Resistor	2.21kΩ, 1/6W, ±1%	R615	Pitch=7.5mm	1
..2		07-24991-50	Metal Film Resistor	4.99kΩ, 1/6W, ±1%	R612	Pitch=7.5mm	1
..2		07-20822-50	Metal Film Resistor	8.2kΩ, 1/6W, ±5%	R610, R611	Pitch=7.5mm	2
..2		07-30229-03	Oxidized Film Resistor	RY21S 2.2Ω, 2W, ±5%	R606, R607	Pitch=12.5mm	2
..2		07-50338-00	Fusible Resistor	0.33Ω, 1/4W, ±10%	R617, R618, R619, R620, R621, R622	Pitch=12.5mm	6
..2		21-06000-00	Jumper	L=5mm	C:JP600, JP601 AH:JP602, JP603	L=5mm	2
Capacitor							
..2		A25-10322-04	Polyester Capacitors	MKP64,X1,Y2, 10nF, 275V, ±20%	C611, C612	Pitch=10mm	2
..2		25-10461-07	Metallized Polyester Film Capacitor	CL23B, 100nF, 63V, ±5%	C631, C606, C607, C616, C617, C618, C619, C620	Pitch=5mm	8
..2		25-22461-02	Metallized Polyester Film Capacitor	CL23B, 220nF, 63V, ±5%	C108, C109, C601, C602, C603, C604	Pitch=5mm	6
..2		25-27261-01	Metallized polystyrene Film Capacitor	ASS21A, 2.7nF, 63V, ±5%	C131, C132, C135, C136	Pitch=3.2mm	4
..2		25-47261-01	Metallized polystyrene Film Capacitor	ASS21A, 4.7nF, 63V, ±5%	C127, C128, C133, C134	Pitch=3.2mm	4
..2		25-82261-00	Metallized polystyrene Film Capacitor	ASS21A, 8.2nF, 63V, ±5%	C139, C140	Pitch=3.2mm	2
..2		25-15312-01	Metallized polystyrene Film Capacitor	CBB11, 15nF, 100V, ±5%	C129, C130	Pitch=4.5mm	2
..2		05-47013-00	Ceramic Capacitor	47pF, 1KV, ±10%	C627	Pitch=5mm	1
..2		A05-47242-00	High Voltage Ceramic Capacitor	4.7nF, 400V(X1), 250V(Y1), ±20%	C600, C628	Pitch=10mm	2

L	CP	P/N	Description	Part Type	Designator	Footprint	Qty
..2		06-10051-03	Alu Electrolytic Capacitor	CD110,10uF, 50V, ±20%	C608, C625, C626	Pitch=2.5mm	3
..2		06-22051-01	Alu Electrolytic Capacitor	CD110,22uF, 50V, ±20%	C194	Pitch=2.5mm	1
..2		06-47011-08	Alu Electrolytic Capacitor	CD11A,47UF/16V	C105, C107	PITCH=2.5MM	2
..2		06-10111-00	Alu Electrolytic Capacitor	CD110,100uF, 16V, ±20%	C609, C630, C623, C624	Pitch=5mm	4
..2		06-22221-01	Alu Electrolytic Capacitor	CD263,2200UF/25V,±20%	C614, C615	PITCH=7.5MM	2
..2		06-33211-01	Alu Electrolytic Capacitor	CD263,3300UF/16V,±20% 16*25mm	C605, C613	PITCH=7.5MM	2
RELAY							
..2		12-02202-10	SIGNAL RELAY	HFD3 5V	RL101, RL102	HFD3	2
..2		A12-02101-01	POWER RELAY	DH1U 15A/250V 5V	K600		1
Inductor							
..2		22-00025-02	FILTER INDUCTOR	10mH,Uf-10.5,2A	L600		1
CONNECTOR							
..2		13-12502-00	Connector	2PIN, 2.54	J100, J106	S=2.5mm	2
..2		13-22502-00	Connector	2PIN	J107	S=2.5mm	1
..2		13-22508-00	Connector	8PIN	J601	S=2.5mm	1
..2		13-22503-00	Connector	3PIN	J102	S=2.5mm	1
..2		13-23905-30	Connector	B5P-VH	J605	S=3.9mm	1
..2		13-23902-30	Connector	B2P-VH	J603	S=3.9mm	1
..2	GJ	13-23903-01	Connector	7.92A-2A VH	J600	S=7.92mm	1
..2	GJ	13-23905-01	Connector	7.92A-3A VH	J602, J604	S=7.92mm	2
..2		A17-07102-00	AC INLET	GSP1.9500.1/R-30190 2PIN	J606		1
..2		17-08009-00	RS232Socket	RS232 RS232/FS	J111	DB9/F	1
..2		17-02001-04	3.5mm phone jack	ST-323B-04 / CKX-3.5-02-3P	J109, J110		2
..2		or17-02001-03	3.5mm phone jack	SCJ349P00XS0B01	J109, J110		2
..2		17-01001-13	RCA	HANSONG RCA,RED	J104	RCAM	1
..2		17-01001-12	RCA	HANSONG RCA,WHITE	J103	RCAM	1
FUSE							
..2		A20-20000-01	FUSE HOLDER	HF-003-1	F600, F606	FUSEHOLD	2
..2		A20-12251-01	FUSE	250mAT/250V	F600		C:1
..2		A20-12501-00	FUSE	500mAT/250V	F600		AH1
..2		A20-12501-00	FUSE	500mAT/250V	F606		C:1
..2		A20-12102-00	FUSE	1AT/250V	F606		AH1
MECHANICAL PARTS							
..2		61-023206-0	Self Taping Screws	BTB3*6	AC INLET(2)		2
..2		70-004001-0	Heat sink	F25	KSA1220, KSC2690		2
..2		70-048015-0	Heat sink	Heatsink D	LM317, LM7805		2
..2		78-001001-0	Sleeve Boot	811810-23			2
..2		61-023206-0	Self Taping Screws	BTB3*6	LM317, LM7805		2
..2		61-023208-0	SCREW	BTB3*8	KSA1220, KSC2690		2
FPP BOARD							
.1		01-50402-00	FPP BOARD				
..2		02-50402-00	FPP BOARD	SMT			
PCB							
...3		A16-50402-21	FPP PCB	FR-4, 1.6mm, 330mm*58mm			1
DIODE							
...3		33-40352-01	DIODE	1SS352	D304, D305, D306, D307	D0805	4
...3		33-44148-11	Switch Diode	LL4148	D301, D302, D303	MINIMELF	3
TRANSISTORS							
...3		31-01015-01	PNP TRANS	2SA1015	Q300, Q301	SOT-23A	2
...3		31-01815-01	NPN TRANS	2SC1815	Q302, Q303	SOT-23A	2
...3		31-00114-05	Transistor	DTC114EKA	Q304, Q305, Q306	SOT-23	3
...3		J31-03326-01	NPN TRANS	2SC3326A	Q307	SC59	1
ICS							
...3		03-04094-02	REGISTER	CD4094	U302, U303	DSOP16	2
CAPACITORS							
...3		26-10451-00	Ceramic Chip Capacitor	100nF, 50V, +80-20%, Y5V	C300, C301, C303, C304, C305, C309, C310	0603-CAP	7
...3		26-22351-00	Ceramic Chip Capacitor	22nK,50V	C311,C312	0603-CAP	2
...3		06-10011-11	Chip Tantalum Capacitor	10uF/10V, ±20%	C302, C307	3216A	2
...3		06-10121-05	Chip Alu Electrolytic Capacitor	100uF, 25V, ±20%	C306	6.3*7.7	1
RESISTORS							

L	CP	P/N	Description	Part Type	Designator	Footprint	Qty
...3		07-90101-00	Chip Resistor	100Ω, ±5%	R327, R329, R330	0603	3
...3		07-90000-00	Chip Resistor	0Ω, ±5%	R319, R320,R322	0603	3
...3		07-90103-00	Chip Resistor	10KΩ, ±5%	R300, R301, R302, R303, R304, R305, R306, R308, R309, R310, R311, R313, R314, R323, R324, R325, R326	0603	17
...3		07-91009-01	Chip Resistor	10Ω, ±1%	R328	0805	1
...3		07-90271-01	Chip Resistor	270Ω, ±5%	R315	0805	1
...3		07-90471-01	Chip Resistor	470Ω, ±5%	R316	0805	1
CONNECTORS							
...3		13-21020-05	FPC Connector SMD	1.0-9-20PWB	J300	SMD20*1.0mm W	1
DIODE							
..2		33-50565-01	LED	φ5	D300		1
ICS							
..2		J23-30202-00	VFD MODULE	20T202DA1 (J) REVE	U301		1
..2		03-00038-40	IR RECEIVER	HS0038B4	U300		1
SWITCH							
..2		11-04101-08	Tact Switch	IT-1103AA-1160	S300, S301, S302, S303, S304, S305, S306, S307, S308, S309, S310, S311, S312		13
CONNECTORS							
..2		13-12514-03	Connector	14PIN, 2.54, L=8mm	U301	S=2.5mm	1
MECHANICAL PARTS							
..2		66-048002-0	IR Bracket	tin			1
..2		61-023508-0	Machine Screw	VFD(4)			4
..2		62-010302-1	M3 Lock-Nut	VFD(4)			4
..2		86-004002-0	Washer	VFD(4)			4
..1		01-50403-20					C:1
..2		02-50403-00		SMT			C:1
PCB							
...3		A16-50403-21	DAB PCB	FR-4, 1.6mm, 130mm×120mm			1
Inductor							
...3		08-04100-02	Inductor SMD	10uH	L400	0805-FB	1
DIODE							
...3		33-40352-01	DIODE	1SS352	D401, D402	D0805	2
...3		33-14709-10	Zener Diode SMD	4.7V, 1/2W	D400	MINIMELF	1
TRANSISTOR							
...3		31-00114-05	Transistor	DTC114EKA	Q400	SOT-23	1
...3		03-00125-06	Buffer	SN74AHC1G125DCK	U402, U403, U404	SSOT23DCK	3
...3		03-00244-01	Octal Buffer	74LCX244, SOIC0.3inch, Tube/Tape	U401	SOIC/20P/P1.2 7/12.8X10.3/12 .8X7.5/2X.55	1
...3		J03-08416-02	Digital audio receiver	CS8416-CZZ	U400	TSSOP28	1
Capacitor							
...3		26-39051-00	Ceramic Chip Capacitor	39pF, 50V, ±5%, NPO	C422	0603-CAP	1
...3		26-10251-10	Ceramic Chip Capacitor	1nF, 50V, ±5%, NPO	C412, C413	0603-CAP	2
...3		26-22351-00	Ceramic Chip Capacitor	22nF, 50V, ±10%, X7R	C414, C423	0603-CAP	2
...3		26-22351-01	Ceramic Chip Capacitor	22nF, 50V, ±10%, X7R	R430,R431	0805	2
...3		26-10451-00	Ceramic Chip Capacitor	100nF, 50V, +80-20%, Y5V	C403, C404, C405, C406, C407, C408,C410, C415, C416	0603-CAP	9
...3		26-10351-01	Ceramic Chip Capacitor	10nF, 50V ±10%, X7R	C418, C419	0805	2
...3		26-10451-01	Ceramic Chip Capacitor	100nF, 50V,+80%-20%	C409	0805	1
...3		26-10451-30	Ceramic Chip Capacitor	100nF, 50V, ±5%, Y5V	C417	0603X4	1
...3		06-10011-11	Chip Tantalum Electrolytic Capacitor	10uF/10V, ±20%	C421, C411, C420	3216A	3
RESISTOR							
...3		07-90000-00	Chip Resistor	0Ω, ±5%	R404, R427,	0603	2
...3		07-90330-00	Chip Resistor	33Ω, ±5%	R432,R433,R435	0603	3

L	CP	P/N	Description	Part Type	Designator	Footprint	Qty
...3		07-90101-00	Chip Resistor	100Ω, ±5%	R407, R408, R409, R410, R423,R424, R425, R426, R400, R418, R422, R402, R429	0603	13
...3		07-90910-00	Chip Resistor	91Ω, ±5%	R421	0603	1
...3		07-90331-00	Chip Resistor	330Ω, ±5%	R420	0603	1
...3		07-93001-00	Chip Resistor	3KΩ, ±1%	R403	0603	1
...3		07-90103-00	Chip Resistor	10KΩ, ±5%	R428,R434	0603	2
...3		07-90473-00	Chip Resistor	47KΩ, ±5%	R406, R411, R412, R413, R414, R415, R416	0603	7
...3		07-90101-02	Chip Resistor	100Ω, ±5%	R419	1206	1
CONNECTOR							
...3		13-21020-05	FPC Connector SMD	1.0-9-20PWB	J403	SMD20*1.0mm W	1
TRANSFORMER							
...3		22-12204-01	Transformer	MS8121NL	T103	DIG TR	1
ICS							
..2		J37-50401-00	NAD DAB1 MODULE		U400		1
CONNECTOR							
..2		13-22010-00	CON10*2mm	CONNECTOR	J401	DIP	1
..2		17-06001-03	RCA+OPTICAL	AV+GQ-05, RCA	J404		1
Mechanical Parts							
..2		61-044512-0	Machine Screw	MT4X12	DAB Module(2)		2
..2		62-010402-0	Nut	M4	DAB Module(2)		2
..2		66-083003-0	PCB Left Bracket		DAB PCB(1)		1
..2		66-083004-0	PCB Right Bracket		DAB PCB(1)		1
..2		61-023106-0	Self Taping Screw	STB3*6	PCB left(2),PCB right(2)		4
.1		01-50404-10					AH:1
..2		02-50404-00		SMT			AH:1
PCB							
...3		A16-50404-21	XM PCB	FR-4, 1.6mm,130mm*120mm			1
DIODE							
...3		33-40352-01	DIODE	1SS352	D505, D506	D0805	2
...3		33-14709-10	Zener Diode SMD	4.7V, 1/2W	D501, D502, D503, D504	MINIMELF	4
...3		33-16309-10	Zener Diode SMD	6.3V, 1/2W	D500	MINIMELF	1
ICS							
...3		03-00716-01	Octal Buffer	NC7WZ16P6X	U502	sc70	1
...3		03-00244-01	Octal Buffer	74LCX244, SOIC0.3inch, Tube/Tape	U501	SOIC/20P/P1.2 7/12.8X10.3/12 .8X7.5/2X.55	1
...3		J03-02628-01	XMDTIC	XMDTIC Rev 3B/4A F2628E-01	U500		1
Capacitor							
...3		26-20051-00	Ceramic Chip Capacitor	20pF, 50V, ±5%, NPO	C514, C515, C516, C517, C518, C519	0603-CAP	6
...3		26-39051-00	Ceramic Chip Capacitor	39pF, 50V, ±5%, NPO	C503	0603-CAP	1
...3		26-22351-00	Ceramic Chip Capacitor	22nF, 50V, ±10%, X7R	C523	0603-CAP	1
...3		26-10451-00	Ceramic Chip Capacitor	100nF, 50V, +80-20%, Y5V	C500, C504, C505, C508, C509, C510, C511, C512, C513, C520	0603-CAP	10
...3		26-10451-11	Ceramic Chip Capacitor	100nF, 50V ±10%, X7R	C501, C502	0805	2
...3		06-10011-11	Chip Tantalum Electrolytic Capacitor	10uF/10V, ±20%	C506, C507, C521, C522	3216A	4
RESISTOR							
...3		07-90000-00	Chip Resistor	0Ω, ±5%	R514, R536, R537, R540	0603	4
...3		07-90101-00	Chip Resistor	100Ω, ±5%	R512, R513, R515, R516, R517, R518, R519, R520, R521, R522, R523, R524, R525, R532, R533, R539, R541, R543	0603	18
...3		07-90102-00	Chip Resistor	1KΩ, ±5%	R530, R531	0603	2
...3		07-90103-00	Chip Resistor	10KΩ, ±5%	R500, R501, R502, R503, R504, R505, R506,	0603	7
...3		07-90223-00	Chip Resistor	22KΩ, ±5%	R509, R510, R511	0603	3
...3		07-90473-00	Chip Resistor	47KΩ, ±5%	R526, R527, R528, R529	0603	4
...3		07-90104-00	Chip Resistor	100KΩ, ±5%	R507, R508	0603	2
...3		07-90105-00	Chip Resistor	1MEG, ±5%	R534	0603	1
CRYSTAL							
...3		04-14512-00	CRYSTAL	45.1584MHz	Y500	49SMD	1

L	CP	P/N	Description	Part Type	Designator	Footprint	Qty
CONNECTOR							
..3		13-21020-05	FPC Connector SMD	1.0-9-20PWB	J501	SMD20*1.0mm W	1
CONNECTOR							
..2		17-08001-08	MINI USB	MU031-1546	J502	MINI USB	1
Metal Parts							
..2		66-083003-0	PCB Left Bracket		XM PCB(1)		1
..2		66-083004-0	PCB Right Bracket		XM PCB(1)		1
..2		61-023106-0	Self Taping Screw	STB3*6	PCB left(2),PCB right(2)		4
Metal Parts							
.1		01-54245-10		NAD C425 MAIN BOARD			C:1
.1		01-54245-20		NAD C425 MAIN BOARD			AH:1
..2		J01-54245-98		NAD C425 MAIN BOARD			C:1
..2		J01-54245-99		NAD C425 MAIN BOARD			AH:1
..2		13-22502-00	Connector	2PIN	J902	S=2.5mm	1
..2		13-22503-00	Connector	3PIN	J901B	S=2.5mm	1
Mechanical Parts							
others							
.1		A18-50420-00	R Type Transformer	R20-E9328G			1
.1		A18-50407-00	standby Transformer	TD050-E103A			1
.1		14-50402-00	Wire	2468 XHB L=300mm	Main Board to 425 Board		1
.1		14-50403-00	Wire	XHB ,L=150mm	Main Board to 425 Board		1
.1		14-50408-00	Wire	2468 XHB L=50mm	Main Board to 425 Board		1
.1		A14-53002-12	Wire	red L=50mm			1
.1		14-50415-00	FFC	15PIN,1.0mm,300±3mm	DAB Board to 425 Board		1
.1		14-50420-00	FFC	20PIN, 1mm, 120±3mm	Main Board to DAB/XM Board		1
.1		14-50420-01	FFC	20PIN, 1mm, 210±3mm	Main Board to FPP Board		1
.1		14-50400-00	Wire	MINI DIN 9P/M TO 10 HSG	DAB Board to DAB Module		C:1
.1		A15-10125-00	AC Cord(AH Version)	T582-AH			AH:1
.1		A15-10250-00	AC Cord(C Version)	X-T562-C-LF			C:1
.1		A15-10250-03	AC Cord(CHN Version)	X-CCC			BC:1
SWITCHS							
.1		A11-01101-03	Rocker Switch	RF-1003-BB2, TV-5			1
METAL PARTS							
.1		J70-074002-0	Fascia1	6063 T5			1
.1		70-074001-0	Fascia2	Kirksite #5, painting&printing			1
.1		67-074003-0	Subfascia	SECC-N4 T=1.6mm			1
..2		65-074003-0	Subfascia	SECC-N4 T=1.6mm			1
...3			SECC	SECC-N4 1219*471*1.6			0.1111
.1		67-051002-1	Top Cover	SECC-N4 T=2.0mm			1
.1		67-074002-1	Rear Panel C	SECC-N4 T=1.6mm			C:1
..2		80-074002-1	Rear Panel C	SECC-N4 T=1.6mm			C:1
...3		65-074002-1	Rear Panel C	SECC-N4 T=1.6mm			C:1
....4			SECC	SECC-N4 1219*456*1.6			C:0.1
.1		67-074004-1	Rear Panel AH	SECC-N4 T=1.6mm,			AH:1
..2		80-074004-1	Rear Panel AH	SECC-N4 T=1.6mm			AH:1
...3		65-074004-1	Rear Panel AH	SECC-N4 T=1.6mm			AH:1
....4			SECC	SECC-N4 1219*456*1.6			AH:0.1
.1		67-074001-2	Chassis	SECC-N4 T=1.0mm			1
..2		65-074001-2	Chassis	SECC-N4 T=1.0mm			1
...3			SECC	SECC-N4 1219*530*1.0			0.25
.1		70-051002-0	Ring Cursor	Kirksite			1
.1		70-048012-1	Input Button	Kirksite			7
.1		70-048013-0	Power Button	Kirksite			1
.1		70-051007-0	Enter Button	Kirksite			1
.1		J83-043001-0	Foot Assembly				4
.1		92-048001-0	Spring for Button				9
PLASTIC PARTS							
.1		77-074001-1	Cursor Holder				1
.1		76-048010-0	VFD window				1
.1		76-008001-0	LED Lens				1
.1		86-046001-0	LED Lens Gum	3M Double Side Adhesive			1
.1		85-074001-0	PCB Space	TCBS-25			2
FASTENERS							
.1		61-373506-0	Machine Screw	MB3*6-W.S-Ni			8
.1		61-023106-1	Self Taping Screw	STB3*6			2
.1		61-023206-0	Self Taping Screw	BTB3*6			9
.1		61-246508-0	Machine Screw	MB6X8			4
.1		61-023208-0	Self Taping Screw	BTB3*8			C:7/AH: 4
.1		61-023106-0	Self Taping Screw	STB3*6			11
.1		61-024106-0	Self Taping Screw	STB4*6			2
.1		61-023508-0	Machine Screw	MB3X8			4

L	CP	P/N	Description	Part Type	Designator	Footprint	Qty
.1		62-010302-2	Nut	M3			4
.1		63-020308-1	Spring Washer	M3			4
.1		61-024108-0	Self Taping Screw	STB4×8			4
.1		61-063106-0	Self Taping Screw	STF3×6			4
.1		61-023616-0	Self Taping Screw	TBBT3×16			4
.1		61-224508-1	Machine Screw	GB/T70.1, 4X8			8
.1		61-224512-1	Machine Screw	GB/T70.1, 4X12			8
.1		61-022506-6	Machine Screw	MB2.5×6-Ni			2
ACCESSORIES							
.1		87-048002-0	Button Pad	NWC White			7
.1		87-048003-0	Power pad	NWC White			2
.1		86-010004-0	3mm Rubber Pad	10×25×3mm			3
.1		86-018002-1	Expanded Rubber	110x25x0.5mm			2
.1		86-046002-0	Padding	FR-4, 20×4×1mm			2
.1		76-046001-0	Screw Washer	Teflon White, Φ6×Φ11.5×0.5			4
.1		86-017010-0	Nonweavens Cloth	8×90, 0.5mm			1
PACKING							
.1		88-074001-1	Gift Box	585×475×227mm			1
.1		88-074002-0	Shipping Box	610×500×257mm			1
.1		89-051001-0	EPE Polyfoam	EPE, White			1
.1		89-051002-0	EPE Polyfoam	EPE, White			AH:1
.1		89-074001-0	EPE Polyfoam C	EPE, White			C:1
.1		89-048003-0	M3 Little Polyfoam A	EPE, White,28-30g			1
.1		89-048004-0	M3 Little Polyfoam B	EPE, White,28-30g			1
.1		87-051001-0	Non-woven bag	NWC White, L580xW310xH53(M71)			1
.1		90-001001-0	Polybag	630×440mm			1
.1		88-043003-0	Accessories Box	White			1
.1		88-043004-0	Box Sheet				1
.1		90-001002-0	Manu Polybag	220×370mm			1
.1		90-001013-0	AC Cord Polybag	105×280mm			2
.1		94-043006-0	Garentee Card				AH:1
.1		94-074001-2	Barcode Label	C Version, 117×155mm			2
.1		94-074002-2	Barcode Label	AH Version, 117×155mm			2
.1		94-074011-1	Barcode Label	C Version, 117×155mm			2
.1		94-074012-1	Barcode Label	AH Version, 117×155mm			2
.1		94-074003-0	Serial No. Label	53×10mm			6
.1		30-05000-00	Desiccant	50g 90×110			1
ACCESSORIES							
.1		30-40540-01	Instruction Manual	size:210x297mm			1
.1		J30-10540-00	Remote Control	M4			1
.1		30-22100-00	Batteries	5			2
.1		J30-30740-00	DAB Antenna	C13+M13+1354+F.TYPE			C:1
.1		J30-37300-10	Tuner antenna(AM)	LS0146BL-X000101-0			1
.1		30-37300-00	Tuner antenna(FM)	HAN-001			1
.1		30-87200-00	TV Matcher	IF-11/ZB-6			1