NAD

C 165BEE

STEREO PREAMPLIFIER

SERVICE MANUAL

C 165BEE

STEREO PREAMPLIFIER

TABLE OF CONTENTS

DESCRIPTION **P A G E**

PRODUCT SAFETY SERVICING GUIDELINES

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.

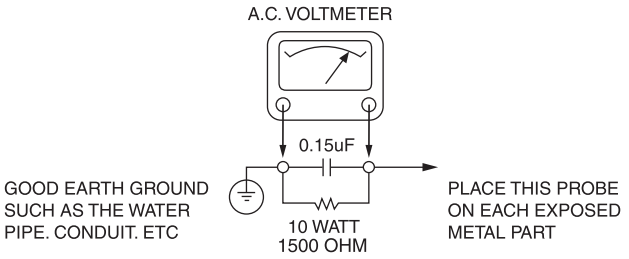
WHILE SERVICING, USE AN ISOLATION TRANSFORMER FOR PROTECTION FROM AC LINE SHOCK.

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 AC CORD). AND REPLACE IF NECESSARY FOLLOW ORIGINAL LAYOUT, LEAD LENGTH AND DRESS.
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 AC 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 SAFET TO OPERATE WITHOUT DANGER OF ELECTRICAL SHOCK. DO NOT USE A LINE ISOLATION TRANSFORMER DURING THIS TEST USE AN AC 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, 150V AC TYPE CAPACITOR BETWEEN A KNOWN GOOD EARTH GROUND (WATER PIPE, CONDUIT, ETC.) AND THE EXPOSED METALLIC PARTS, ONE AT A TIME.
   MEASURE THE AC VOLTAGE ACROSS THE COMBINATION OF 1500 OHM RESISTOR AND .15 MFD CAPACITOR.
   REVERSE THE AC PLUG AND REPEAT AC VOLTAGE MEASUREMENTS FOR EACH EXPOSED METALLIC PART.
   VOLTAGE MEASURE MUST NOT EXCEED 75 VOLTS R.M.S. THIS CORRESPONDS TO 0.5 MILLIAMP AC ANY VALUE EXCEEDING THIS LIMIT CONSTITUTES A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED IMMEDIATELY.



SUBJECT : GRAPHIC SYMBOLS

THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE 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 USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.

SUBJECT : TIPS ON PROPER INSTALLATION

1. NEVER INSTALL ANY PRODUCT IN A CLOSED-IN RECESS, CUBBYHOLE OR CLOSELY FITTING SHELF SPACE. OVER OR CLOSE TO HEAT DUCT, OR IN THE PATH OF HEATED AIR FLOW.
2. AVOID CONDITIONS OF HIGH HUMIDITY SUCH AS: OUTDOOR PATIO INSTALLATIONS WHERE DEW IS A FACTOR, NEAR STEAM RADIATORS WHERE STEAM LEAKAGE IS A FACTOR, ETC.
3. AVOID PLACEMENT WHERE DRAPERIES MAY OBSTRUCT REAR VENTING. THE CUSTOMER SHOULD ALSO AVOID THE USE OF DECORATIVE SCARVES OR OTHER COVERINGS WHICH MIGHT OBSTRUCT VENTILATION.
4. WALL AND SHELF MOUNTED INSTALLATIONS USING A COMMERCAL MOUNTING KIT MUST FOLLOW THE FACTORY APPROVED MOUNTING INSTRUCTIONS A PRODUCT MOUNTED TO A SHELF OR PLATFORM MUST RETAIN ITS ORIGINAL FEET (OR THE EQUIVALENT THICKNESS IN SPACERS) TO PROVIDE ADEQUATE AIR FLOW ACROSS THE BOTTOM, BOLTS OR SCREWS USED FOR FASTENERS MUST NOT TOUCH ANY PARTS OR WIRING. PERFORM LEAKAGE TEST ON CUSTOMIZED INSTALLATIONS.
5. CAUTION CUSTOMERS AGAINST THE MOUNTING OF A PRODUCT ON SLOPING SHELF OR A TILTED POSITION, UNLESS THE PRODUCT IS PROPERLY SECURED.
6. A PRODUCT ON A ROLL-ABOUT CART SHOULD BE STABLE ON ITS MOUNTING TO THE CART. CAUTION THE CUSTOMER ON THE HAZARDS OF TRYING TO ROLL A CART WITH SMALL CASTERS ACROSS THRESHOLDS OR DEEP PILE CARPETS.
7. CAUTION CUSTOMERS AGAINST THE USE OF A CART OR STAND WHICH HAS NOT BEEN LISTED BY UNDERWRITERS LABORATORIES, INC. FOR USE WITH THEIR SPECIFIC MODEL OF TELEVISION RECEIVER OR GENERICALLY APPROVED FOR USE WITH T.V.'S OF THE SAME OR LARGER SCREEN SIZE.
8. CAUTION CUSTOMERS AGAINST THE USE OF EXTENSION CORDS, EXPLAIN THAT A FOREST OF EXTENSIONS SPROUTING FROM A SINGLE OUTLET CAN LEAD TO DISASTROUS CONSEQUENCES TO HOME AND FAMILY.

SERVICING PRECAUTIONS

CAUTION : Before servicing the A/V Receiver 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 A/V Receiver 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 substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.

2. Do not spray chemicals on or near this A/V Receiver 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 A/V Receiver 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 1M-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 reasons 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).

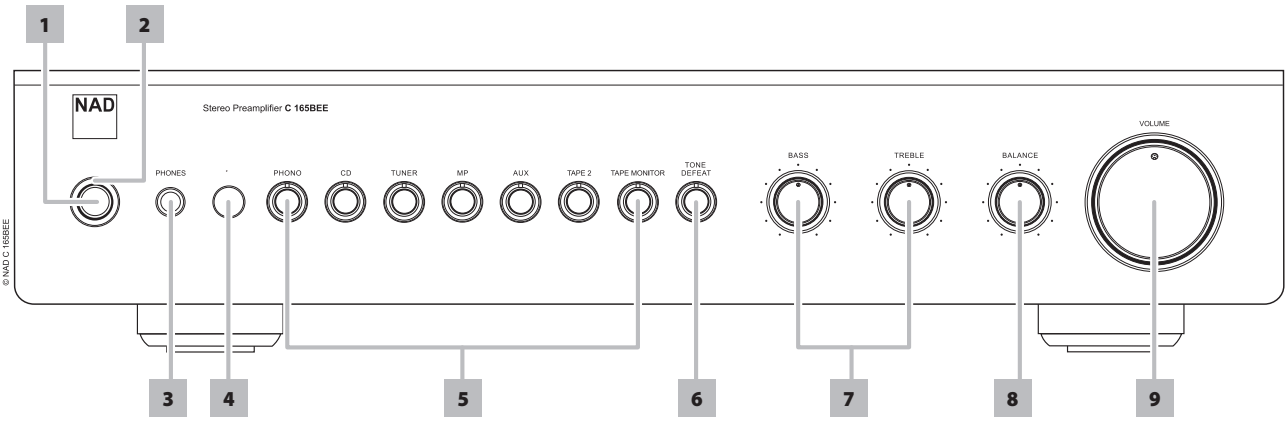
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

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

8. Minimize bodily motions when handing 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.)

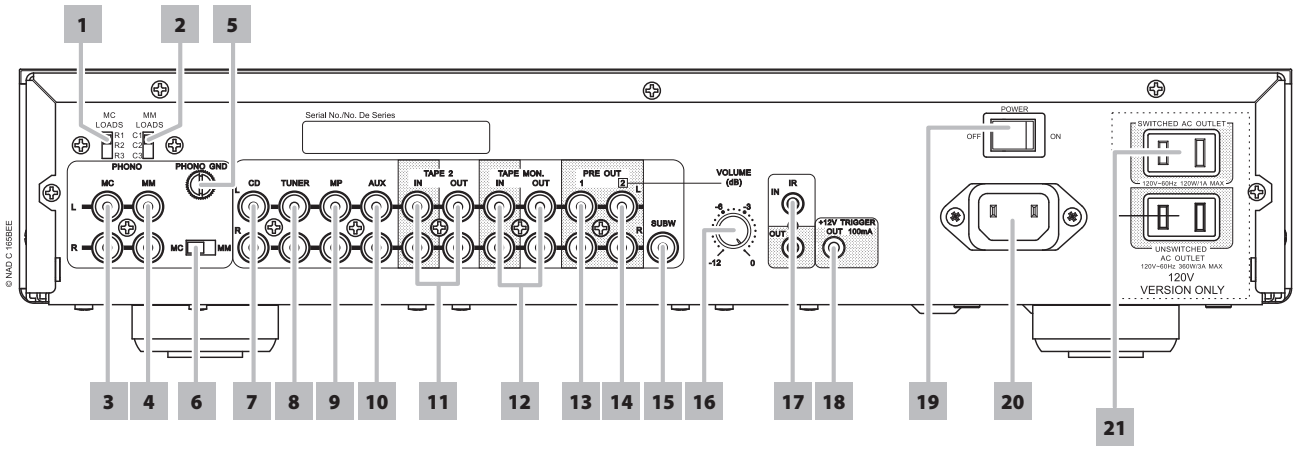
IDENTIFICATION OF CONTROLS

FRONT PANEL



1 STANDBY
2 STANDBY LED
3 PHONES
4 REMOTE SENSOR
5 INPUT SELECTORS
6 TONE DEFEAT
7 TONE CONTROLS
8 BALANCE
9 VOLUME

REAR PANEL



1 MC LOADS (R1, R2, R3)
2 MM LOADS (C1, C2, C3)
3 MC INPUT
4 MM INPUT
5 PHONO GROUND CONNECTOR
6 MC-MM SWITCH
7 CD INPUT
8 TUNER INPUT
9 MP INPUT
10 AUX INPUT
11 TAPE 2 IN/OUT
12 TAPE MON. IN/OUT
13 PRE OUT
14 PRE OUT 2
15 SUBW
16 VOLUME
17 IR IN/OUT
18 +12V TRIGGER OUT
19 POWER SWITCH
20 AC MAINS INPUT
21 AC OUTLET (120V version only)

OVERALL SPECIFICATIONS

LINE LEVEL INPUT

Input impedance (R and C)	100 kΩ+ 320 pF
Input sensitivity	158 mV (ref. 500 mV out)
Maximum input signal	>9 V
Signal/Noise ratio, A-weighted	>108 dB (ref. 500 mV in 500 mV out, volume set to unity gain)
	>106 dB (ref. 2V out, Volume maximum)
Channel Separation	>80 dB (ref. 1 kHz/10 kHz)
Frequency response	± 0.1 dB (ref. 20 Hz - 20 kHz, Tone defeat ON)
	± 0.5 dB (ref. 20 Hz - 20 kHz, Tone defeat OFF)
Frequency response (subwoofer out)	100 Hz (ref. -3 dB)

OUTPUT

Output impedance - Pre out	75 Ω
Tape out	Source Z + 440 Ω
Sub out	100 Ω
Headphones	10 Ω
Maximum output level - Pre out	>10 V into 600 Ω
Tape out	>10 V into 10 kΩ load
Sub out	>7 V into 1 kΩ load
Headphones	>5 V into 600 Ω
	>2 V into 32 Ω
THD (CCIF IMD, DIM 100)	>0.001 % dB (ref. 20 Hz – 20 kHz, 2 Vout)

TONE CONTROLS

Treble	± 5 dB at 10 kHz (ref. 2V in 500 mV out)
Bass	± 5 dB at 100 Hz (ref. 2V in 500 mV out)

POWER CONSUMPTION

Normal operation	21 W
Standby mode	<0.8 W

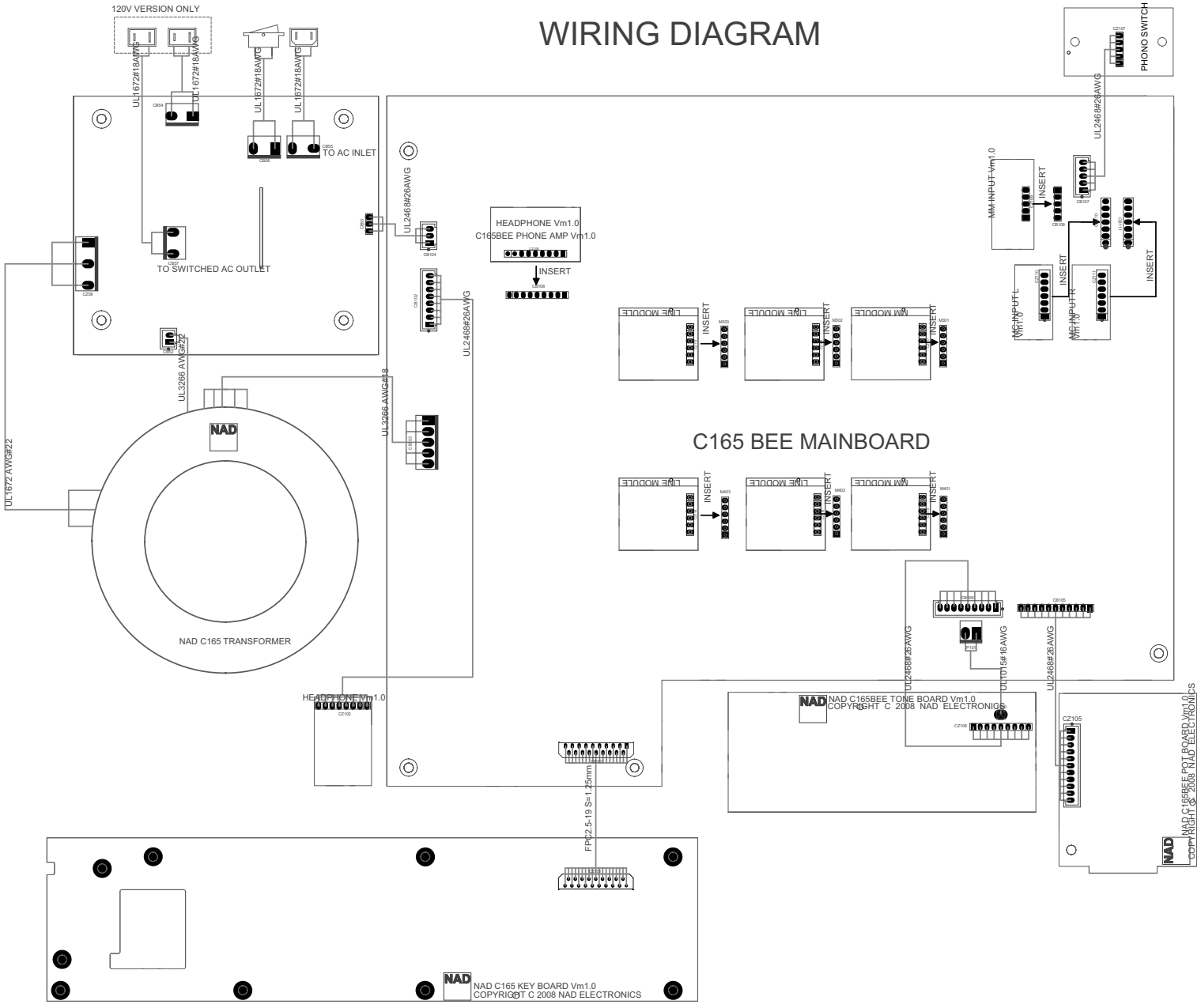
PHONO INPUT

Input impedance - MC	40,100,600 Ω (R)
	1 nF (C)
MM	47 kΩ (R)
	220,300,400 pF (C)
Input sensitivity - MC	0.15 mV (ref. 1 kHz 500 mV out)
MM	2.63 mV (ref. 1 kHz 500 mV out)
Input overload - MC	1 mV/10 mV/100 mV (20 Hz/1 kHz/20 kHz)
MM	16 mV/147 mV/1.4 (20 Hz/1 kHz/20 kHz)
Gain - MC in - Tape out	59.8 dB[1] (ref. 1 kHz, 10 kΩ load)
MM in - Tape out	36.5 dB (ref. 1 kHz, 10 kΩ load)
THD (CCIF IMD, DIM 100)	<0.009 % (ref. 20 Hz – 20 kHz, 5 Vrms Tape out)
Signal/Noise ratio, IHF A-weighted - MC	>78 dB[2] (ref. 0.5 mV)
MM	>86 dB[3] (ref. 0.5 mV)
RIAA response accuracy	± 0.5 dB (ref. 20 Hz – 50 Hz)
	± 0.3 dB (ref. 50 Hz – 20 kHz)
Infrasonic filter	10 Hz (at -3 dB)
	5 Hz (at -14 dB)
Channel Separation - MC	>60 dB (ref. 1 kHz/10 kHz)
MM	>60 dB (ref. 1 kHz/10 kHz)

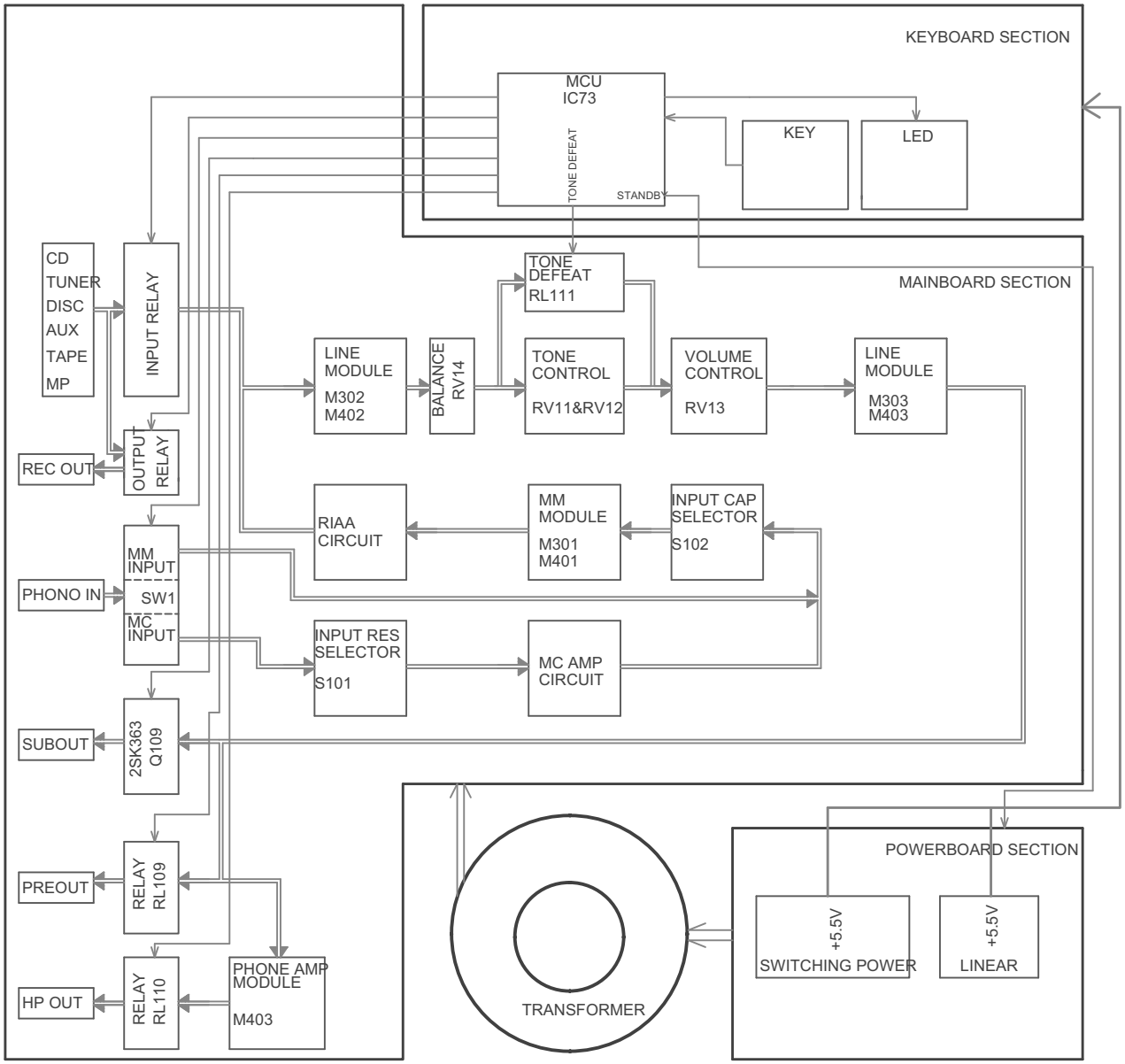
DIMENSION AND WEIGHT

Dimensions (W x H x D)	435 x 80 x 286 mm (Net)
	435 x 99 x 315 mm (Gross
Net weight	6 kg
Shipping weight	7.8 kg

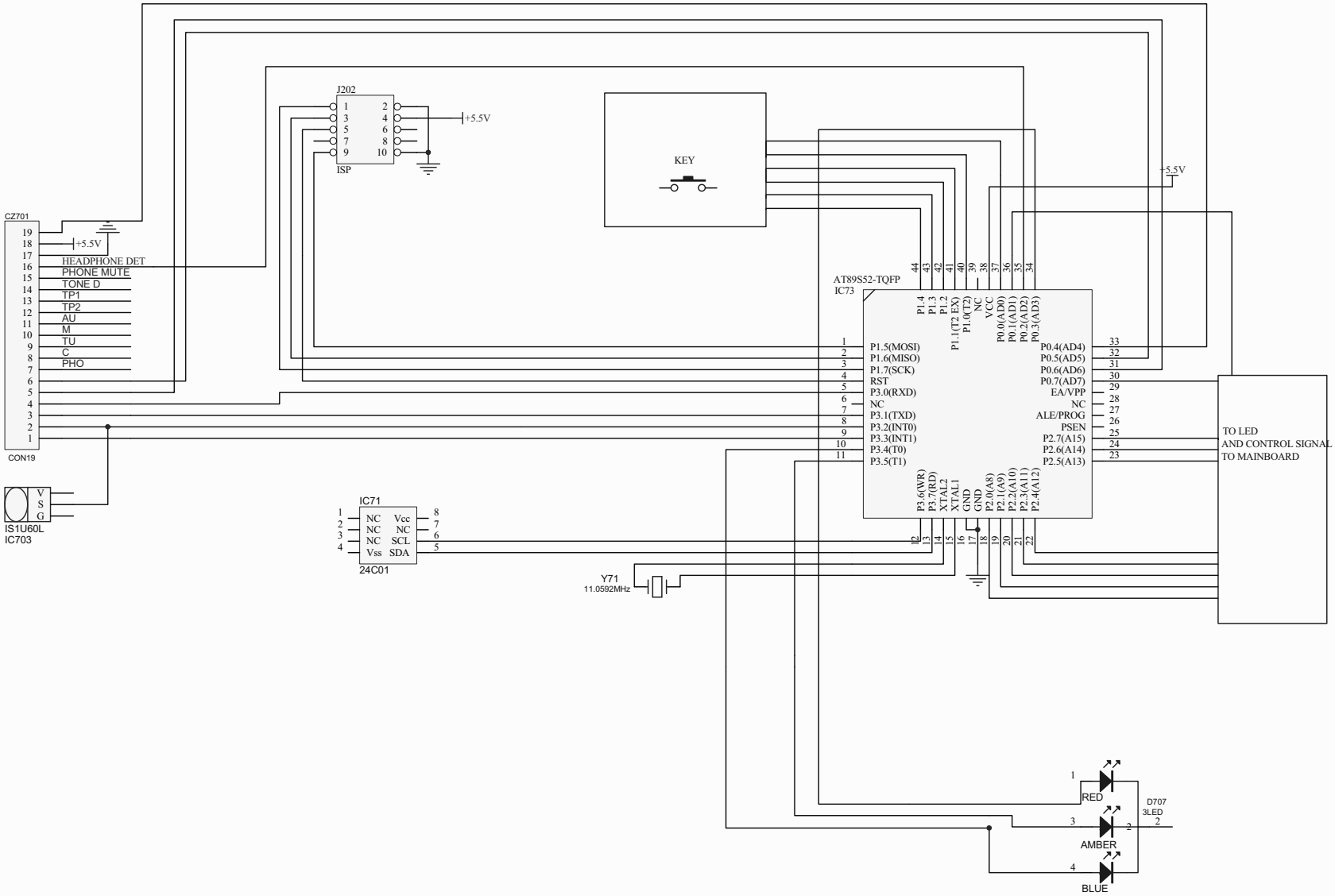
WIRING DIAGRAM



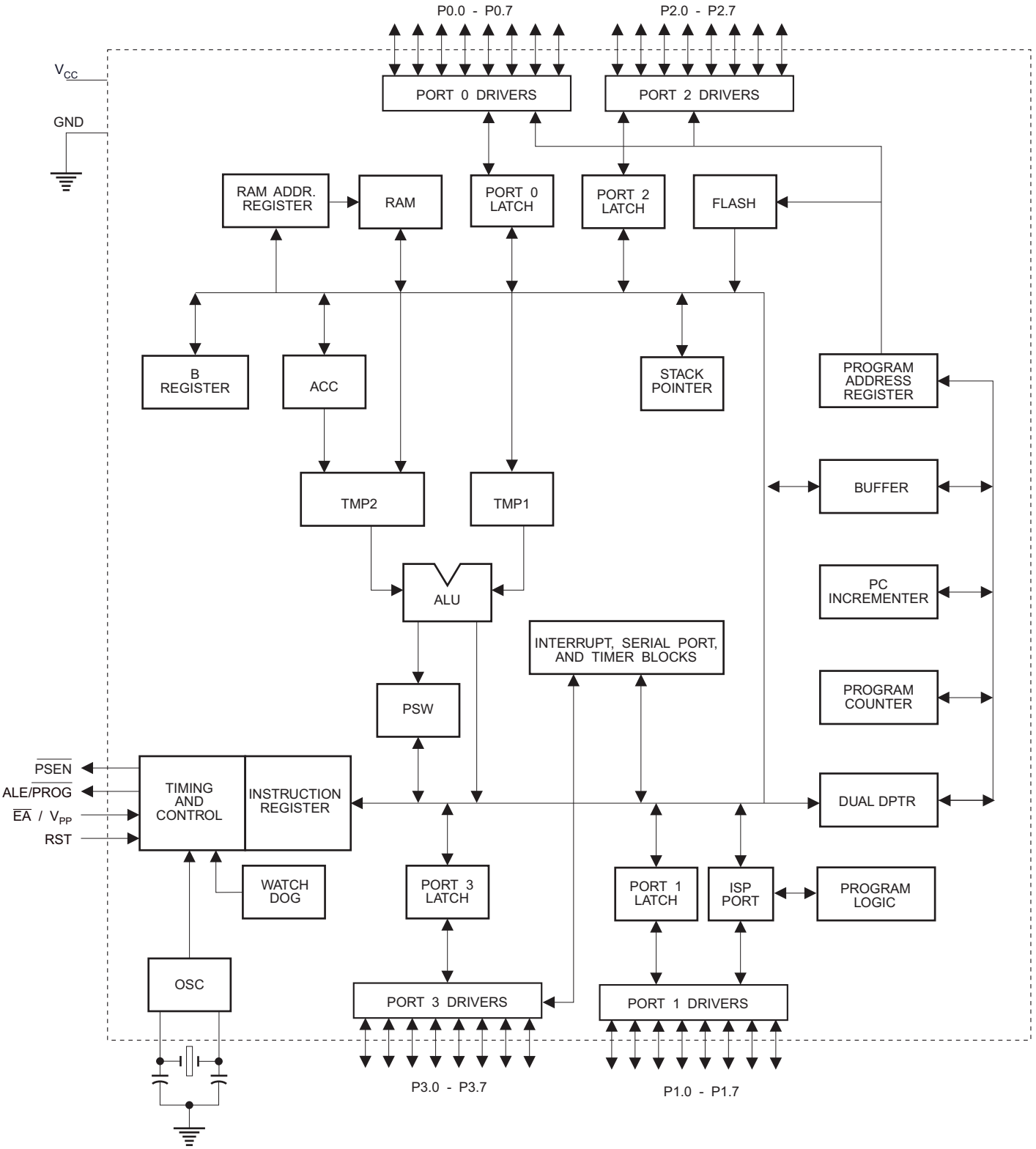
BLOCK DIAGRAM



MCU CONNECTION DIAGRAM



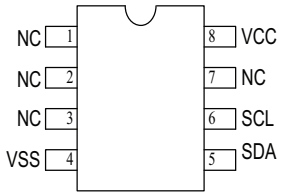
AT89S52
KEY BOARD IC73



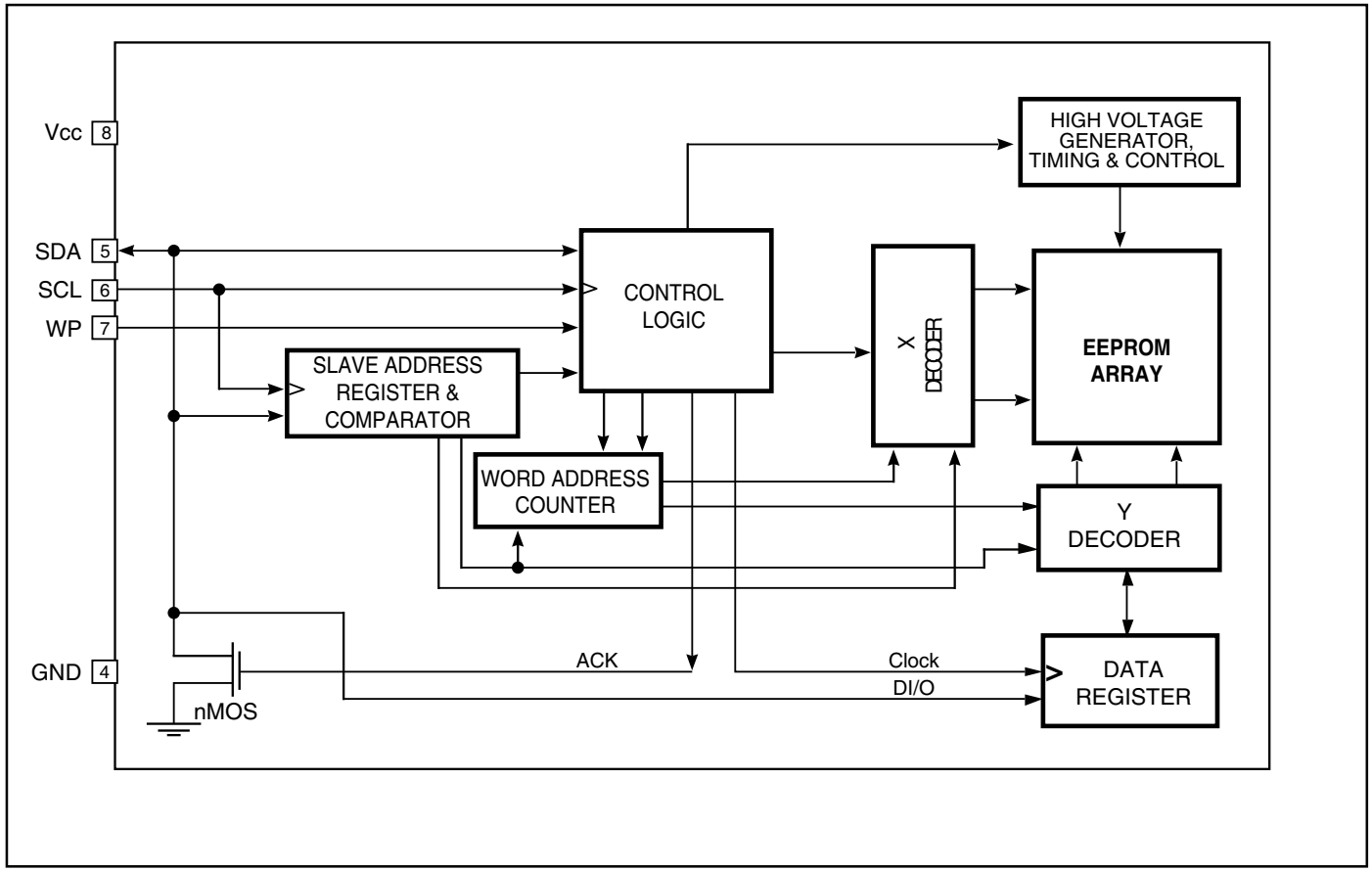
24C01

KEY BOARD：IC71

PIN CONFIGURATION

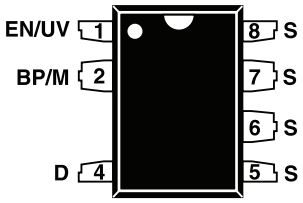


FUNCTIONAL BLOCK DIAGRAM

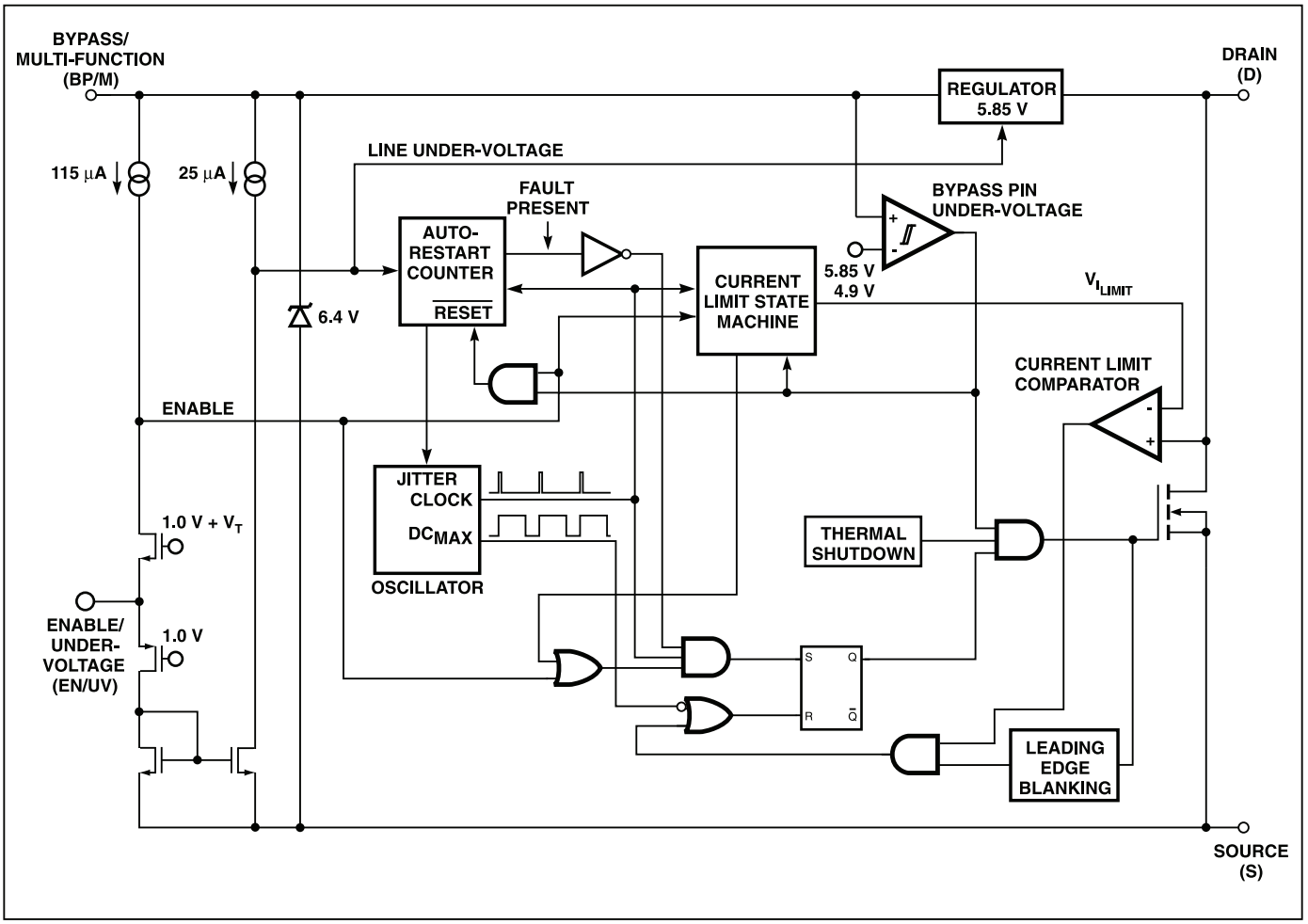


TNY274
POWERBOARD:IC51

PIN CONNECTION :



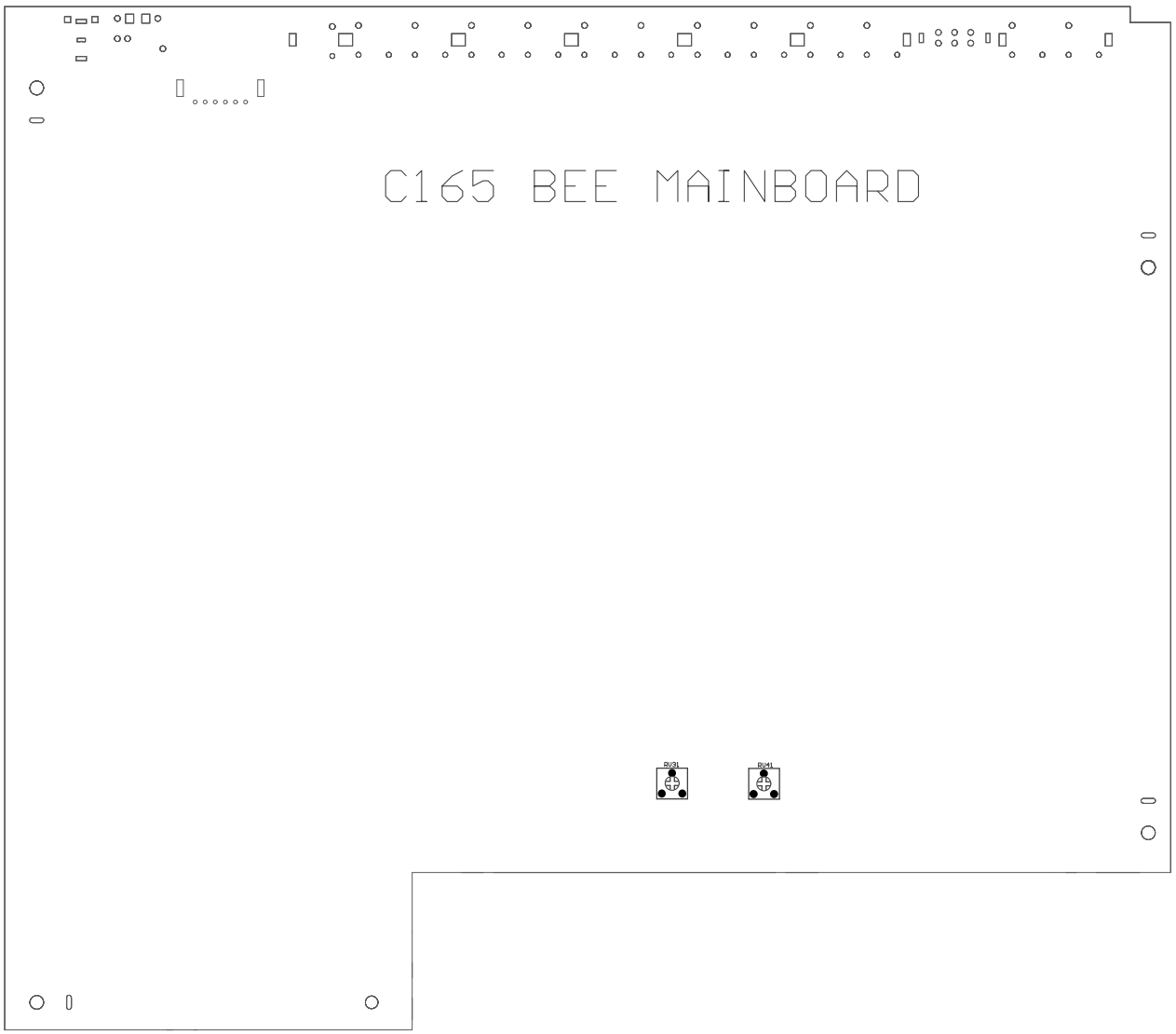
BLOCK DIAGRAM:



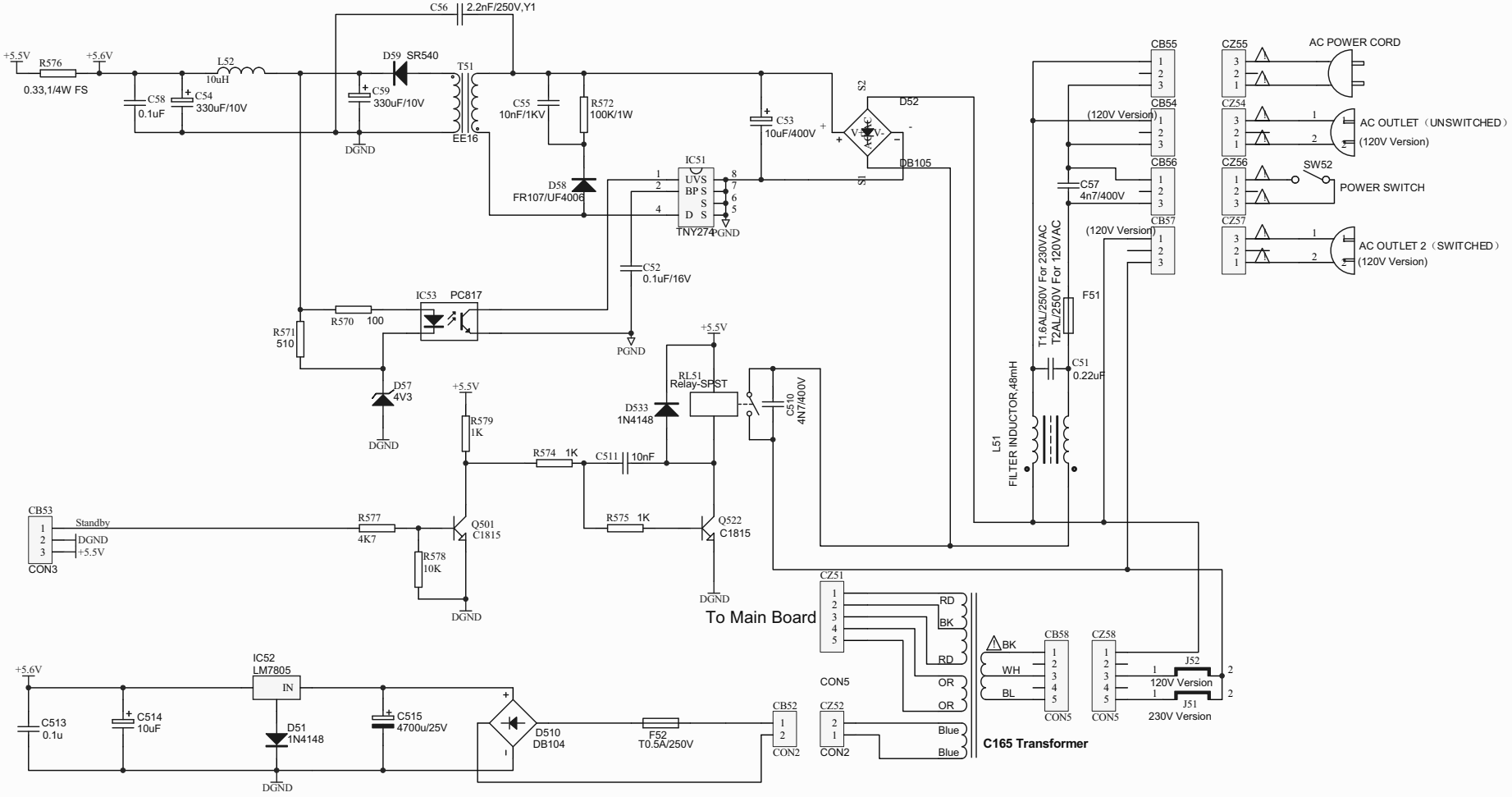
ALIGNMENT PROCEDURES

LOWEST VOLUME ADJUSTMENT

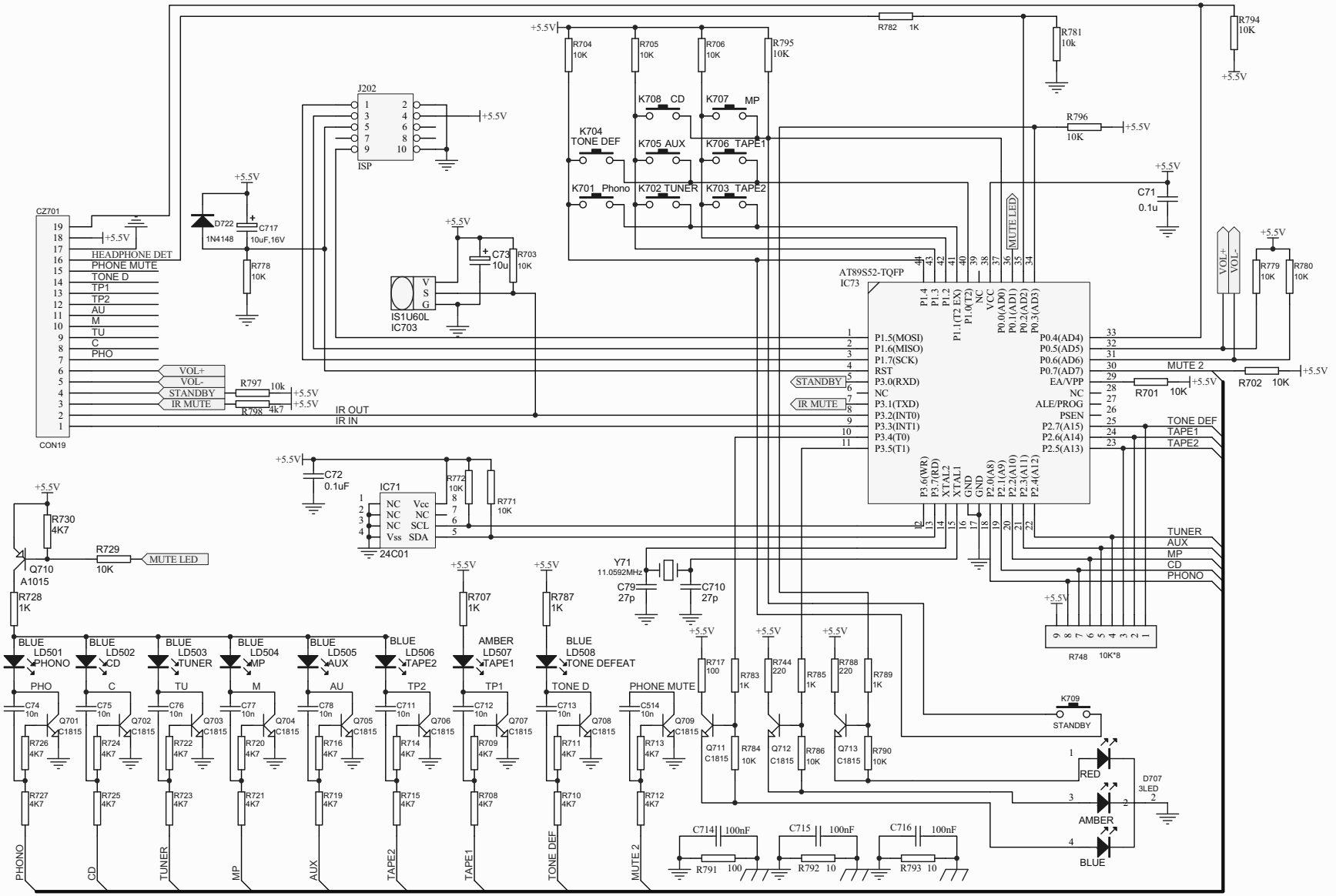
1. Tune the volume pot to lowest state.
2. Input a high voltage signal such as 5V from CD input.
3. Connect a oscilloscope to L channel Pre-Out RCA.
4. Observing the oscilloscope, adjust RV31, make the output become to the lowest level.
5. Adjusting RV41, make R channel output become to the lowest level by same way.



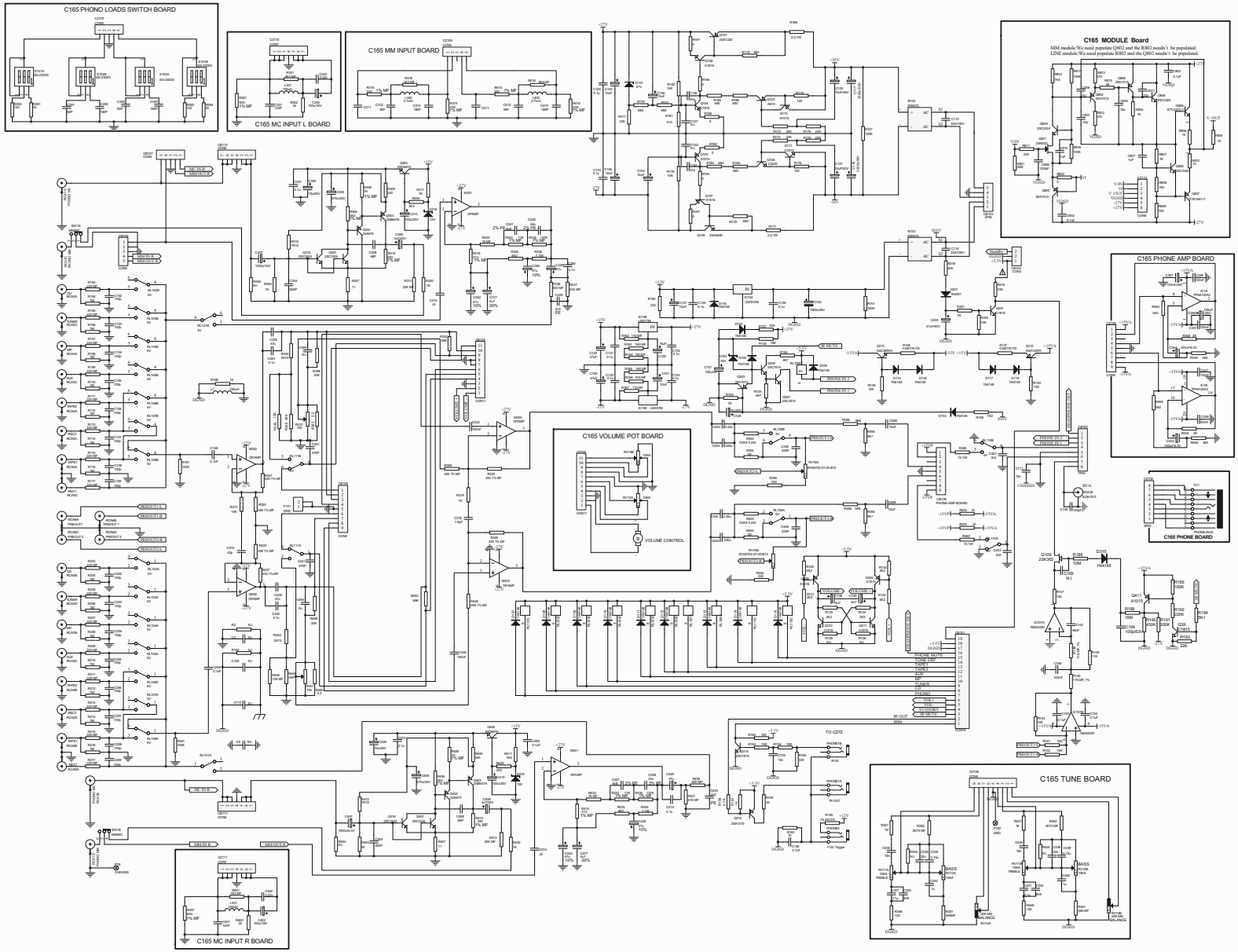
C165 BEE POWERBOARD(1/3)



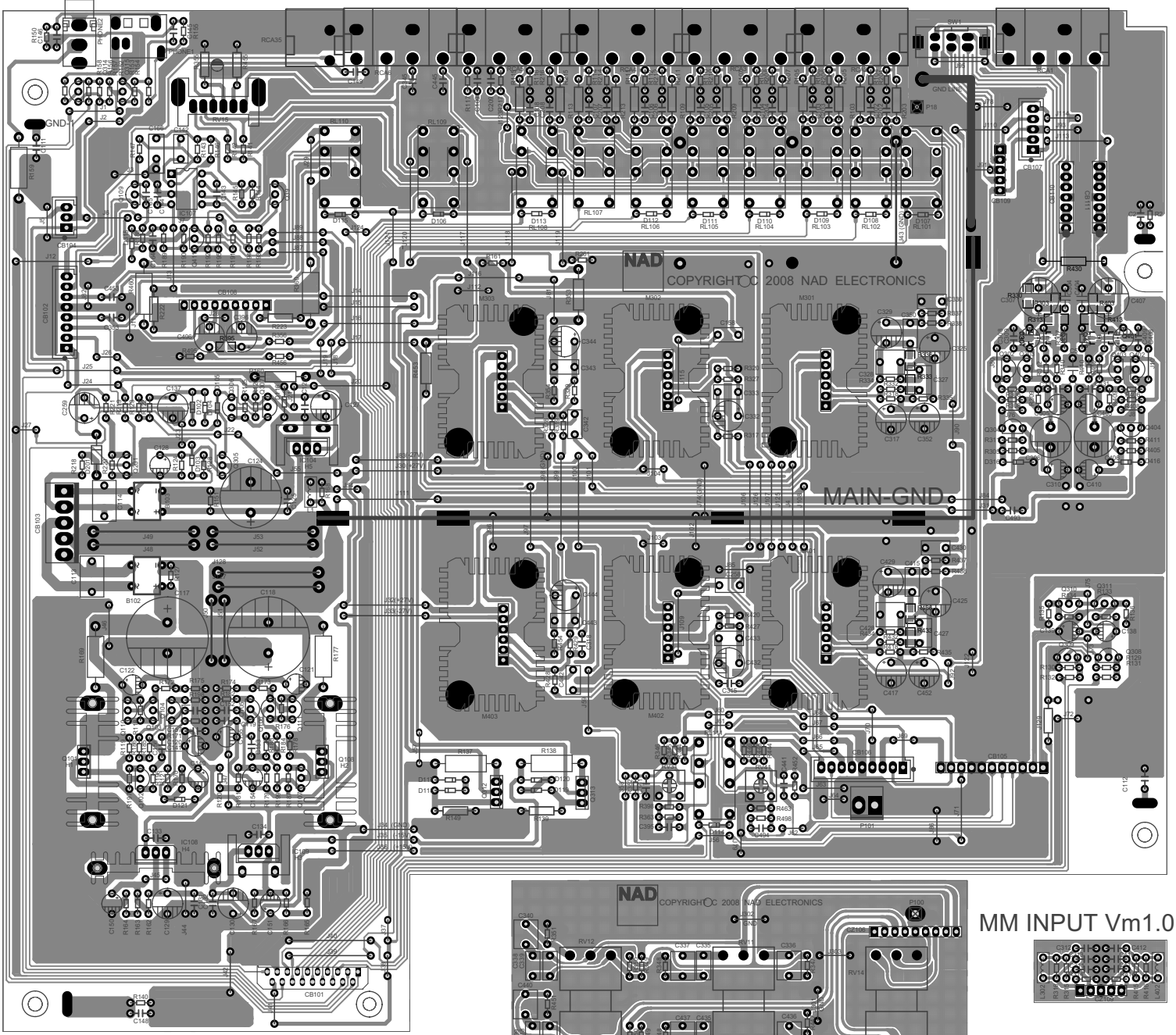
C165 KEYBOARD(2/3)



C165 BEE MAINBOARD(3/3)



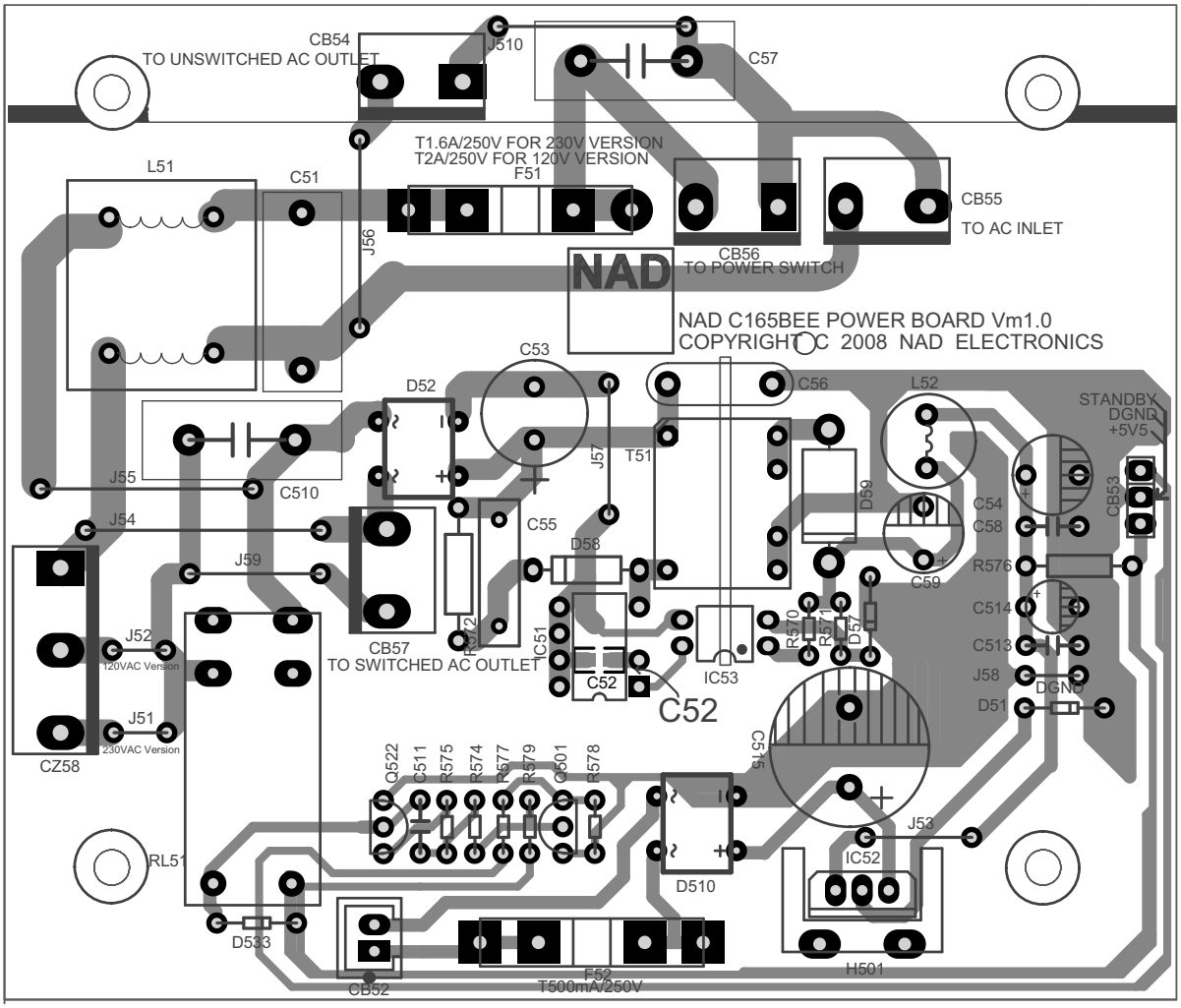
NAD C165BEE MAIN BOARD Vm1.0



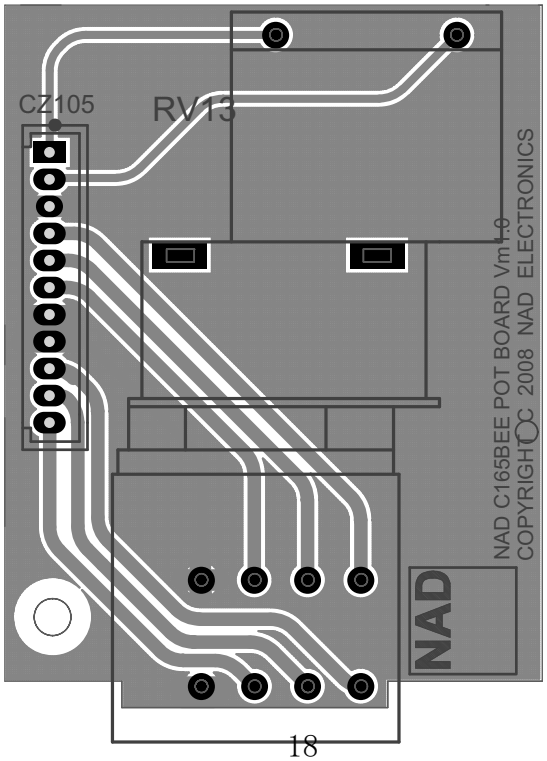
MM INPUT Vm1.0

NAD C165BEE TONE BOARD Vm1.0

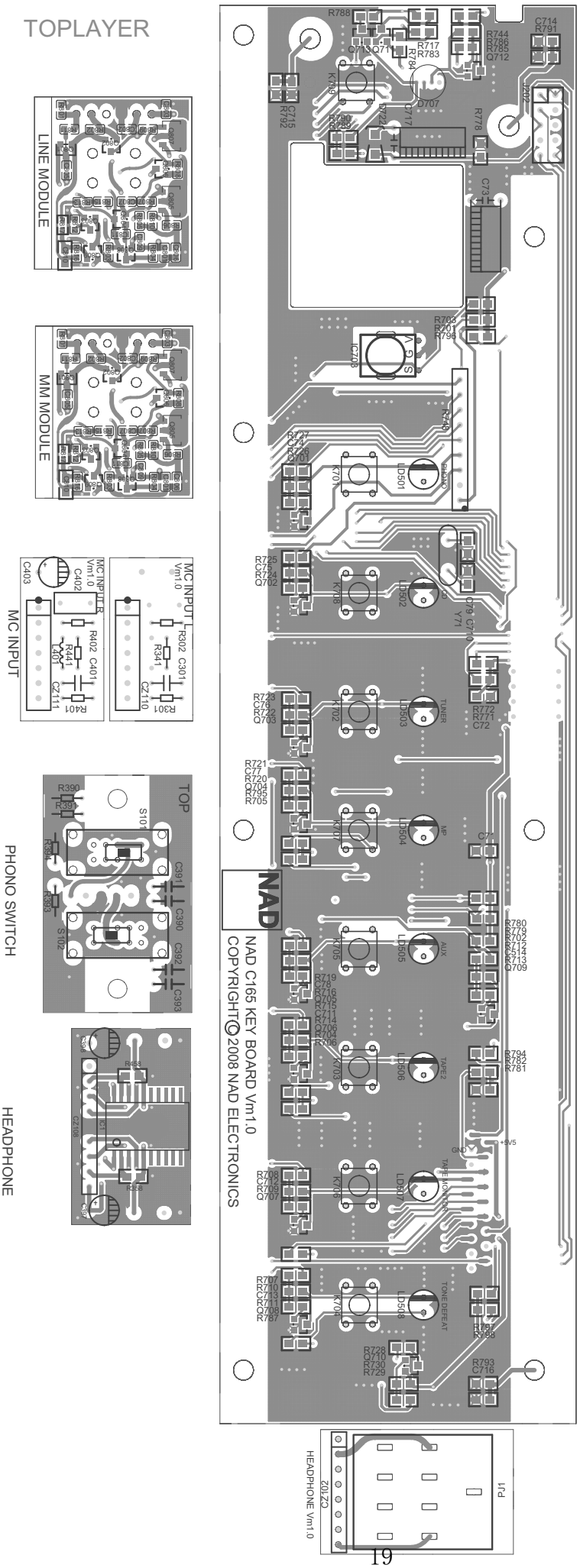
C165 BEE POWER BOARD



C165 BEE POT BOARD

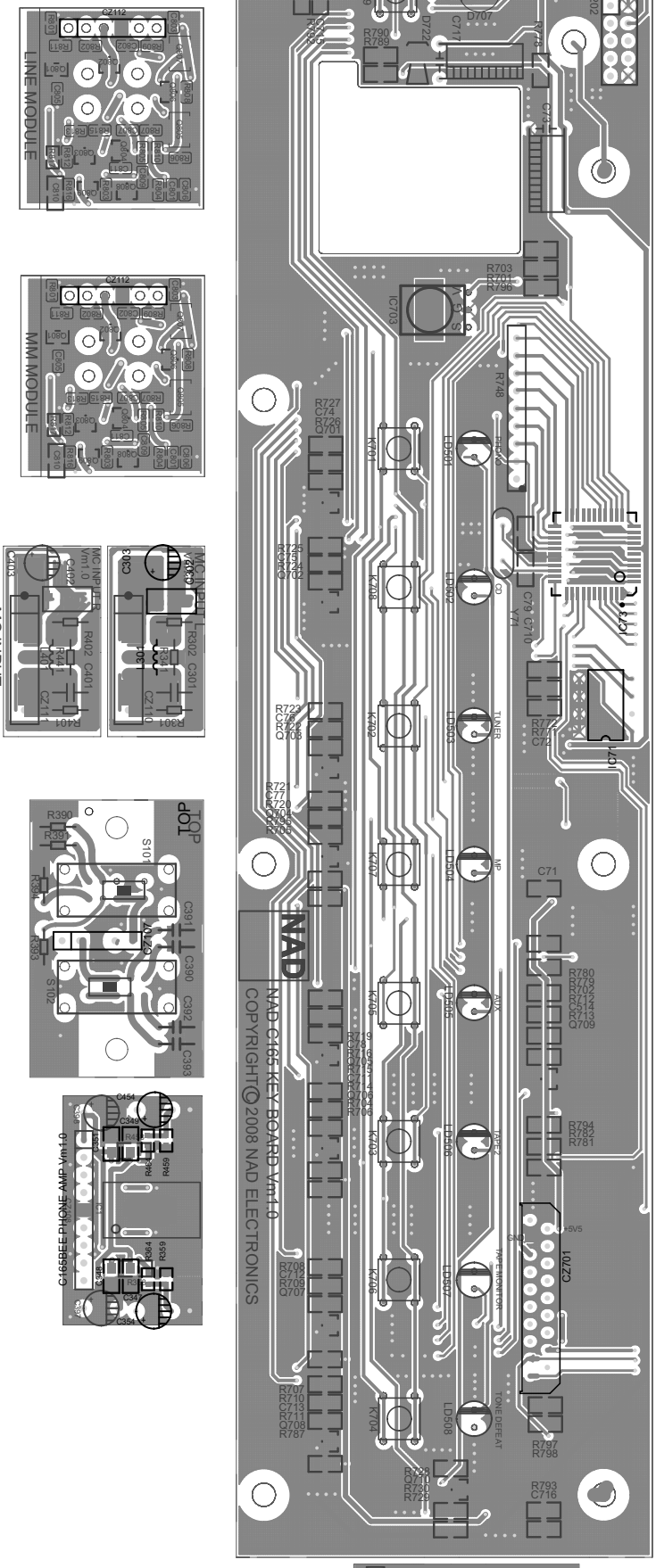


C165 BEE KEY+MODULE+MC INPUT+LOAD SWITCH+HEADPHONE+PHONEJACK BOARD

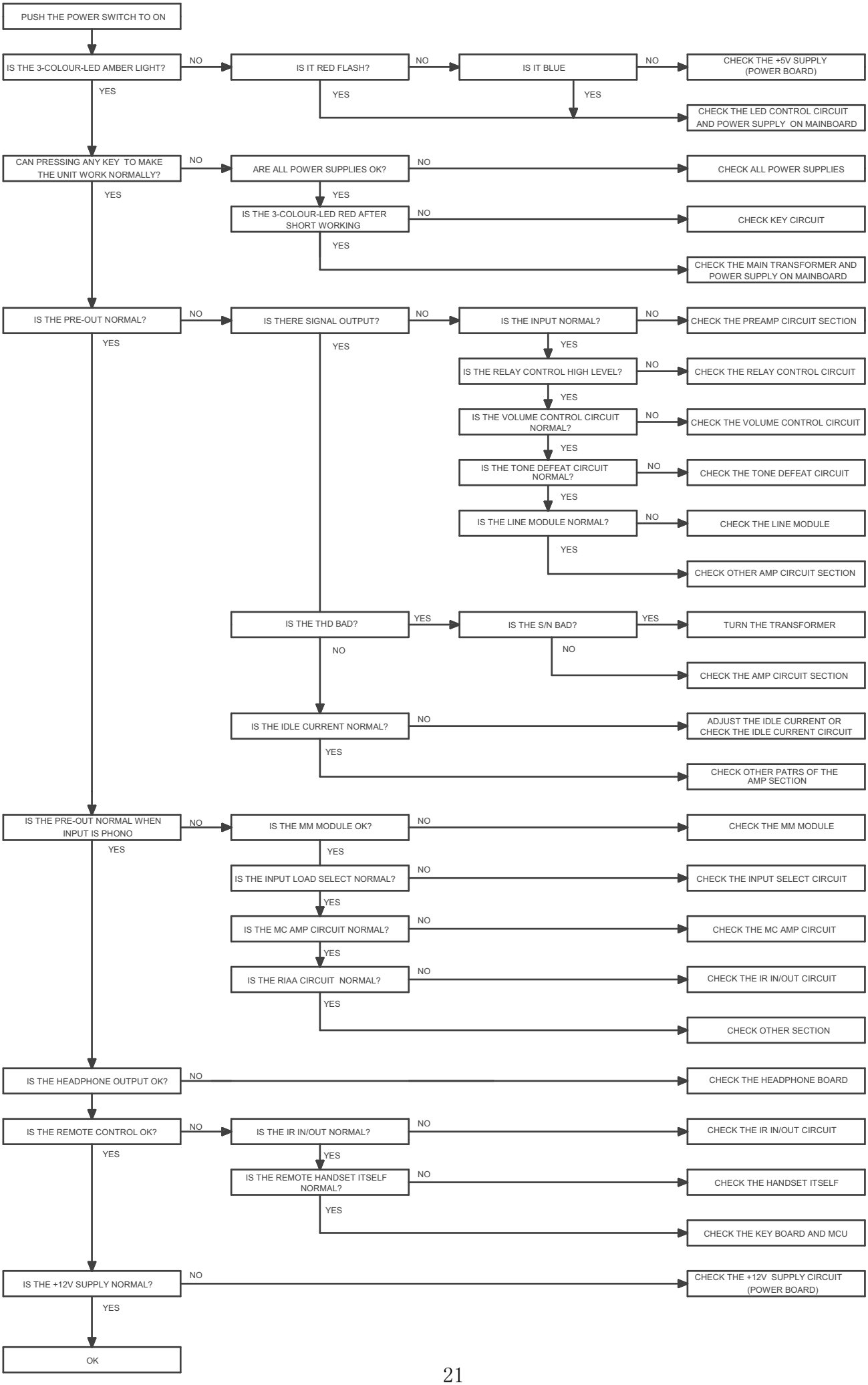


C165 BEE KEY+MODULE+MC INPUT+LOAD SWITCH+HEADPHONE+PHONEJACK BOARD

BOTTOMLAYER



TROUBLESHOOTING GUIDE



Designator	HS P/N	Part Type
MAINBOARD	**A16-16501-21**	**CEM-1**
D201	33-24001-00	1N4001
D316, D416	33-11200-00	12V 0.5W
D104	33-11600-00	16V 0.5W
D121	33-12700-00	27V 0.5W
D102, D105, D106, D107, D108, D109, D110, D111, D112, D113, D103, D116, D118, D117, D120, D119, D115, D114, D315	33-44148-00	1N4148
B102, B103	33-30142-00	DB104
Q103, Q302, Q402	J31-00970-00	2SA970
Q106	J31-02240-00	2SC2240
Q301, Q316, Q401,Q416	J31-03324-00	2SC3324-GR
Q105, Q107, Q110, Q305, Q308, Q309, Q314, Q411	31-01015-00	2SA1015
Q101, Q312	31-01220-00	KSA1220A-Y
Q303, Q403	31-00647-00	2SB647A
Q39, Q102, Q104, Q111, Q201, Q306, Q307, Q310, Q311, Q315	31-01815-00	2SC1815
Q313, Q108	31-02690-00	KSC2690A-Y
Q304, Q404	31-00667-00	2SD667A
Q109	J31-00363-00	2SK363
IC104	03-07812-00	LM7812M
IC107	03-05532-00	NE5532N
IC108	03-00317-00	LM317M
IC109	03-00337-00	LM337M
R303, R330, R403	07-91001-01	1K,±1%,0805
R395	07-90472-01	4K7, 0805, ±5%
R336, R436	07-97151-01	7.15K,±1%,0805
R333, R433	07-91102-01	11K,±1%,0805
R313, R413	07-90223-01	22K, 0805, ±5%
R2, R135, R136, R140, R304, R404		NI
R182, R187, R196, R197, R198, R199	07-10000-50	0,1/6W
R363, R463	07-10229-50	2R2, 1/6W, ±5%
R150, R168	07-10100-50	10R, 1/6W, ±5%
R158	07-10330-50	33R, 1/6W, ±5%
R222, R223	07-10510-51	51R, 1/4W, ±5%
R118, R147, R176	07-10101-50	100R, 1/6W, ±5%
R171, R123	07-10221-50	220R, 1/6W, ±5%
R155	07-10331-50	330R, 1/6W, ±5%
R119, R121, R170, R178, R183, R184, R185, R186	07-10681-50	680R, 1/6W, ±5%
R124, R157, R221, R319	07-10102-50	1K, 1/6W, ±5%
R128	07-10122-50	1K2, 1/6W, ±5%
R354, R454	07-10202-50	2K, 1/6W, ±5%
R129, R130, R131, R132, R133, R134	07-10222-50	2K2, 1/6W, ±5%
R125, R126, R156, R495	07-10472-50	4K7, 1/6W, ±5%

R194	07-10512-50	5K1, 1/6W, ±5%
R356, R456	07-10562-50	5K6, 1/6W, ±5%
R141, R142, R144, R152, R153, R154, R219, R220, R317	07-10103-50	10K, 1/6W, ±5%
R143	07-10113-50	11K, 1/6W, ±5%
R345	07-10123-50	12K, 1/6W, ±5%
R122	07-10183-50	18K, 1/6W, ±5%
R172, R173, R174, R175, R193, R218	07-10223-50	22K, 1/6W, ±5%
R398, R498	07-10303-50	30K, 1/6W, ±5%
R352, R452	07-10683-50	RJ13, 68K, 1/6W, ±5%
R161, R195, R261	07-10104-50	100K, 1/6W, ±5%
R127, R151	07-10154-50	RJ13, 150K, 1/6W, ±5%
R191	07-10204-50	200K, 1/6W, ±5%
R192	07-10224-50	220K, 1/6W, ±5%
R190	07-10434-50	RJ13, 430K, 1/6W, ±5%
R104, R106, R108, R110, R112, R114, R116, R204, R206, R208, R210, R212, R214, R216	07-10105-50	1M, 1/6W, ±5%
R188, R189	07-10106-50	10M, 1/6W, ±5%
R355, R455	07-10331-51	330R, 1/4W, ±5%
R139, R149	07-10103-51	10K, 1/4W, ±5%
R307, R407	07-21109-50	11R, 1/6W, ±1%
R332, R432	07-20750-50	75R, 1/6W, ±5%
R162, R167	07-21100-50	RJ13, 110R, 1/6W, ±1%
R164, R165	07-21500-50	150R, 1/6W, ±1%
R310, R410	07-22000-50	200R, 1/6W, ±1%
R318, R418	07-22130-50	RJ13, 213R, 1/6W, ±1%
R117, R217	07-20221-50	220R, 1/6W, ±5%
R309, R409	07-22400-50	240R, 1/6W, ±1%
R327, R329, R427, R429	07-24300-50	430R, 1/6W, ±1%
R320, R328, R346, R420, R428, R446	07-24990-50	RJ13, 499R, 1/6W, ±1%
R181	07-25100-50	RJ13, 510R, 1/6W, ±1%
R338, R438	07-20821-50	RJ13, 820R, 1/6W, ±5%
R308, R311, R408, R411	07-21001-50	1K, 1/6W, ±1%
R163, R166	07-20122-50	1K2, 1/6W, ±5%
R344, R444	07-22741-50	RJ13, 2K74, 1/6W, ±1%
R305, R306, R405, R406	07-20332-50	3K3, 1/6W, ±5%
R312, R412	07-27151-50	RJ13, 7K15, 1/6W, ±1%
R335, R435	07-20822-50	8K2, 1/6W, ±5%
R120, R179	07-21002-50	10K, 1/6W, ±1%
R145, R146	07-21102-50	11K, 1/6W, ±1%
R445	07-21202-50	12K, 1/6W, ±1%
R337, R437	07-20513-50	51K, 1/6W, ±5%
R334, R434	07-21373-50	RJ13, 137K, 1/6W, ±1%
R103, R105, R107, R109, R111, R113, R115, R203, R205, R207, R209, R211, R213, R215	07-20221-51	220R, 1/4W, ±5%
R430	07-21001-51	1K, 1/4W, ±1%

R360, R460	07-30100-01	10R, 1W, ±5%
R160	07-30331-02	330, 1W, ±5%
R159	07-30750-02	75/2W,5%
R137, R138	07-50688-01	RF10, 0.68, 1W, ±5%
R169, R177	07-50229-01	2R2/FS 1W
R353, R453	07-50750-00	75/FS 0.5W
C2, C148, C165, C395, C494		N.I.
C318	05-18913-00	1.8pF,1KV±10%,F5.0
C315	05-43013-00	43pF,1KV±10%,F5.0
C153, C156	05-47013-00	47pF,1KV,±10%,F5.0
C308, C408	05-68013-00	68pF,1KV,±10%,F5.0
C102, C103, C104, C105, C106, C107, C108, C109, C149, C164, C202, C203, C204, C205, C206, C207, C208, C209	05-10113-01	100p, 1KV, ±10%
C345, C445	05-22113-01	220p, 1KV, ±10%
C341, C441	05-47113-00	470p,1KV, ±10%
C304, C404	05-82113-00	820p,1KV, ±10%
C353, C453	05-22213-01	2n2, 1KV, ±10%
C111, C145, C5	05-10313-02	10n, 1KV, 20%
C119, C120, C125, C126, C131, C132, C133, C134, C143, C144, C146, C331, C431, C493	24-10412-01	0.1u, 100V, ±20%
C330, C430	25-22251-01	2n2, 50V, ±5%
C327, C427	25-68261-03	6n8, 63V, ±5%
C328, C428	25-24361-02	24n, 63V, ±2%
C142	25-68361-00	68nF,±5%,63V
C342, C442	25-10461-07	0.1u/63V 5%
C166	25-33461-00	330nF,63V,±10%
C158, C258, C333, C350, C415, C433	25-10412-02	100V 0.1uF ±10%,
C343, C443	25-22461-01	220nF,63V,±10%,
C113, C114	25-22412-00	224, 100V, ±5%
C138, C139, C309, C317, C409, C417	06-47921-00	4.7uF,25V,±20%
C121, C122, C127, C128, , C140, C141, C150, C151, C154, C155, C305, C405	06-10051-01	10uF,50V,±20%
C396, C496	06-10051-11	10uF,50V,20%
C307, C407	06-10211-05	1000uF,10V,±20%
C325, C352, C425, C452	06-47051-09	47uF,50V,±10%
C332, C432	06-47011-09	47uF,16V,±20%
C129, C130, C259, C329, C429	06-47051-00	47uF,50V,±20%
C310, C410	06-10121-00	100uF,25V,±20%
C344, C444	06-22111-07	220uF,10V,±10%
C137	06-33121-03	330uF, 25V, ±20%
C306, C406	06-47121-00	470u, 25V, ±20%
C124	06-10231-07	1000uF, 35V, ±20%
C117, C118	06-33251-00	3300uF, 50V, ±20%

J8, J9, J21, J22, J23, J26, J27, J28, J37, J38, J45, J54, J58, J60, J61, J62, J64, J69, J72, J73, J76, J77, J79, J82, J91, J92, J103, J104, J122, J123, J124	21-06500-00	Pitch=5mm
J2, J3, J5, J10, J11, J18, J19, J41, J44, J56, J57, J65, J66, J67, J68, J70, J75, J78, J80, J85, J86, J93, J96, J101, J102, J112, J114	21-06750-00	Pitch=7.5mm
J6, J29, J31, J42, J63, J81, J90	21-06101-00	Pitch=10mm
J1, J24, J34, J47, J74, J84, J87, J88, J89, J95, J110, J121	21-06121-01	Pitch=12.5mm
J13, J25, J55, J59, J71, J97, J98, J108, J109, J113, J115, J116	21-06151-00	Pitch=15mm
J12, J17, J20, J46	21-06181-00	Pitch=18mm
J50, J51	21-10201-00	Pitch=18mm
J4, J7, J30, J32, J33, J35, J36, J39, J40, J83, J106, J107, J125, J126	21-06201-00	Pitch=20mm
J14, J15, J16, J99, J100, J118, J119	21-06221-01	Pitch=22.5mm
J111, J117, J120	21-06251-00	Pitch=25mm
J48, J49, J52, J53	21-10251-00	Pitch=25mm
J43	21-10301-00	Pitch=30mm
L1	A08-01101-01	100uH,±20%
RV31, RV41	09-02101-00	100R
RV15	09-01102-02	RV06203F-26-25A-B1K
RL101, RL102, RL103, RL104, RL105, RL106, RL107, RL108, RL109, RL110, RL111	12-02202-03	JRC-27F/005-S(555)
SW1	11-05202-03	22F03-G10
RCA1, RCA2, RCA3, RCA4, RCA5, RCA6	17-01004-00	AV4-8.4-13, 4RCA, 上白下红
RCA35	17-01001-36	AV-8.4-14
PHONE1	J17-02002-02	
PHONE2	17-07001-00	PY301-030-100-RS
P101	13-23902-00	VH 3.96A-2A
CB101	13-21219-00	FPC1.25 19PIN
CB102	13-22508-00	XHB2.5A-8A
CB103	13-23905-12	VH 3.96A-5A
CB104	13-22503-00	XHB2.5A-3A
CB107	13-22505-00	XHB2.5A-5A
P18---GND POINT ON REAR PANEL	14-30001-05	L=50mm, Multiple-Stranded, 26AWG
GND LINE	14-16501-01	UL1015#14AWG , 36mm/10mm length
CB105--CZ105	14-16511-00	UL2468#26AWG, L=80mm
CB106	13-22509-00	XHB2.5A-9A
GND-1	32-28042-00	GND-8
MAIN-GND	69-134001-0	H62, T=0.8mm
H4	N70-134005-0	HEATSINK
H3, H5	70-002005-0	HEATSINK
H1, H2	70-134006-0	6063 T5

H1, H2, H3, H4, H5	61-023206-0	BTB3X6
	67-134008-0	SPCC,T=0.8mm,Tin plated
Self Taping Screws	61-022208-1	BTB2×8
Support CR Foam	79-134003-0	CR UL94V-0, 26×26×11
LINEAR AMP MODULE	**A16-16505-21**	**FR-4**
Q801	J31-00209-00	2SK209
Q804, Q806, Q809	J31-03324-00	2SC3324-GR
Q808	31-01015-01	2SA1015-GR
Q803	J31-01312-00	2SA1312-GR
Q807	31-01661-00	KTA1661-Y
Q805	31-04373-00	KTC4373-Y
R802	07-90000-00	0
R815	07-90680-00	68 5%
R805, R806, R810	07-90100-00	10
R811	07-90221-00	220
R812, R813	07-94700-00	470 1%
R808	07-98200-00	820 1%
R804, R807	07-91001-00	1K 1%
R803	07-91501-00	1K5 1%
R809	07-90472-00	4K7
R816, R817	07-90104-00	100K
R801	07-90225-00	2M2
C811	26-22051-00	22p，NPO
C801, C809	26-33051-00	33p，NPO
C805	26-22151-00	220p
C807	26-10251-00	1nF
C802, C803	26-10451-00	0.1uF
C810	26-10521-01	1uK,25V,0805,X7R
CZ112(INSERTED TO M302/303/402/403 ON THE MAIN BOARD)	13-12506-00	6pin
Module Base	70-134002-0	6063 T5
Module Cover	70-134003-0	6063 T5
Self Taping Screws	61-062208-1	BTF2×8
Machine Screws	61-062507-1	MF2×7
MM AMP MODULE	**A16-16505-22**	**FR-4**
Q801	J31-00209-00	2SK209
Q804, Q806, Q809	J31-03324-00	2SC3324-GR
Q808	31-01015-01	2SA1015-GR
Q802, Q803	J31-01312-00	2SA1312-GR
Q807	31-01661-00	KTA1661-Y
Q805	31-04373-00	KTC4373-Y
R815	07-90680-00	68 5%
R805, R806, R810	07-90100-00	10
R811	07-90221-00	220
R812, R813	07-94700-00	470 1%
R808	07-98200-00	820 1%
R804, R807	07-91001-00	1K 1%

R803	07-91501-00	1K5 1%
R809	07-90472-00	4K7
R816, R817	07-90104-00	100K
R801	07-90225-00	2M2
C811	26-22051-00	22p，NPO
C801, C809	26-33051-00	33p，NPO
C805	26-22151-00	220p
C807	26-10251-00	1nF
C802, C803	26-10451-00	0.1uF
C810	26-10521-01	1uK,25V,0805,X7R
CZ112(INSERTED TO M301/401 ON THE MAIN BOARD)	13-12506-00	6pin
Module Base	70-134002-0	6063, T5
Module Cover	70-134003-0	6063 T5
Self Taping Screws	61-062208-1	BTF2×8
Machine Screws	61-062507-1	MF2×7
PHONE AMP MODULE	**A16-16506-21**	**FR-4**
IC1	J03-06120-01	TPA6120A2DWP
R358, R458	07-92001-01	2K, 1%
R359, R364, R459, R464	07-95600-00	560, 1%
C347, C348, C349, C351	26-10451-01	0.1uF
C354, C454	06-33160-00	330uF,6.3V,±20%
C397, C398	06-10121-02	100uF,25V,±20%
CZ108(INSERTED TO CB108 ON THE MAIN BOARD)	13-12509-01	9pin
MC INPUT BOARD L	**A16-16507-21**	**FR-4**
R301	07-26040-50	RJ13, 604, 1/6W, ±1%
R302	07-22001-50	2K, 1/6W, ±1%
R341	07-20332-50	3K3, 1/6W, ±5%
C301	05-12113-01	CT8105aY5P121K1KVT, 120p, 1KV, ±10%
C302	25-22412-03	100V 0.22uF ±5%,
C303	06-10111-00	100uF,16V,±20%
L301	08-01101-00	100uH
CZ110(INSERTED TO CB110 ON THE MAIN BOARD)	13-12507-01	7pin
MC INPUT BOARD R	**A16-16507-22**	**FR-4**
R401	07-26040-50	RJ13, 604, 1/6W, ±1%
R402	07-22001-50	2K, 1/6W, ±1%
R441	07-20332-50	3K3, 1/6W, ±5%
C401	05-12113-01	120p, 1KV, ±10%
C402	25-22412-03	100V 0.22uF ±5%,
C403	06-10160-03	100uF,6.3V,±20%
L401	08-01101-00	100uH
CZ111(INSERTED TO CB111 ON THE MAIN BOARD)	13-12507-01	7pin
MM INPUT BOARD	**A16-16508-21**	**CEM-1**
R315, R415	07-22200-50	220R, 1/6W, ±1%
R316, R416	07-20332-50	3K3, 1/6W, ±5%

R314, R414	07-20473-50	47K, 1/6W, ±5%
C311, C411		NI
C312, C412	05-39013-00	39p, 1KV, ±5%
C313, C413	05-18113-00	180p, 1KV, ±10%
L302, L402	08-01372-00	3.7mH
CZ109(INSERTED TO CB109 ON THE MAIN BOARD)	13-12505-08	2.54mm, 5pin
POWER BOARD	**A16-16502-21**	**CEM-1**
D51, D533	33-44148-00	1N4148
D58	33-20107-00	FR107
D58	or 33-24006-00	UF4006
D59	33-20540-00	SR540
D52,	33-30162-00	DB105
D510	33-30142-00	DB104
D57	33-14309-00	4V3 0.5W
Q501, Q522	31-01815-00	2SC1815
IC52	03-07805-00	LM7805
IC53	A03-00817-00	PC817
IC51	03-00274-00	TNY274
R570	07-10101-50	100R, 1/6W, ±5%
R571	07-10511-50	510R, 1/6W, ±5%
R574, R575, R579	07-10102-50	1K, 1/6W, ±5%
R577	07-10472-50	4K7, 1/6W, ±5%
R578	07-10103-50	10K, 1/6W, ±5%
R572	07-30104-05	100K, 1W, ±5%
R576	07-50338-00	0.33,1/4W FS
C52	26-10412-01	0.1uF/100V, X7R
C511	24-10351-03	10nF, 50V, ±20%
C58, C513	24-10412-01	0.1u, 100V, ±20%
C514	06-10011-00	10uF,16V,±20%
C53	06-10042-00	10U/400V
C59	06-33111-01	330uF/16V
C54	06-47111-09	470uF,10V,±20%
C515	06-47221-00	4700uF, 25V, ±20%
C56	A05-22242-00	2n2F, 250V, ±20%
C57, C510	A05-47242-00	4n7F, 400V, ±20%
C55	A25-10322-04	MKP64, X1,10nF,310V,±20%
C51	A25-22422-03	MKP62, 275V, 0.22uF 10%
C56, C57, C510	78-001001-1	Sleeve Boot
C56, C57, C510	or 78-001001-0	Sleeve Boot
J58	21-06500-00	Pitch=5mm
J52	21-06500-00	Pitch=5mm
J51	21-06500-00	Pitch=5mm
J53	21-06101-00	Pitch=10mm
J57, J59	21-06121-01	Pitch=12.5mm
J56, J510	21-06181-00	Pitch=18mm
J55	21-06201-00	Pitch=20mm
J54	21-06221-01	Pitch=22.5mm

L51	A22-00025-10	FILTER INDUCTOR,48mH
L52	08-01100-00	LGB0810-10uH
T51	A18-72516-00	EE16
RL51	A12-02101-05	HF115F-I/005-1HS3A555 16A/250V 5V, Relay-SPST
RL51	or A12-02101-01	Relay-SPST
CB52	13-22502-00	XHB2.5A-2A
CB55, CB56	13-23903-01	XHB3.96A-3A
CB54, CB57	13-23903-01	XHB3.96A-3A
CZ58	13-23905-13	XHB3.96A-5A
CB53--CB104	14-16503-00	UL2468#26AWG, L=60mm
H501	70-002005-0	HEATSINK
F52	A20-12501-00	T500mAL/250V
F51	A20-12162-01	T1.6AL/250V For 230VAC
F51	A20-12202-00	T2AL/250V For 120VAC
Fuse Holder	20-20000-00	HF-004
KEY BOARD PCB	**A16-16503-21**	**FR-4**
D722	33-44148-00	1N4148
LD501, LD502, LD503, LD504, LD505, LD506, LD507, LD508	33-50360-07	φ3, BLUE, BL-SB3248
D707	33-50565-02	
Q701, Q702, Q703, Q704, Q705, Q706, Q707, Q708, Q709, Q711, Q712, Q713	31-01815-01	2SC1815 SOT23
Q710	31-01015-01	2SA1015 SOT23
IC71	03-02402-00	24C02
IC73	03-08952-12	AT89C52-24AC,AT89C52-24AU(programmed)
IC73	03-08952-01	AT89C52-24AC,AT89C52-24AU
IC703	03-00038-40	HS0038B4
R717	07-90101-01	100R, ±5%,0805
R744, R788	07-90221-01	220R, ±5%,0805
R707, R728, R782, R783, R785, R787, R789	07-90102-01	1K, ±5%, 0805
R708, R709, R710, R711, R712, R713, R714, R715, R716, R719, R720, R721, R722, R723, R724, R725, R726, R727, R730, R798	07-90472-01	4K7, ±5%, 0805
R701, R702, R703, R704, R705, R706, R729, R771, R772, R778, R779, R780, R781, R784, R786, R790, R794, R795, R796, R797	07-90103-01	10K, ±5%, 0805
R748	07-01002-09	10K, 2%, 9PIN
C79, C710	26-27051-01	27pJ, 50V, 0805, NPO
C74, C75, C76, C77, C78, C711, C712, C713	26-10351-01	10nK, 50V, 0805, X7R
C71, C72	26-10451-01	0.1uZ, 50V, 0805, Y5V
C717, C73	06-10011-02	10uF,16V,±20%
Y71	04-11102-00	11.0592MHz,CL=15pF,HC-49U/S
K701, K702, K703, K704, K705, K706, K707, K708, K709	11-04101-05	IT-1102A-1160

CZ701	13-21219-00	FPC1.25 19PIN
J202	13-12510-04	2.54-2-10P
IR Bracket	66-091004-0	
TONE PCB	**A16-16504-21**	**CEM-1**
R348, R448	07-21200-50	120R, 1/6W, ±1%
R347, R447	07-21001-50	1K, 1/6W, ±1%
R351, R451	07-24990-50	RJ13, 499R, 1/6W, ±1%
R350, R450	07-22741-50	RJ13, 2K74, 1/6W, ±1%
C335, C435	25-68212-00	6n8, 100V, ±10%
C336, C436	25-18361-05	18n, 63V, ±2%
C338, C438	25-22312-03	22n, 100V, ±10%
C337, C437	25-10461-07	0.1u, 63V, ±5%
C339, C439	25-15461-02	0.15u, 63V, ±5%
C340, C440	25-10561-02	1u, 63V, ±5%
J301, J302, J303	21-06750-00	L=7.5
RV14	J09-01203-12	20K MN
RV11, RV12	J09-01103-21	10KA
P100---P101(main, board)	14-16501-00	UL1015#16AWG L=45mm
CZ106--CB106	14-16509-00	UL2468#26AWG, L=60mm
POT BOARD	**A16-16509-21**	**CEM-1**
RV13	J09-01103-08	10KA
CZ105	13-22511-01	XHB2.5A-11A
PHONO SWITCH BOARD	**A16-16511-21**	**FR-4**
R391, R394	07-24309-50	RJ13, 43R, 1/6W, ±1%
R390, R393	07-21200-50	RJ13, 120R, 1/6W, ±1%
C391, C393	05-82013-00	82P,1KV, ±10%
C390, C392	05-18113-00	180p,1KV, ±10%
S101, S102	11-05202-15	SS-23D03G6
CZ107---CB107	14-16505-00	UL2468#26AWG, L=60mm
PHONE BOARD	**A16-16512-21**	**FR-4**
PJ1	17-02001-00	PHONEJACK
CZ102--CB102	14-16508-00	UL2468#26AWG, L=370mm
OTHER		
AC INLETS	JA17-07002-02	6102-3300
ROCKER SWITCH	A11-01101-03	RF-1003-BB2, 10A 250V, TV-5
CB55——AC, INLET	A14-16502-00	UL1672#18AWG L=50mm
CB57——SWITCHED AC OUTLET	A14-16502-01	UL1672#18AWG L=80mm
CB56——POWER, SWITCH	A14-16502-02	UL1672#18AWG L=50mm
CB54——UNSWITCHED AC OUTLET	A14-16502-03	UL1672#18AWG, L=50mm
CZ701——CB101	14-16519-00	1.25mm, 19PIN, L=100mm
Eyelet	32-28042-00	GND-8
TRANSFORMER		
Main Transformer	A18-16550-02	HA0040-0547
Main Transformer	or JA18-16550-03	TI-083298
Shielding Box	67-134002-0	Steel,T=1.2mm
Bolt	64-208047-0	GB70.1 M8X45

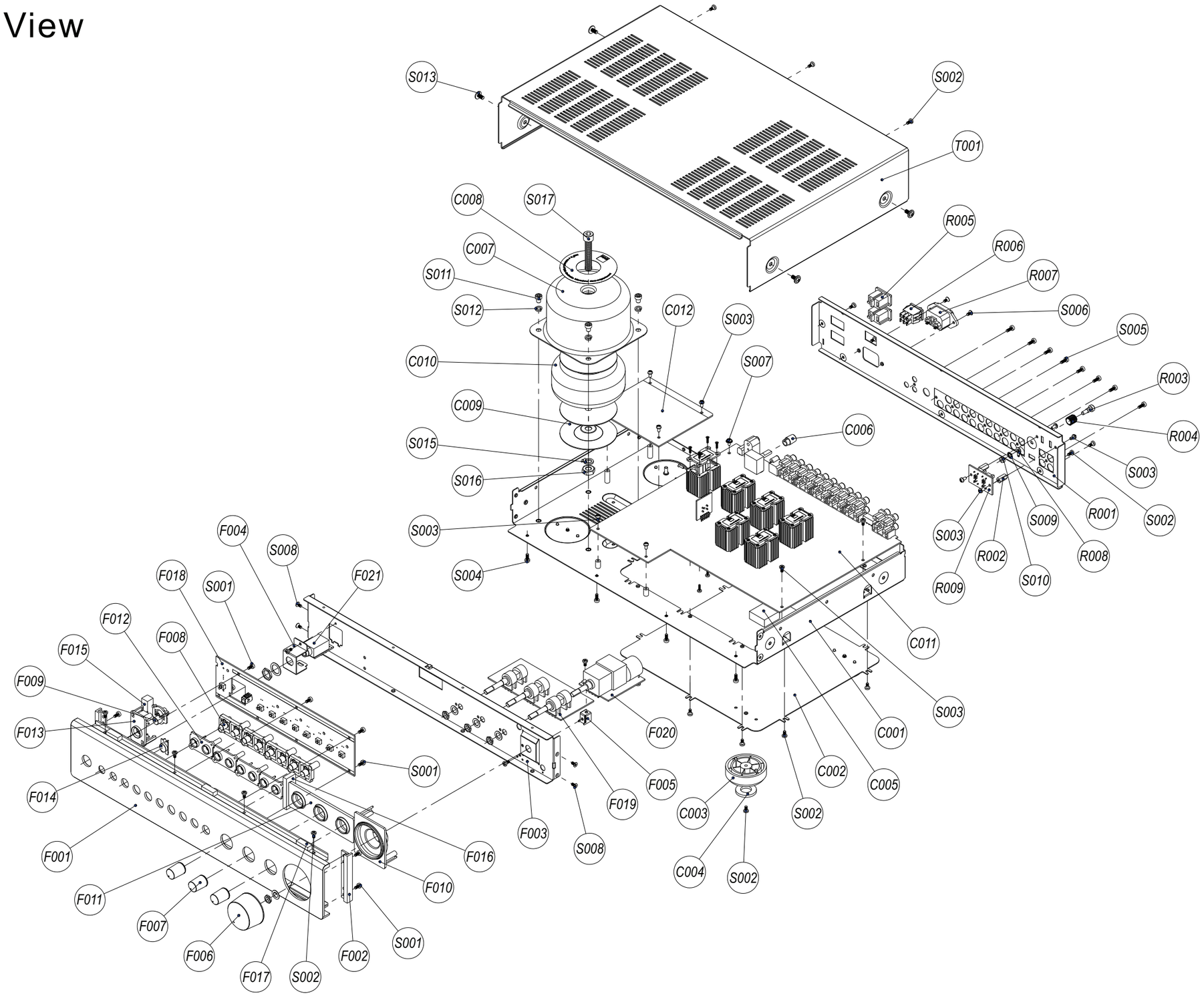
Spring Washer	63-020820-1	GB93 8mm
Nut	62-010802-0	GB6170, M8
Metal Disc	66-001008-0	
METAL PARTS		
CHASSIS	67-134005-0	SECC-N5 T=1.0mm
CHASSIS	65-134005-0	SECC-N5 T=1.0mm
Service Cover	67-134006-0	SECC-N5 T=1.0mm
Service Cover	65-134006-0	SECC-N5 T=1.0mm
Subfascia	67-134004-0	SECC-N5 T=1.0mm
Subfascia	65-134004-0	SECC-N5 T=1.0mm
PHONE BRACKET	66-091005-0	HS4-C355-B009V1-M013
Connectible Bracket	66-011011-0	HS4-T172_B009V1-M026
Grd. Post Cap	71-003002-0	HS4-C160-B009V1-M010
Grd. Post Bolt	71-003001-0	HS4-C160-B009V1-M011
M3,H=10mm	69-049001-0	
PLASTIC PARTS		
IR Lens	76-076001-0	Clear PMMA(Wine Red)
Foot ASSY	87-124001-0	
Foot	75-124001-0	ABS765B
Foot Pad	J78-001002-0	
Rotate Knob	73-003001-0	HS4-C160-B009V1-P004
FASTENERS		
machine Screw	61-023506-0	MB3×6
machine Screw	61-373506-0	M3×6
Self Taping Screw	61-023208-0	BTB3×8
Self Taping Screw	61-023108-0	STB3×8
Self Taping Screw	61-073108-0	STO3×8
Hex Screws	61-226508-0	GB/T70.1，M6×8
Spring Washers	63-020616-2	GB93φ6
Self Taping Screw	61-023106-0	STB3×6
self taping screw	61-063106-0	STF3×6
self taping screw	61-023206-0	BTB3×6
serrated lock washer	63-030410-0	φ4
Nut	62-010402-0	(GB6170-86) M4
PACKING LIST		
Carton Box	88-134001-0	HS40-C165BEE-B12V1-SC06
Polyfoam End Cap	89-002001-2	
Polyfoam End Cap	89-002002-2	
Polybag	90-001001-0	630X440mm
Manu Polybag	90-001002-0	220X370mm
AC Cord Polybag	90-001013-0	105X280mm
Non-woven Cloth	90-009002-1	H=80 W=100 L=435
ACCESSORIES		
CR Foam	79-134001-0	CR UL94V-0
CR Foam C	79-124003-0	CR
Rubber Pad	79-134002-0	UL94V-1, 20×5.8×7.5
3mm Rubber Pad	86-009003-0	10×10×3mm

Expanded Rubber	86-018002-1	110x25x0.5mm
Transformer Label	94-134005-0	φ26mm，φ48mm
SERIAL NO LABEL	94-134004-0	60*10
Copperplate Lable	86-000054-0	60*10
Remote Control	J30-17250-00	SR8
Batteries	30-22100-10	5# 2006/66/EC
RCA-RCA Link Cable	30-71600-00	
Instruction Manul	30-41650-00	
For AH Black Version		
Top Cover	67-134001-0	HS40-C165-B12V1-M001
Top Cover	(65-134001-0)	HS40-C165-B12V1-M001
Fascia	J70-134001-1	HS40-C165-B12V1-M002 B
End cap	J70-134004-0	HS40-C165-B12V1-M006
Rear Panel(AH)	67-134003-0B	HS40-C165-B12V1-SR03 B HS40-C165-B12V1-M008
Rear Panel(AH)	80-134003-0	HS40-C165-B12V1-M008
Rear Panel(AH)	65-134003-0	HS40-C165-B12V1-M008
Volume Knob	71-124004-0	Black
Tone Knob	J71-124003-0	Black
2P Input Button	J71-124002-0	Black
2P Input Button Bezel	77-124002-2	HS40-C375-B12V1-P002
Power Button	J71-124001-0	Black
Power Button Bezel	77-124004-0	HS40-C725BEE-B12V1-P006
Tone Knob Bezel	77-124001-1	HS40-C375-B12V1-P001 C
Volume Knob Bezel	77-124003-0	HS40-C355-B12V1-P003
Self Taping Screws	61-023106-0	STB3X6
Self Taping Screws	61-084108-0	STPW4X8
AC Cord(AH Version)	JA15-10125-01	LP-13W &,SVT 18AWG×2,Black 6'& LP-16
AC Cord(AH Version)	or A15-10125-00	ME302P,SJT 18AWG×2,VAC17S
AC Outlets	A17-07002-10	AC Outlets(AH)
VERSION LABEL (AH)	94-134001-0	
Guarantee Card	94-009005-1	
For C Black Version		
Top Cover	67-134001-0	HS40-C165-B12V1-M001
Top Cover	(65-134001-0)	HS40-C165-B12V1-M001
Fascia	J70-134001-1	HS40-C165-B12V1-M002 B
End cap	J70-134004-0	HS40-C165-B12V1-M006
Rear Panel(C)	67-134007-0B	HS40-C165-B12V1-SR03 B HS40-C165-B12V1-M012
Rear Panel(C)	80-134007-0	HS40-C165-B12V1-M012
Rear Panel(C)	65-134007-0	HS40-C165-B12V1-M012
Volume Knob	71-124004-0	Black
Tone Knob	J71-124003-0	Black
2P Input Button	J71-124002-0	Black
2P Input Button Bezel	77-124002-2	HS40-C375-B12V1-P002 C
Power Button	J71-124001-0	Black
Power Button Bezel	77-124004-0	HS40-C725BEE-B12V1-P006

Tone Knob Bezel	77-124001-1	HS40-C375-B12V1-P001 B
Volume Knob Bezel	77-124003-0	HS40-C355-B12V1-P003
Self Taping Screws	61-023106-0	STB3X6
Self Taping Screws	61-084108-0	STPW4X8
AC Cord(C Version)	JA15-10250-20	PE-224 & H05VV-F, 2×0.75mm2,2C Black 6'& LS-20
AC Cord(C Version)	or A15-10250-00	M3204,H05VV-F 2×0.75mm,VAC17S
VERSION LABEL (C)	94-134002-0	
For C Ti Version		
Top Cover	N67-134011-0	HS40-C165-B12V1-M001
Top Cover	(65-134001-0)	HS40-C165-B12V1-M001
Fascia	J70-134011-1	HS40-C165-B12V1-M002 B
End cap	N70-134014-0	HS40-C165-B12V1-M006
Rear Panel(C)	67-134007-0B	HS40-C165-B12V1-SR03 B HS40-C165-B12V1-M012
Rear Panel(C)	80-134007-0	HS40-C165-B12V1-M012
Rear Panel(C)	65-134007-0	SECC-N5,T=1.0mm
Volume Knob	J71-124014-0	Ti
Tone Knob	J71-124013-0	Ti
2P Input Button	J71-124012-0	Ti
2P Input Button Bezel	77-124012-2	HS40-C375-B12V1-P002 B
Power Button	J71-124011-0	Ti
Power Button Bezel	77-123014-1	HS40-C725BEE-B12V1-P006
Tone Knob Bezel	77-124011-1	HS40-C375-B12V1-P001
Volume Knob Bezel	77-091013-2	Titanium
Self Taping Screws	61-023106-1	STB3X6-Ni
Self Taping Screws	61-084106-2	STPW4X6-Ni
AC Cord(C Version)	JA15-10250-20	PE-224 & H05VV-F, 2×0.75mm2,2C Black 6'& LS-20
AC Cord(C Version)	or A15-10250-00	M3204,H05VV-F 2×0.75mm,VAC17S
VERSION LABEL (CT)	94-134003-0	
Accessory		
Solder Bar	86-000019-1	Sn63A
Solder Flux	86-000021-1	W3
Solder	86-000027-1	Sn60（φ1.2）
Solder	86-000020-1	Sn60（φ1.0）
PCB Cleaning Water	86-000024-0	
Binding Tape	86-000001-1	PP502 72mm width
Tape	86-000002-0	12mm
Hot Glue	86-000007-0	
3M Double-side Adhesive Tape	86-000034-0	5mm
3M Double-side Adhesive Tape	86-000048-0	3mm
Double-side Adhesive Tape	86-000017-0	3mm
LED Lens Gum	86-046001-0	
Red Glue	86-000005-0	
ADHESIVE	86-000003-0	609
Yellow Glue	86-000004-0	JX-15

		φ3*0.5
Silicon Glue	86-000006-0	704
Binding Nale	86-000009-0	19×35
Single-side Adhesive Tape	86-000010-0	12mm
Single-side Adhesive Tape	86-000011-0	18mm
Single-side Adhesive Tape	86-000036-0	5mm
Heat Transfer Compound	86-000008-0	705015

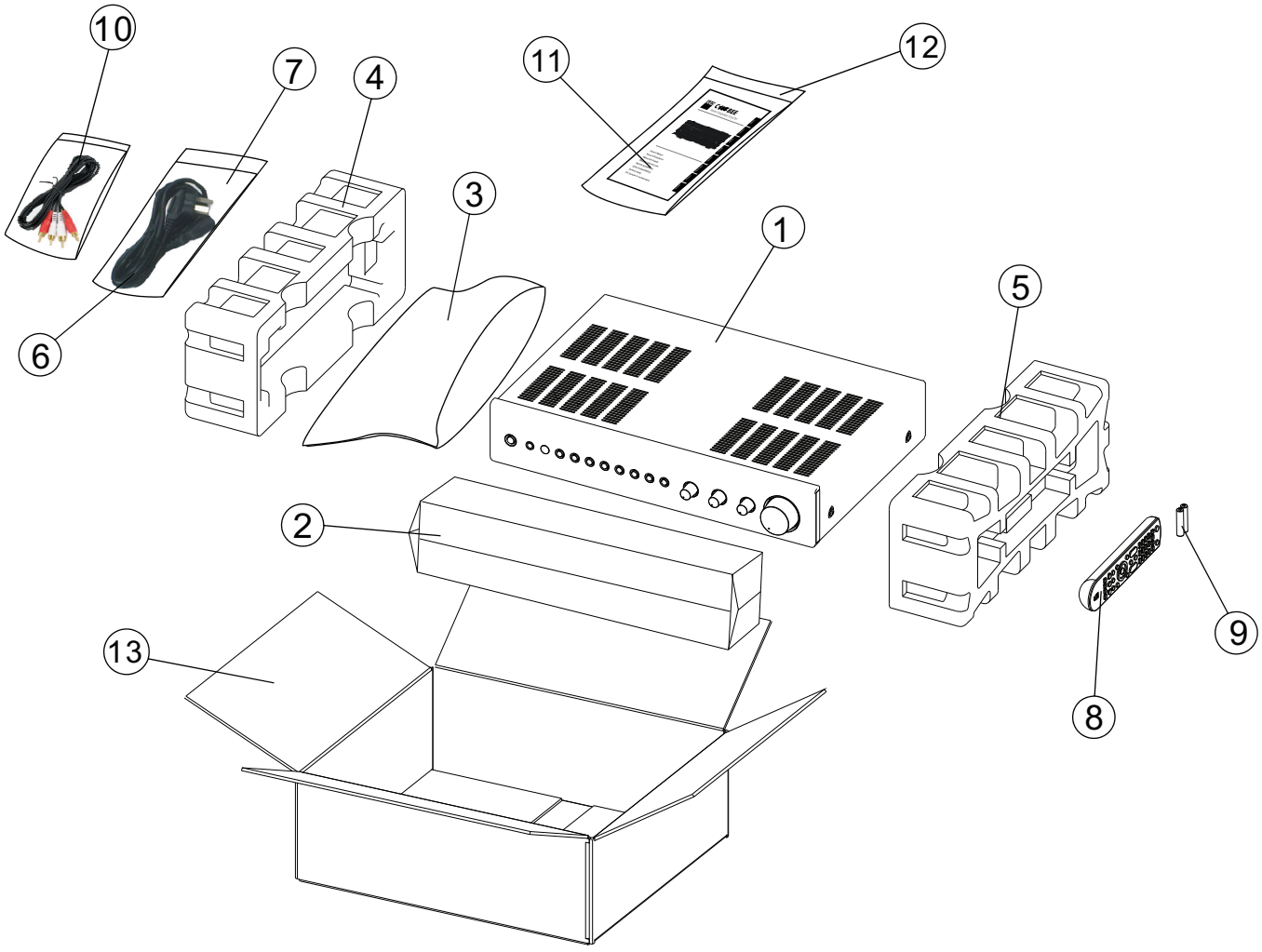
Exploded View



Exploded View Parts List

REF.NO	PART NO.	DESCRIPTION	Qty.
C001	67-134005-0	Chassis	1
C002	67-134006-0	Service Cover	1
C003	75-124001-0	Foot	4
C004	J78-001002-0	Foot Pad	4
C005	79-134003-0	Support CR Foam	1
C006	73-003001-0	Rotate Knob	1
C007	67-134002-0	Shielding Box	1
C008	94-134005-0	Transformer Label	1
C009	66-001008-0	Metal Disc	1
C010⚠	A18-16550-02	Main Transformer	1
C011	01-16501-00	Main Board	1
C012	01-16502-10	Power Board	AH:1
	01-16502-20	Power Board	C:1
F001	J70-134001-1	Fascia	1
	J70-134011-1	Fascia	Ti:1
F002	J70-134004-0	End cap	1
	J70-134014-0	End cap	Ti:1
F003	67-134004-0	Subfascia	1
F004	66-091005-0	Phone Bracket	1
F005	66-011011-0	Connectible Bracket	1
F006	J71-124004-0	Volume Knob	1
	J71-124014-0	Volume Knob	Ti:1
F007	J71-124003-0	Tone Knob	3
	J71-124013-0	Tone Knob	Ti:3
F008	J71-124002-0	2P Input Button	4
	J71-124012-0	2P Input Button	Ti:4
F009	J71-124001-0	Power Button	1
	J71-124011-0	Power Button	Ti:1
F010	77-124003-0	Volume Knob Bezel	1
	77-091013-1	Volume Knob Bezel	Ti:1
F011	77-124001-1	Tone Knob Bezel	1
	77-124011-1	Tone Knob Bezel	Ti:1
F012	77-124002-2	2P Input Button Bezel	4
	77-124012-2	2P Input Button Bezel	Ti:4
F013	77-124004-0	Power Button Bezel	1
	77-123014-1	Power Button Bezel	Ti:1
F014	76-076001-0	IR Lens	1
F015	79-124003-0	CR Foam C	1
F016	79-134001-0	CR Foam	1
F017	79-134002-0	Rubber Pad	3
F018	01-16503-00	Key Board	1
F019	01-16504-00	Tone Board	1
F020	01-16509-00	POT Board	1
F021	01-16512-00	Phone Board	1
R001	67-134003-0B	Rear Panel	AH:1
	67-134007-0B	Rear Panel	C:1
R002	69-049001-0	Spacer	2
R003	71-003001-0	Grd. Post Bolt	1
R004	71-003002-0	Grd. Post Cap	1
R005 ⚠	A17-07002-10	AC Outlets	AH:2
R006 ⚠	A11-01101-03	Rocker Switch	1
R007 ⚠	JA17-07002-02	AC Inlet	1
R008	32-28042-00	Eyelet	1
R009	01-16511-00	Phono Switch Board	1
T001	67-134001-0	Top Cover	1
	67-134011-0	Top Cover	Ti:1
S001	61-023206-0	Self Taping Screws BTB3×6	13
S002	61-023106-0	Self Taping Screws STB3×6	27+3
	61-023106-1	Self Taping Screws STB3×6	Ti:3
S003	61-023506-0	Machine Screws MB3×6	11
S004	61-023108-0	Self Taping Screws STB3×8	4
S005	61-023208-0	Self Taping Screws BTB3×8	8
S006	61-073108-0	Self Taping Screws STO3×8	2
S007	61-373506-0	Machine Screw M3×6	1
S008	61-063106-0	Self Taping Screws STF3×6	4
S009	63-030410-0	Serrated Lock Washer	1
S010	62-010402-0	Nut	1
S011	61-226508-0	Hex Screws MB6×8	4
S012	63-020616-2	Spring Washers	4
S013	61-084108-0	Self Taping Screws STPW4X8	4
	61-084106-2	Self Taping Screws STPW4X6	Ti:4
S014	63-020820-1	Spring Washer	1
S015	62-010802-0	Nut,M8	1
S016	64-208047-0	Bolt,M8×47	1

Packing Diagram



REF.N0	Part No.	Description	Qty.
1	00-16500-10	C165Bee AH Version	AH:1
	00-16500-20	C165Bee C Version	C:1
	00-16500-30	C165Bee CT Version	CT:1
2	90-009002-1	Non-Woven Cloth	1
3	90-001001-0	Polybag	1
4	89-002001-2	Polyfoam End Cap(1)	1
5	89-002002-2	Polyfoam End Cap(2)	1
6	JA15-10125-01 or A15-10125-00	AC Cord	AH:1
	JA15-10250-20 or A15-10250-00	AC Cord	C/CT:1
7	90-001013-0	AC Cord Polybag	1
8	J30-17250-00	Remote Control	1
9	30-22100-10	Batteries	2
10	30-71600-00	RCA-RCA Link Cable	1
11	30-41650-00	Instruction Manual	1
12	90-001002-0	Manu Polybag	1
13	88-134001-0	Carton Box	1

SERVICE MANUAL

C 165BEE

STEREO PREAMPLIFIER

NAD ELECTRONICS LTD
TORONTO