



SERVICE MANUAL

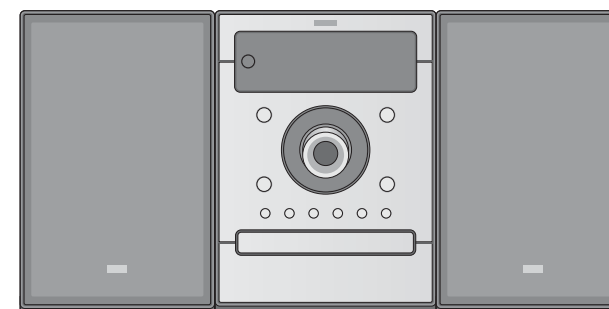
MODEL : XC102 (XCS102F)

MICRO Hi-Fi SYSTEM

SERVICE MANUAL

CAUTION

BEFORE SERVICING THE UNIT, READ THE "SAFETY PRECAUTIONS" IN THIS MANUAL.



MODEL : XC102 (XCS102F)



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SECTION 1 GENERAL

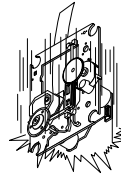
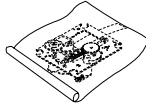
SERVICING PRECAUTIONS

NOTES REGARDING HANDLING OF THE PICK-UP

1. Notes for transport and storage

- 1) The pick-up should always be left in its conductive bag until immediately prior to use.
- 2) The pick-up should never be subjected to external pressure or impact.

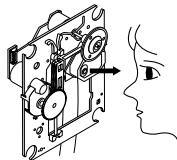
Storage in conductive bag



Drop impact

2. Repair notes

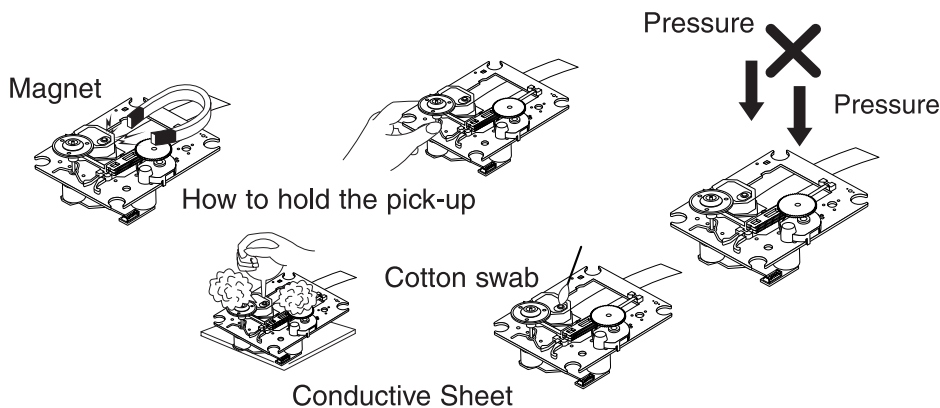
- 1) The pick-up incorporates a strong magnet, and so should never be brought close to magnetic materials.
- 2) The pick-up should always be handled correctly and carefully, taking care to avoid external pressure and impact. If it is subjected to strong pressure or impact, the result may be an operational malfunction and/or damage to the printed-circuit board.
- 3) Each and every pick-up is already individually adjusted to a high degree of precision, and for that reason the adjustment point and installation screws should absolutely never be touched.
- 4) Laser beams may damage the eyes!
Absolutely never permit laser beams to enter the eyes!
Also NEVER switch ON the power to the laser output part (lens, etc.) of the pick-up if it is damaged.



NEVER look directly at the laser beam, and don't let contact fingers or other exposed skin.

5) Cleaning the lens surface

If there is dust on the lens surface, the dust should be cleaned away by using an air bush (such as used for camera lens). The lens is held by a delicate spring. When cleaning the lens surface, therefore, a cotton swab should be used, taking care not to distort this.



6) Never attempt to disassemble the pick-up.

Spring by excess pressure. If the lens is extremely dirty, apply isopropyl alcohol to the cotton swab. (Do not use any other liquid cleaners, because they will damage the lens.) Take care not to use too much of this alcohol on the swab, and do not allow the alcohol to get inside the pick-up.

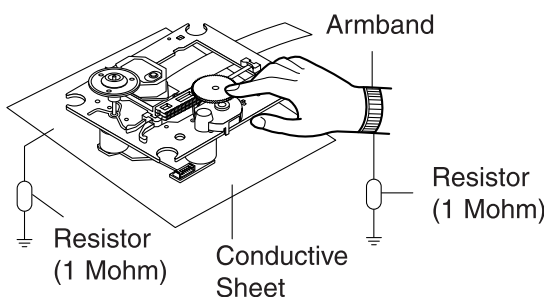
NOTES REGARDING COMPACT DISC PLAYER REPAIRS

1. Preparations

- 1) Compact disc players incorporate a great many ICs as well as the pick-up (laser diode). These components are sensitive to, and easily affected by, static electricity. If such static electricity is high voltage, components can be damaged, and for that reason components should be handled with care.
- 2) The pick-up is composed of many optical components and other high-precision components. Care must be taken, therefore, to avoid repair or storage where the temperature of humidity is high, where strong magnetism is present, or where there is excessive dust.

2. Notes for repair

- 1) Before replacing a component part, first disconnect the power supply lead wire from the unit
- 2) All equipment, measuring instruments and tools must be grounded.
- 3) The workbench should be covered with a conductive sheet and grounded.
When removing the laser pick-up from its conductive bag, do not place the pick-up on the bag. (This is because there is the possibility of damage by static electricity.)
- 4) To prevent AC leakage, the metal part of the soldering iron should be grounded.
- 5) Workers should be grounded by an armband (1M Ω)
- 6) Care should be taken not to permit the laser pick-up to come in contact with clothing, in order to prevent static electricity changes in the clothing to escape from the armband.
- 7) The laser beam from the pick-up should NEVER be directly facing the eyes or bare skin.



CLEARING MALFUNCTION

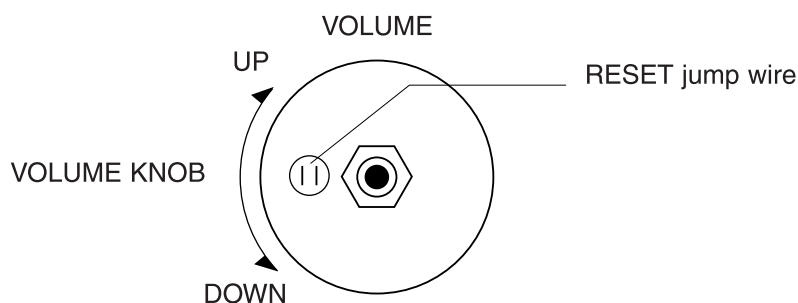
You can reset your unit to initial status if malfunction occur(button malfunction, display, etc.).

Using a pointed good conductor(such as driver), simply short the RESET jump wire on the inside of the volume knob for more than 3 seconds.

If you reset your unit, you must reenter all its settings(stations, clock, timer)

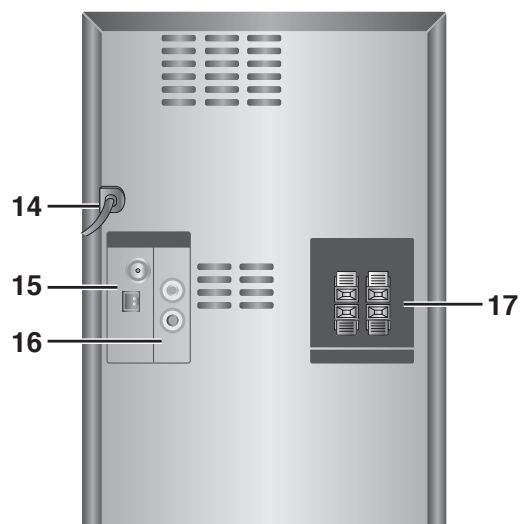
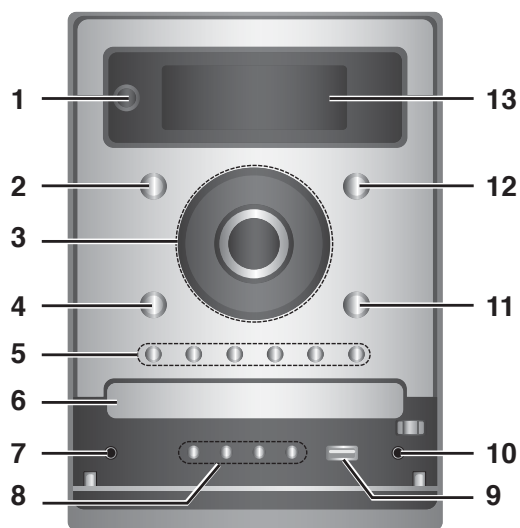
NOTE: 1. To operate the RESET jump wire, pull the volume rotary knob and release it.

2. If you wish to operate the RESET jump wire, it is necessary to unplug the power cord.



LOCATION OF USERS CONTROLS

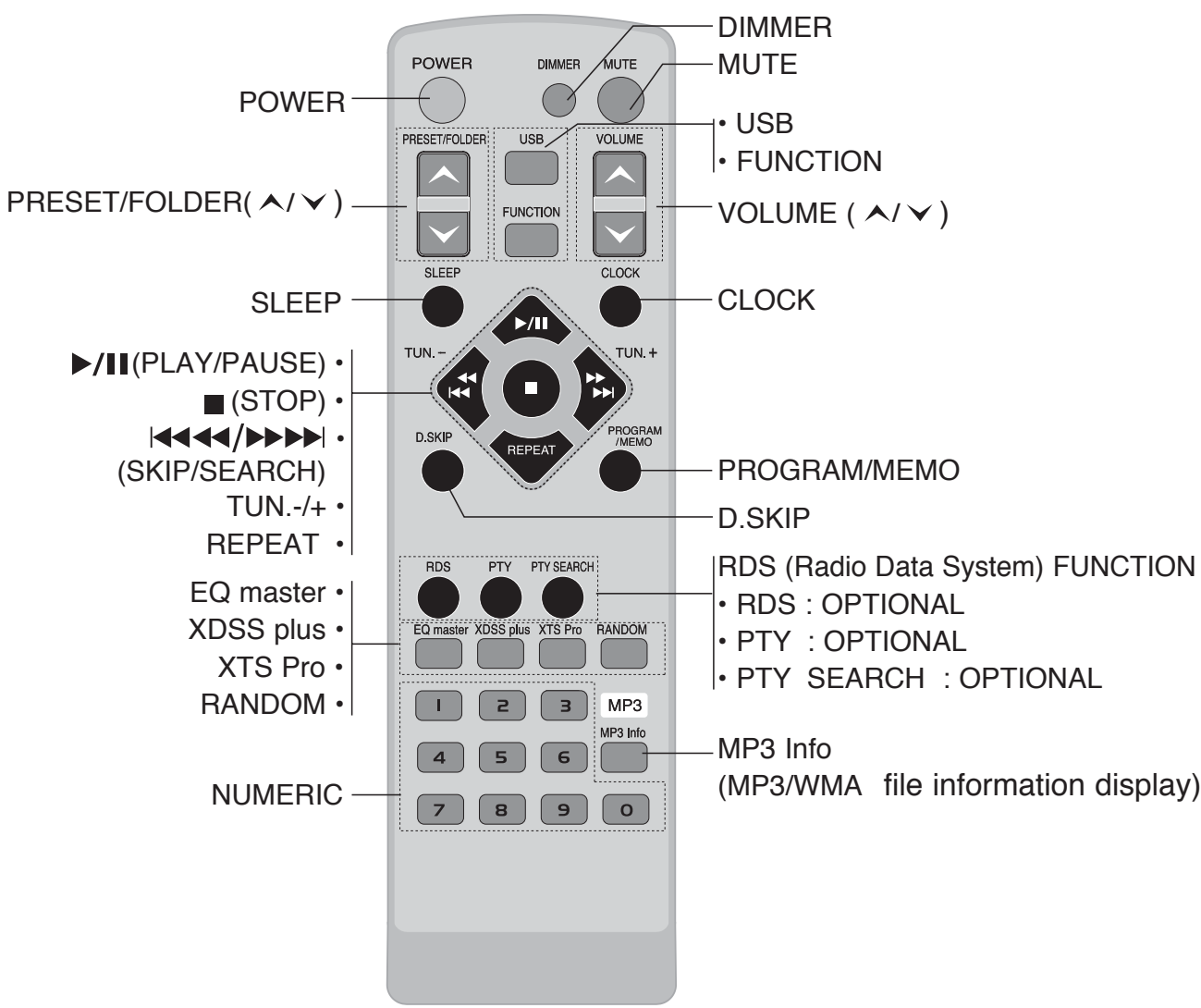
FRONT / BACK PANEL



1. (POWER)
2. CD
3. (PLAY/PAUSE)
 - (SKIP/SEARCH)
 - TUNE.-/+
 - (STOP)
 - VOLUME CONTROL KNOB
4. USB
5. • XDSS plus
 - XTS pro
 - EQ Master
 - ST./MONO
 - PROG.
 - CD
6. DISC TRAY
7. (Headphone jack) : ø3.5mm

8. • DEMO
 - TIMER
 - CLOCK
 - SET (RDS - OPTIONAL)
9. (USB connector)
10. PORT.IN jack
11. AUX (PORTABLE)
12. TUNER
13. DISPLAY WINDOW
14. POWER IN (POWER CORD)
15. AM/FM ANTENNA TERMINAL
16. AUX IN (AUXILIARY INPUT) connector
17. SPEAKER TERMINAL

REMOTE CONTROL



SPECIFICATIONS

• GENERAL

Power supply	Refer to the back panel of the unit.
Power consumption	Refer to the back panel of the unit.
Net Weight	3.0kg
External dimensions (WxHxD)	174 x 245 x 278mm

• TUNER

FM	Tuning Range	87.5 ~ 108.0MHz or 65 ~ 74MHz, 87.5 ~ 108.0MHz
	Intermediate Frequency	10.7MHz
	Signal to Noise Ratio	60/55dB
	Frequency Response	50 ~ 10000Hz
AM	Tuning Range	522 ~ 1620kHz or 520 ~ 1720kHz
	Intermediate Frequency	450kHz
	Signal to Noise Ratio	30dB
	Frequency Response	140 ~ 1800Hz

• AMPLIFIER

Output Power	50W + 50W
T.H.D	0.5%
Frequency Response	40 ~ 20000Hz
Signal-to-noise ratio	75dB

• CD

Frequency response	40 ~ 20000Hz
Signal-to-noise ratio	75dB
Dynamic range	75dB

• SPEAKERS

Type	2 Way 2 Speaker
Impedance	4Ω
Frequency Response	80 ~ 20000 Hz
Sound Pressure Level	82dB/W (1m)
Rated Input Power	50W
Max. Input Power	100W
Net Dimensions (WxHxD)	160 x 243 x 174mm
Net Weight (1EA)	2.02kg

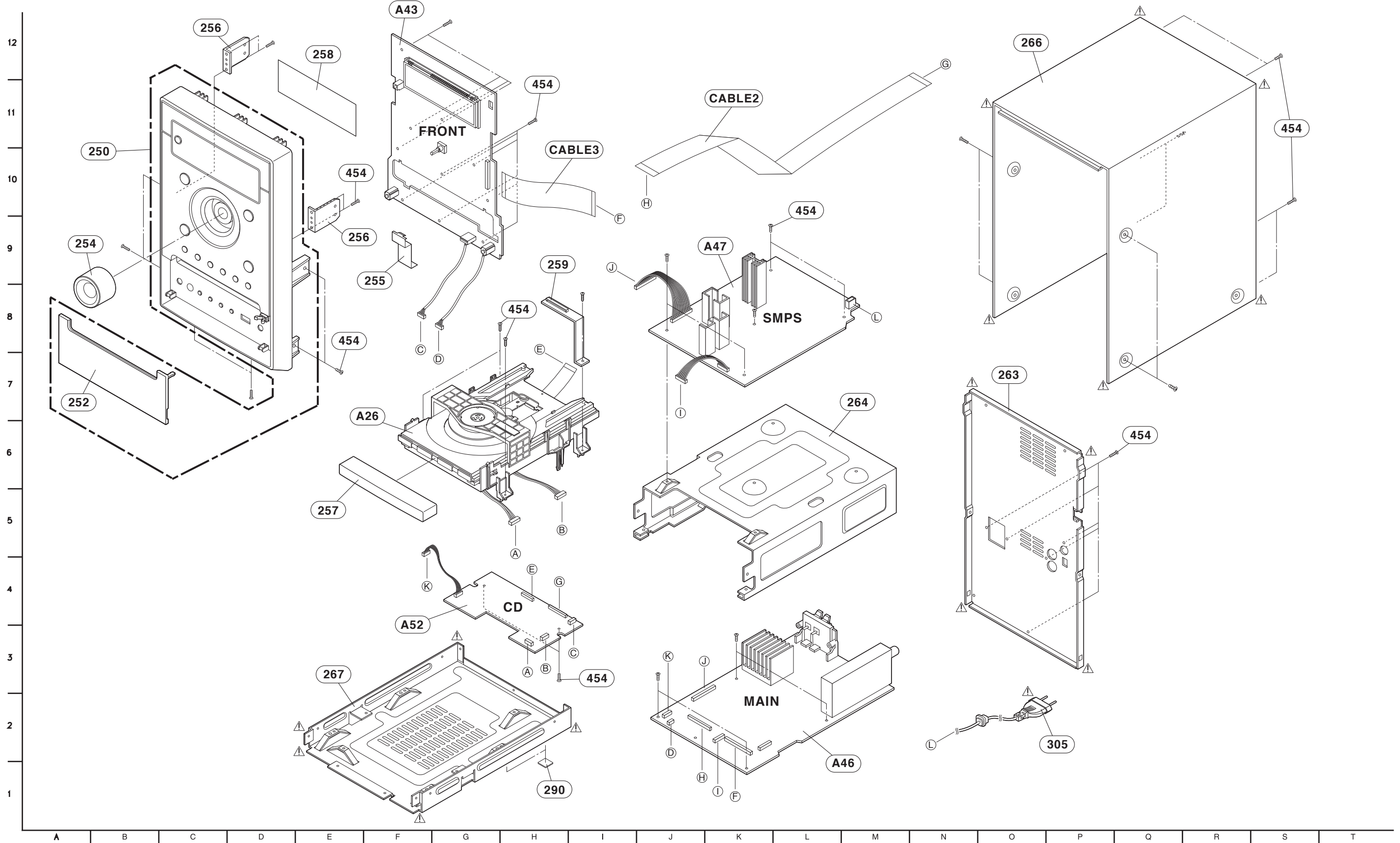
MEMO

Handwriting practice area with 20 sets of dotted lines for tracing on a lined background.

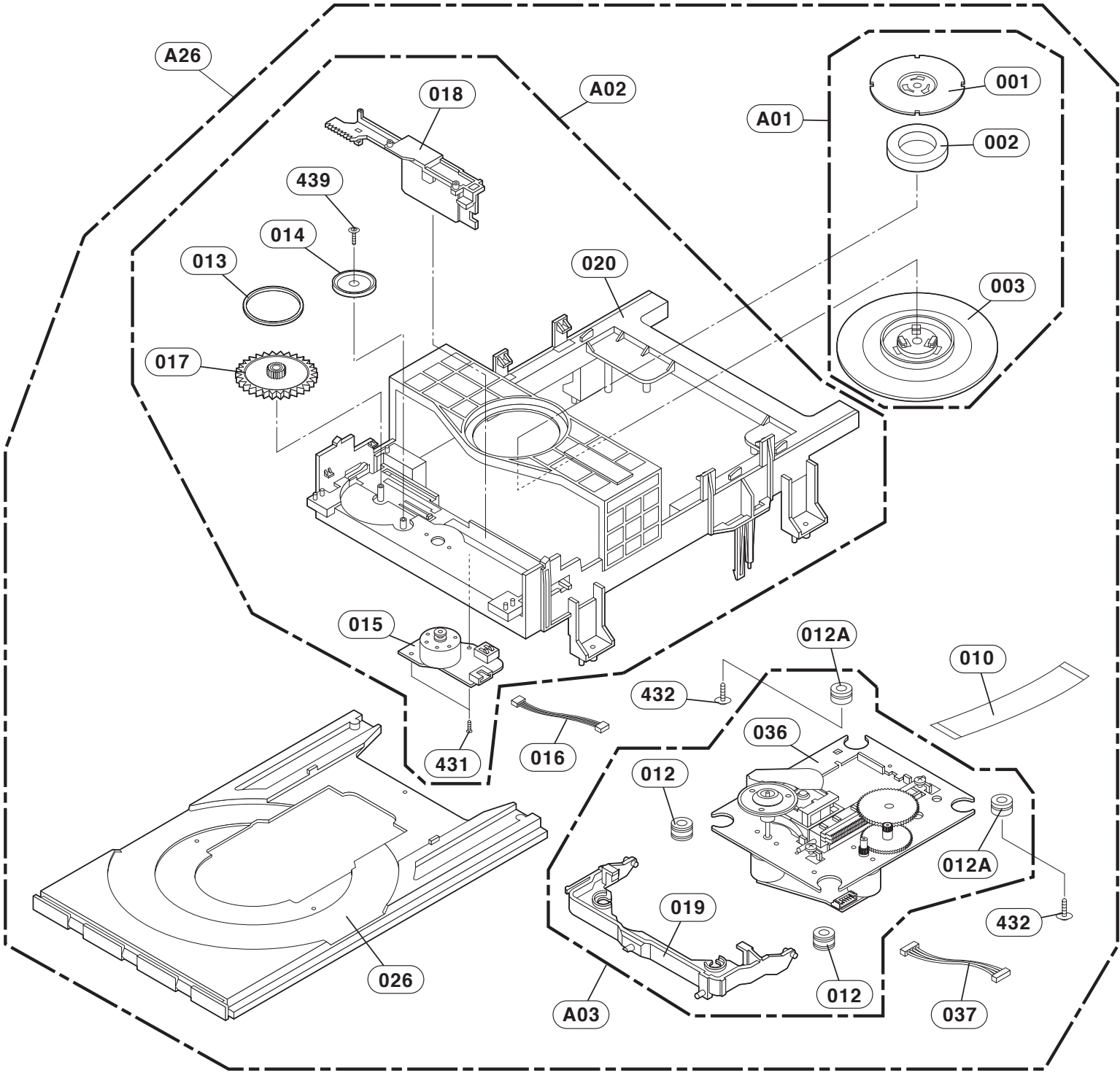
SECTION 2 EXPLODED VIEWS

CABINET EXPLODED VIEW

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

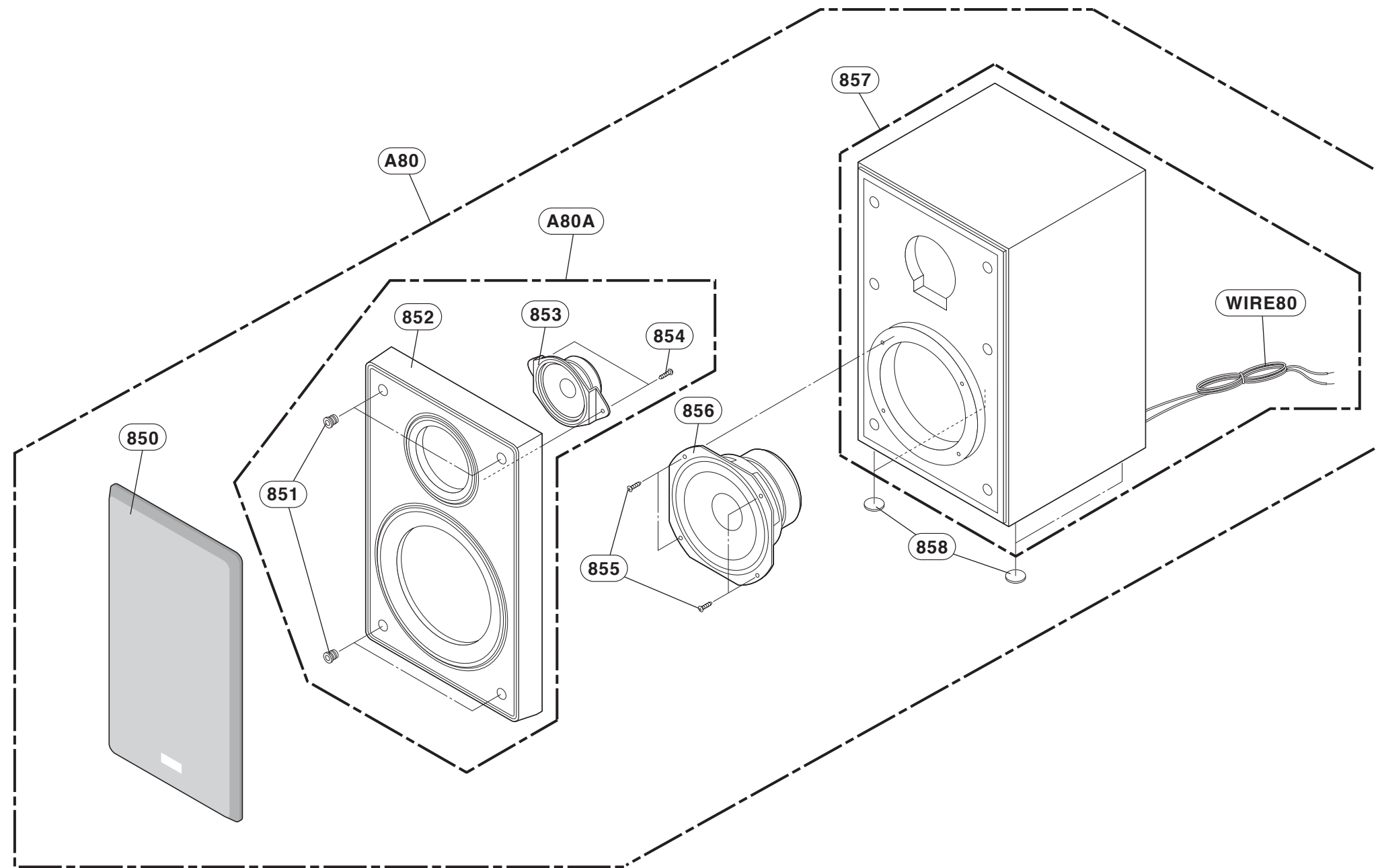


CD MECHANISM (CDM-330) EXPLODED VIEW



SPEAKER EXPLODED VIEW

MODEL : XCS102F



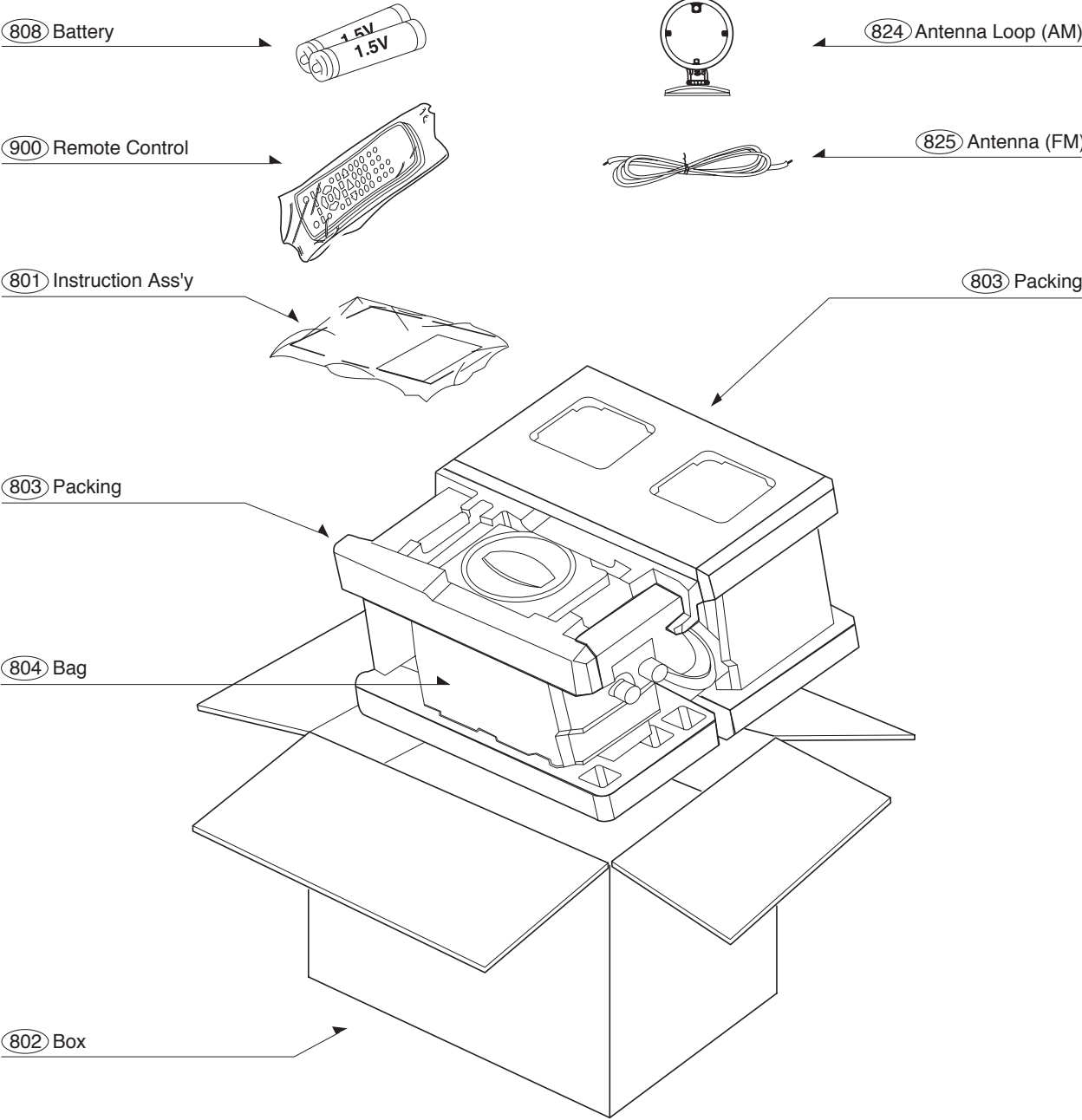
MEMO

Handwriting practice lines on page 2-7. The page contains 20 horizontal dotted lines for writing practice.

MEMO

Handwriting practice lines on page 2-8. The page contains 20 horizontal dotted lines for writing practice.

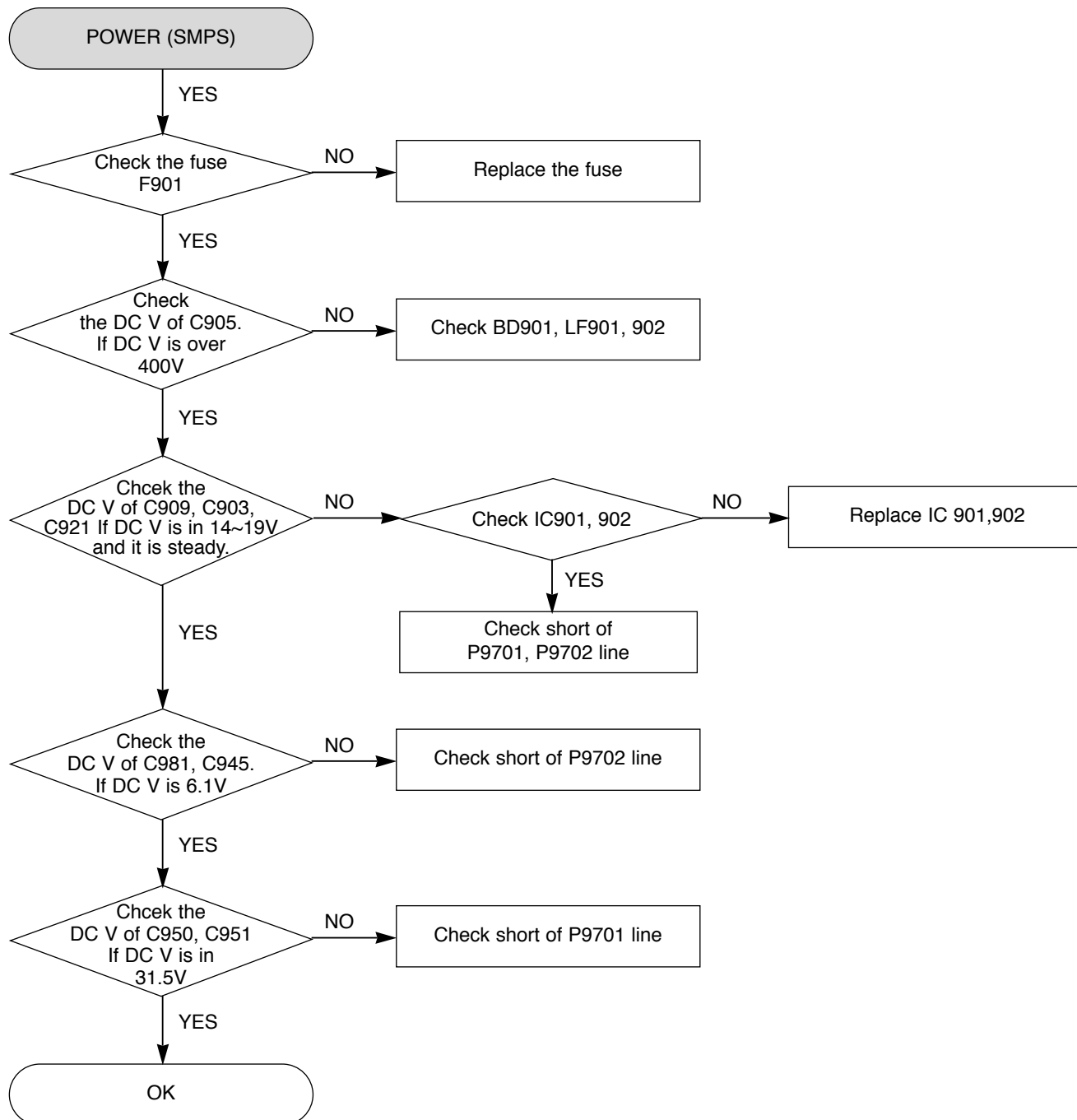
PACKING ACCESSORY VIEW



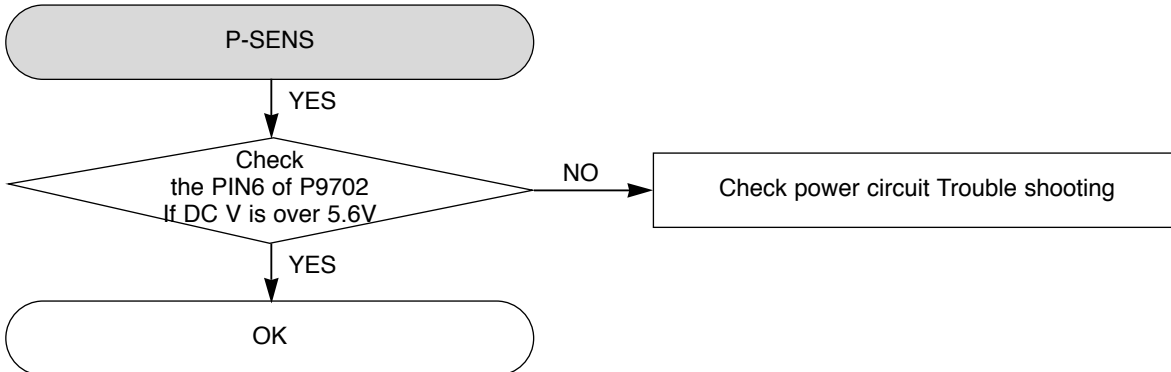
SECTION 3 AUDIO PART ELECTRICAL

AUDIO ELECTRICAL TROUBLESHOOTING GUIDE

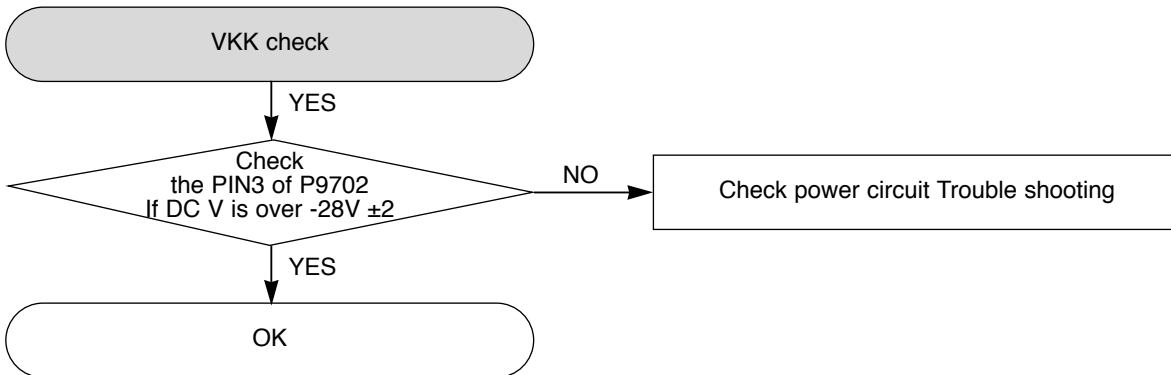
1. POWER (SMPS)



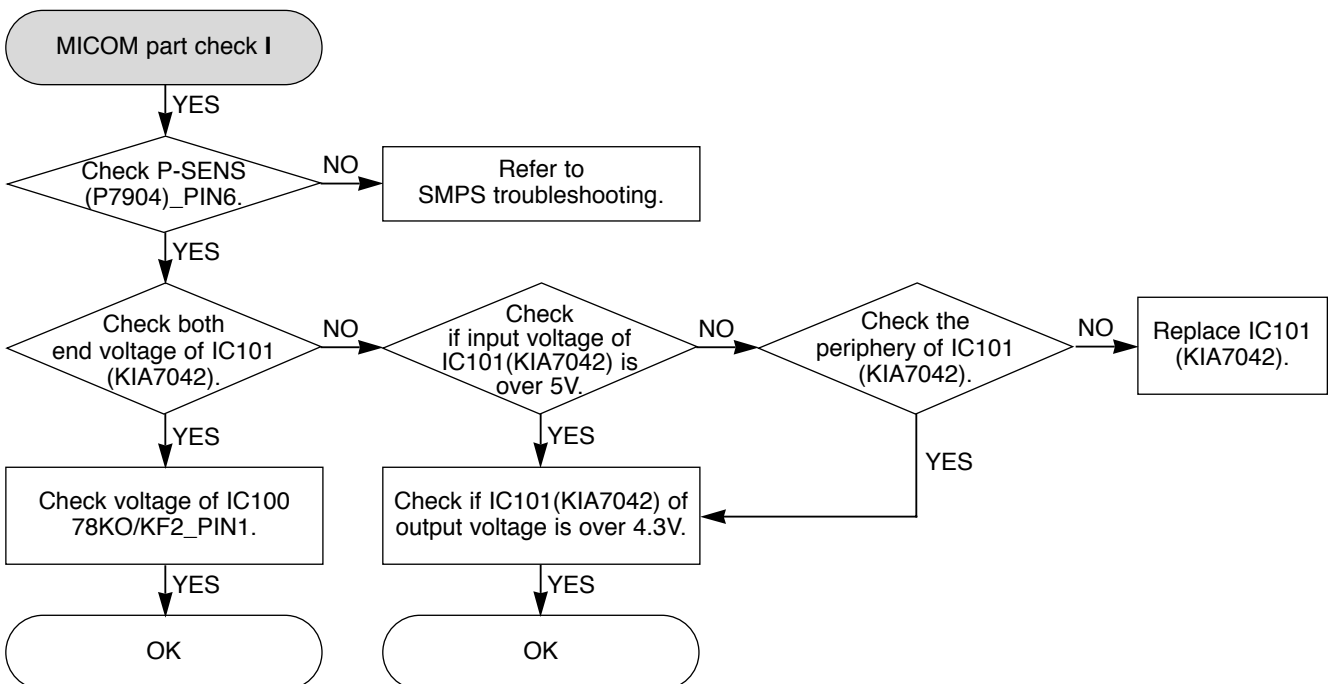
2. P-SENS



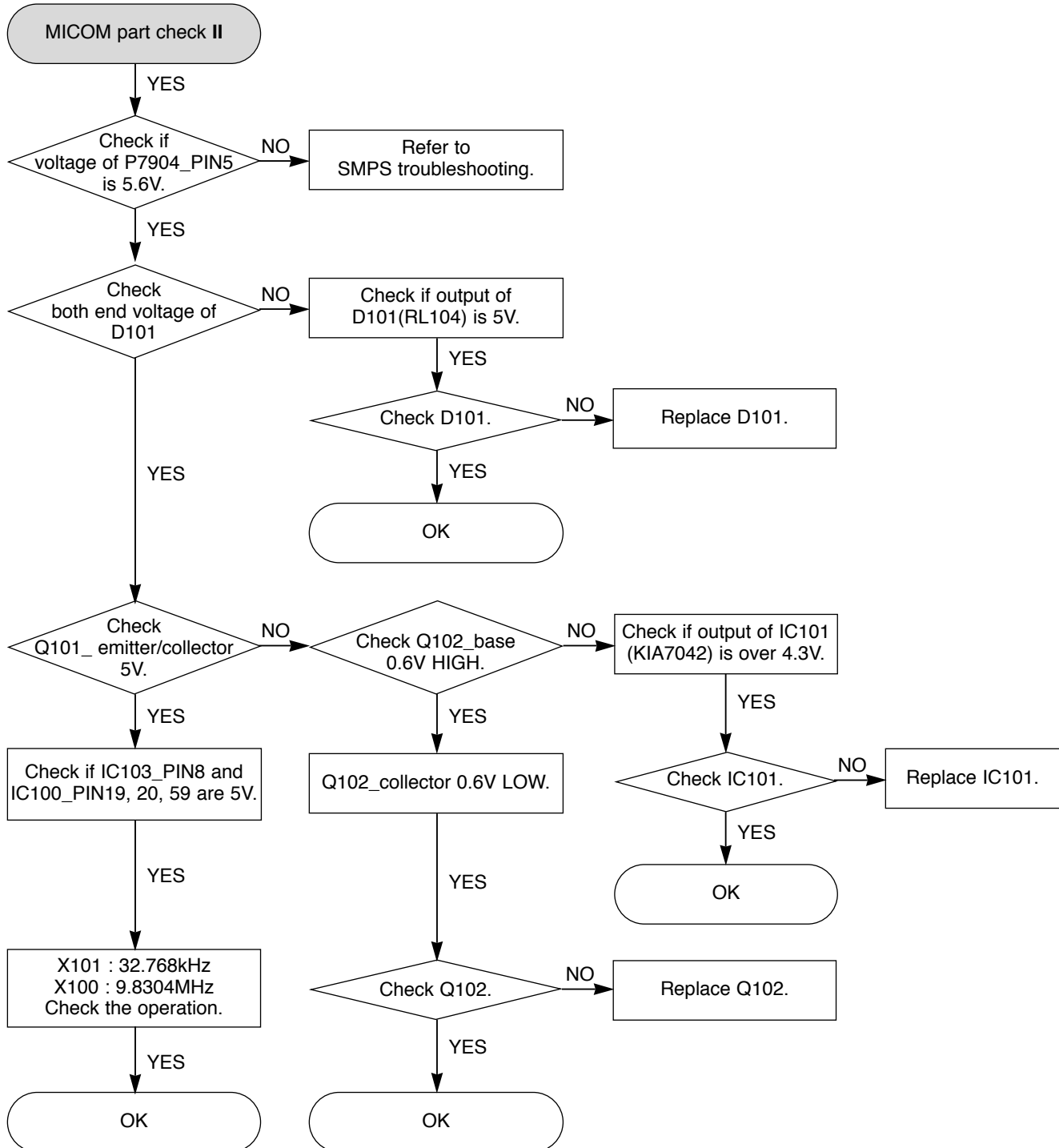
3. VKK CHECK



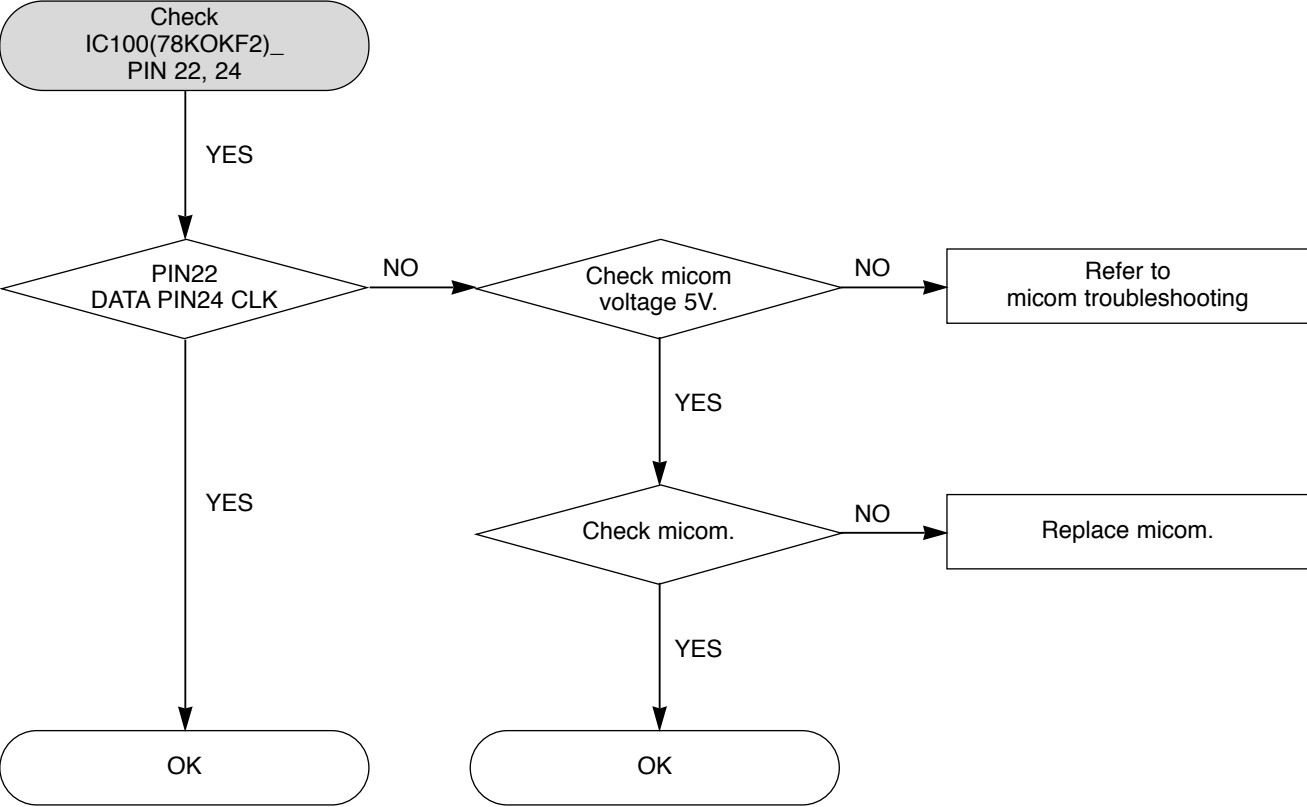
4. MICOM PART CHECK I



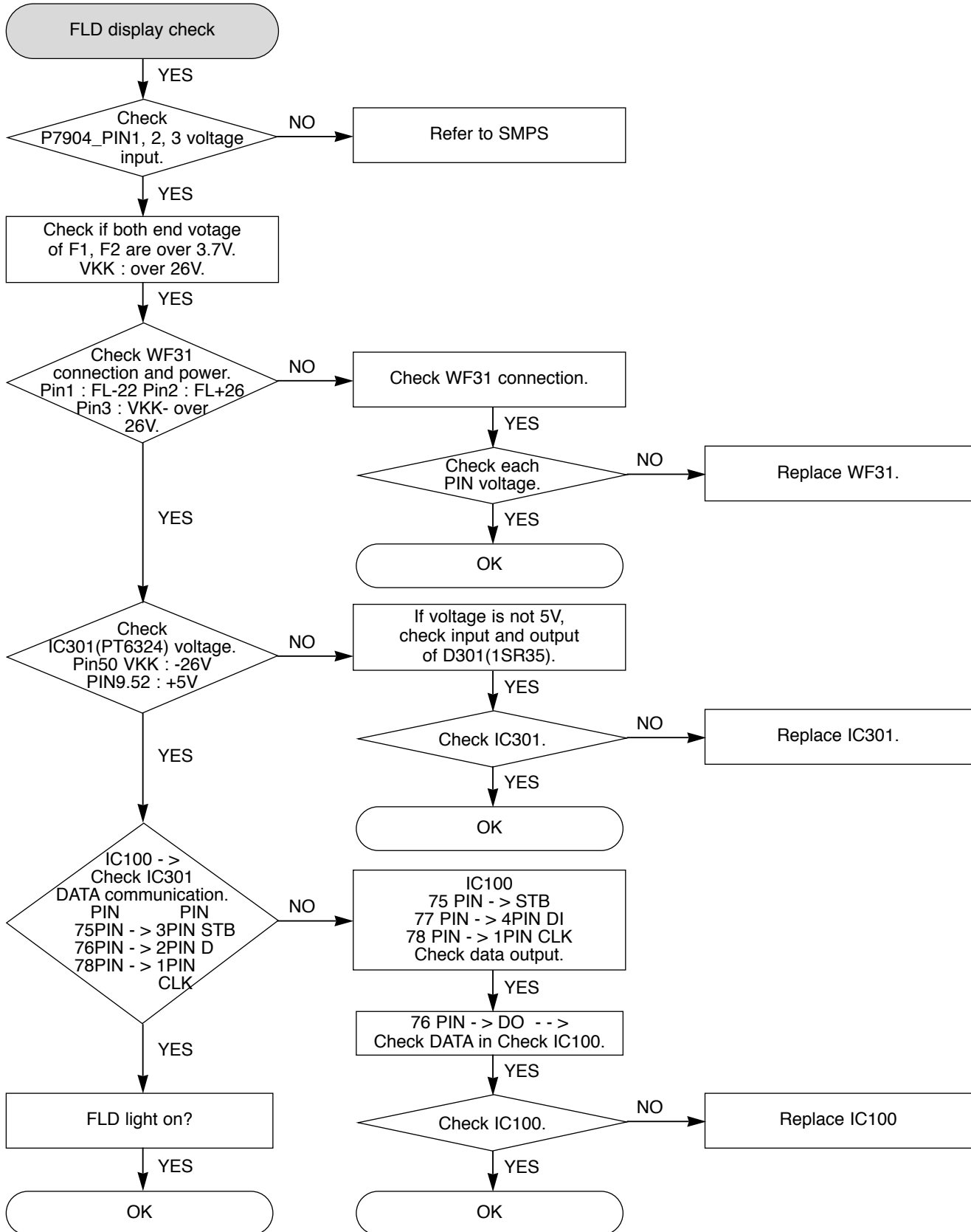
5. MICOM PART CHECK II



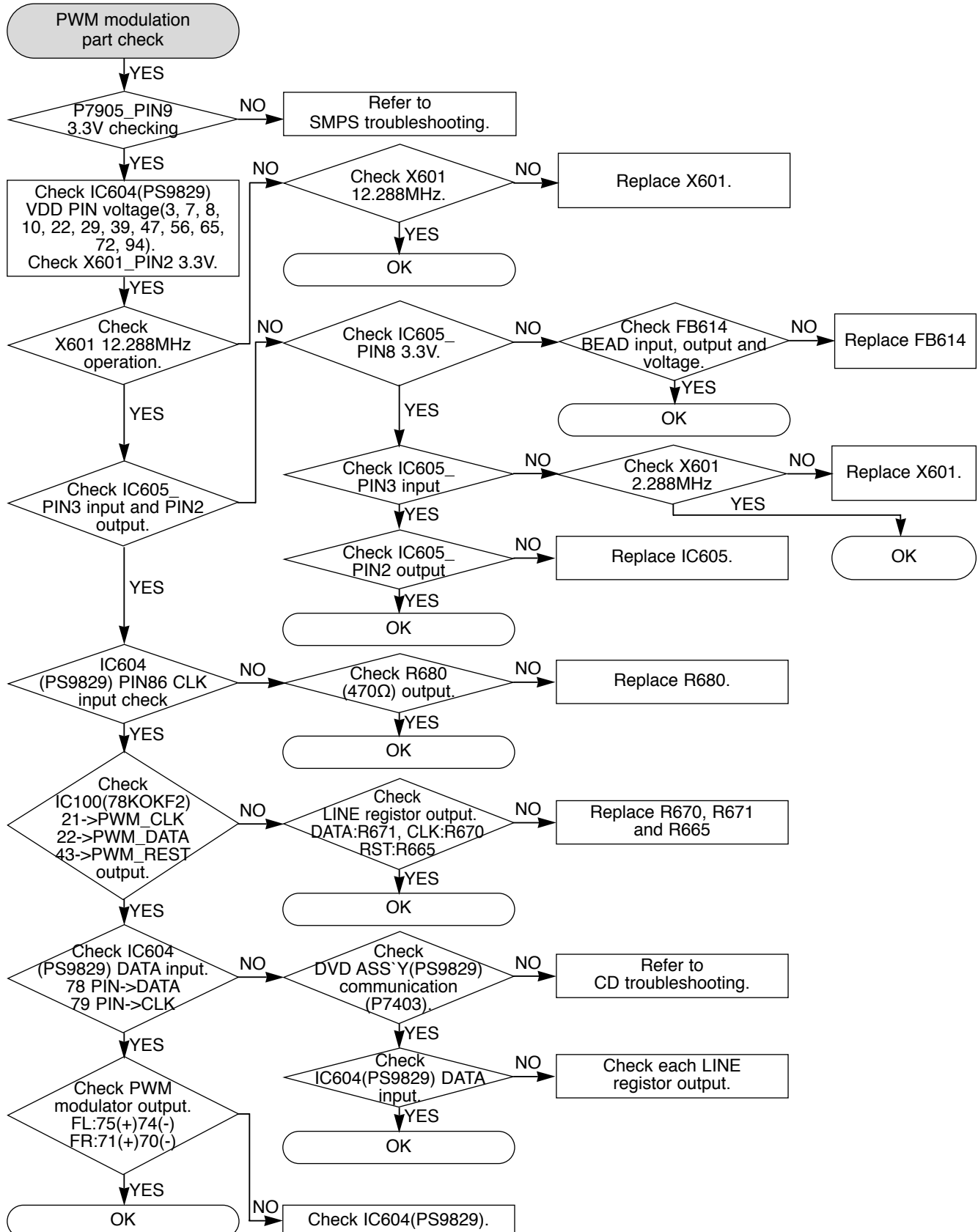
6. IC103(KS4CD21CS) CHECK



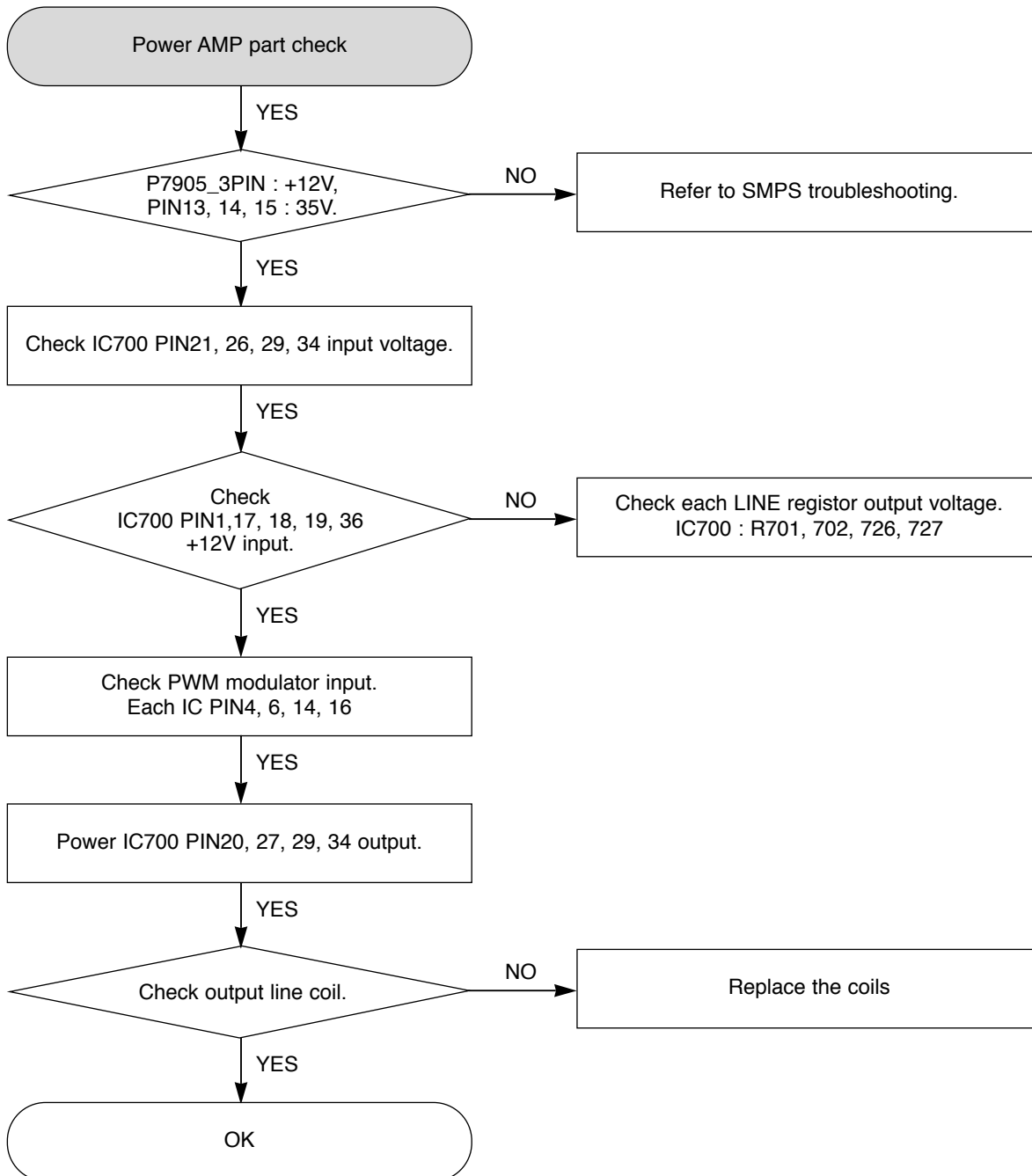
7. FLD DISPLAY CHECK



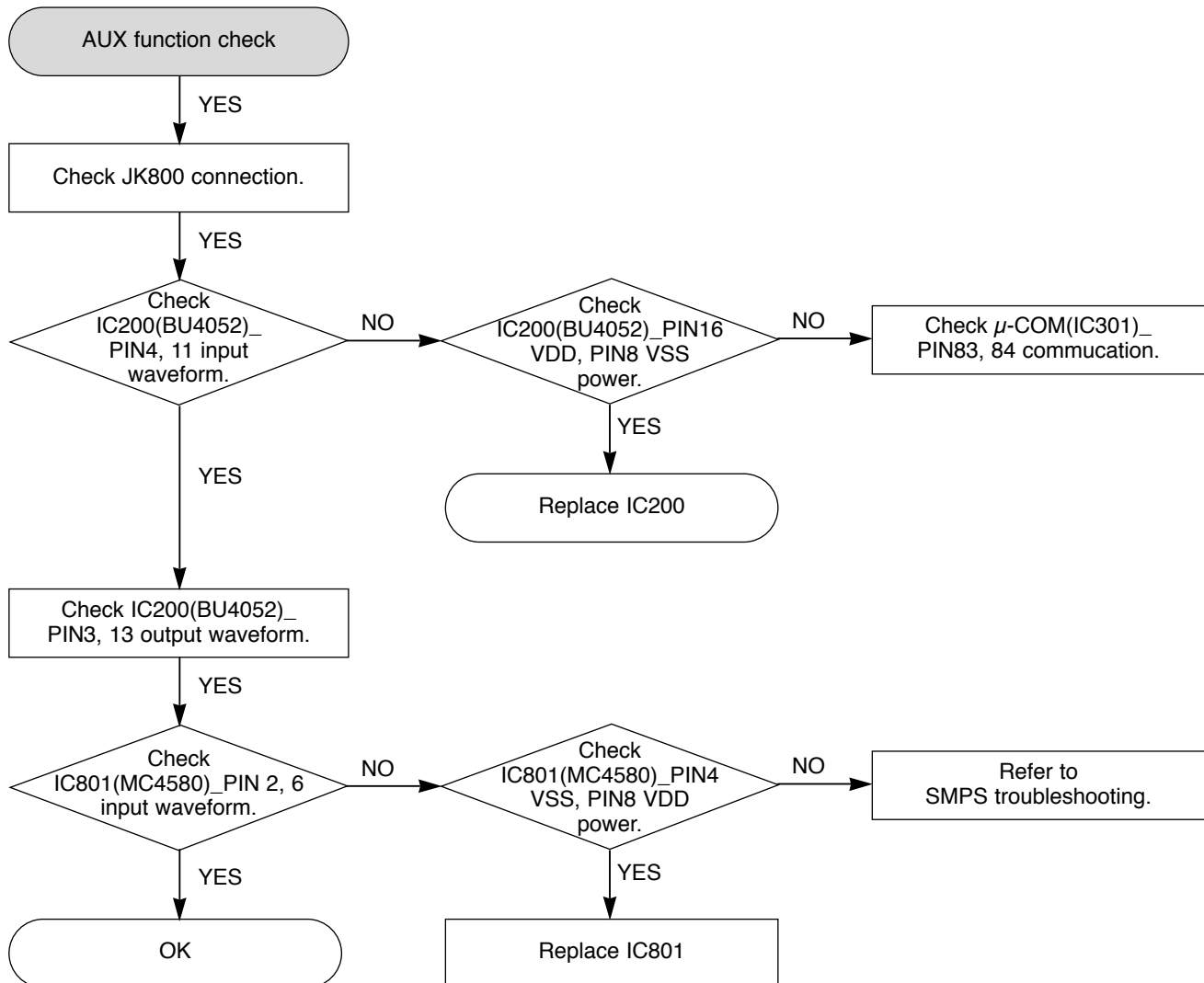
8. PWM MODULATION PART CHECK



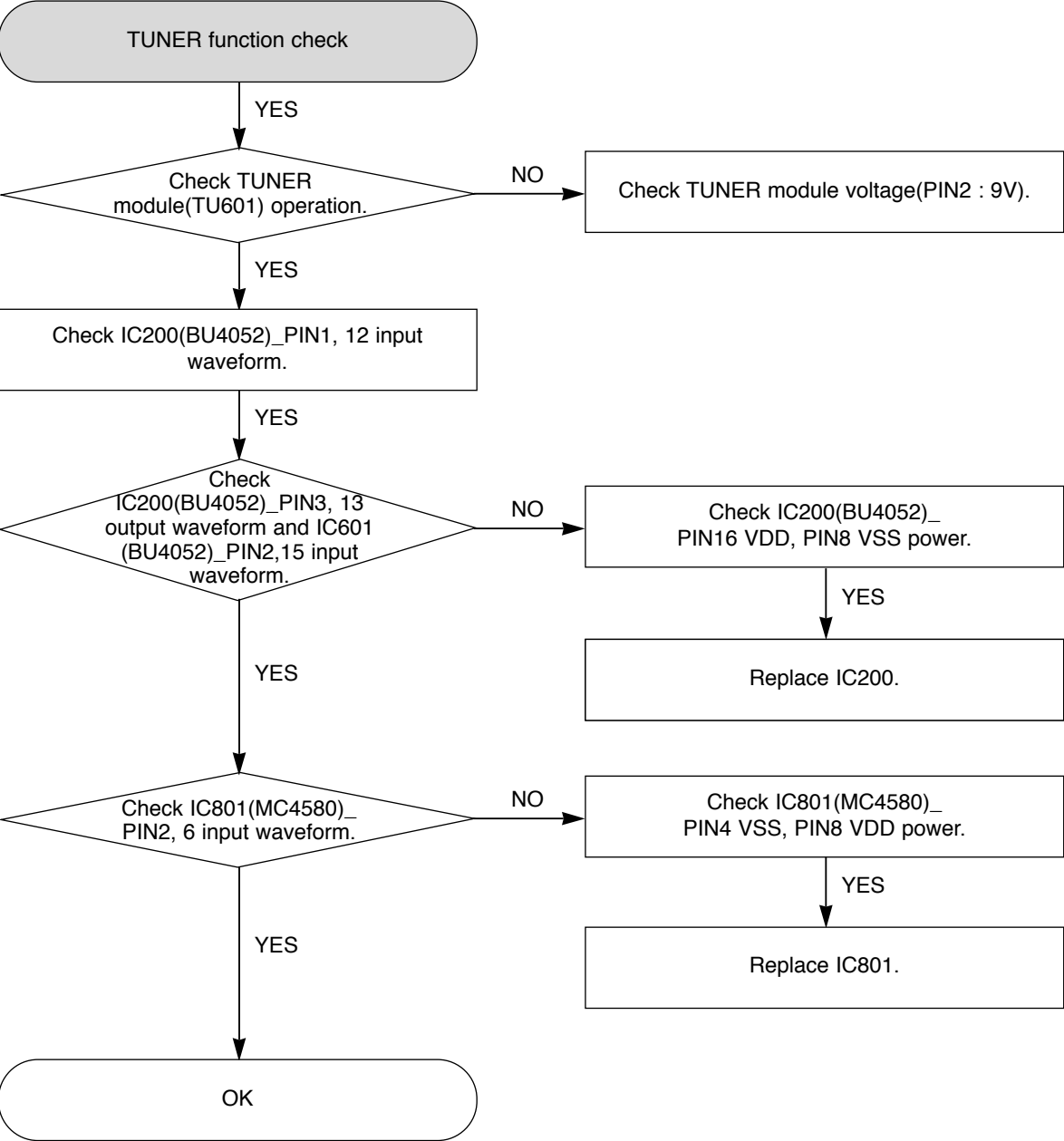
9. POWER AMP PART CHECK



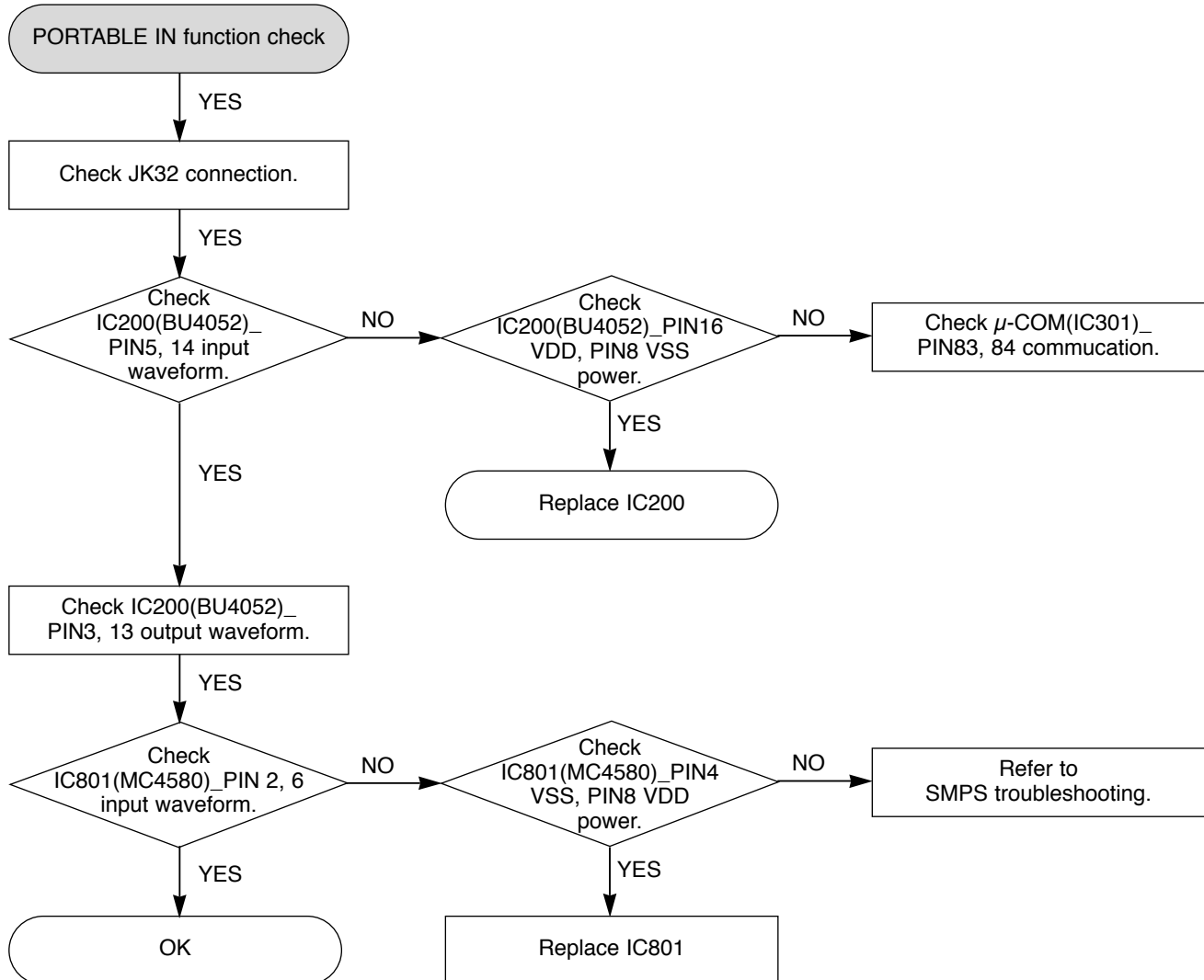
10. AUX FUNCTION CHECK



11. TUNER FUNCTION CHECK

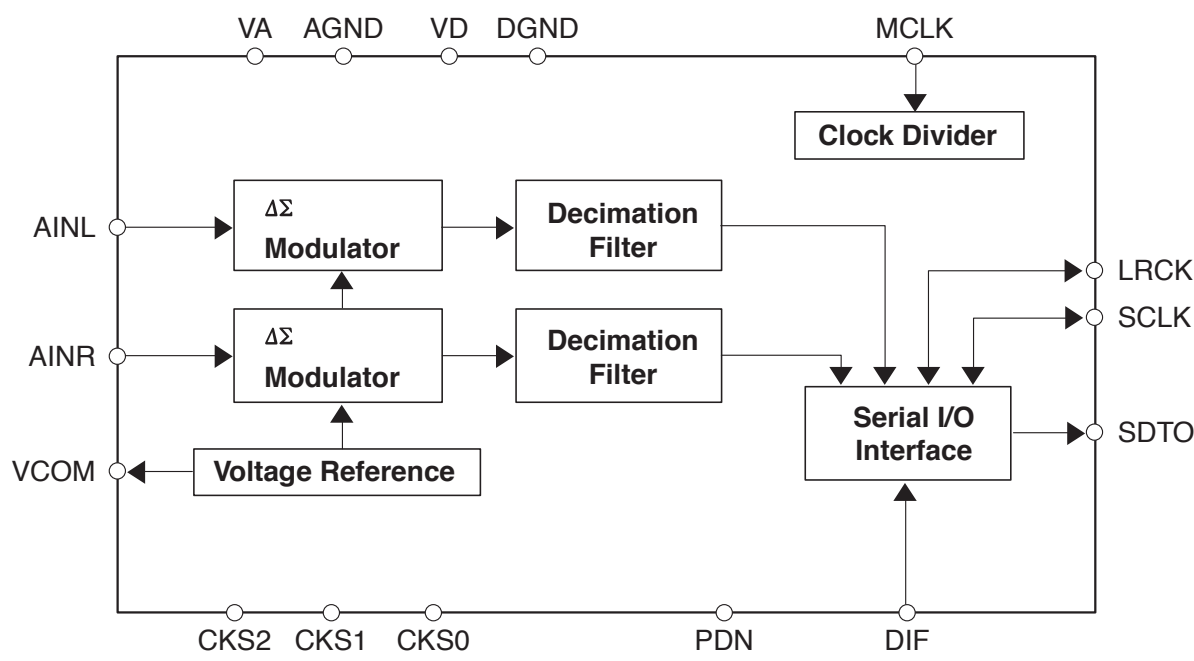


12. PORTABLE IN FUNCTION CHECK

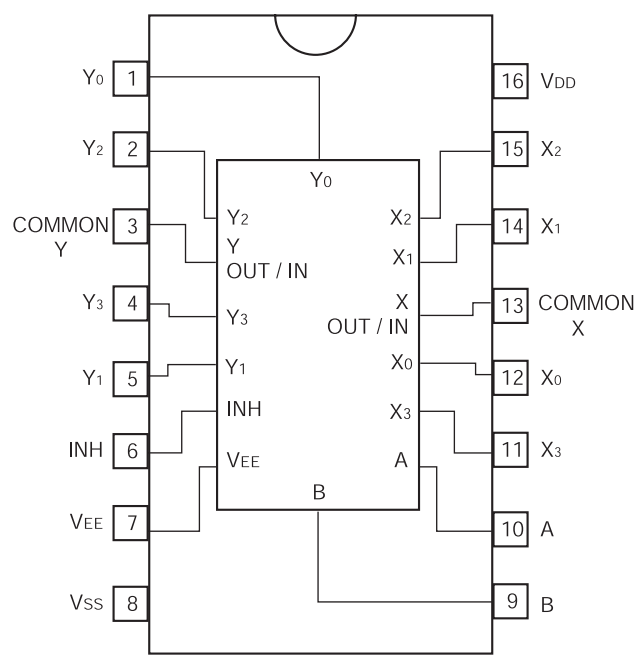


INTERNAL BLOCK DIAGRAM OF ICs

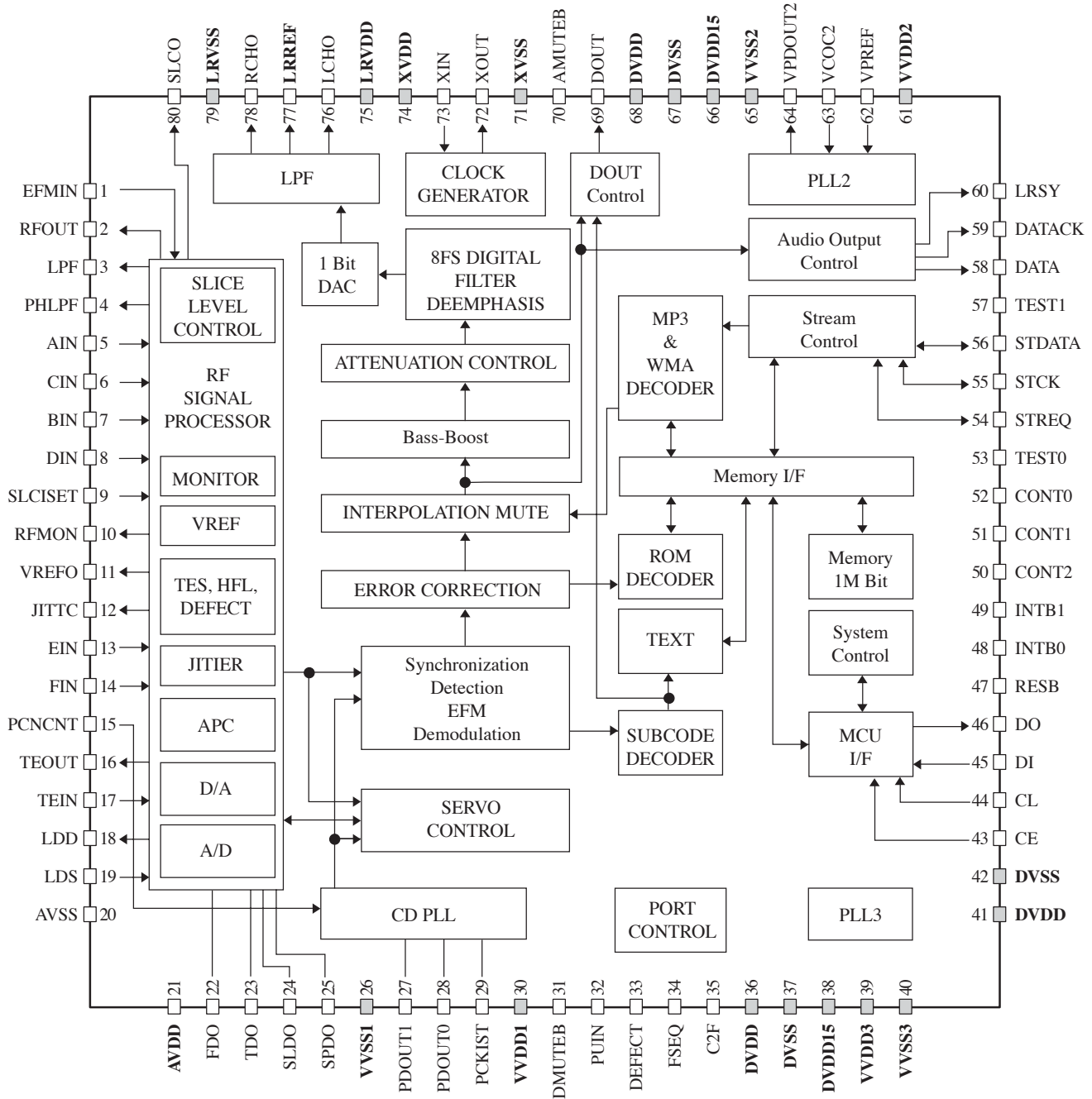
1. AK5358



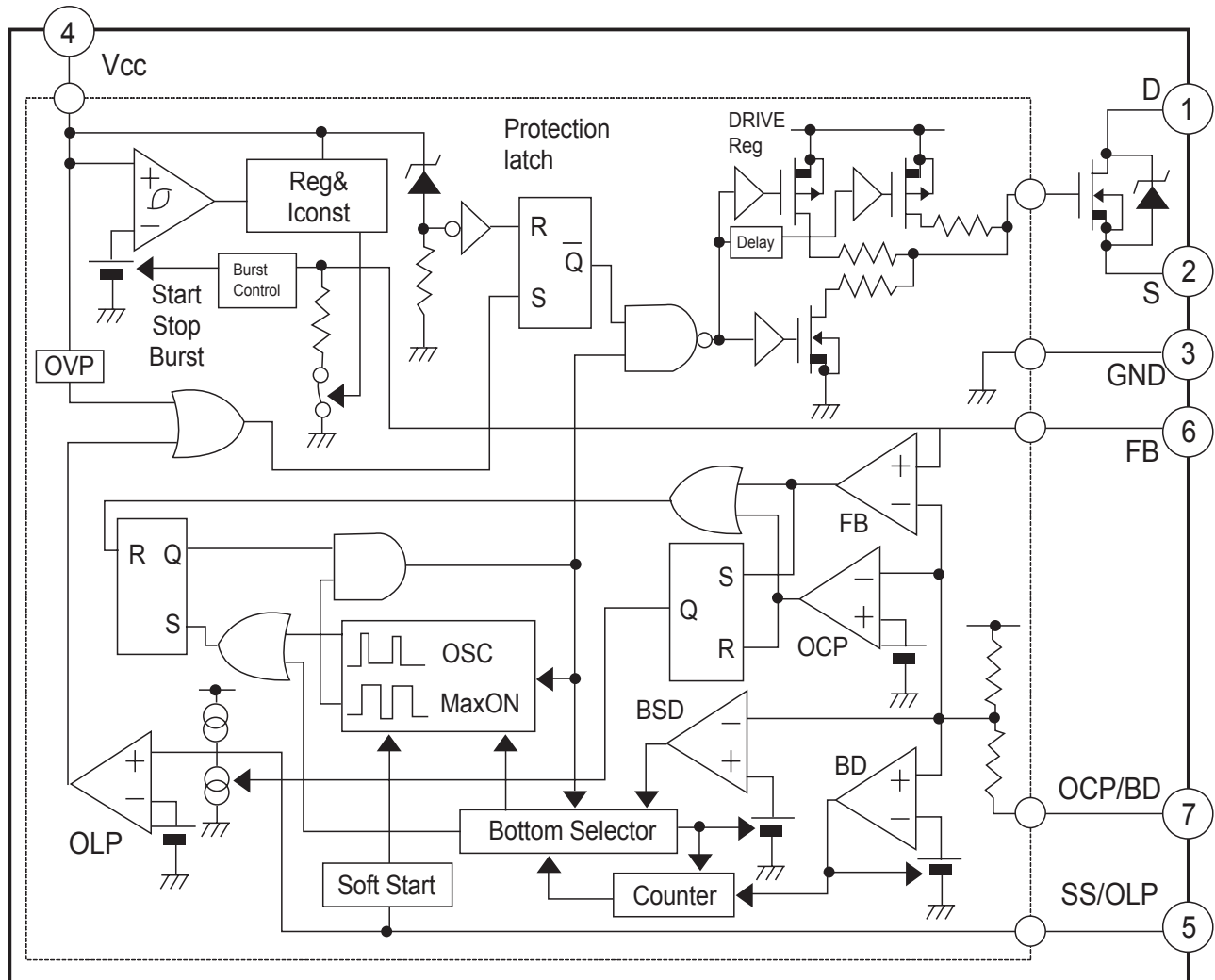
2. BU4052



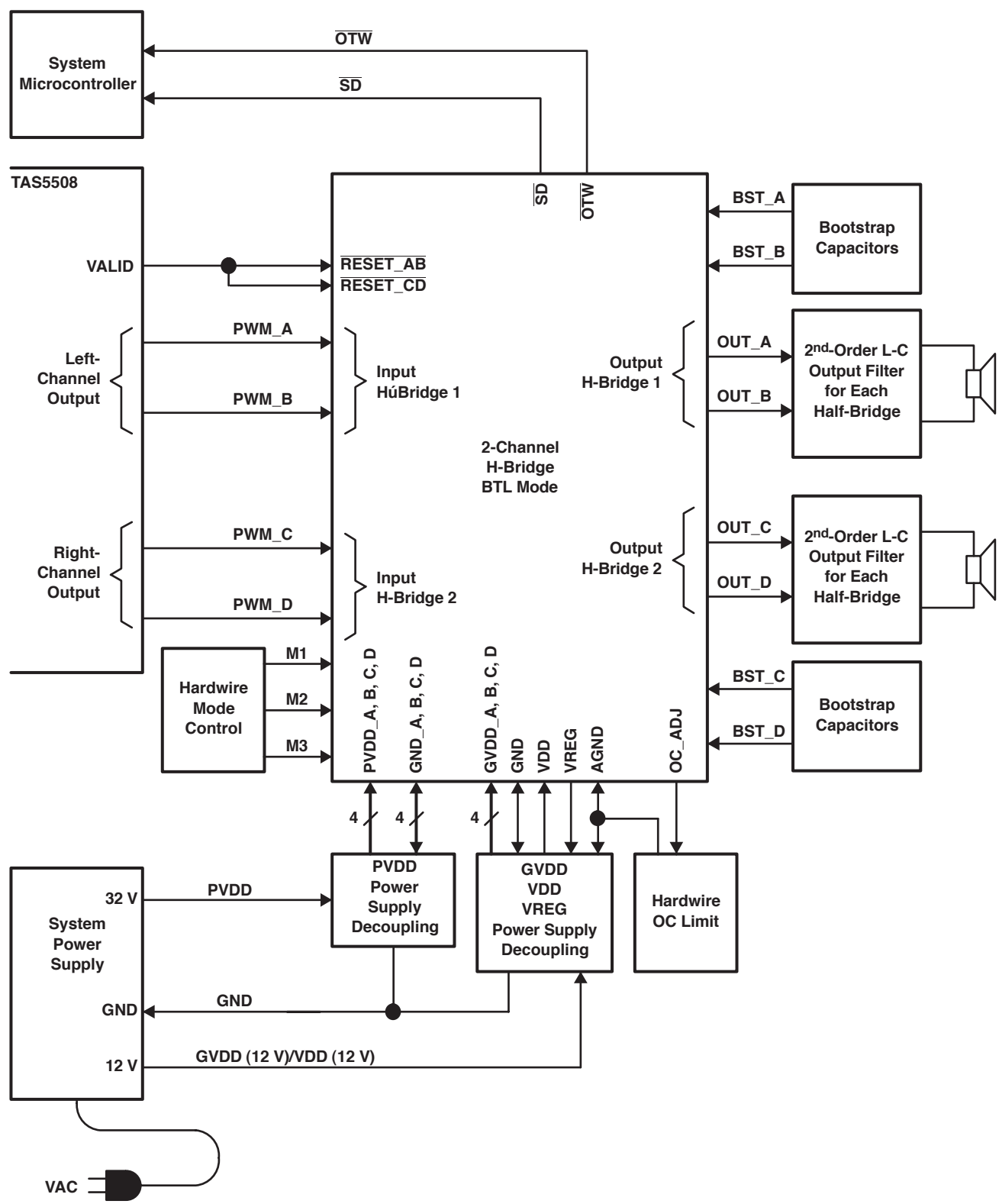
3. LC78692NW



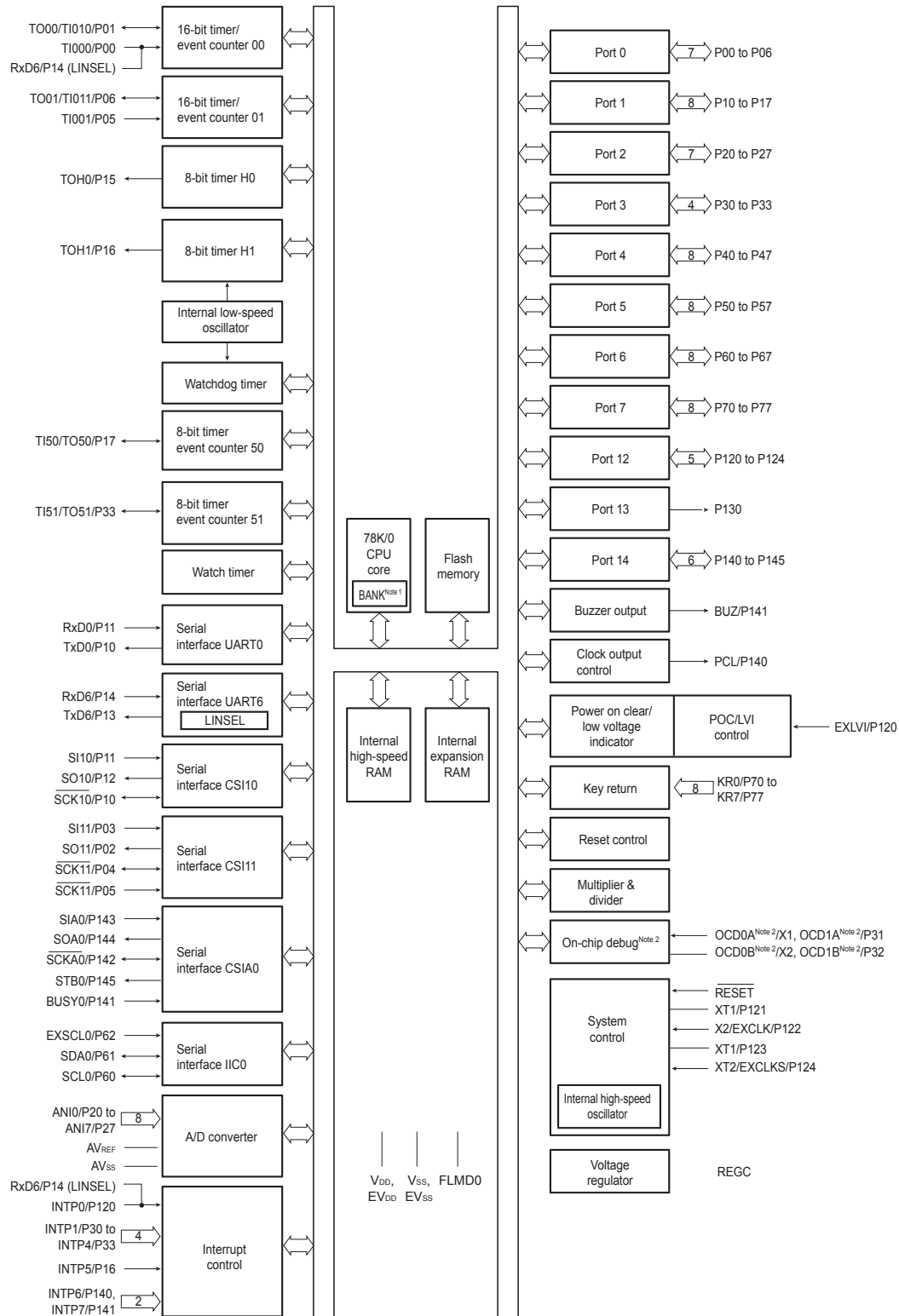
6. STR-W6753



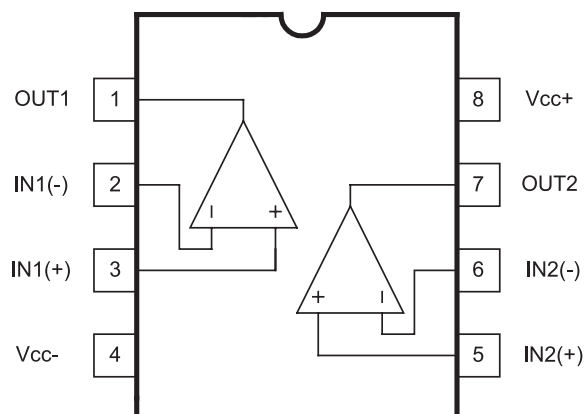
7. TAS5142



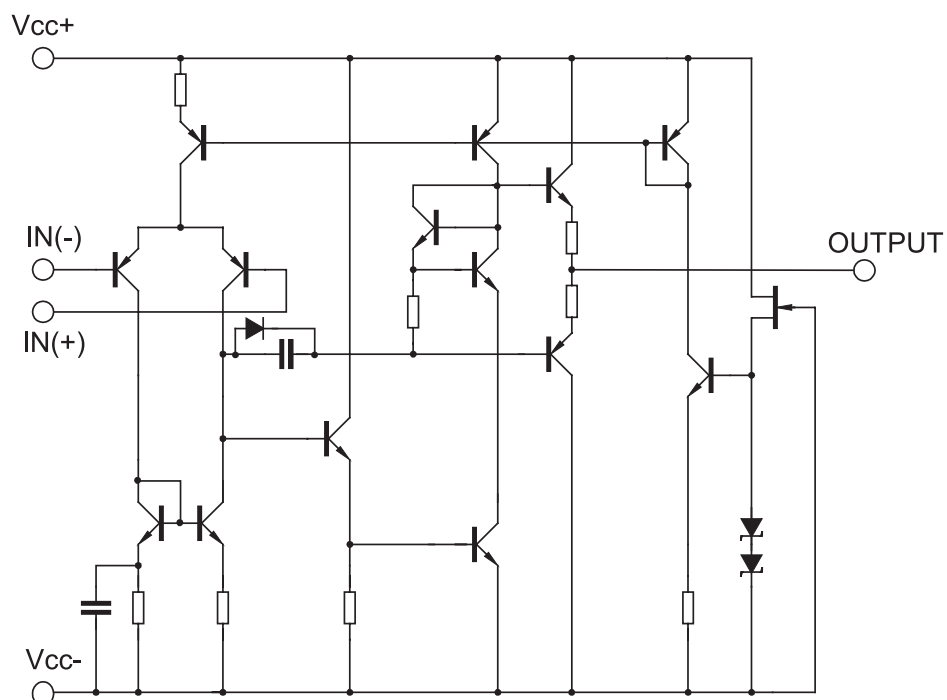
8. U1739EJ2V1UD00/KF2_E



9-1. PIN CONFIGURATION



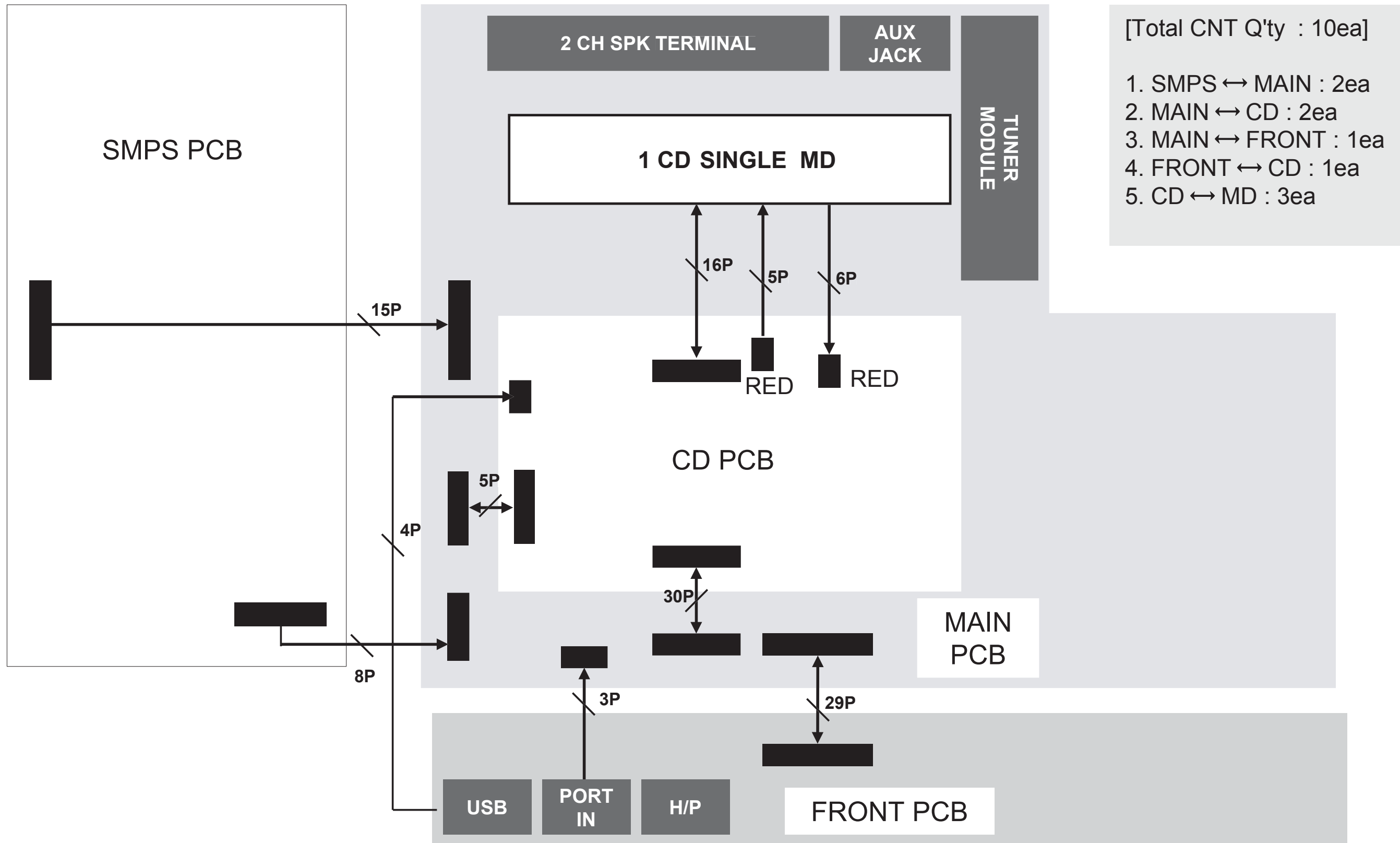
9-2. TEST CIRCUIT



ABSOLUTE MAXIMUM RATINGS (Ta=25 C)

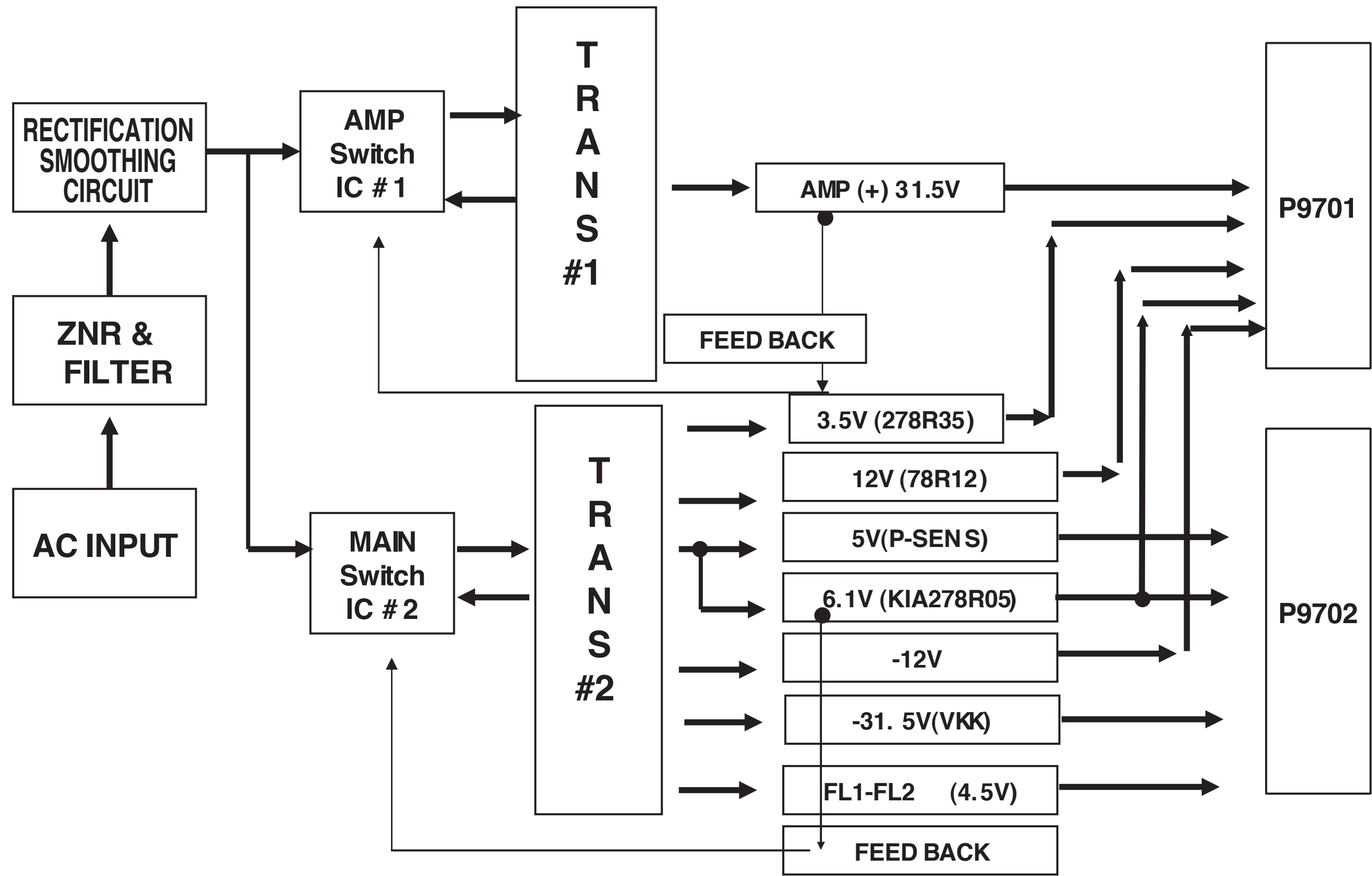
PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺ /V ⁻	± 18	V
Input Voltage	V _{IC}	± 15	V
Differential Input Voltage	V _{ID}	± 30	V
Output Current	I _O	± 50	mA
Power Dissipation	P _D	300 (SOP-8) 800 (DIP-8) 250(TSSOP-8)	mW
Operating Temperature Range	T _{opr}	-40 to +85	°C
Storage Temperature Range	T _{stg}	-40 to +125	°C

WIRING DIAGRAM

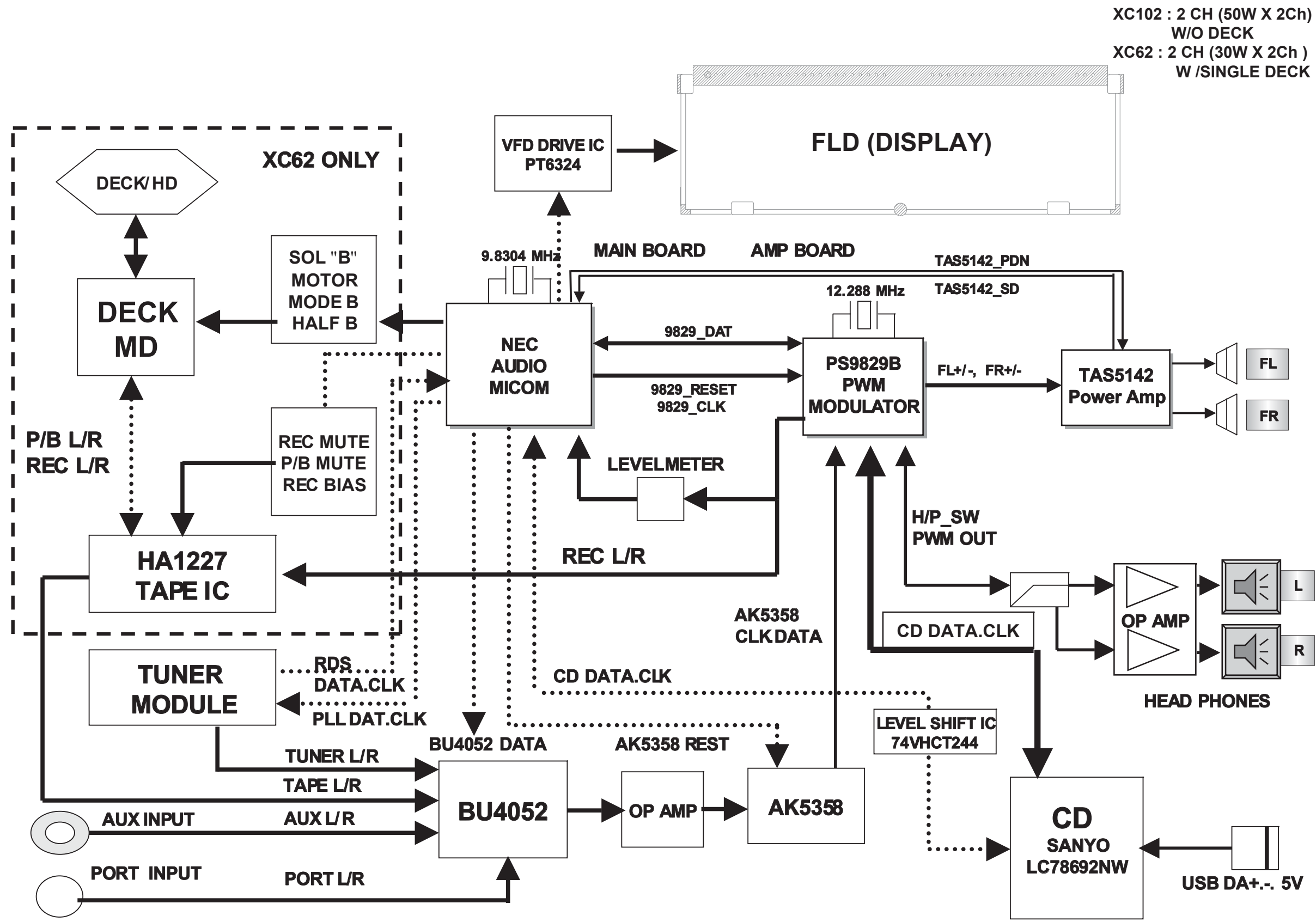


BLOCK DIAGRAMS

1. SMPS BLOCK DIAGRAM

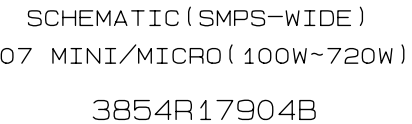


2. MAIN & FRONT BLOCK DIAGRAM



1. SMPS SCHEMATIC DIAGRAM

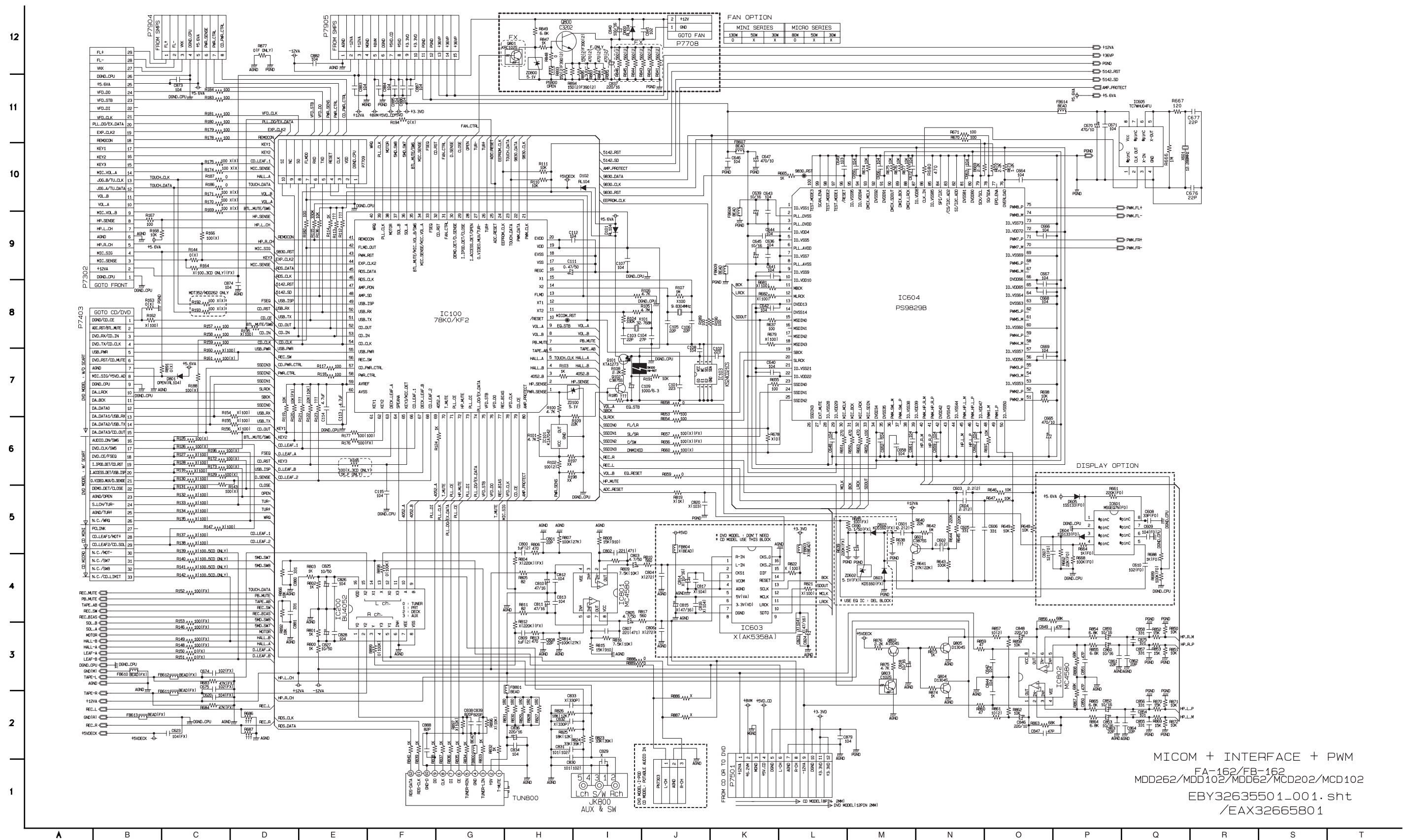
1. SMPS SCHEMATIC DIAGRAM



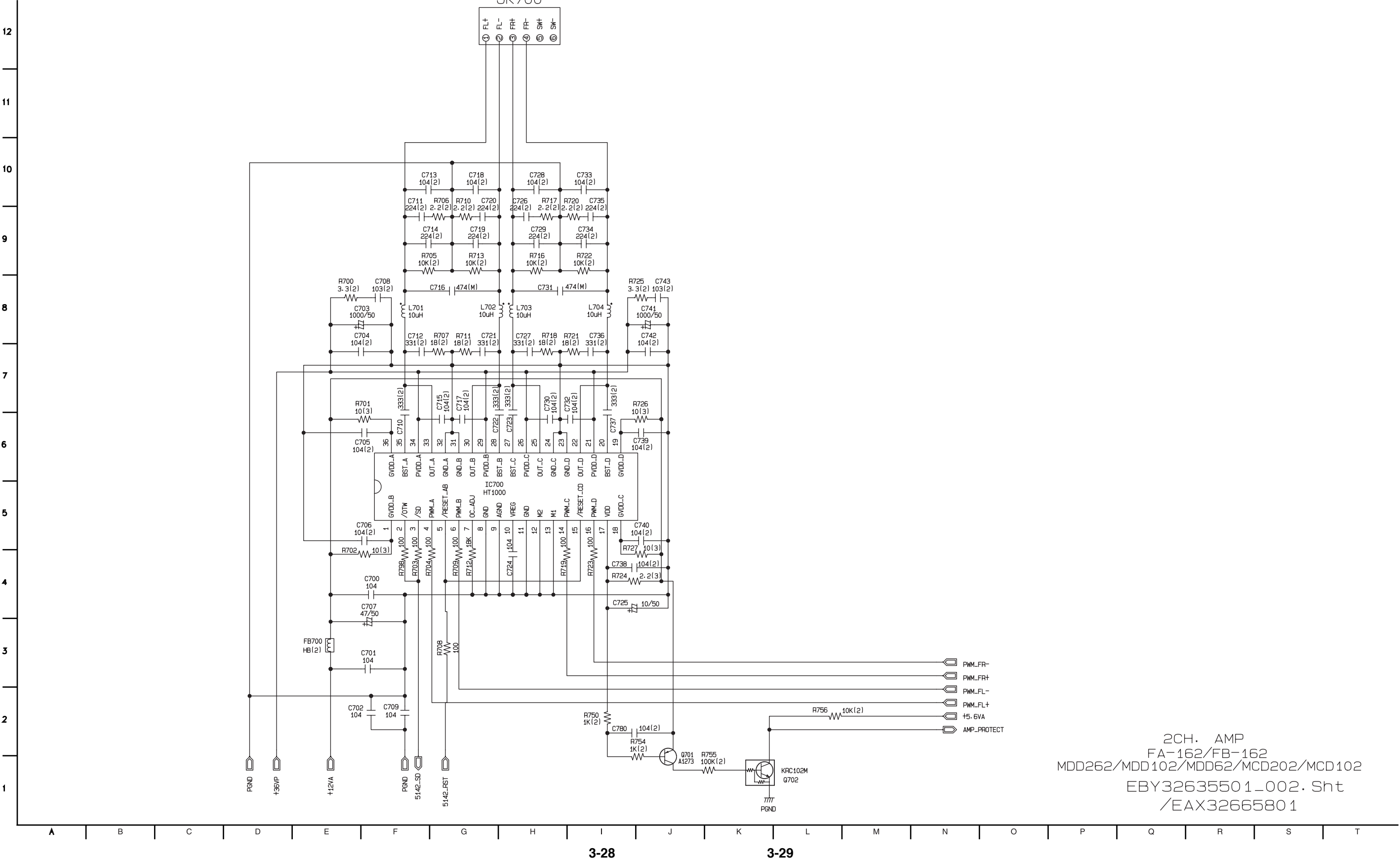
WHEN SERVICING THIS CHASSIS, UNDER NO CIRCUMSTANCES SHOULD THE ORIGINAL DESIGN BE MODIFIED OR ALTERED WITHOUT PERMISSION FROM THE LG CORPORATION. ALL COMPONENTS SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL CIRCUIT. SPECIAL COMPONENTS ARE SHADED ON THE

1. Shaded(■) parts are critical for safety. Replace only with specified part number.
2. Voltages are DC-measured with a digital voltmeter during Play mode.

2. MAIN SCHEMATIC DIAGRAM

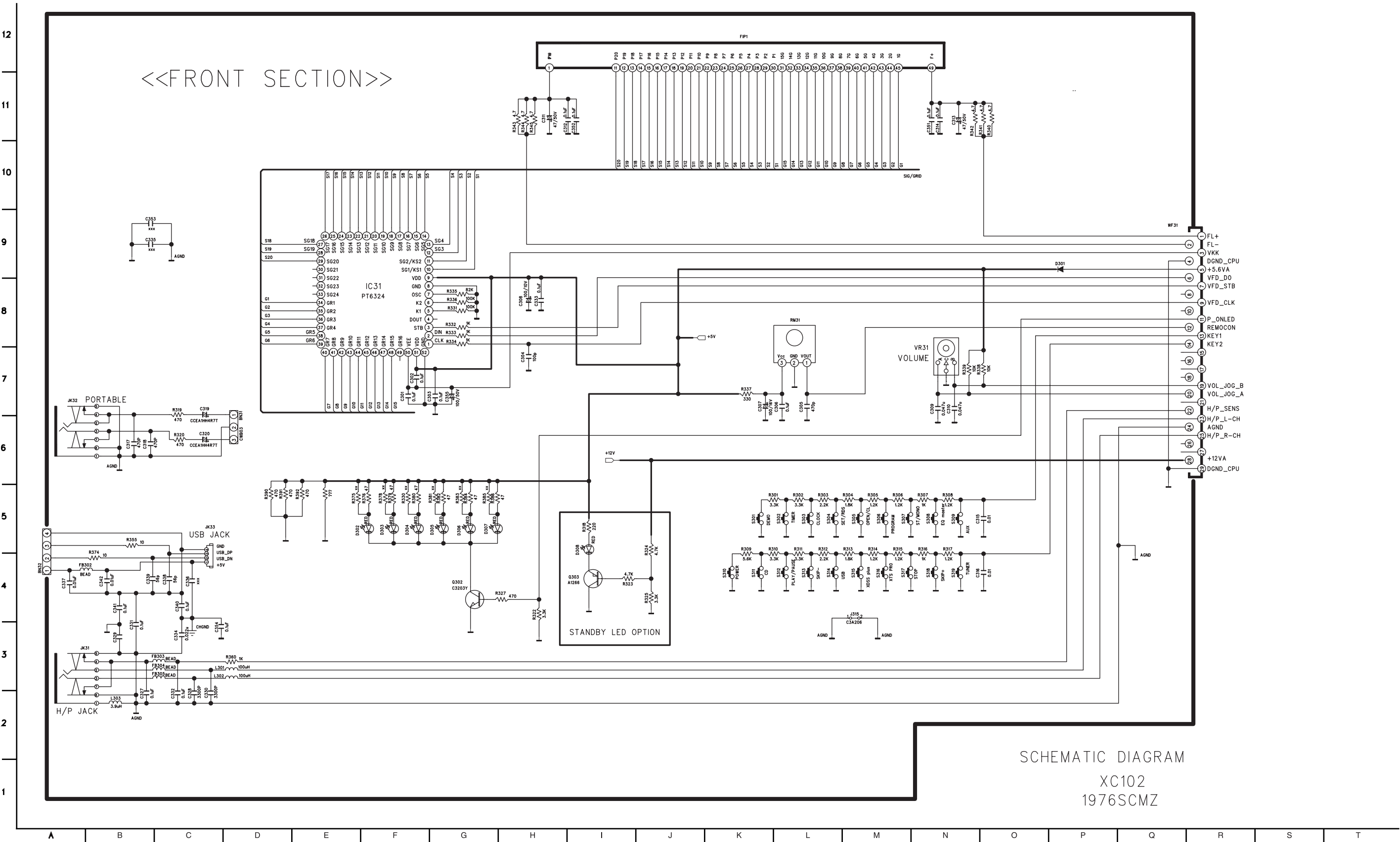


3. AMP SCHEMATIC DIAGRAM



2CH. AMP
FA-162/FB-162
MDD262/MDD102/MDD62/MCD202/MCD102
EBY3263550 1_002. Sht
/EAX3266580 1

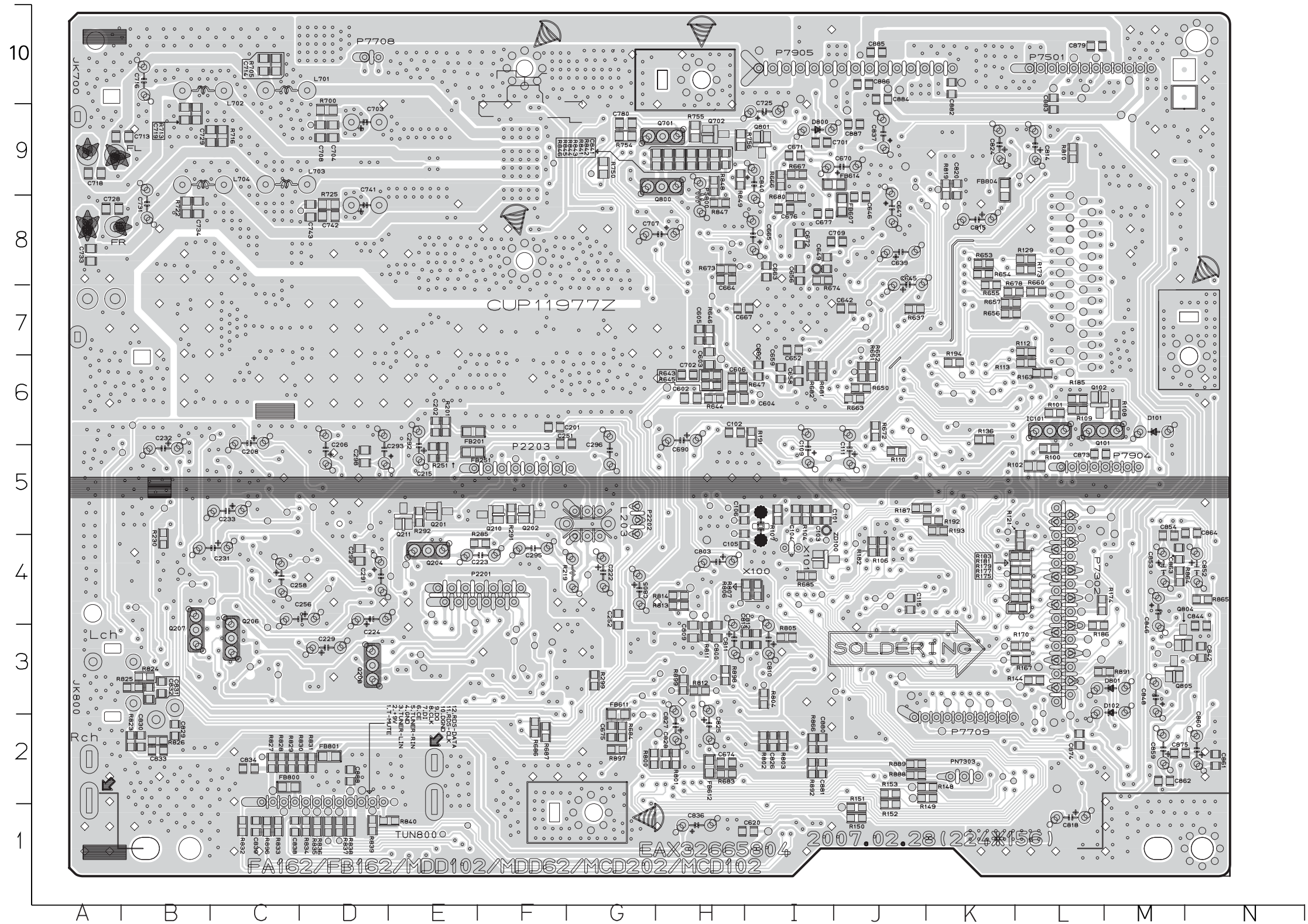
4. FRONT SCHEMATIC DIAGRAM



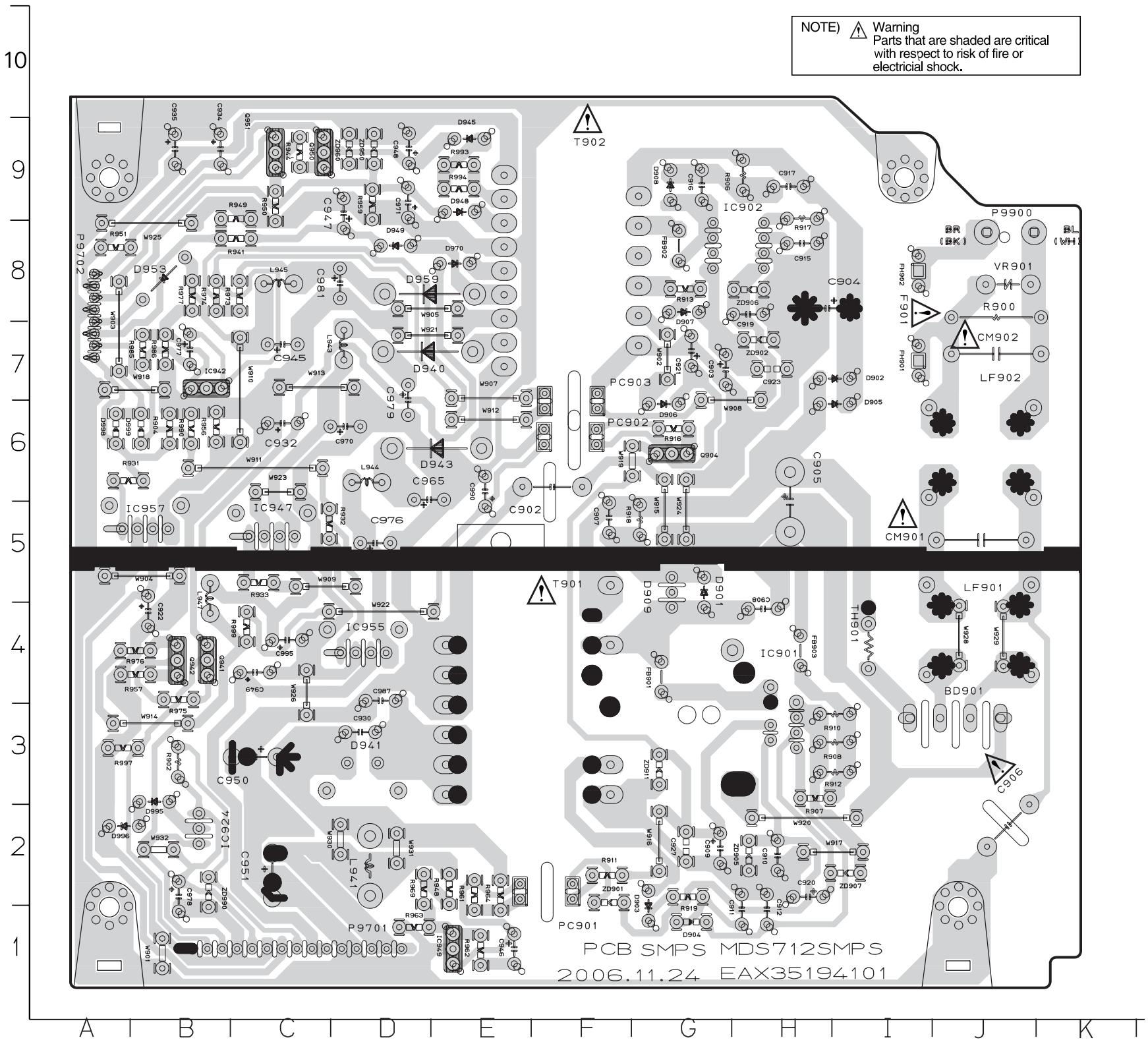
1. MAIN P.C.BOARD (TOP VIEW)



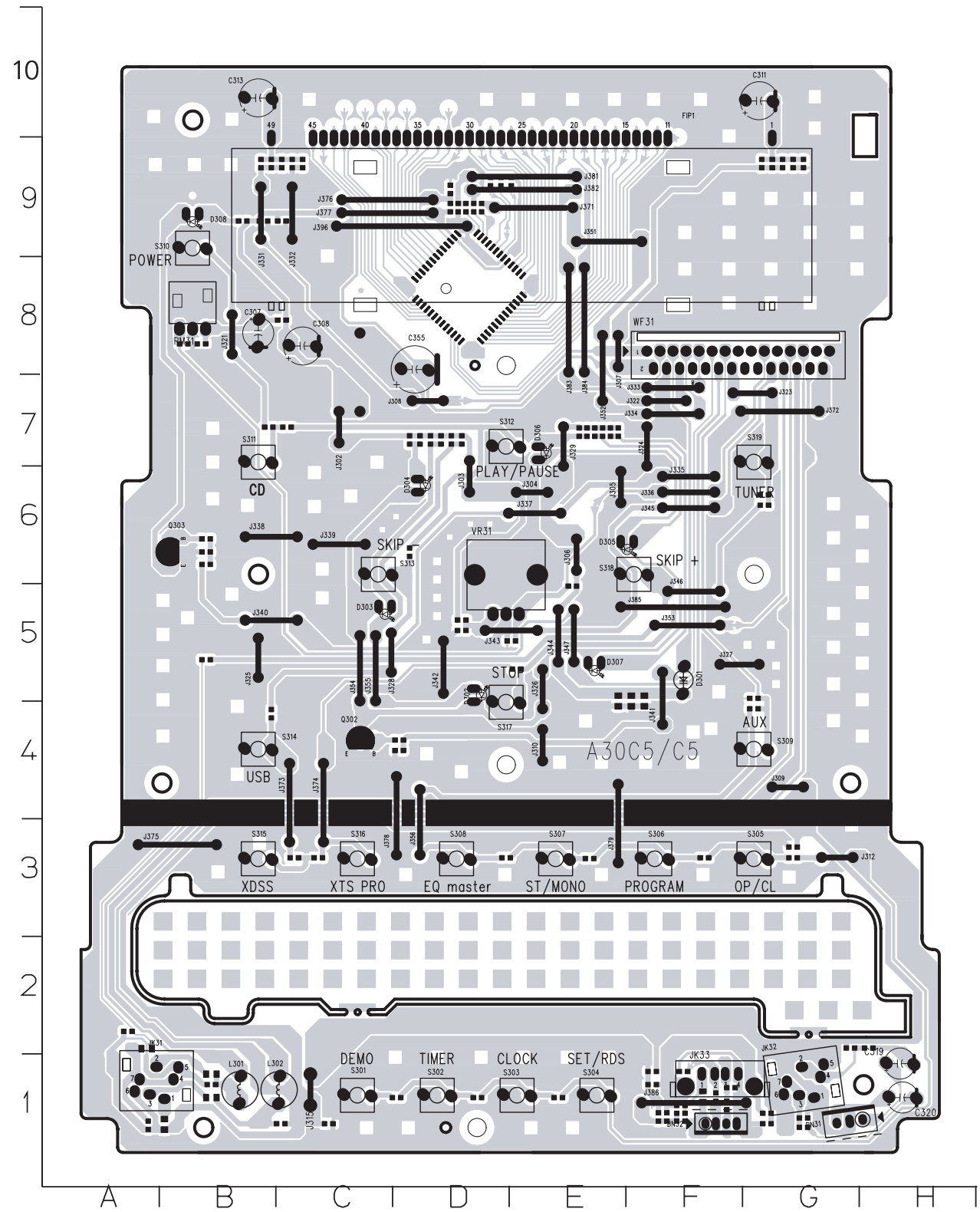
MAIN P.C.BOARD (BOTTOM VIEW)



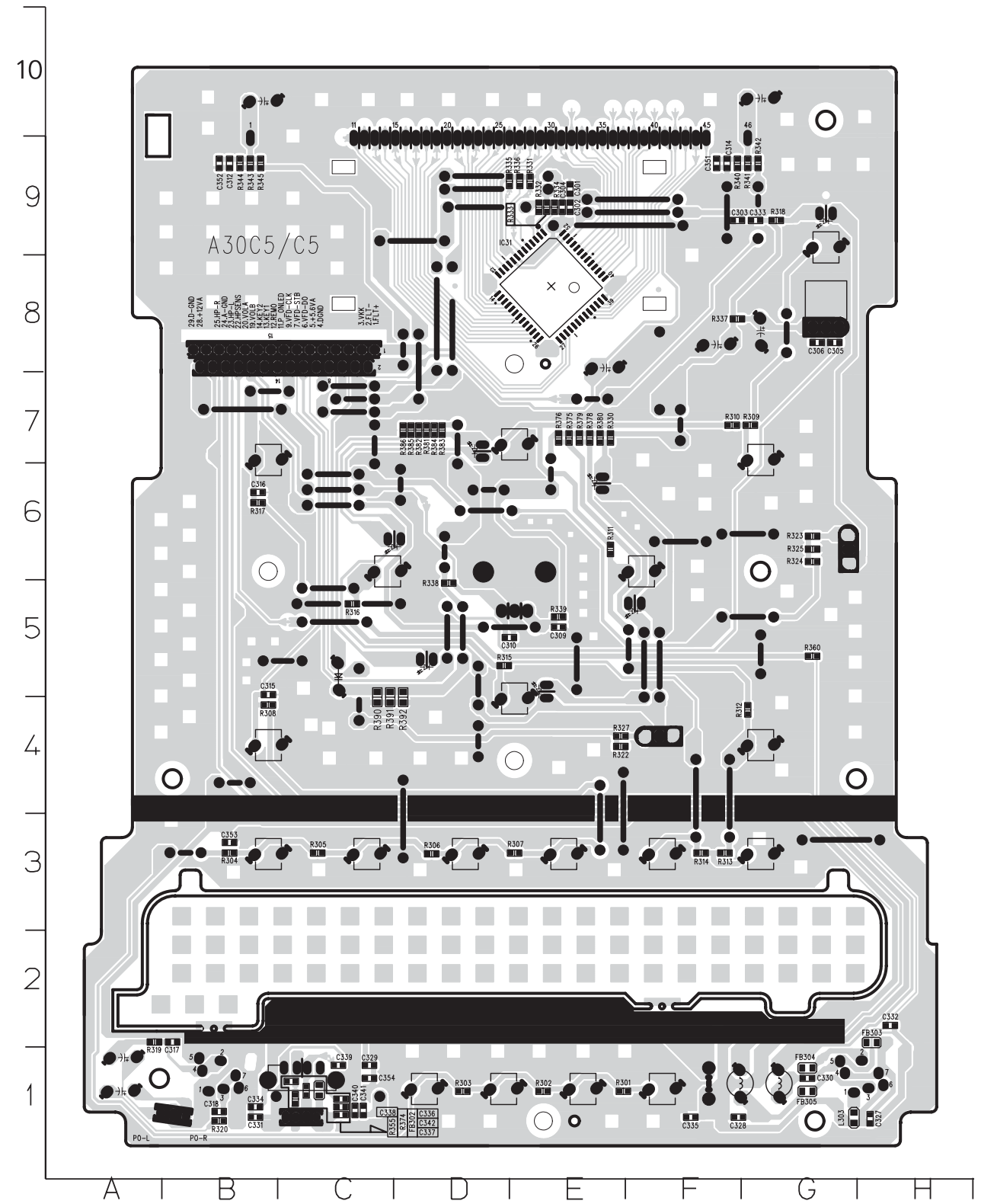
2. SMPS P.C.BOARD



3. FRONT P.C.BOARD (TOP VIEW)



(BOTTOM VIEW)



MEMO

Handwriting practice area for page 3-40, featuring 20 horizontal dotted lines.

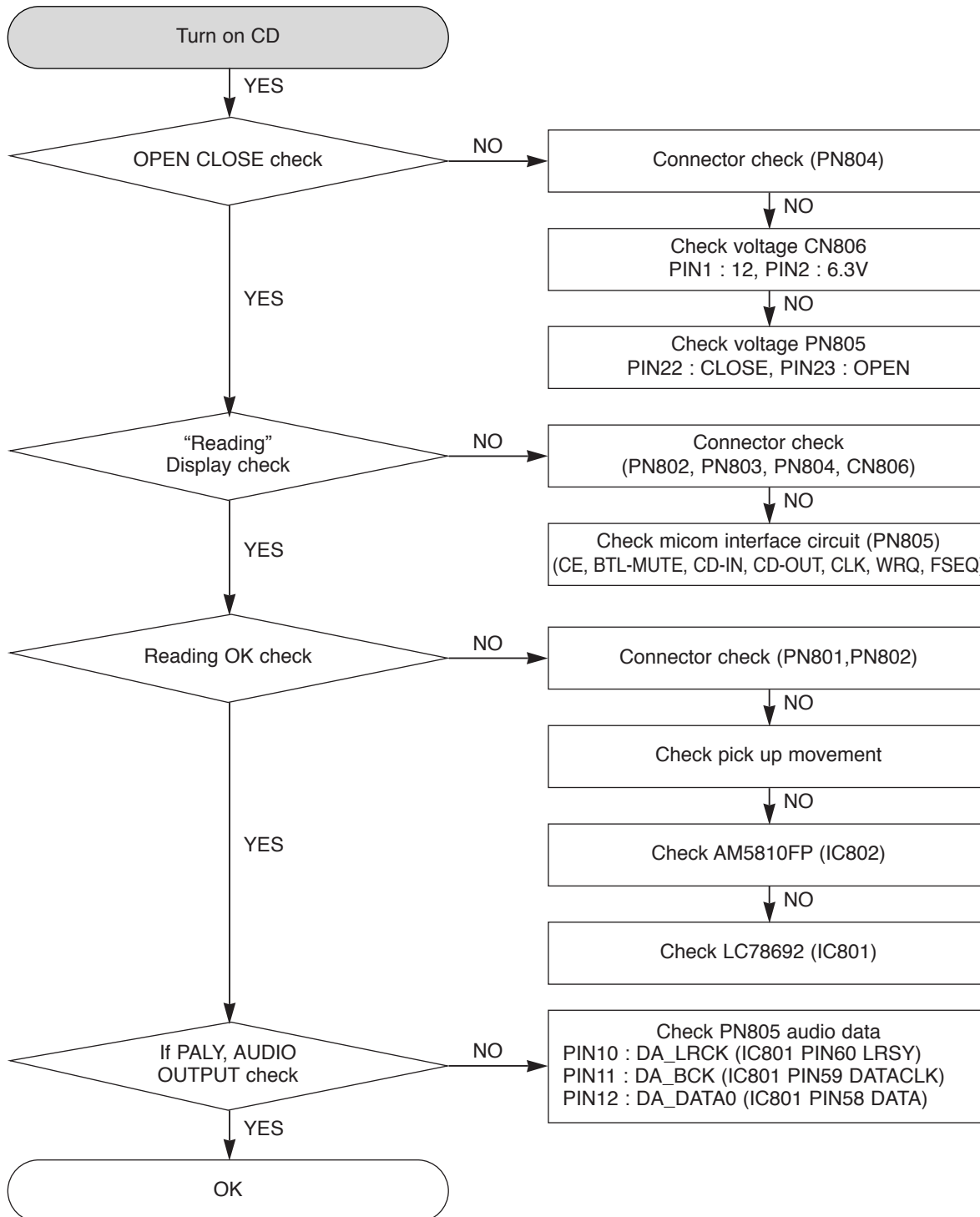
MEMO

Handwriting practice area for page 3-41, featuring 20 horizontal dotted lines.

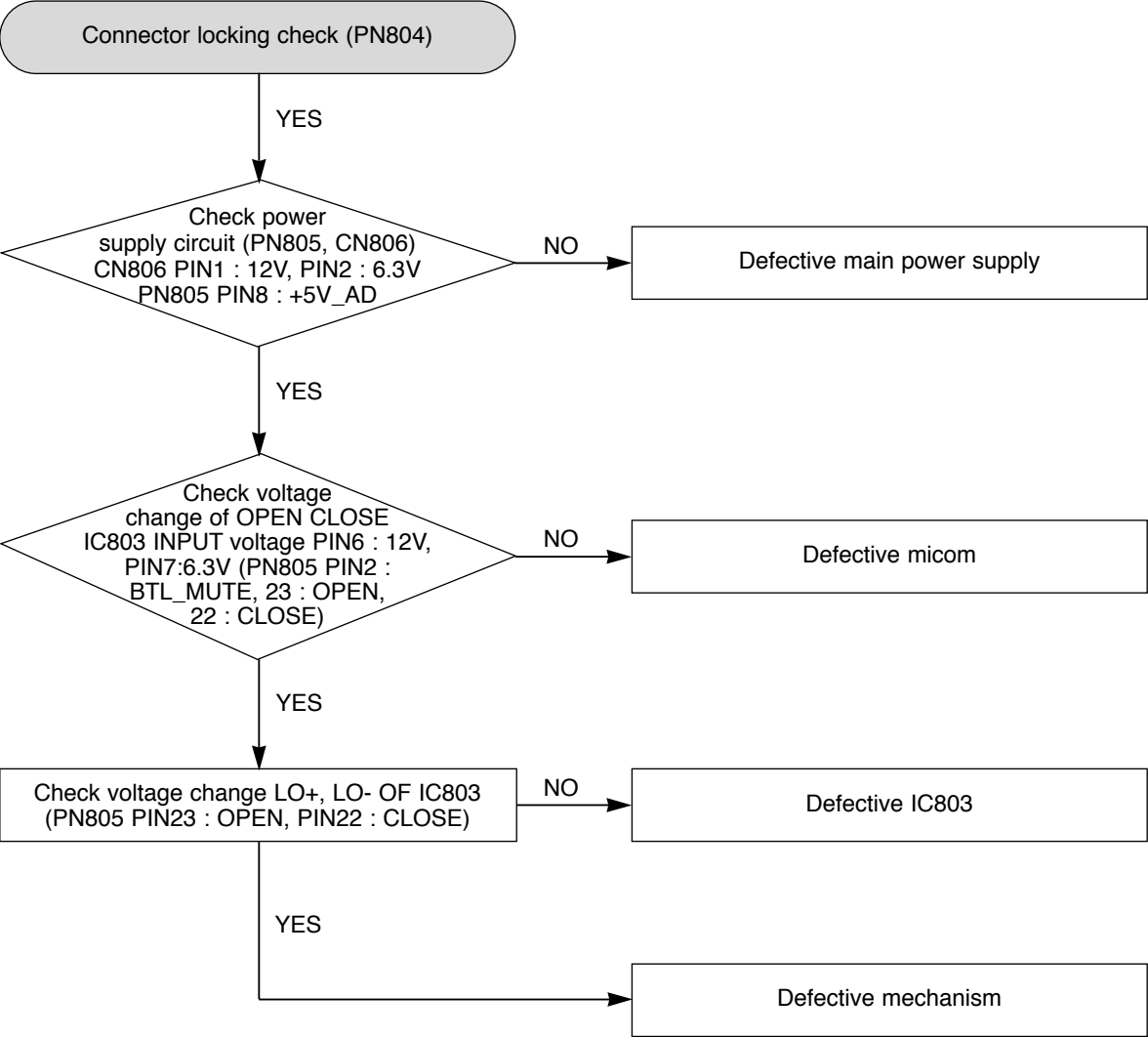
SECTION 4 CD PART ELECTRICAL

CD ELECTRICAL TROUBLESHOOTING GUIDE

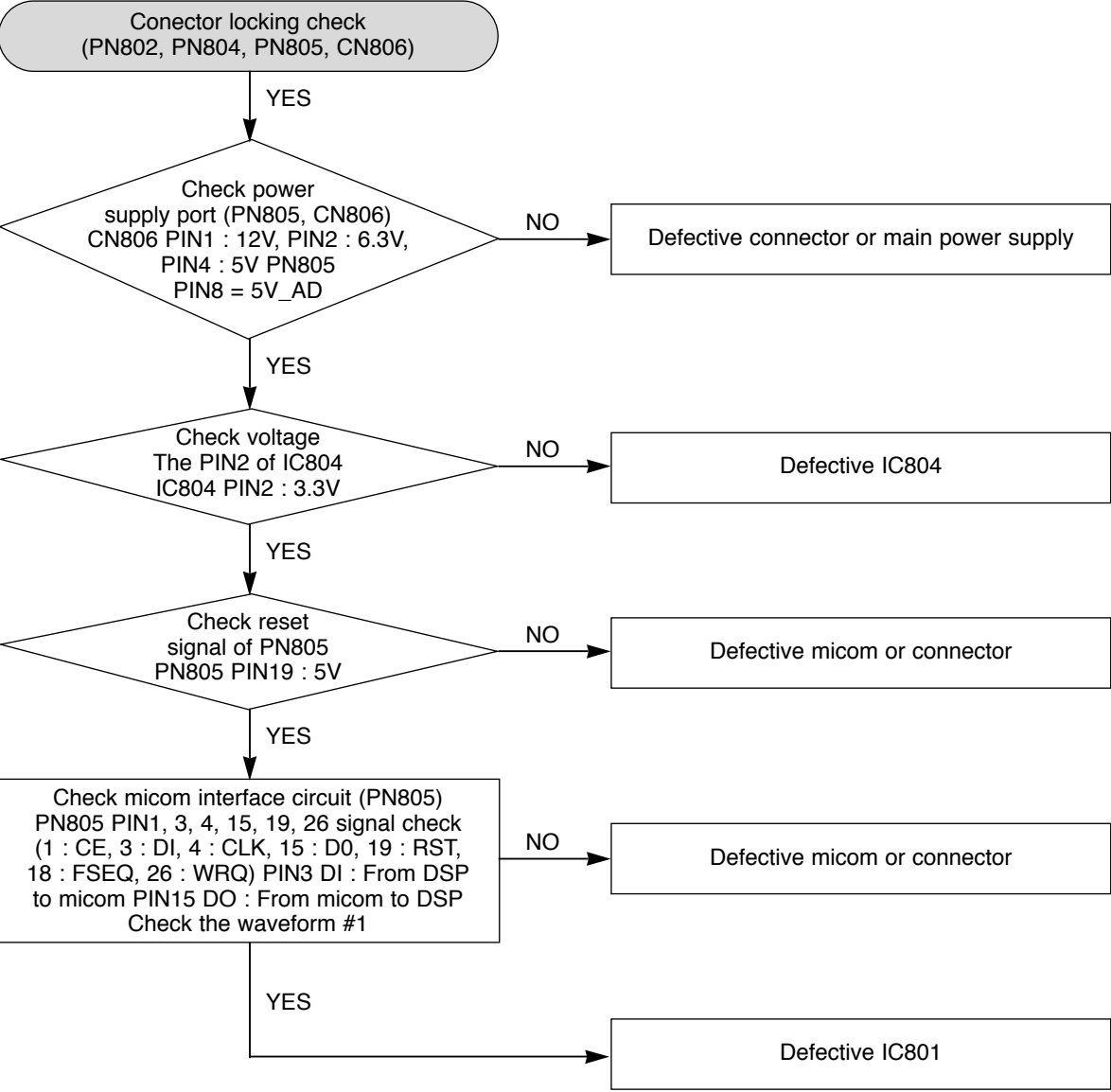
1. CD PART TROUBLESHOOTING



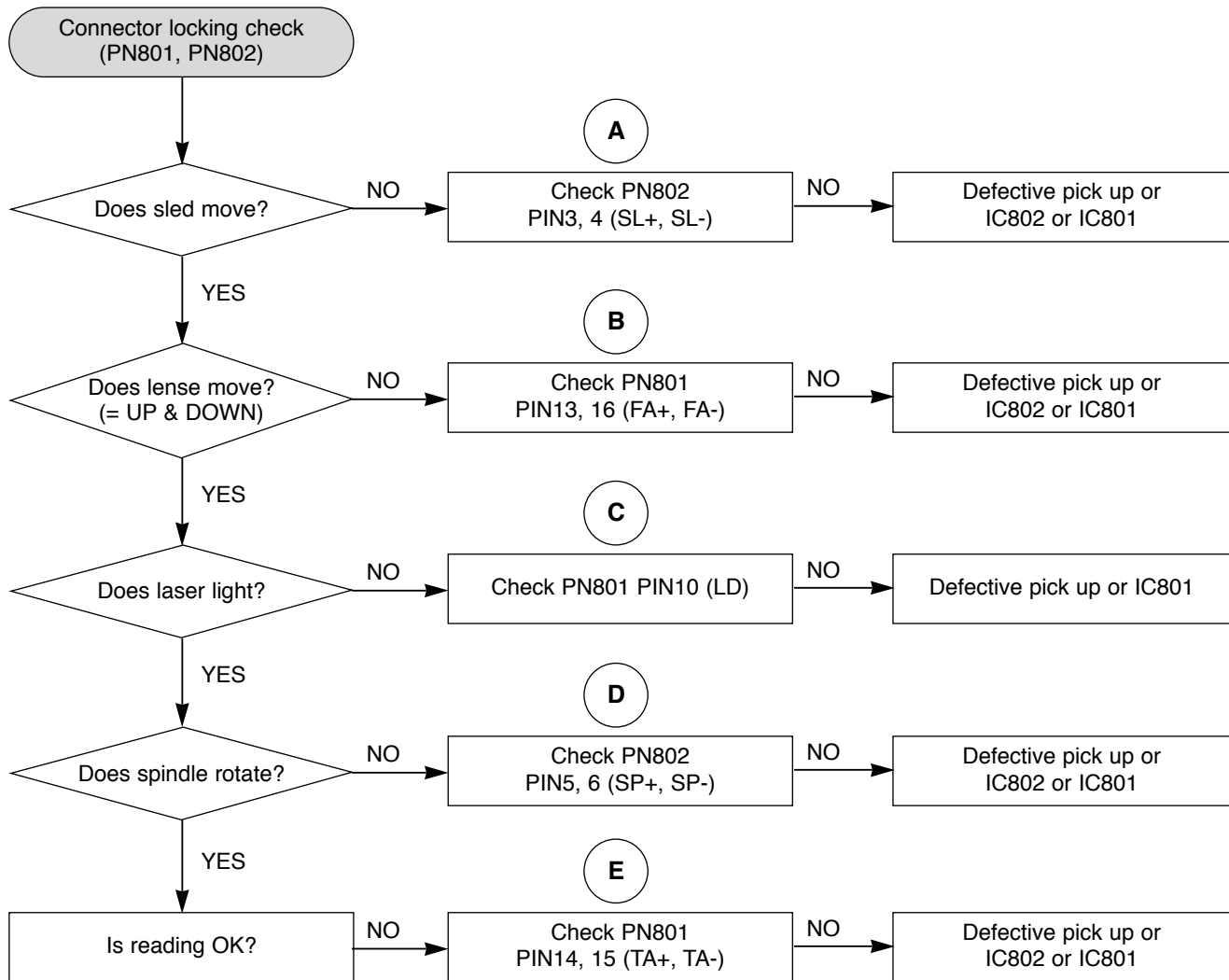
1-1. OPEN CLOSE NG



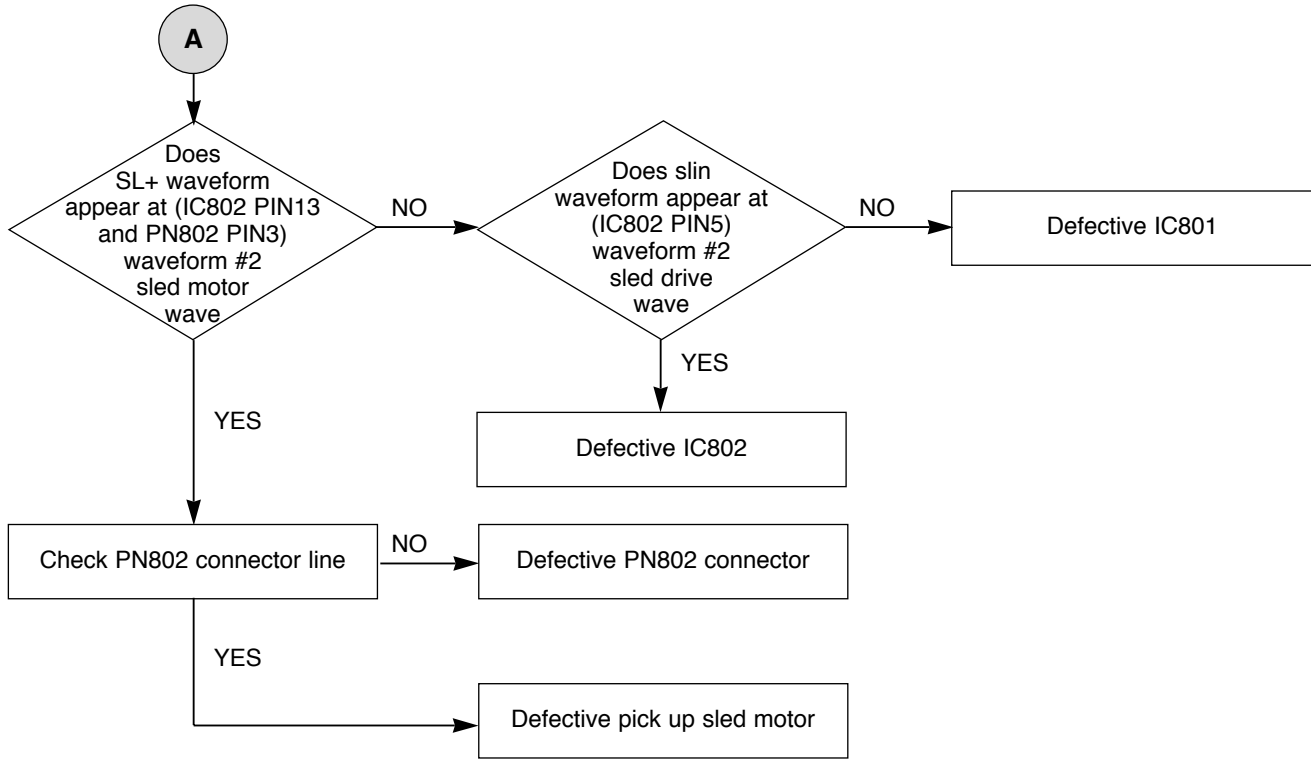
1-2. “READING” DISPLAY CHECK (= ONLY “CD” DISPLAY)



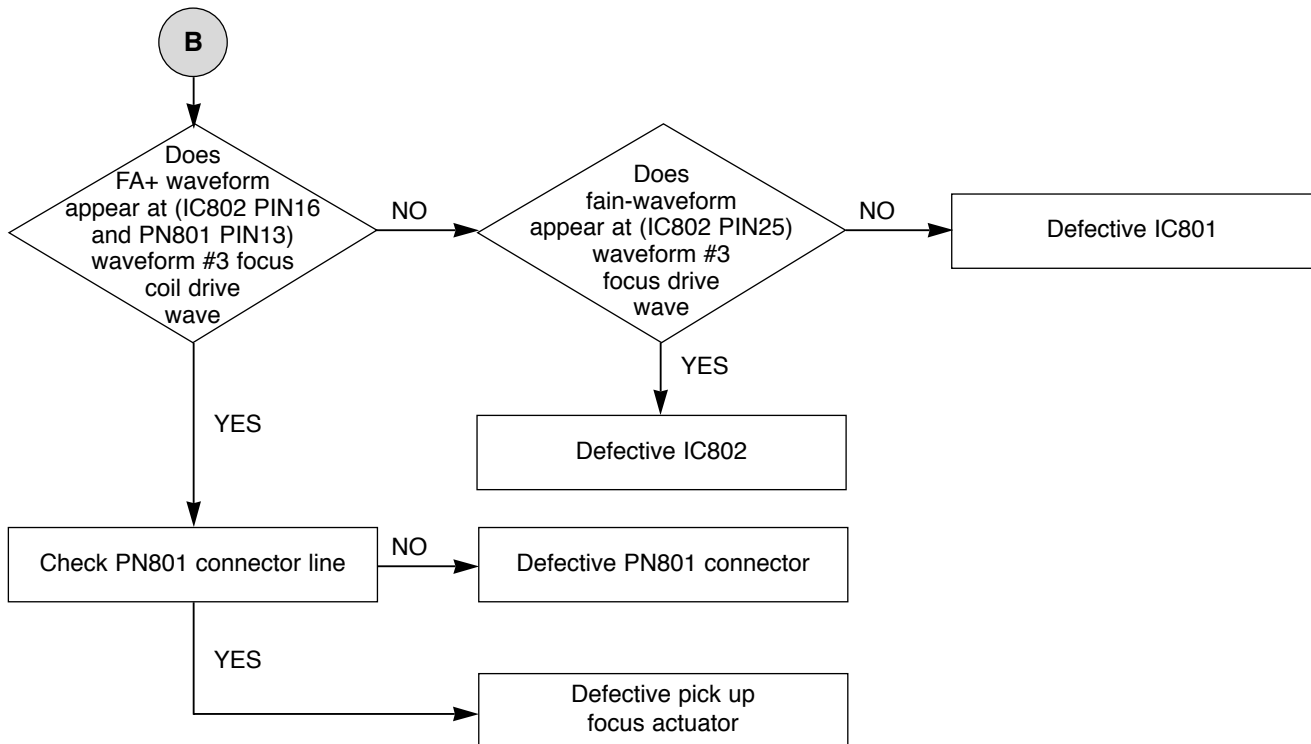
1-3. READING OK CHECK (= “NO DISC” DISPLAY)



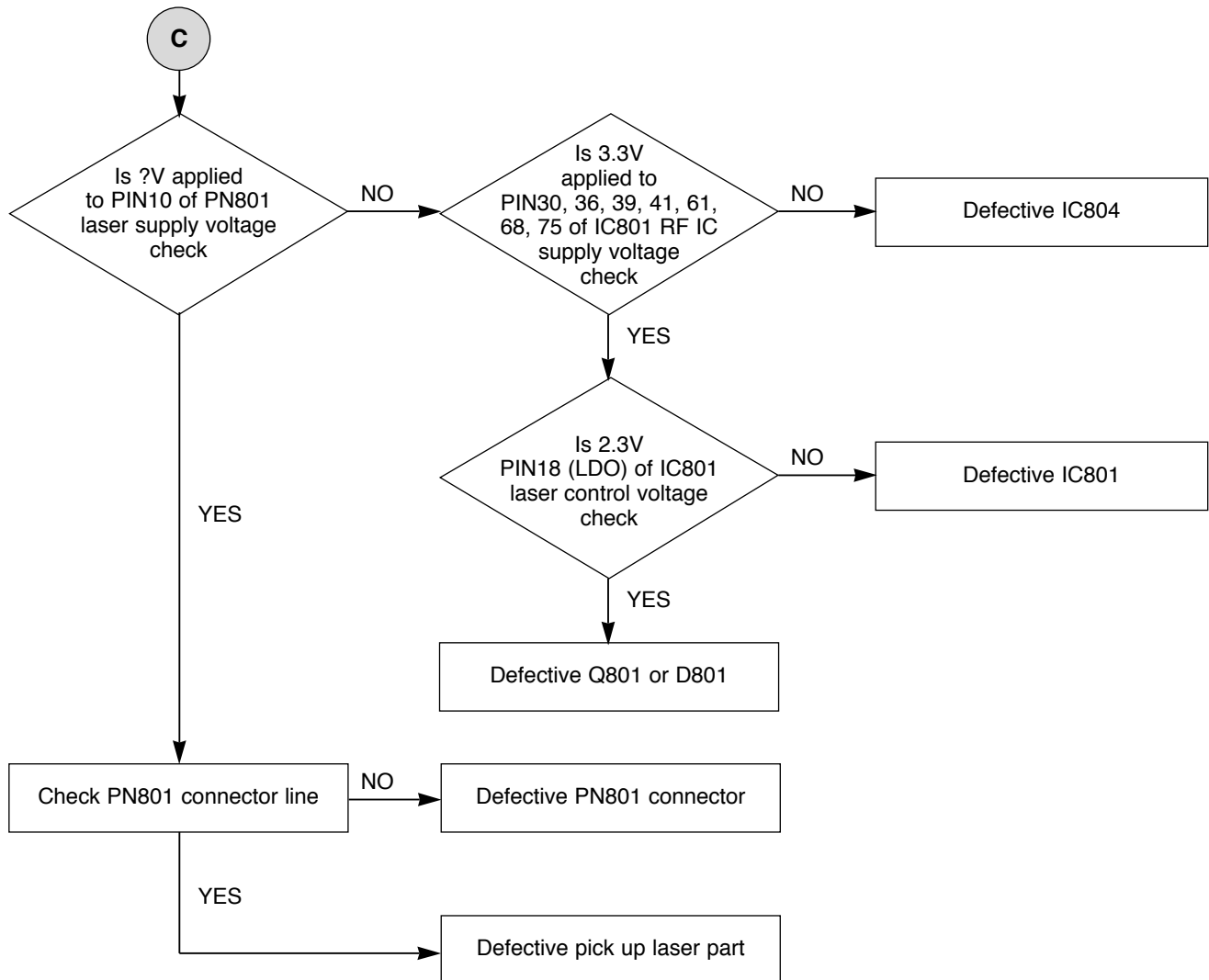
1-4. READING OK CHECK #A (= “NO DISC” DISPLAY)



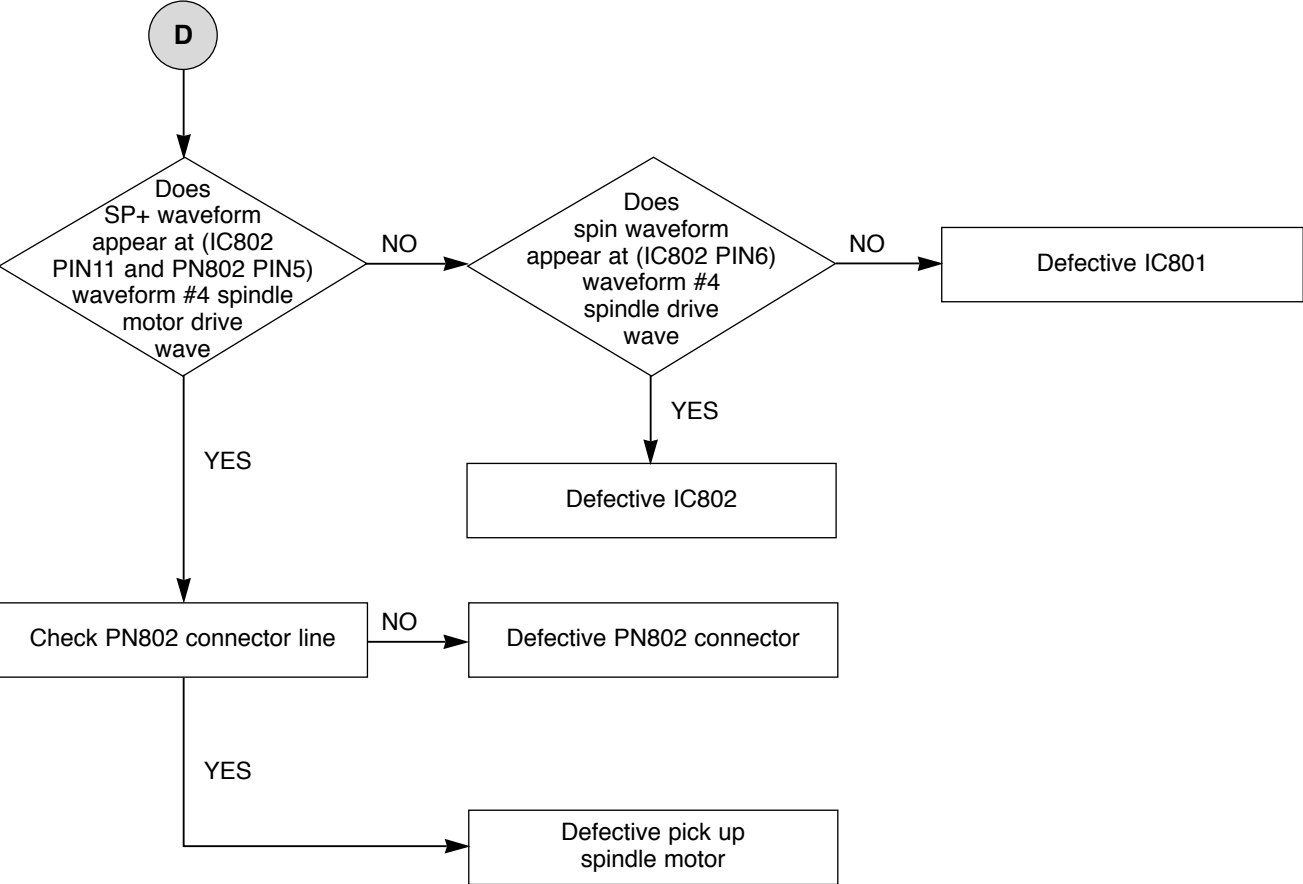
1-5. READING OK CHECK #B (= “NO DISC” DISPLAY)



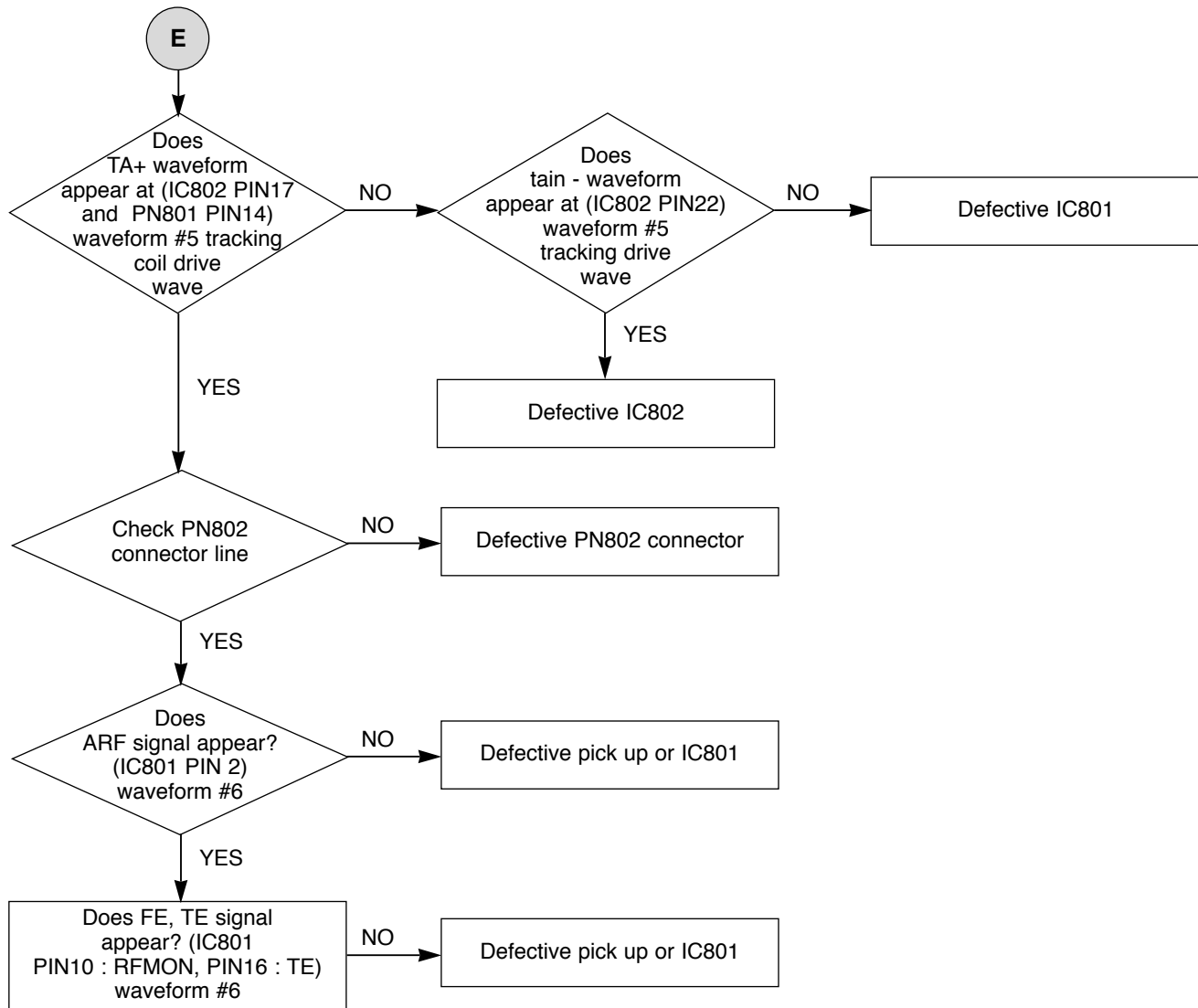
1-6. READING OK CHECK #C (= “NO DISC” DISPLAY)



1-7. READING OK CHECK #D (= “NO DISC” DISPLAY)

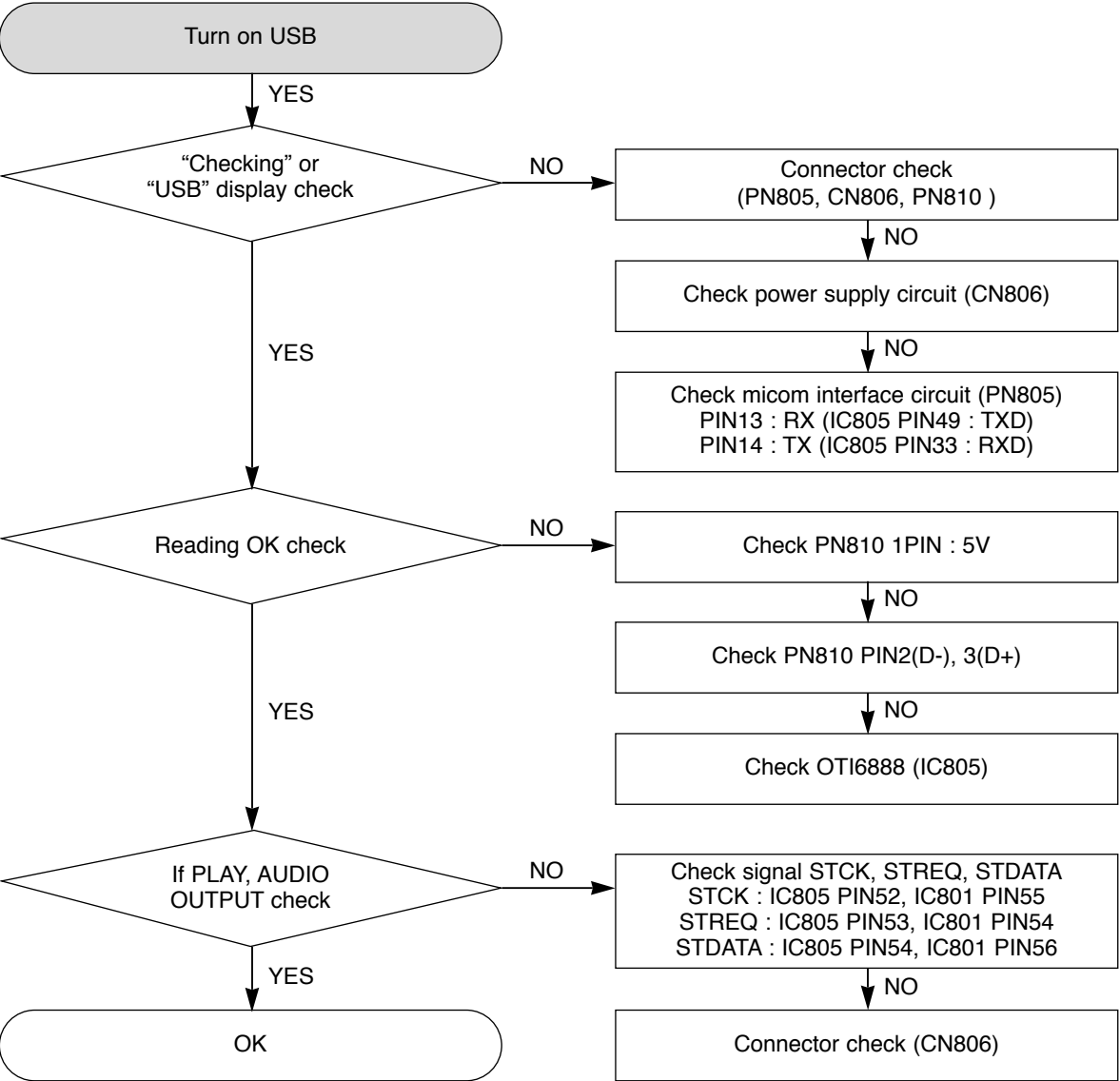


1-8. READING OK CHECK #E (= “NO DISC” DISPLAY)



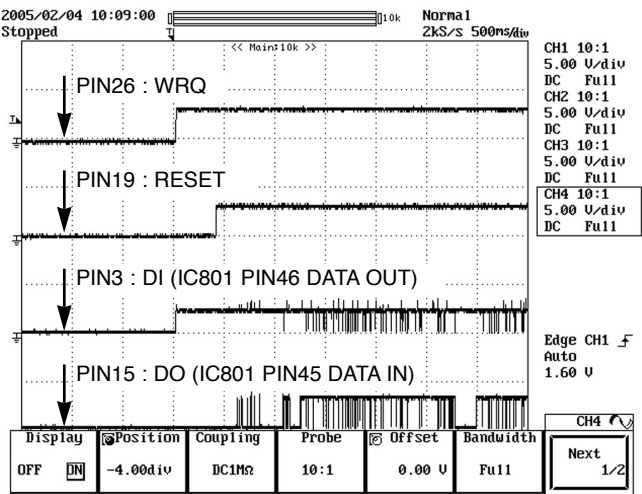
* REMON is FE

2. USB PART TROUBLESHOOTING

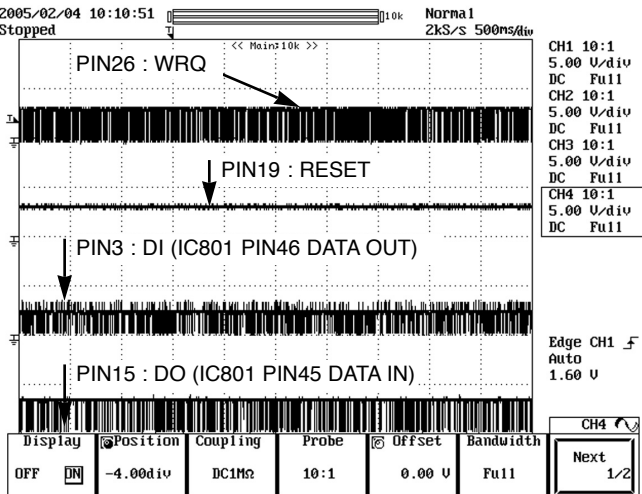


WAVEFORMS OF MAJOR CHECK POINT

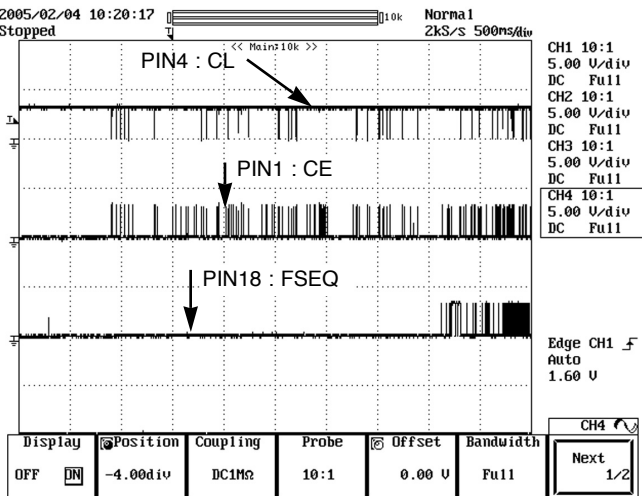
#1.MICOM INTERFACE WAVEFORM
(PN805 PIN26, 19, 3, 15) during power on



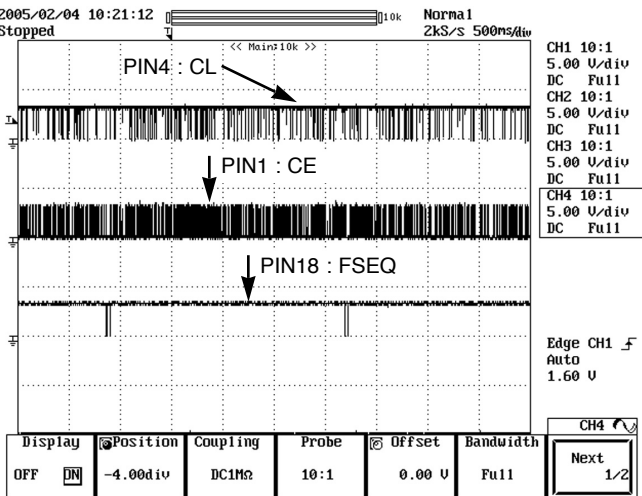
#1.MICOM INTERFACE WAVEFORM
(PN805 PIN26, 19, 3, 15) during normal play



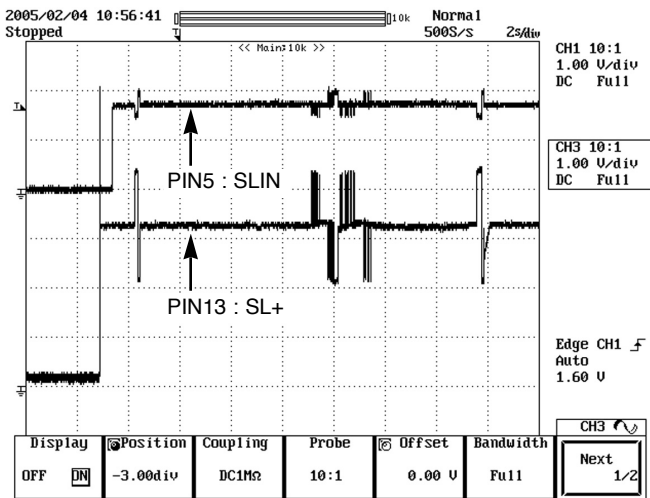
#1.MICOM INTERFACE WAVEFORM
(PN805 PIN4, 1, 18) during power on



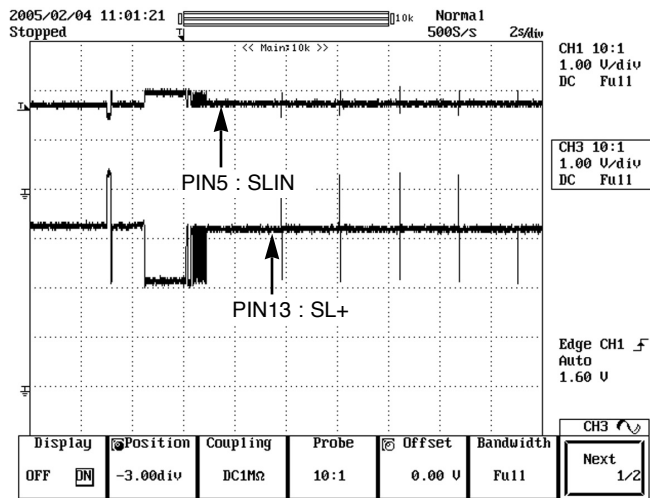
#1.MICOM INTERFACE WAVEFORM
(PN805 PIN4, 1, 18) during normal play



#2.SLED DRIVE AND MOTOR WAVEFORM (IC802 PIN5, 13) when focus search

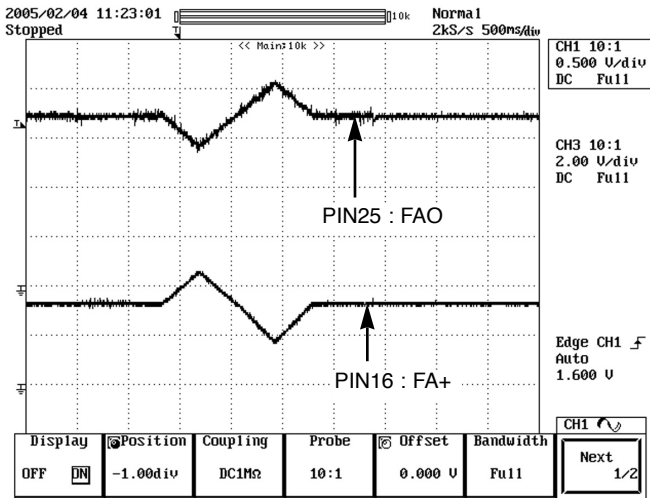


#2.SLED DRIVE AND MOTOR WAVEFORM (IC802 PIN5, 13) during normal play



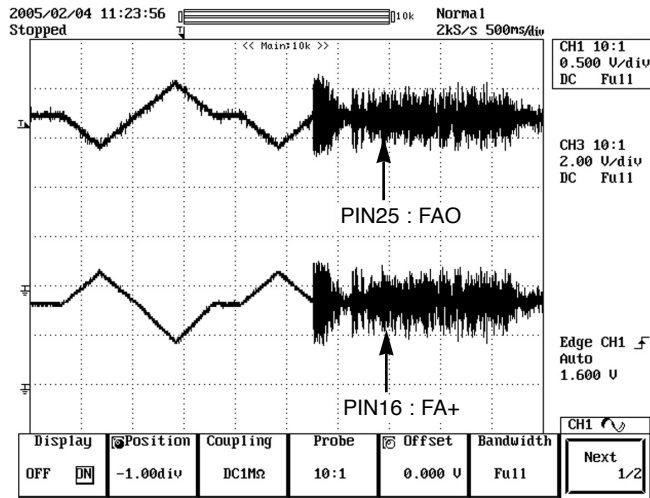
#3.FOCUS DRIVE AND MOTOR WAVEFORM (IC802 PIN25, IC802 PIN16)

- When focus search failed or there is no disc on tray

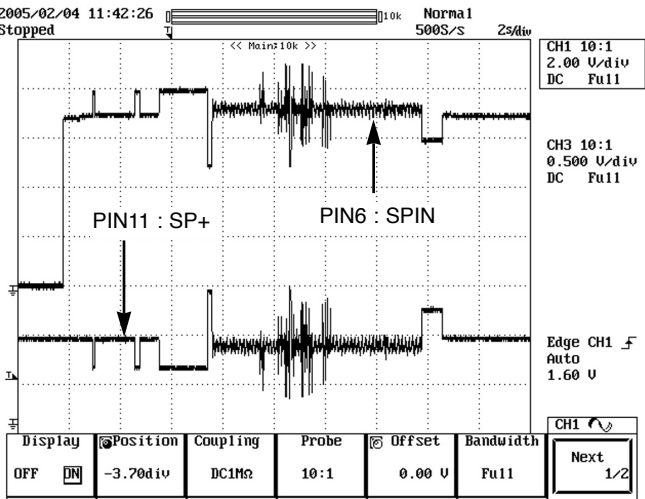


#3.FOCUS DRIVE AND MOTOR WAVEFORM (IC802 PIN25, IC802 PIN16)

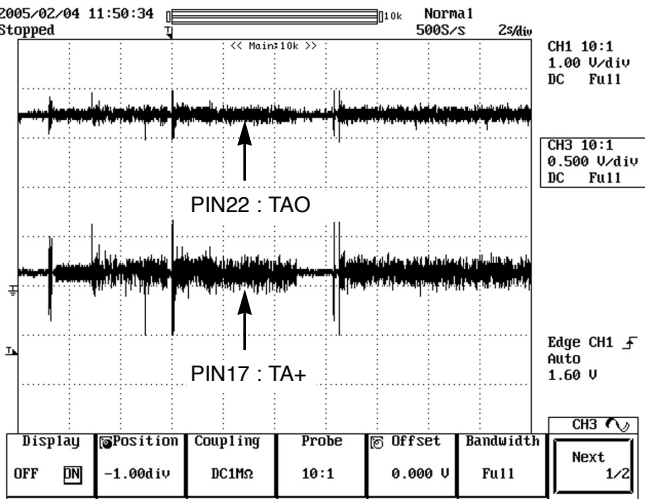
- There is disc on tray and focus search success



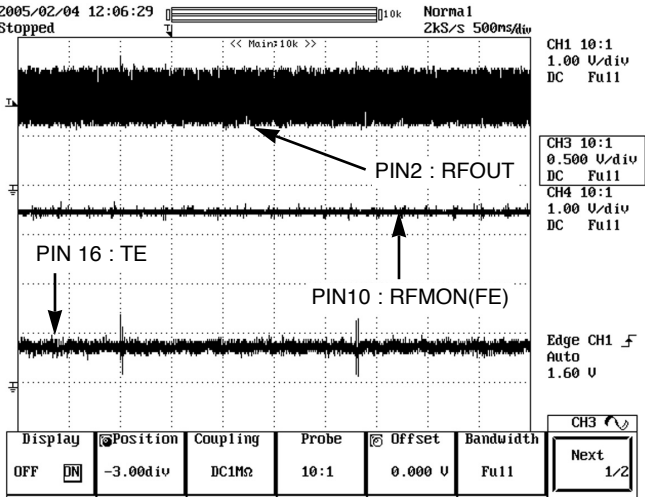
#4.SPINDLE DRIVE AND MOTOR WAVEFORM
(IC802 PIN6, 11) when TOC reading



#5.TRACK DRIVE AND MOTOR WAVEFORM
(IC802 PIN22, IC802 PIN17) during normal play

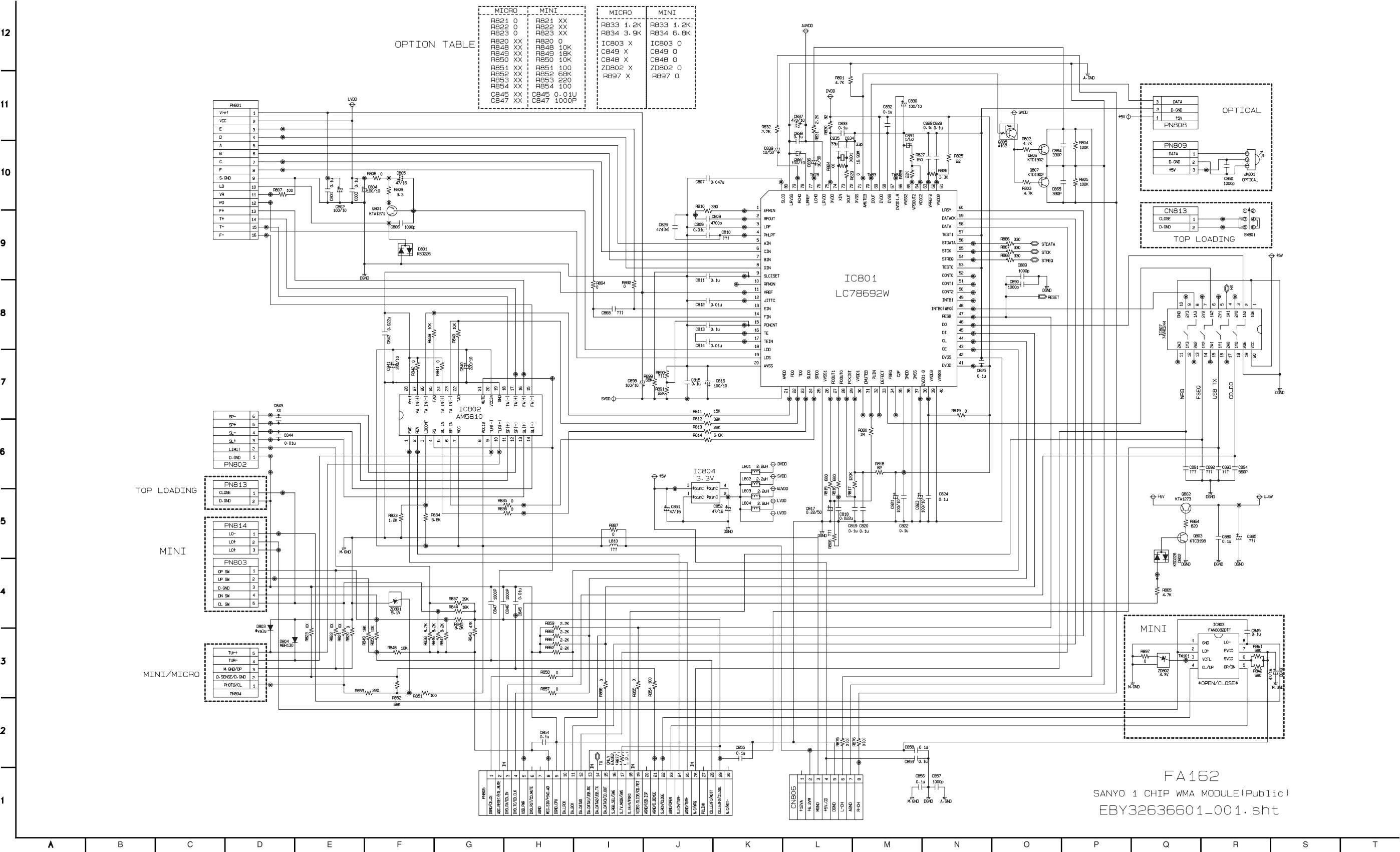


#6.RF, FOCUS AND TRACKING ERROR WAVEFORM
(IC801 PIN2, 10, 16) during normal play

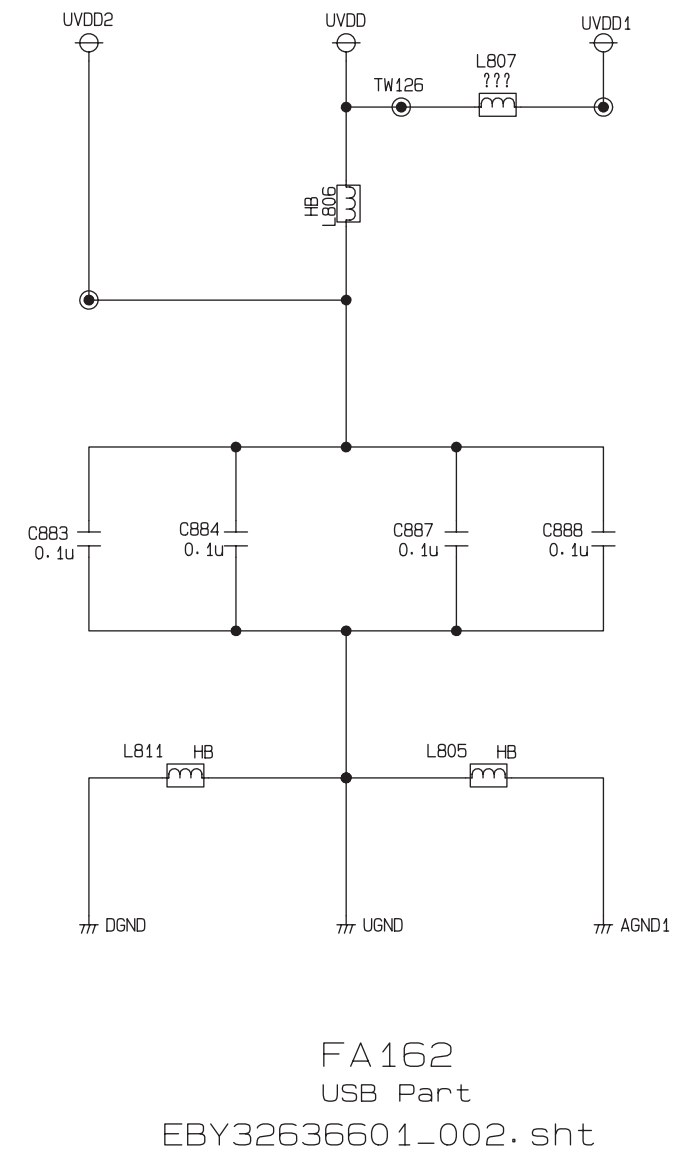
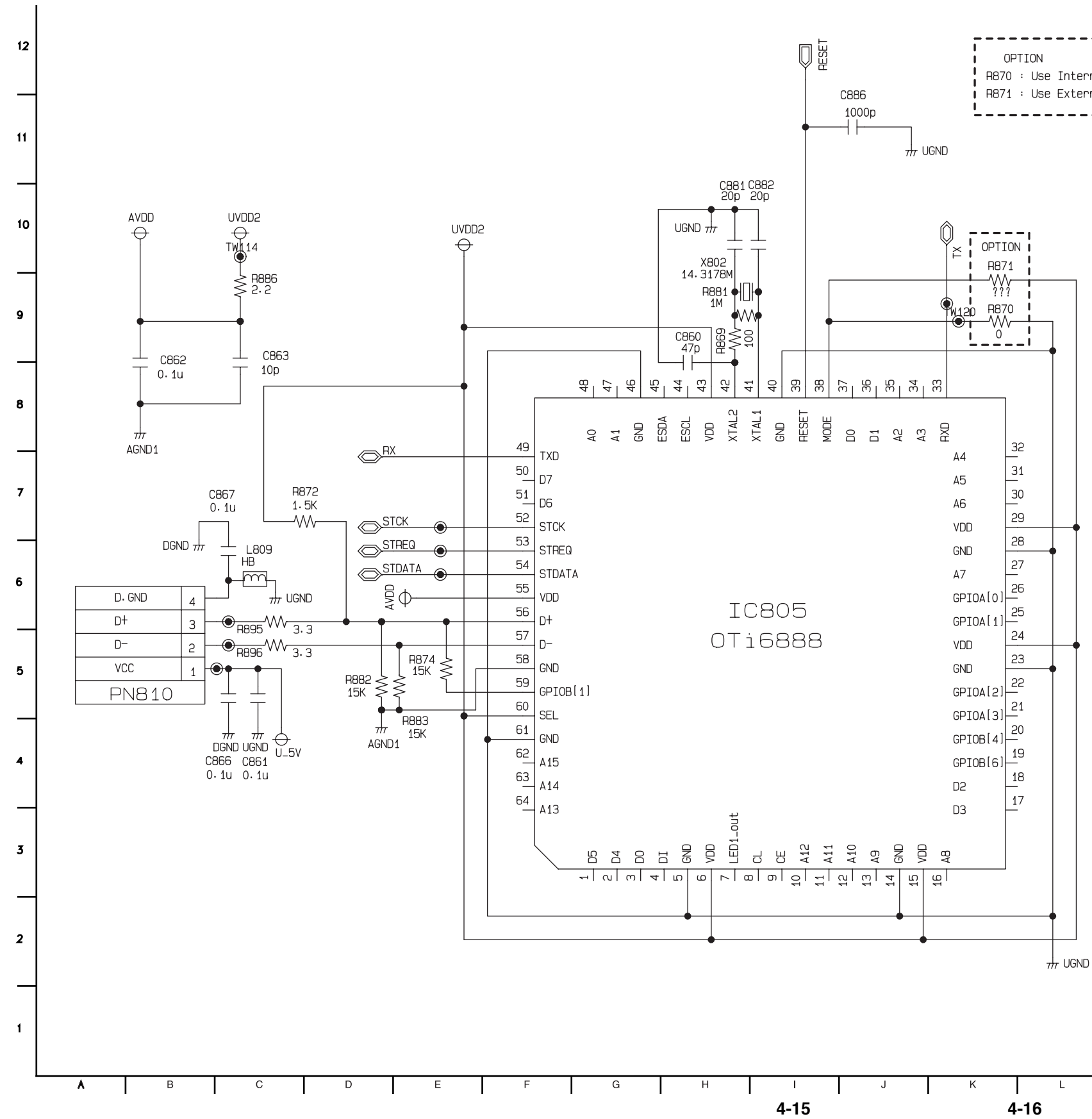


SCHEMATIC DIAGRAMS

1. CD SCHEMATIC DIAGRAM

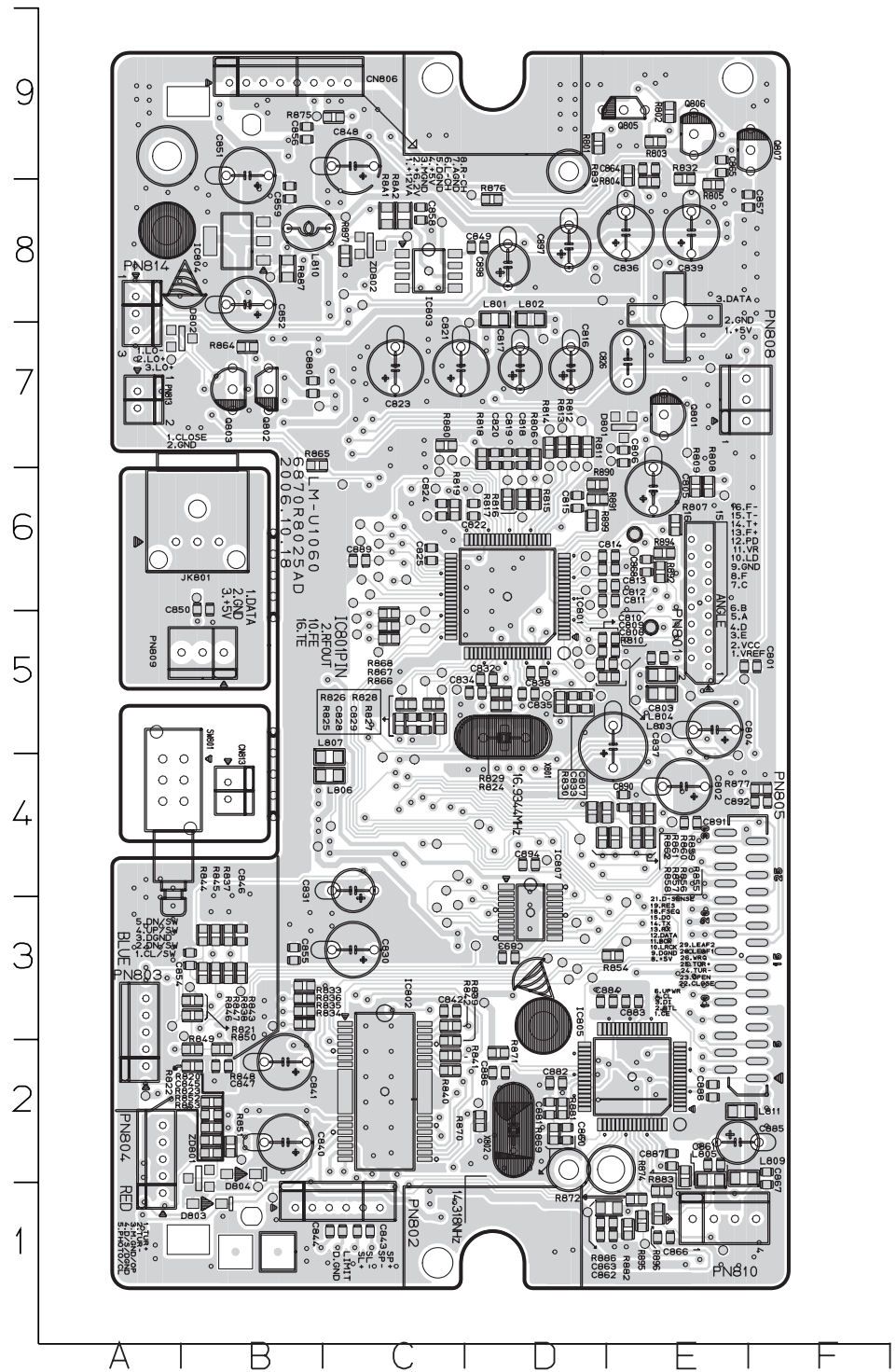


2. USB SCHEMATIC DIAGRAM

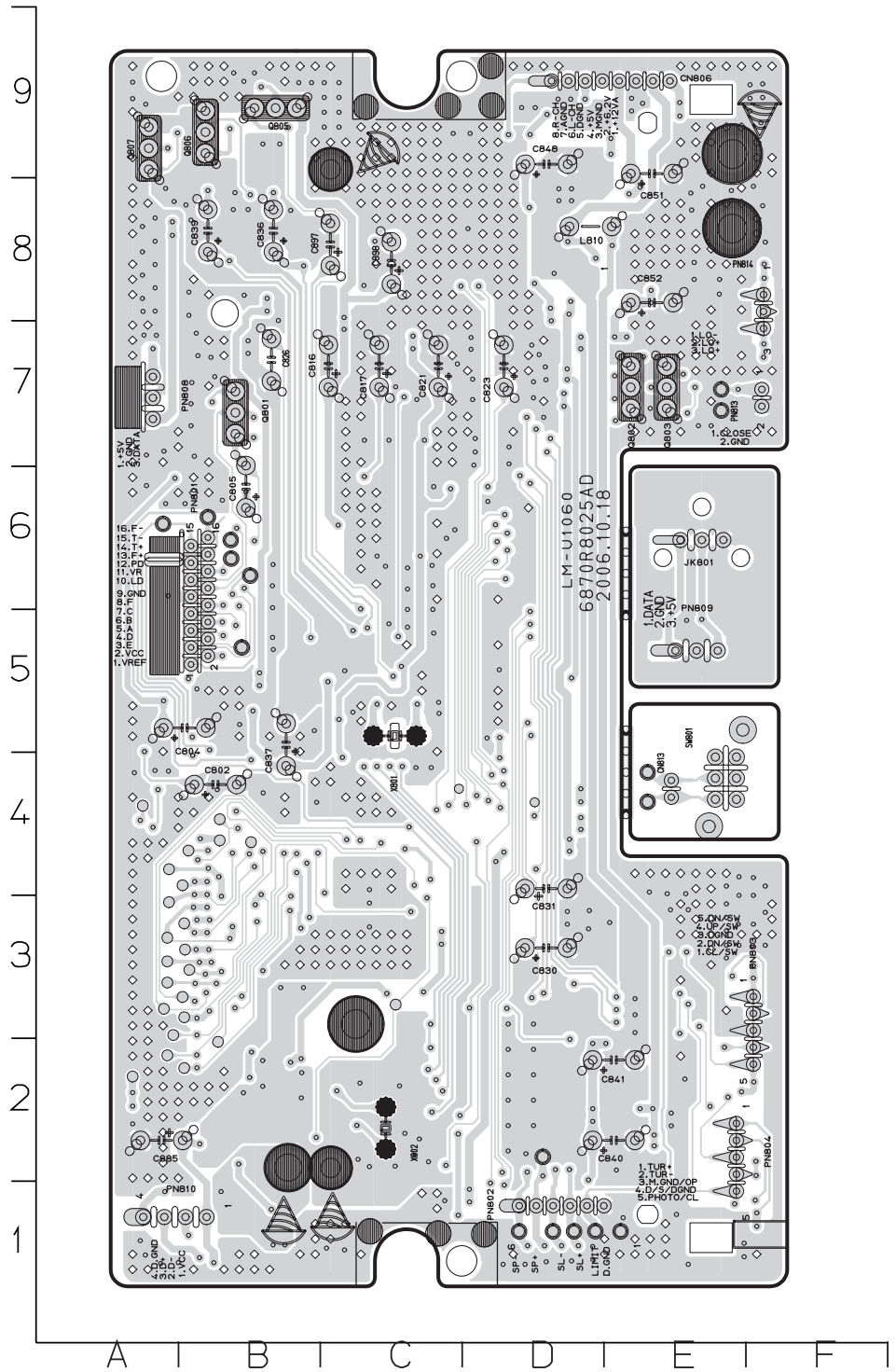


PRINTED CIRCUIT BOARD DIAGRAM

CD P.C.BOARD
(TOP VIEW)



(BOTTOM VIEW)



MEMO

Handwriting practice area for page 4-19, featuring 20 horizontal dotted lines.

MEMO

Handwriting practice area for page 4-20, featuring 20 horizontal dotted lines.