



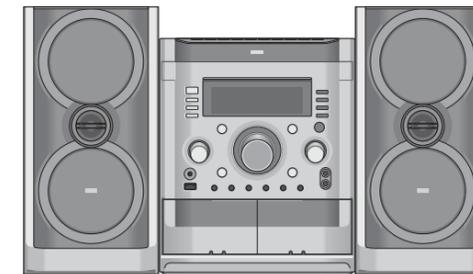
SERVICE MANUAL

MODEL : MDD262(MDS262V)

KARAOKE MINI HOME THEATER SERVICE MANUAL

CAUTION

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



MODEL : MDD262(MDS262V)



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SECTION 1 GENERAL

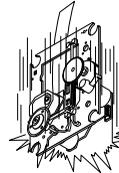
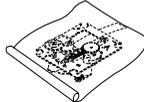
SERVICING PRECAUTIONS

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.

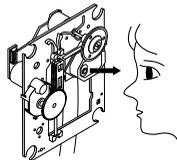
Storage in conductive bag



Drop impact

2. Repair notes

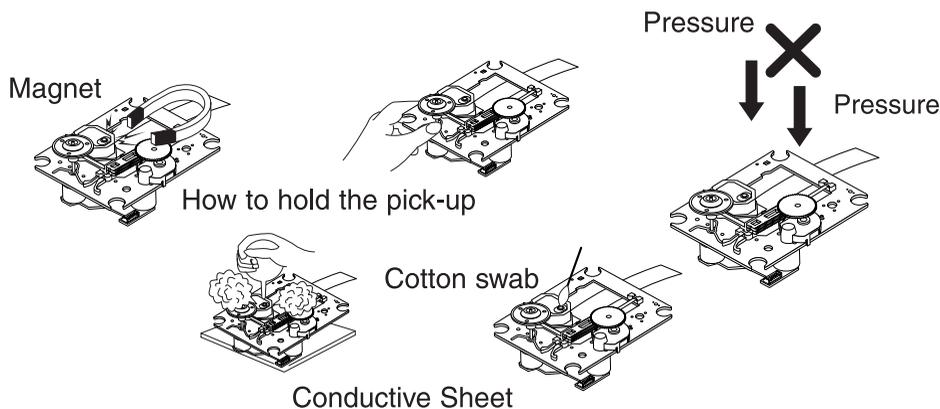
- 1) The pick-up incorporates a strong magnet, and so should never be brought close to magnetic materials.
- 2) The pick-up should always be handled correctly and carefully, taking care to avoid external pressure and impact. If it is subjected to strong pressure or impact, the result may be an operational 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.

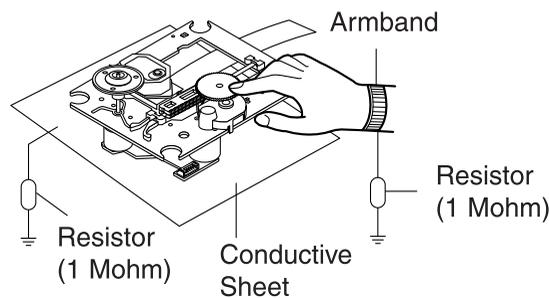
NOTES REGARDING COMPACT DISC PLAYER REPAIRS

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

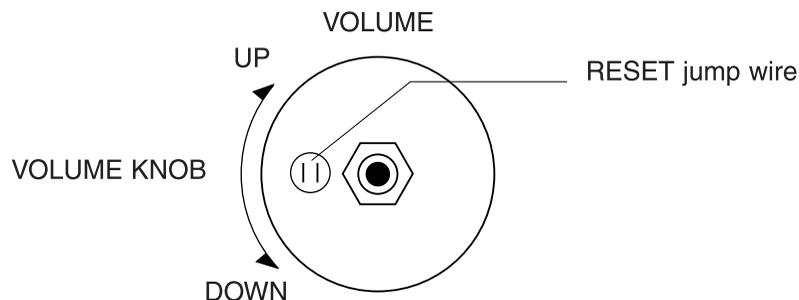
- 1) Before replacing a component part, first disconnect the power supply lead wire from the unit
- 2) All equipment, measuring instruments and tools must be grounded.
- 3) The workbench should be covered with a conductive sheet and grounded.
When removing the laser pick-up from its conductive bag, do 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.



ESD PRECAUTIONS

Electrostatically Sensitive Devices (ESD)

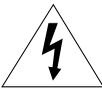
Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called electrostatically sensitive devices (ESD). Examples of typical ESD devices are integrated circuits and some field-effect transistors and semiconductor chip components. The following 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 know 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 ESD 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 ESD devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ESD devices.
5. Do not use freon-propelled chemicals These can generate electrical charges sufficient to damage ESD devices.
6. Do not remove a replacement ESD device from its protective package until immediately before you are ready to install it. (Most replacement ESD devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive materials).
7. Immediately before removing the protective material from the leads of a replacement ESD 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.

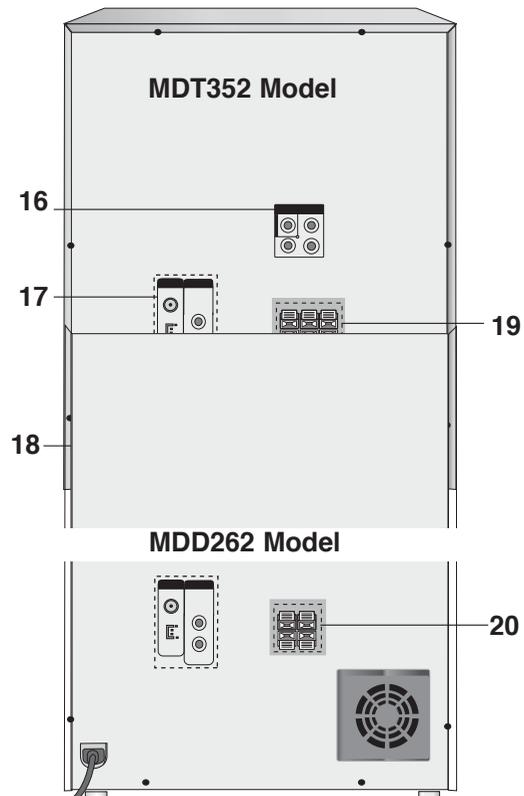
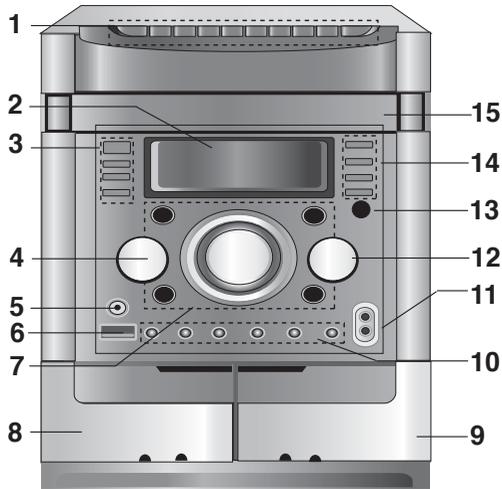
8. Minimize bodily motions when handing unpackaged replacement ESD devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ESD device).

[CAUTION. GRAPHIC SYMBOLS]

	THE LIGHTNING FLASH WITH ARROWHEAD 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.

LOCATION OF USERS CONTROLS

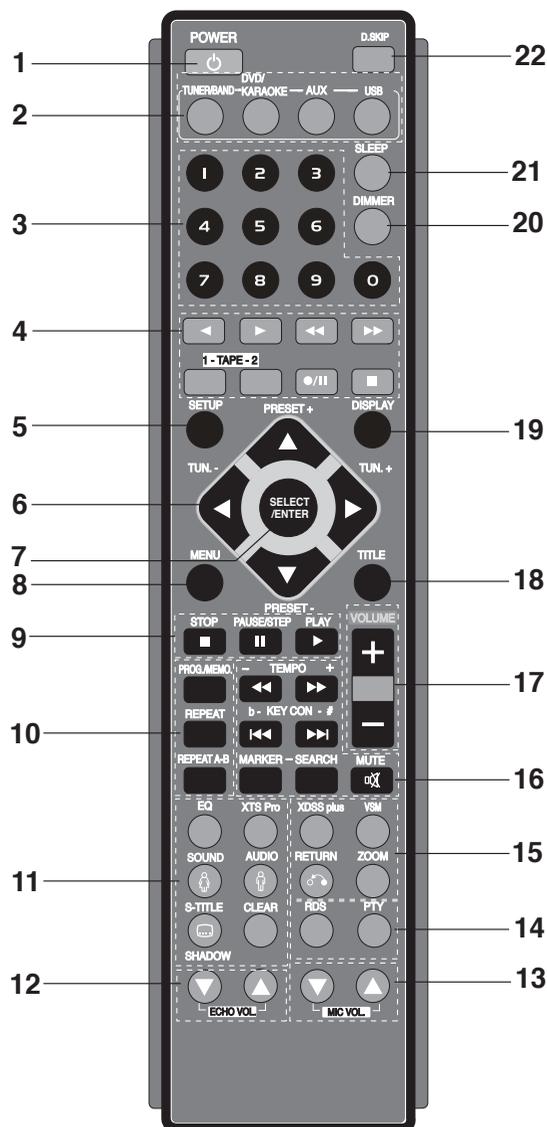
FRONT / BACK PANEL



1. NUMERIC buttons (0-9)
2. DISPLAY WINDOW
3. • (⏻/⏹)POWER button
 - CLOCK button
 - TIMER button
 - DUBBING (DUBB.) / CD SYNCHRO RECORDING (CD SYNC.) / (ST./MO.) button
4. MULTI JOG
 - MANUAL TUNING
 - CD SKIP
 - CLOCK ADJUST
 - (b-KEY CON-#) KEY CONTROL
5. HEADPHONE Jack (PHONES): ø3.5 mm
6. USB (↔) connector
7. • FUNCTION SELECT buttons (TUNER, TAPE, KARAOKE/DVD/CD, AUX)
 - EQ button
 - XTS-PRO button
 - USB button
 - XDSS Plus button
 - Volume control knob
8. ▲ PUSH EJECT position (TAPE 1)
9. ▲ PUSH EJECT position (TAPE 2)
10. • RECORD/RECORD PAUSE (● REC/⏸) button
 - TUN.(-/+) buttons -AUTO TUNING / REWIND / FAST FORWARD (◀◀/▶▶) -TAPE/ SCAN (◀◀/▶▶) /TEMPO (-/+) buttons -CD
 - PRESET (-/+) buttons / TAPE REVERSE PLAY (◀) button (OPTIONAL) / TAPE FORWARD PLAY (▶) button
 - STOP (■ STOP) button

11. MIC JACKS (MIC1, MIC2): ø6.3 mm : OPTIONAL
12. MIC VOLUME knob
13. Remote control sensor
14. • OPEN/CLOSE (▲ OP/CL) button
 - DISC SKIP (D.SKIP) button
 - PLAY MODE, DEMO button
 - SET/CD ⏸, RDS (OPTIONAL) button
15. DISC DOOR
16. • COMPONENT VIDEO OUT (PROGRESSIVE SCAN) (Y Pb Pr) Connector
 - VIDEO OUT Connector
17. • FM/AM ANTENNA Connector
 - AUXILIARY INPUT (AUX IN) connector
18. POWER CORD
19. SPEAKER Connectors (MDT352 Model)
20. SPEAKER Connectors (MDD262 Model)

REMOTE CONTROL



1. POWER button
2. FUNCTION SELECT buttons
(TUNER/BAND, DVD/KARAOKE, AUX, USB)
3. NUMERIC buttons (0-9)
4. TAPE FUNCTION buttons
 - REVERSE PLAY (◀)
 - PLAY (▶)
 - REWIND / FAST FORWARD PLAY (◀◀/▶▶)
 - TAPE 1-2 SELECT buttons (1-TAPE-2)
 - RECORD / RECORD PAUSE (●/||)
 - TAPE STOP (■)
5. SETUP button
6. • ARROW buttons (▲/▼/◀/▶)
(Selects an option in the menu)
 - PRESET (-/+) buttons (▲/▼)
 - TUN. (-/+) buttons (◀/▶)
7. SELECT/ENTER button
8. MENU button
(Use the MENU button to display the menu screen included on DVD video discs.)
9. STOP (■), PAUSE(||)/ STEP, PLAY (▶) buttons
10. PROG./MEMO., REPEAT, REPEAT A-B buttons
11. EQ ,XTS-Pro, SOUND / FEMALE(♀),
AUDIO / MALE(♂), SUBTITLE (S-TITLE),
SHADOW, CLEAR buttons
12. ECHO VOL. (●/●) buttons
13. MIC VOL. (●/●) buttons
14. RDS, PTY buttons - OPTIONAL
15. XDS plus, VSM (Virtual Sound Matrix), ZOOM,
RETURN (↶) buttons
16. • MARKER, SEARCH, MUTE(🔇) buttons
 - TEMPO (-/+)/ SCAN (◀◀/▶▶)
 - KEY CON (b/#)/ SKIP (◀◀/▶▶)
17. VOLUME -/+ buttons
18. TITLE button
(Use the TITLE button to display the title screen included on DVD video discs.)
19. DISPLAY button
20. DIMMER button
21. SLEEP button
22. DISC SKIP (D.SKIP) button

SPECIFICATIONS

• GENERAL

Power supply	Refer to the main label.
Power consumption	Refer to the main label.
Net Weight	8.65kg (MDT352) 5.9kg (MDD262)
External dimensions (W x H x D)	280 X 365 X 370mm

• TUNER/AMPLIFIER

FM Tuning Range	87.5 ~ 108.0MHz or 65 ~ 74MHz, 87.5 ~ 108.0MHz
Intermediate Frequency	10.7MHz
Signal to Noise Ratio	60/55dB (Mono/Stereo)
Frequency Response	140 ~ 10000Hz
AM Tuning Range	522 ~ 1620kHz or 520 ~ 1720kHz
Intermediate Frequency	450kHz
Signal to Noise Ratio	30dB
Frequency Response	140 ~ 1800Hz
Output Power	Front: 130W + 130W (4Ω, THD 10%)(MDD262) 100W + 100W (4Ω, THD 10%)(MDT352) Subwoofer: 150W (3Ω, THD 10%)(MDT 352)
T.H.D	0.5%
Frequency Response	42 ~ 20000Hz
Signal-to-noise ratio	75dB

• DVD/VCD/CD PLAYER

Frequency response (audio)	40 ~ 20000Hz
Signal-to-noise ratio (audio)	More than 75dB (1kHz)
Signal-to-noise ratio (video)	More than 55dB (1kHz)
Dynamic range (audio)	More than 75dB
Video output	1.0V (p-p), 75Ω
S-video output	(Y) 1.0V (p-p), 75Ω (C) 0.3V (p-p), 75Ω
Component Video output	(Y) 1.0V (p-p), 75Ω (Pb)/(Pr) 0.7V (p-p), 75Ω

• CASSETTE TAPE PLAYER

Tape Speed	3000 ± 3% (MTT-111. NORMAL-SPEED)
Wow Flutter	0.25% (MTT-111, JIS-WTD)
F.F/REW. Time	120sec (C-60)
Frequency Response	250 ~ 8000Hz
Signal to Noise Ratio	43dB
Channel Separation	45dB (P/B)/45dB (R/P)
Erase Ratio	55dB (MTT-5511)

• SPEAKERS

Speaker Name	Front Speaker (L/R) (MDS352V / MDS262V)
Type	Bass Reflex 2Way 3Speaker
Impedance	4Ω
Frequency Response	55 ~ 20000Hz
Sound Pressure Level	82dB/W (1m)
Rated Input Power	130W
Max. Input Power	260W
Net Dimensions (W x H x D)	212 X 414 X 305mm
Net Weight	6.3kg

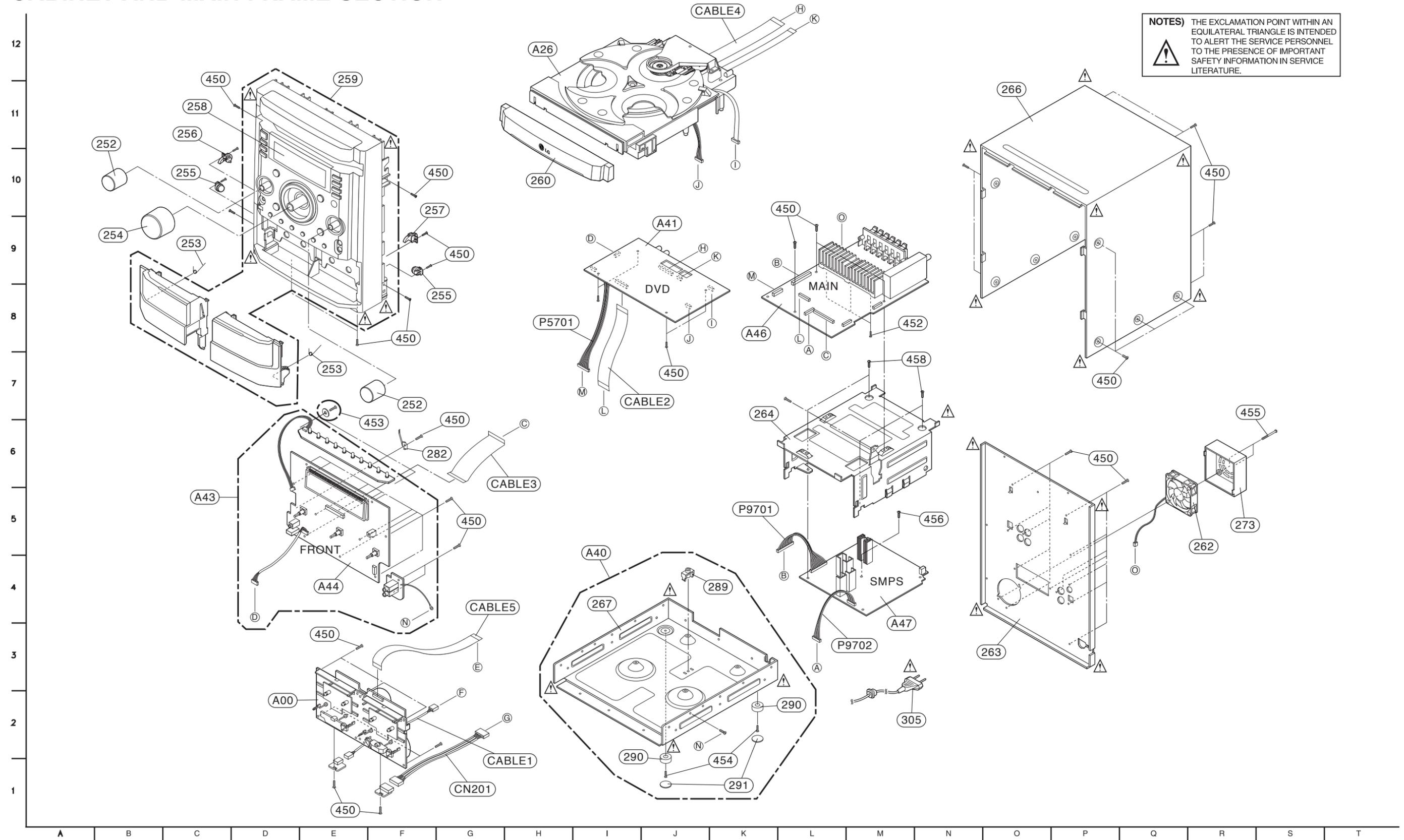
Speaker Name	Subwoofer (MDS352W)
Type	Bass Reflex 1Way 1Speaker
Impedance	3Ω
Frequency Response	50 ~ 1500Hz
Sound Pressure Level	82dB/W (1m)
Rated Input Power	180W
Max. Input Power	360W
Net Dimensions (W x H x D)	212 X 414 X 305mm
Net Weight	6.3kg

MEMO

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SECTION 2 EXPLODED VIEWS

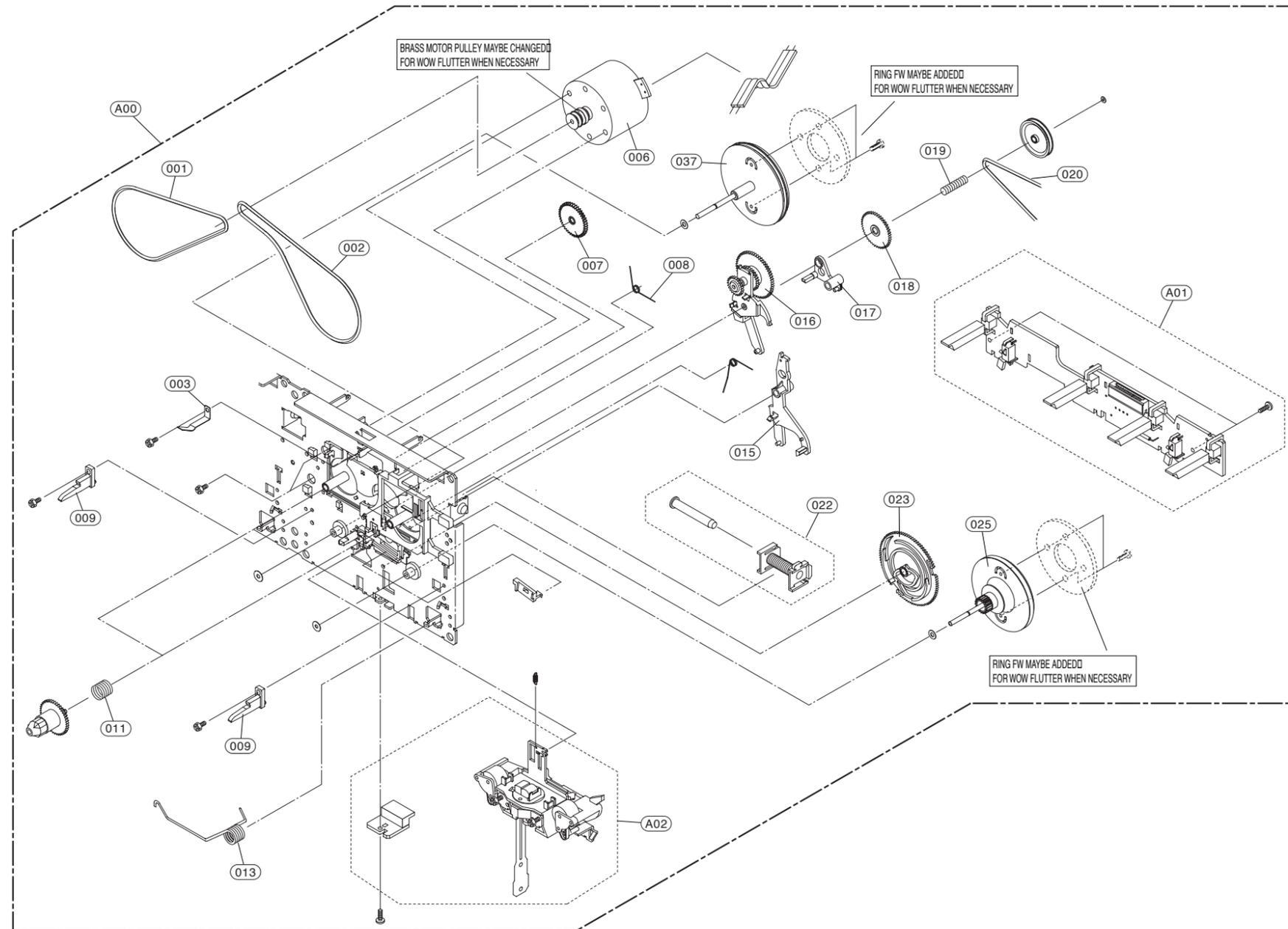
CABINET AND MAIN FRAME SECTION



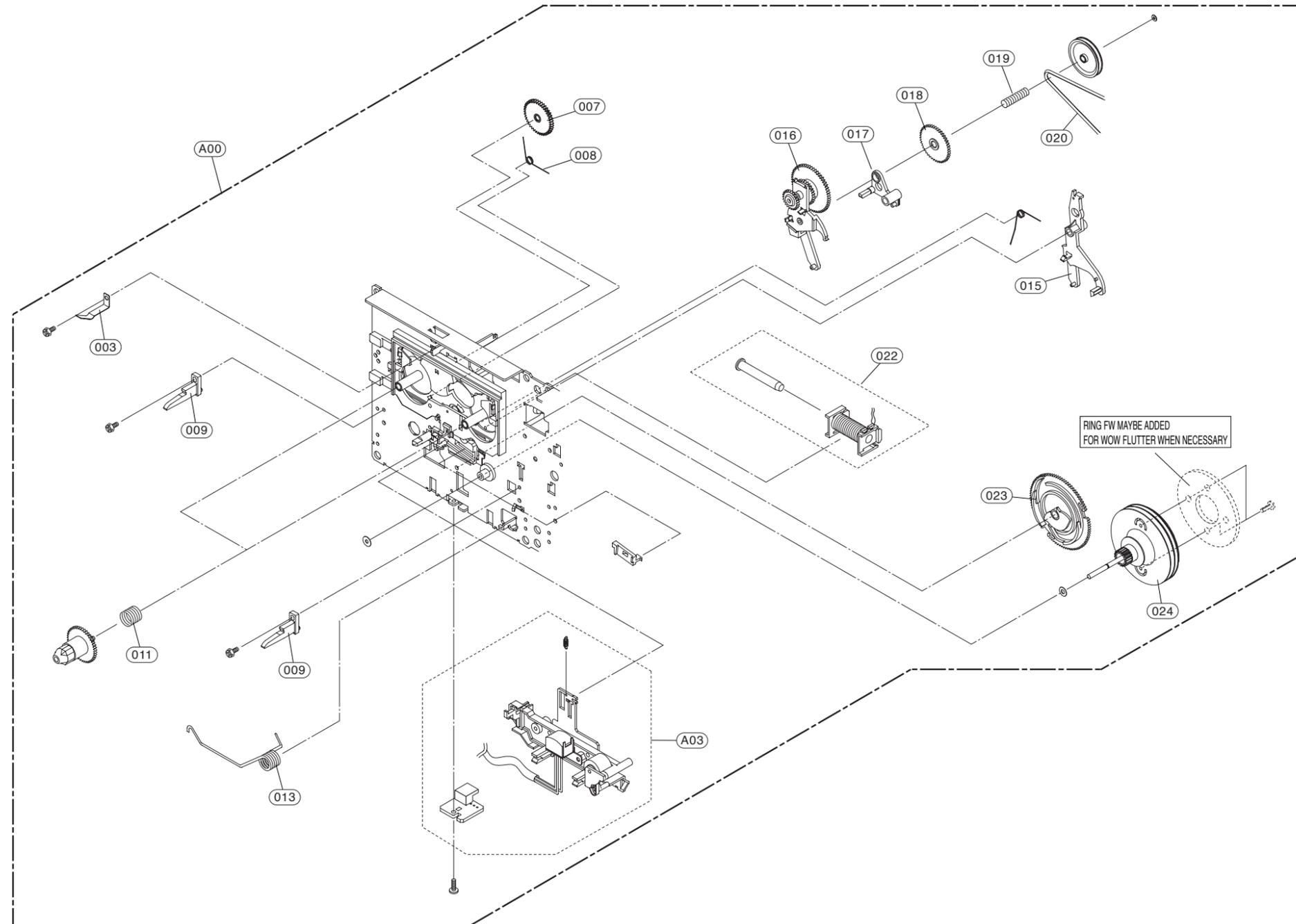
NOTES) THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF IMPORTANT SAFETY INFORMATION IN SERVICE LITERATURE.

TAPE DECK MECHANISM EXPLODED VIEW

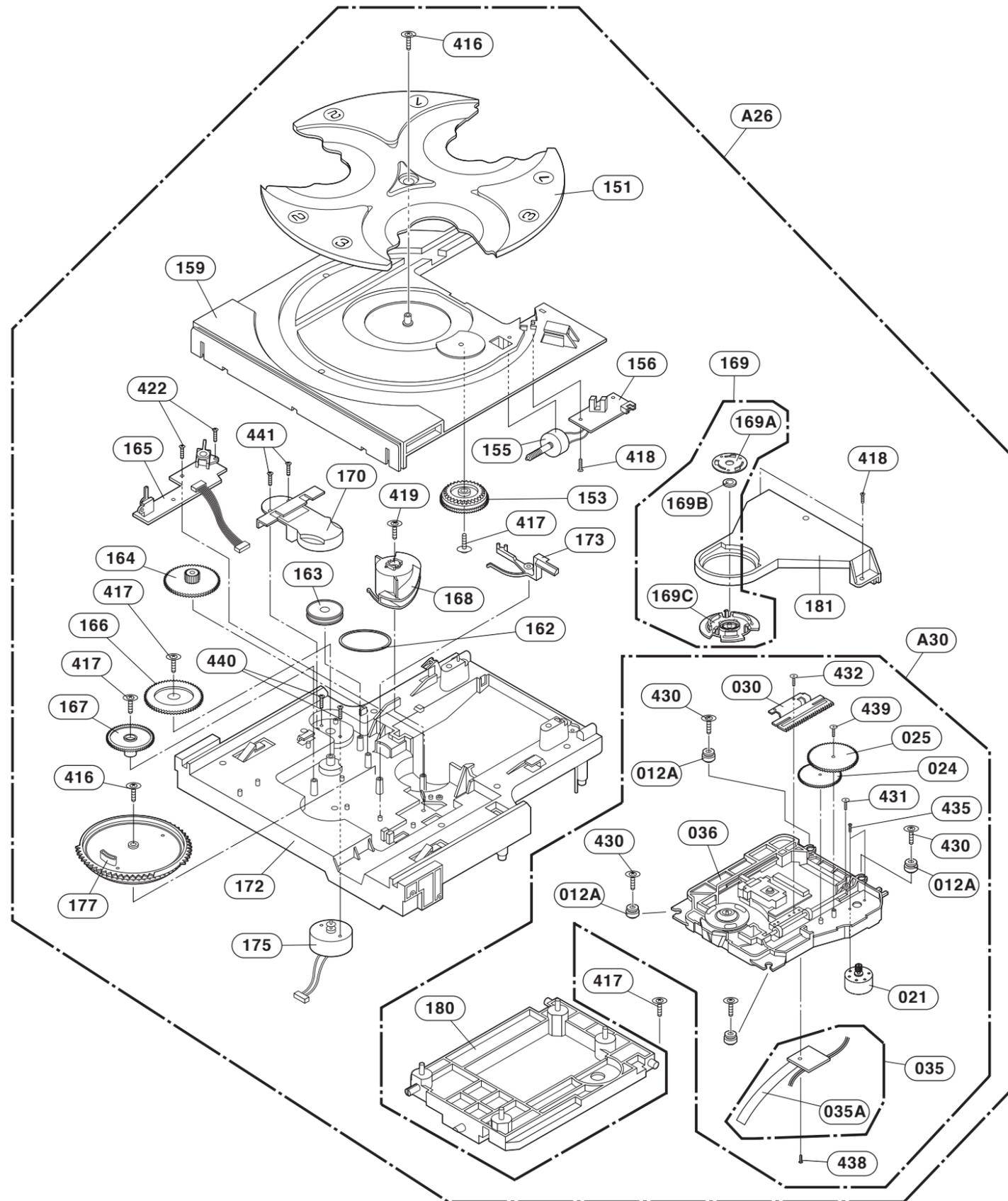
1. TAPE DECK MECHANISM (A/R & A/S : RIGHT A/R DECK)



2. TAPE DECK MECHANISM (A/R & A/S : LEFT A/S DECK)

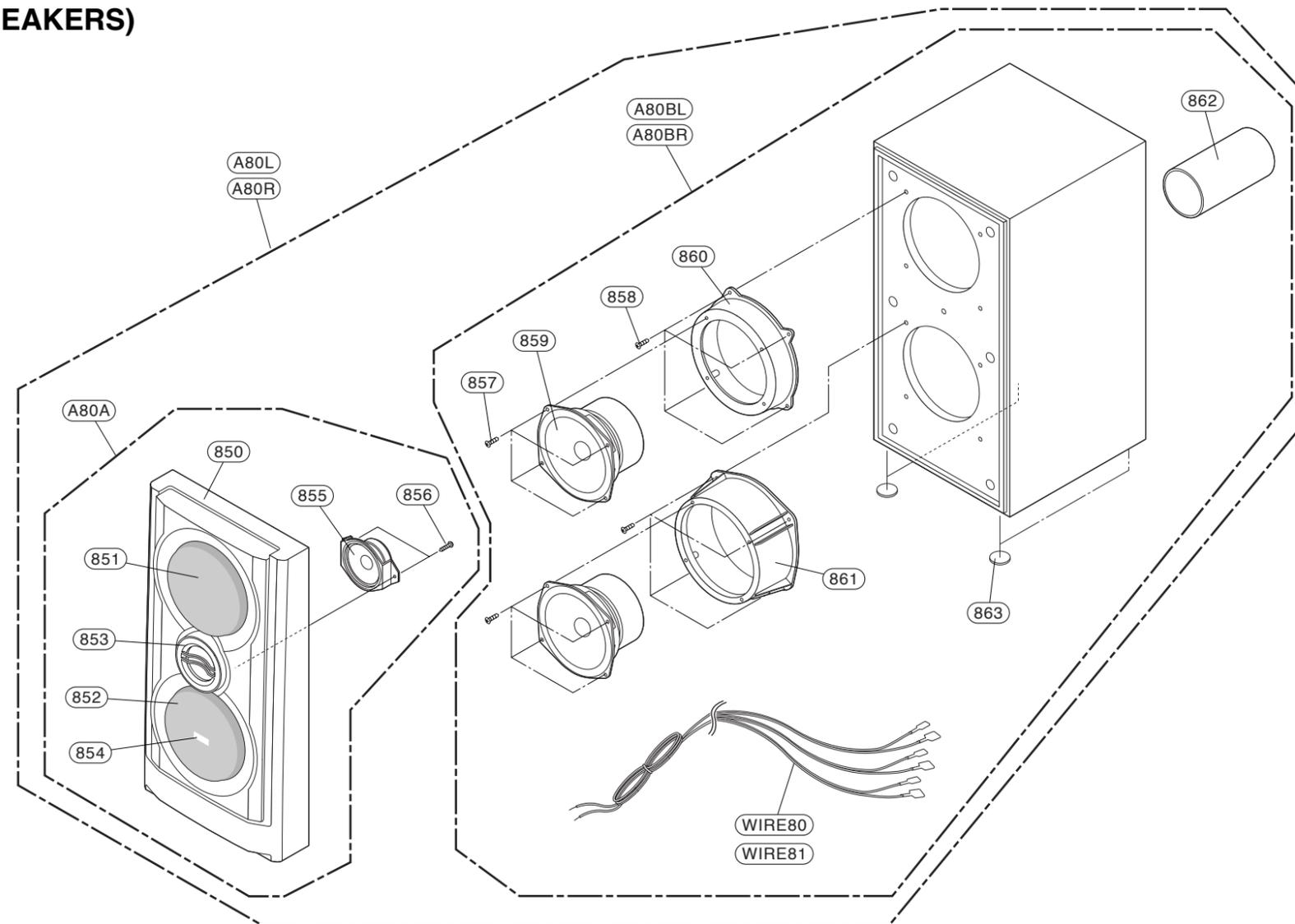


DVD MECHANISM EXPLODED VIEW



SPEAKER EXPLODED VIEW

MODEL : MDS262V (FRONT SPEAKERS)



MEMO

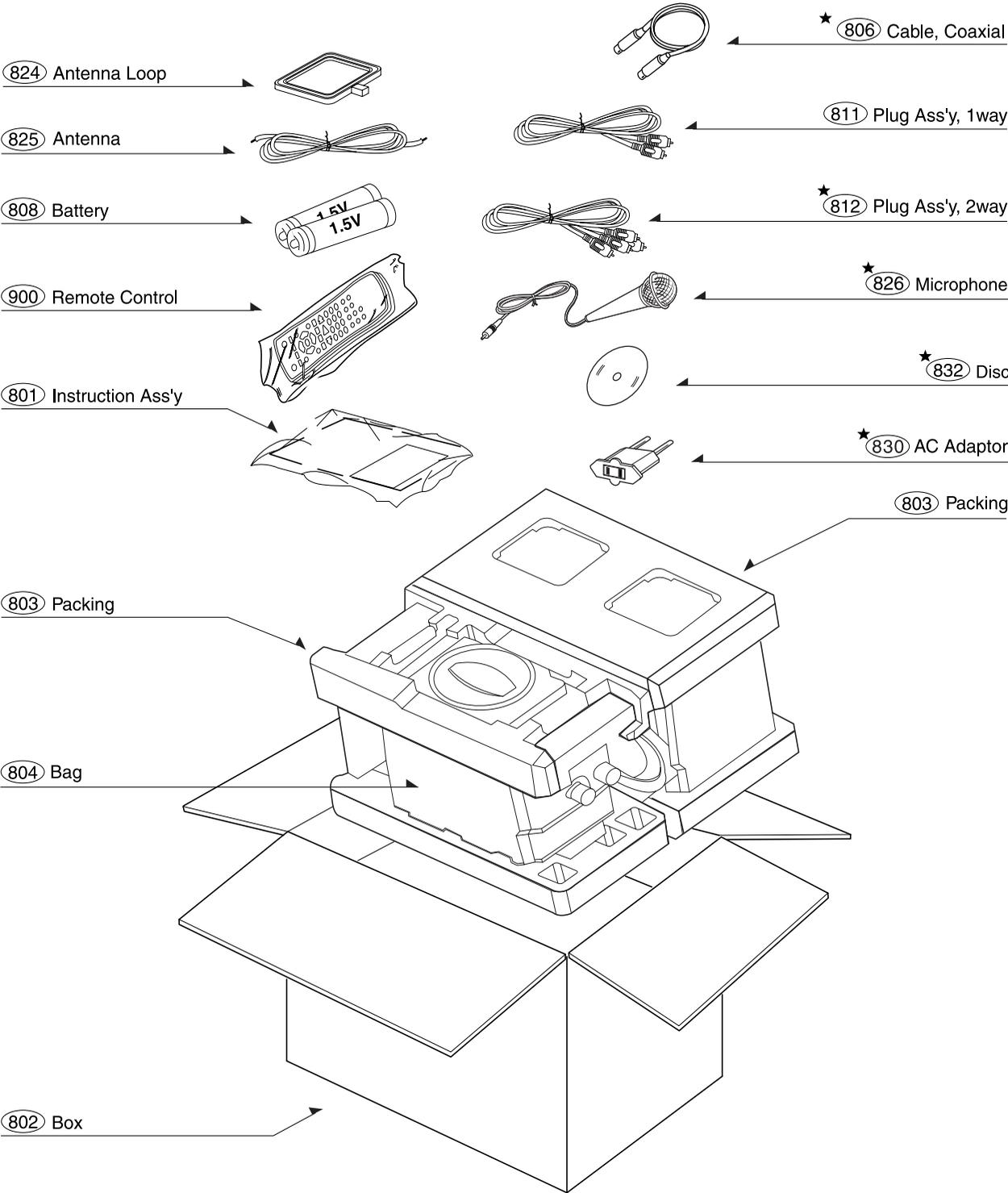
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MEMO

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PACKING ACCESSORY VIEW

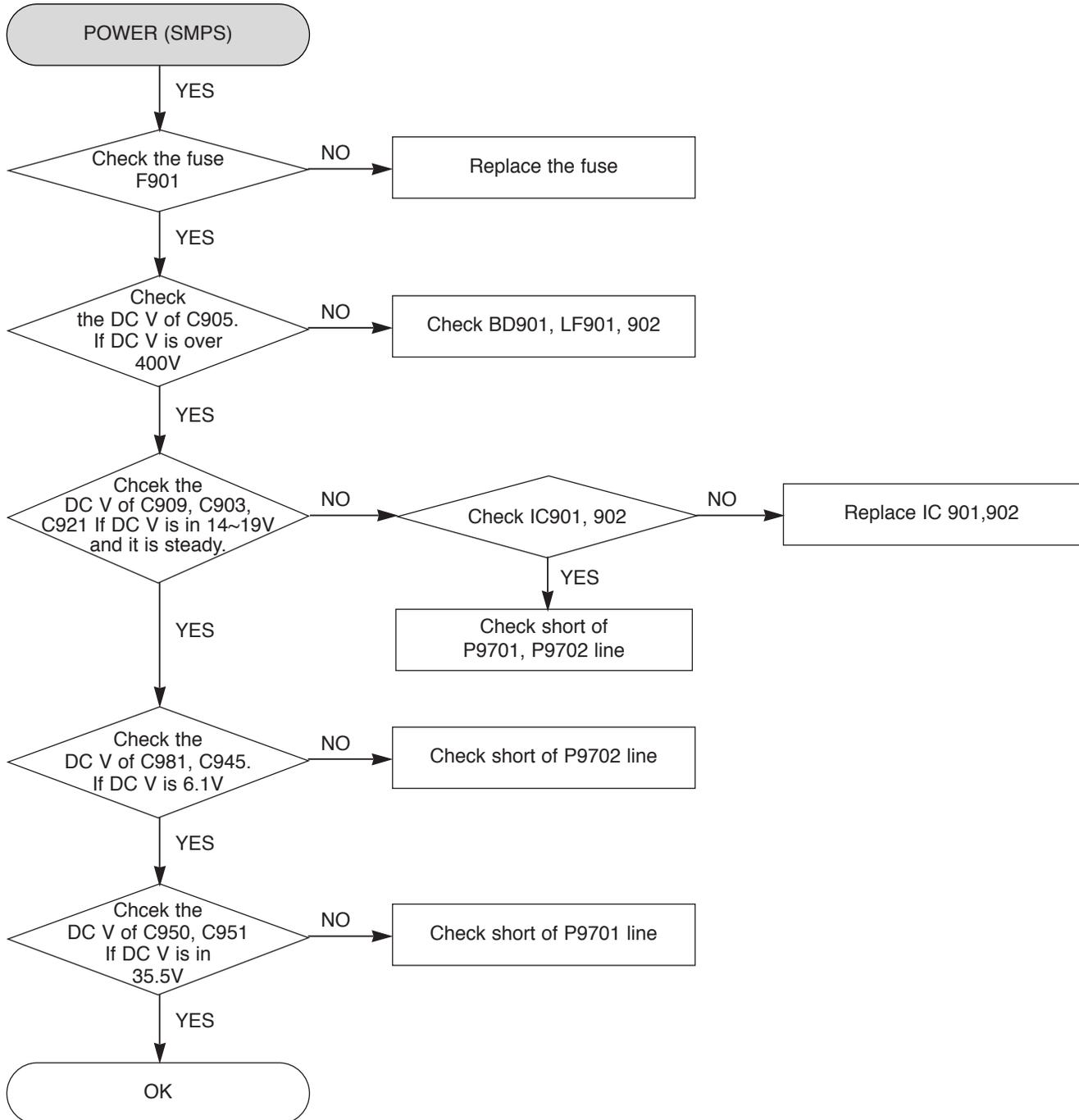
★ OPTIONAL PARTS



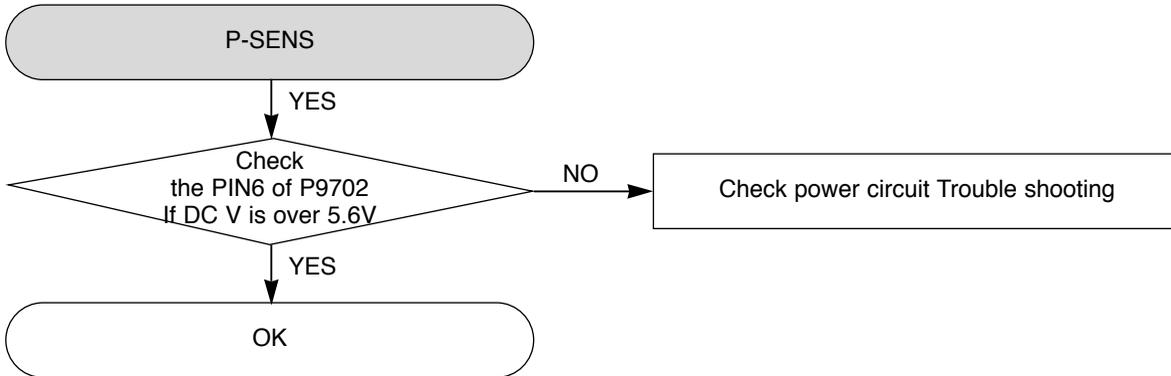
SECTION 3 AUDIO PART ELECTRICAL

AUDIO ELECTRICAL TROUBLESHOOTING GUIDE

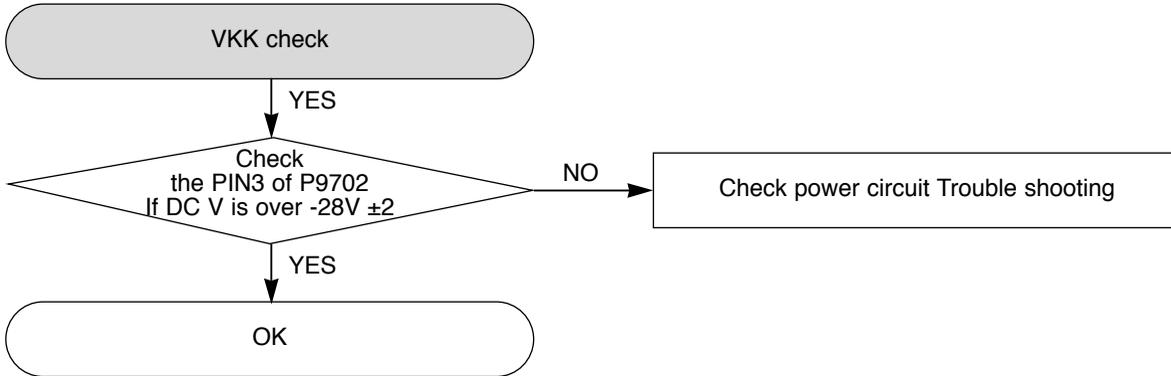
1. POWER (SMPS)



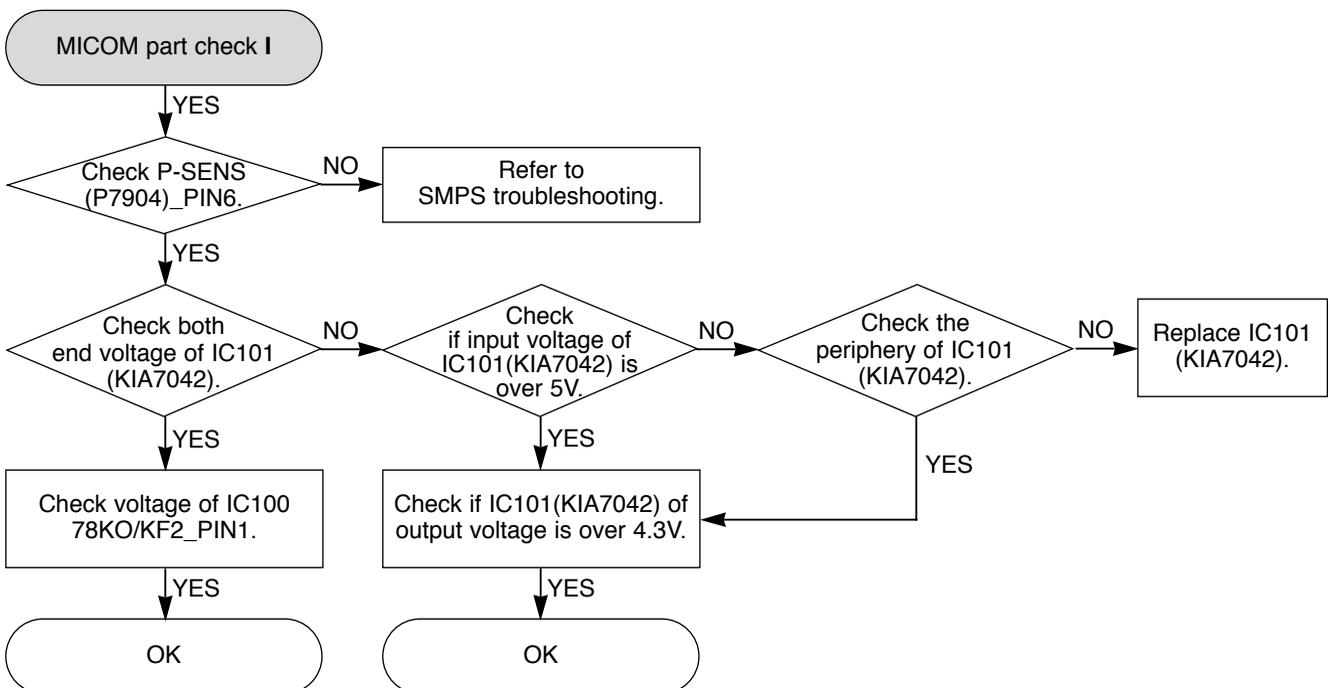
2. P-SENS



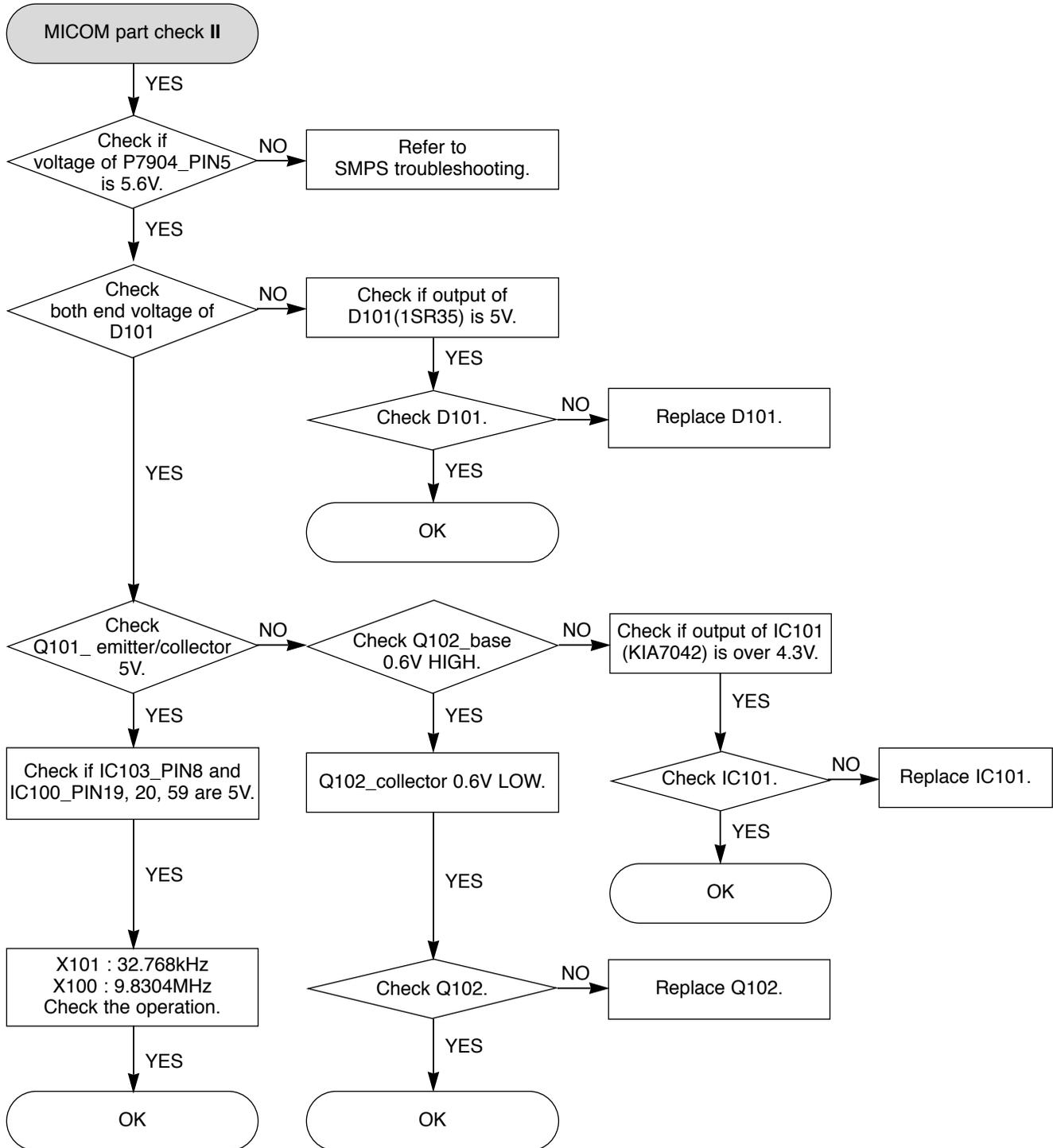
3. VKK CHECK



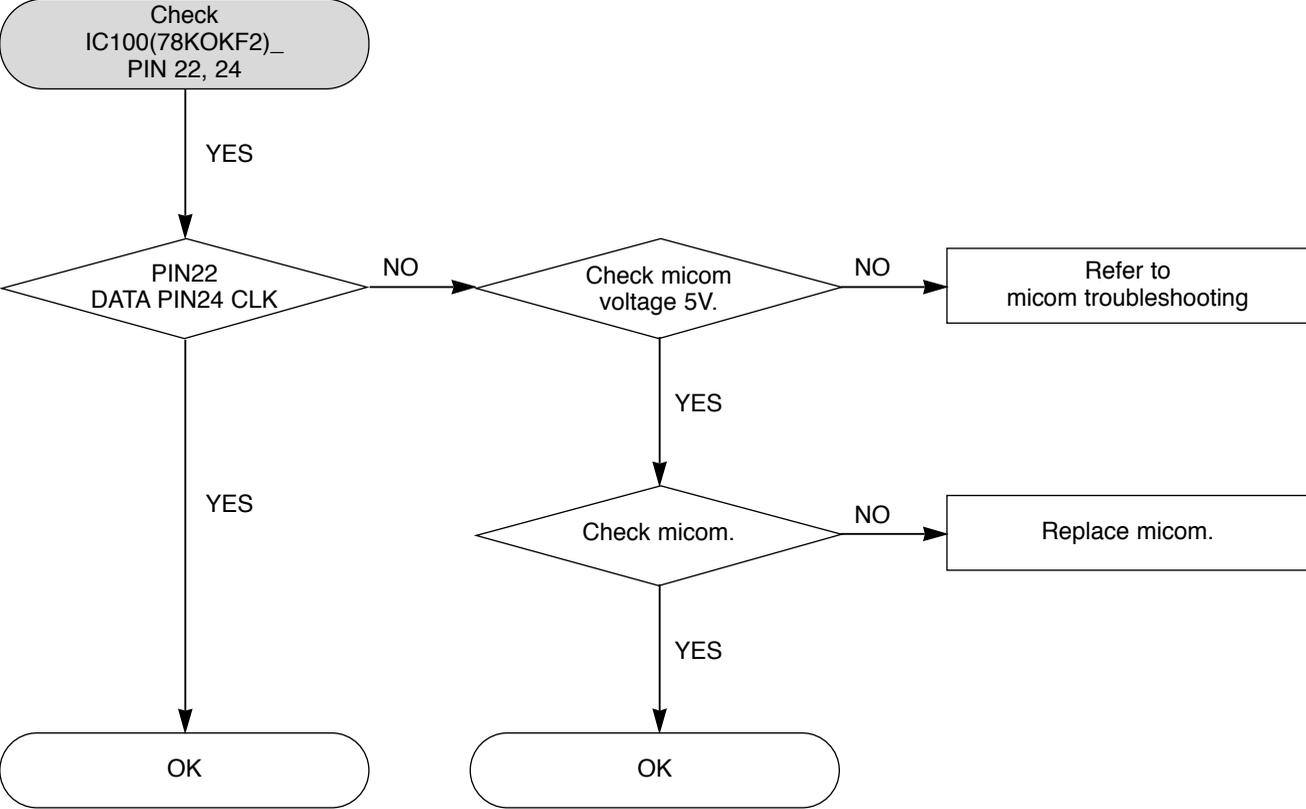
4. MICOM PART CHECK I



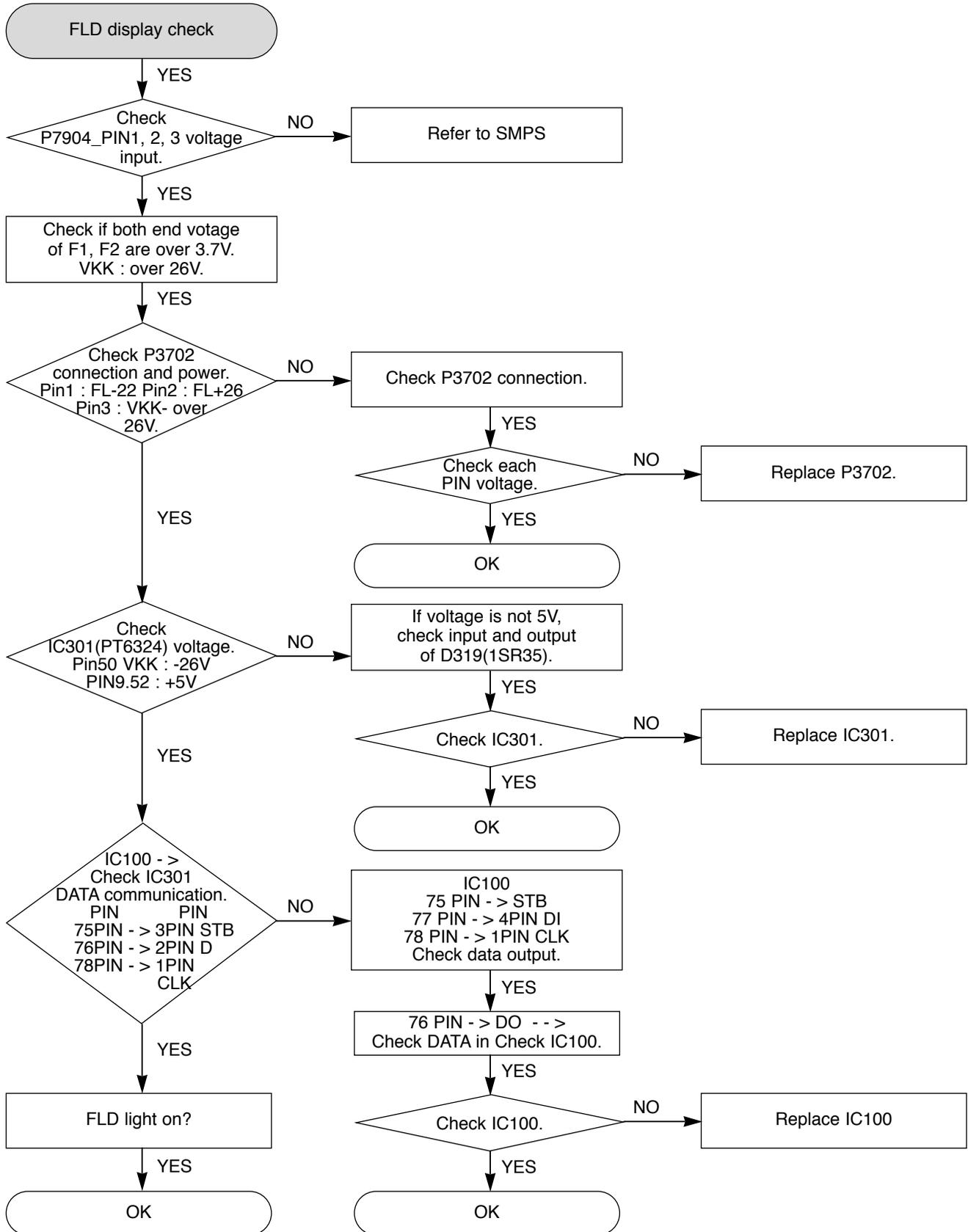
5. MICOM PART CHECK II



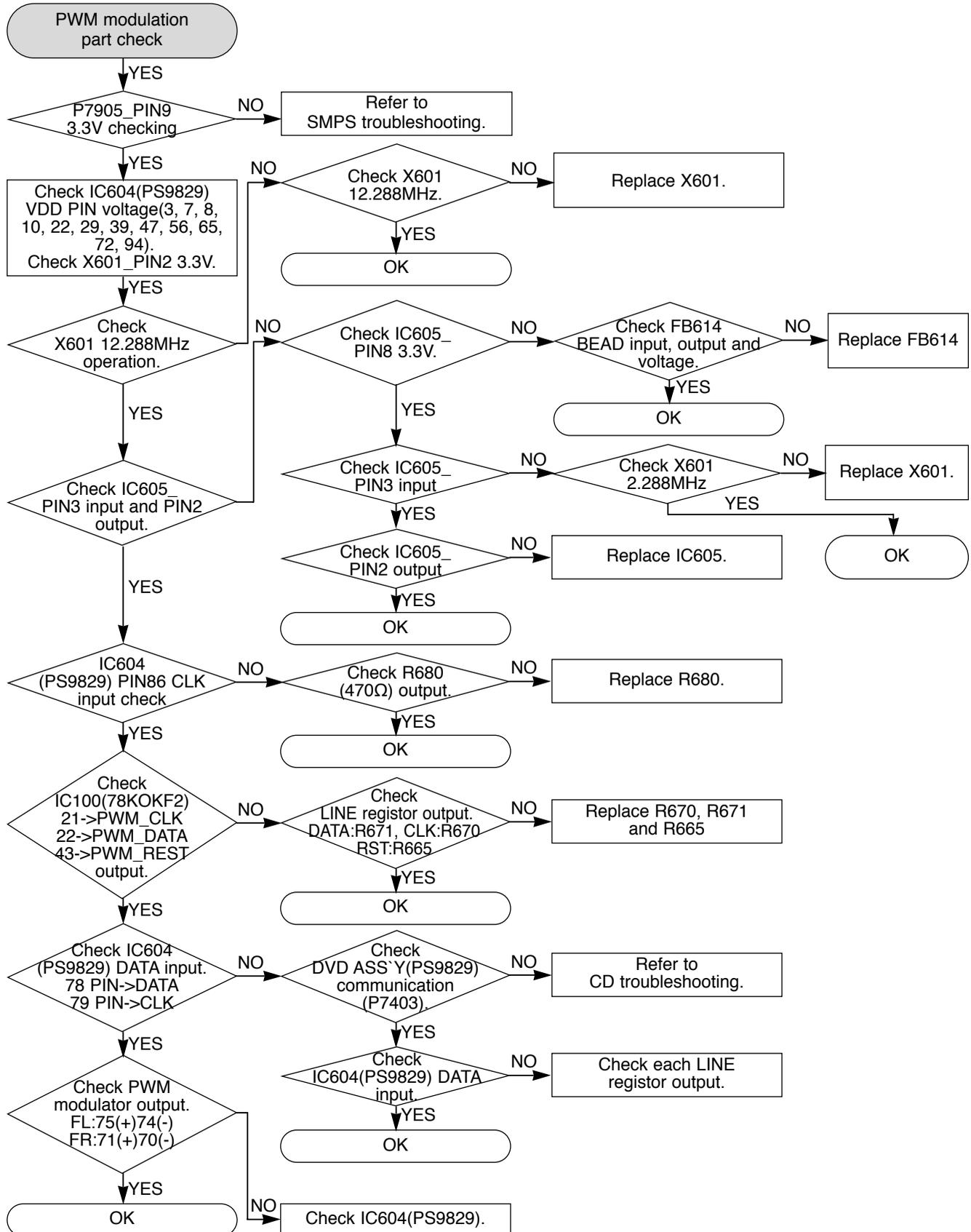
6. IC103(KS4CD21CS) CHECK



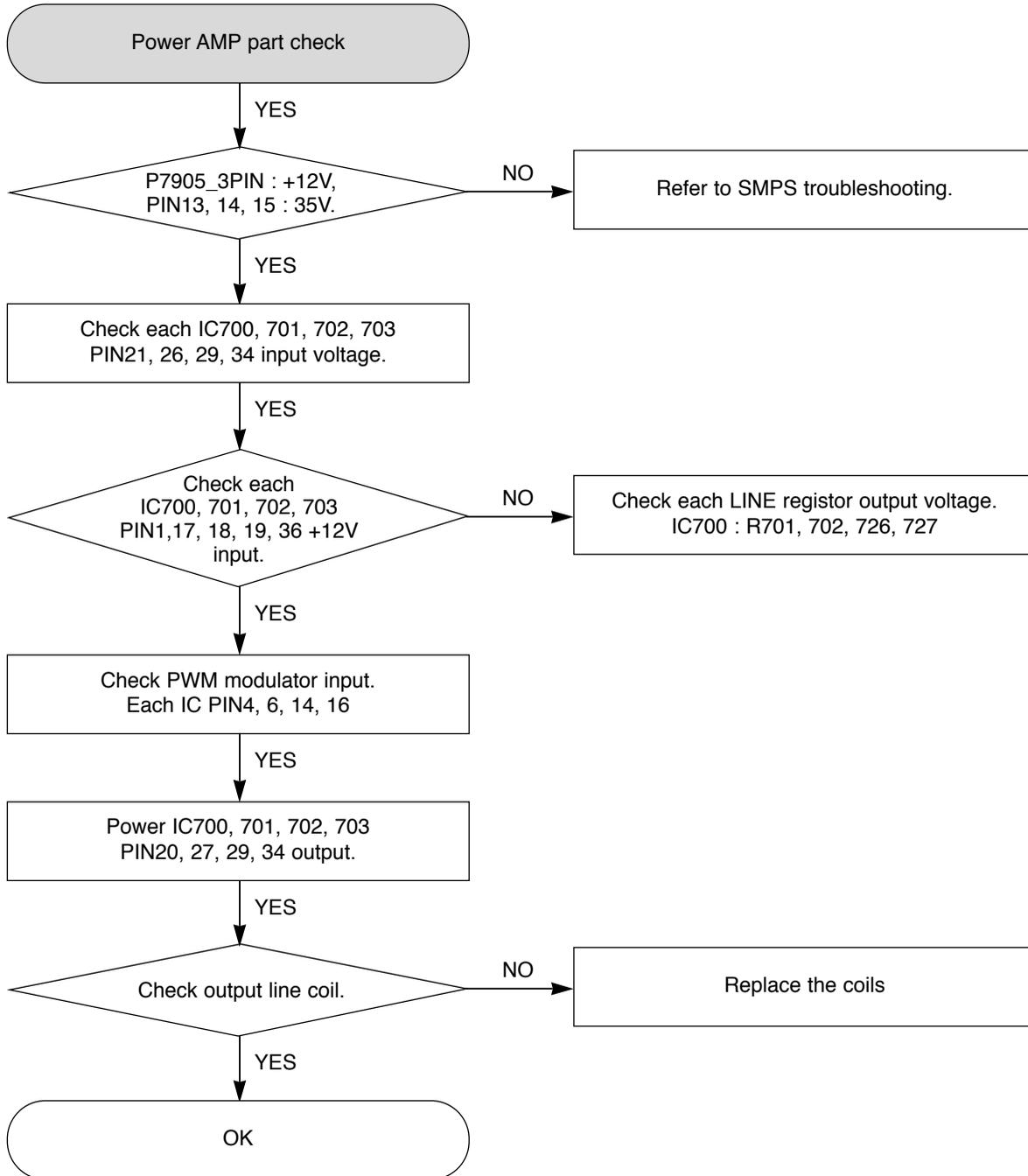
7. FLD DISPLAY CHECK



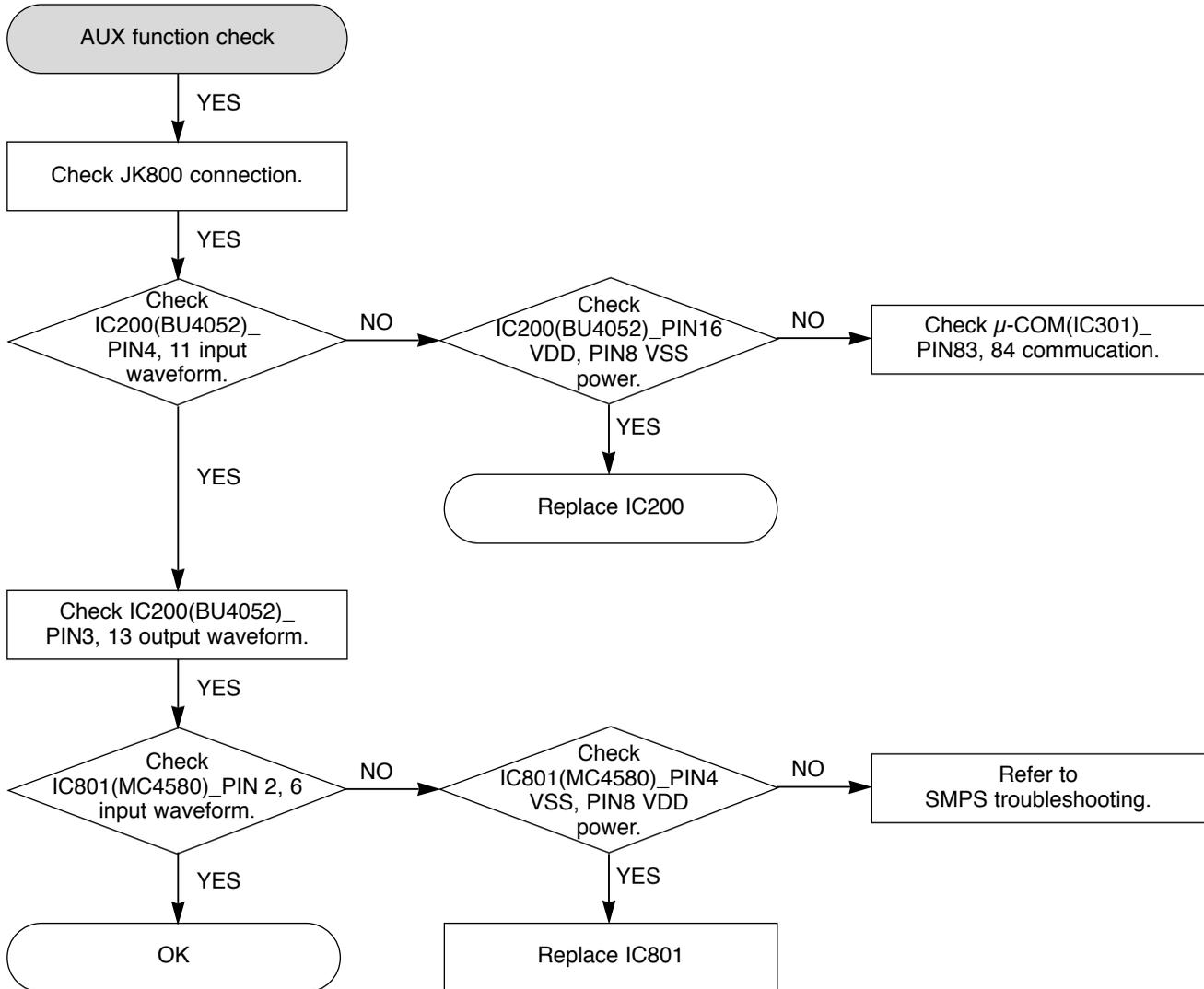
8. PWM MODULATION PART CHECK



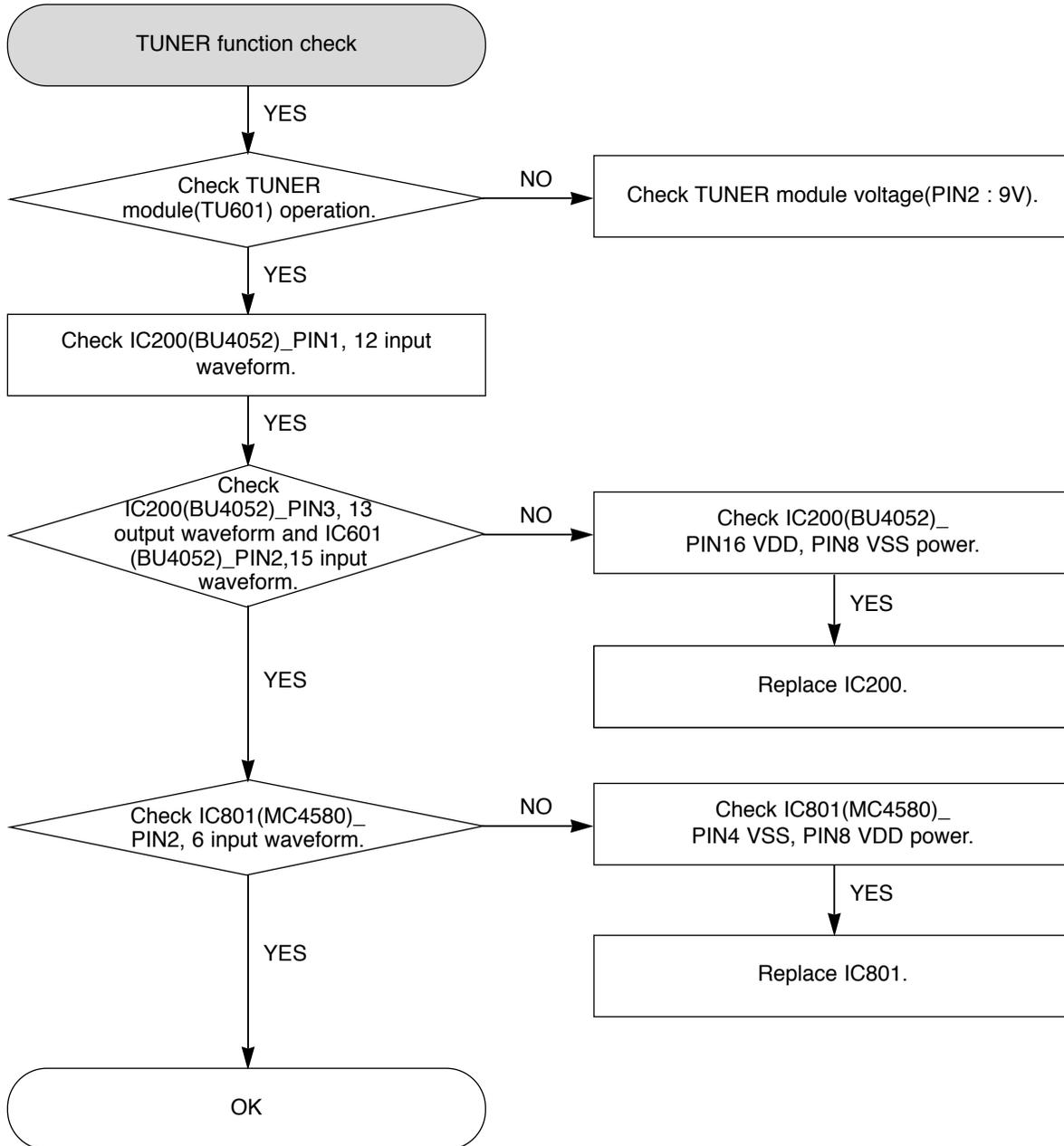
9. POWER AMP PART CHECK



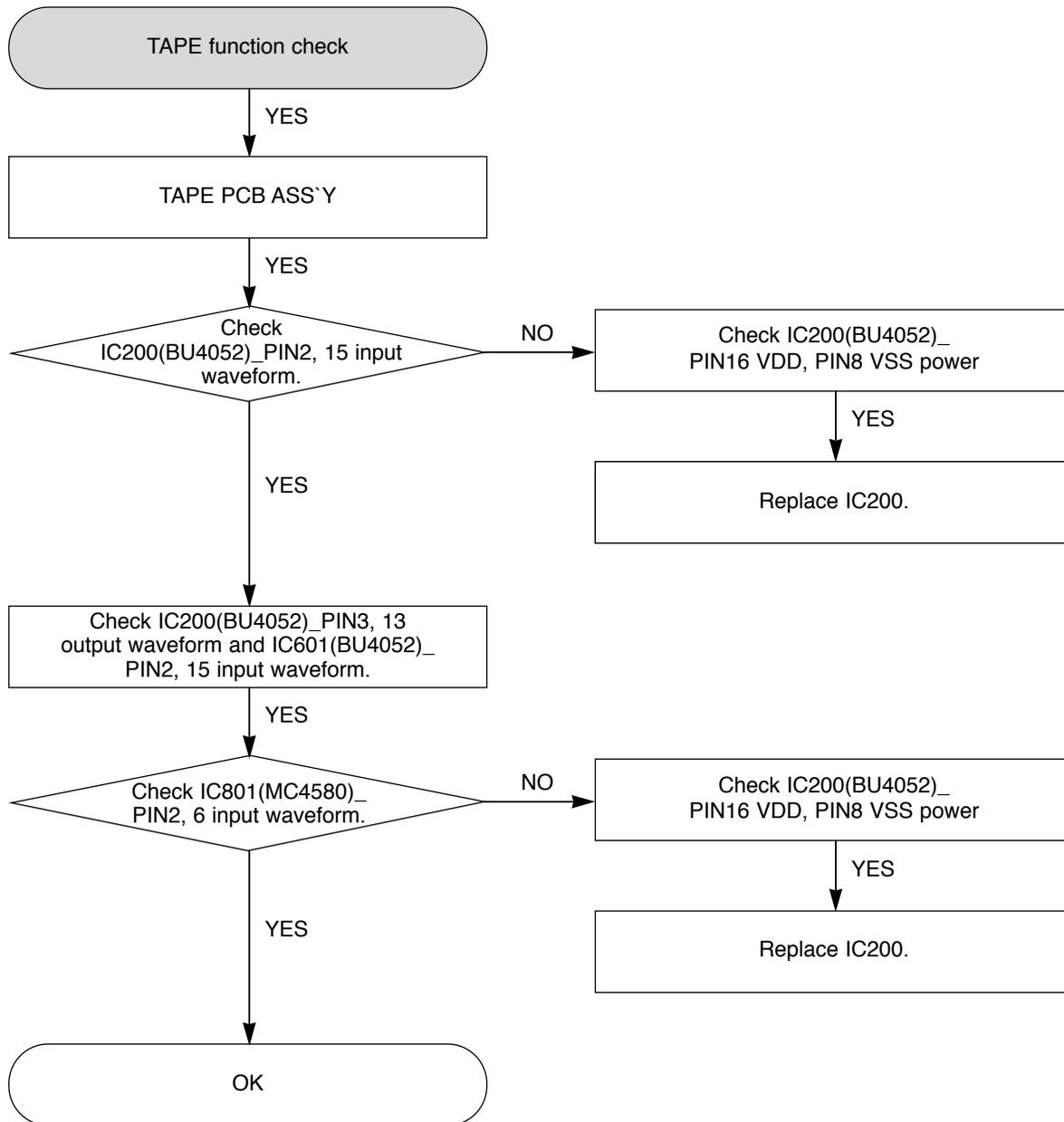
10. AUX FUNCTION CHECK



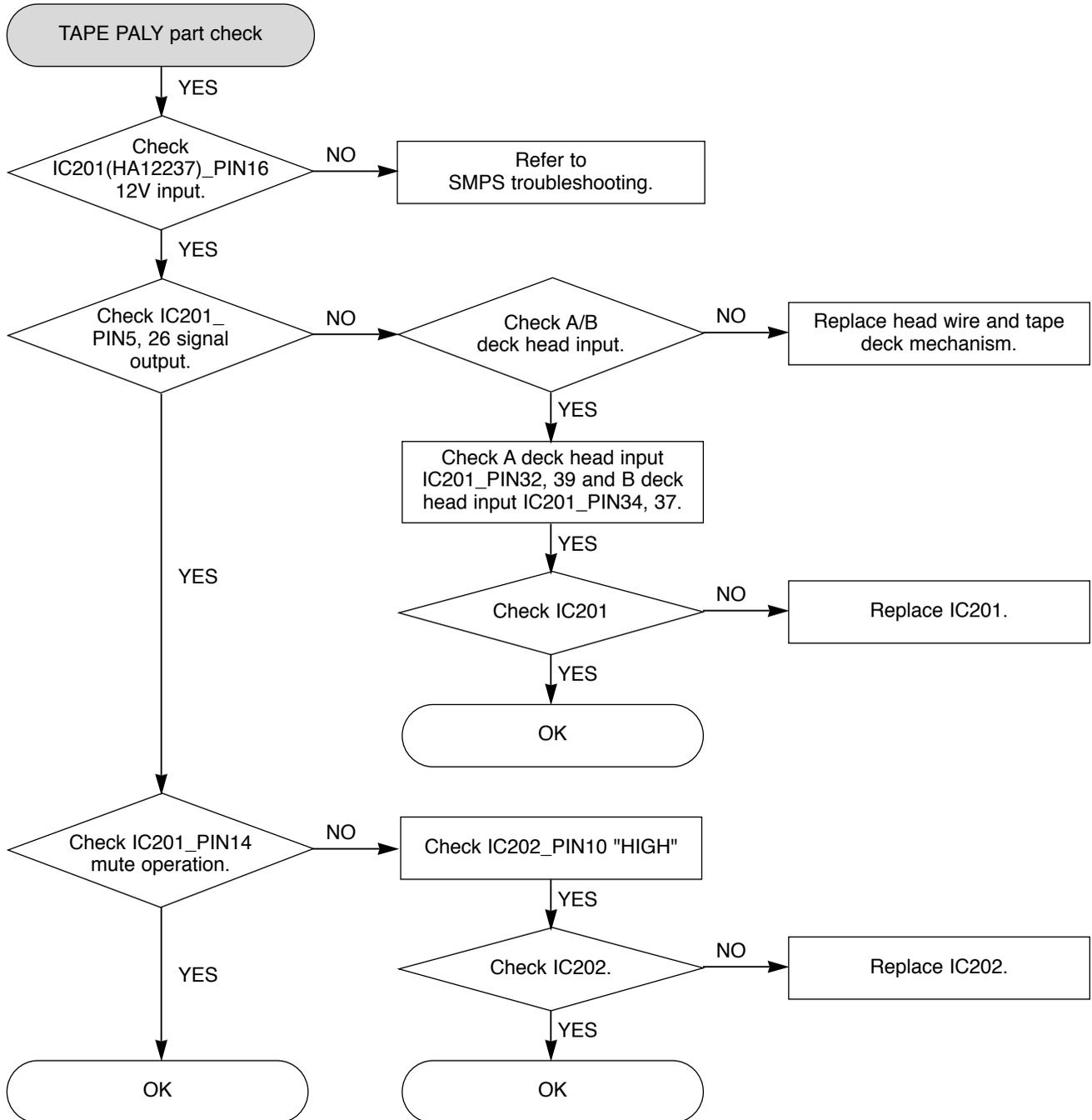
11. TUNER FUNCTION CHECK



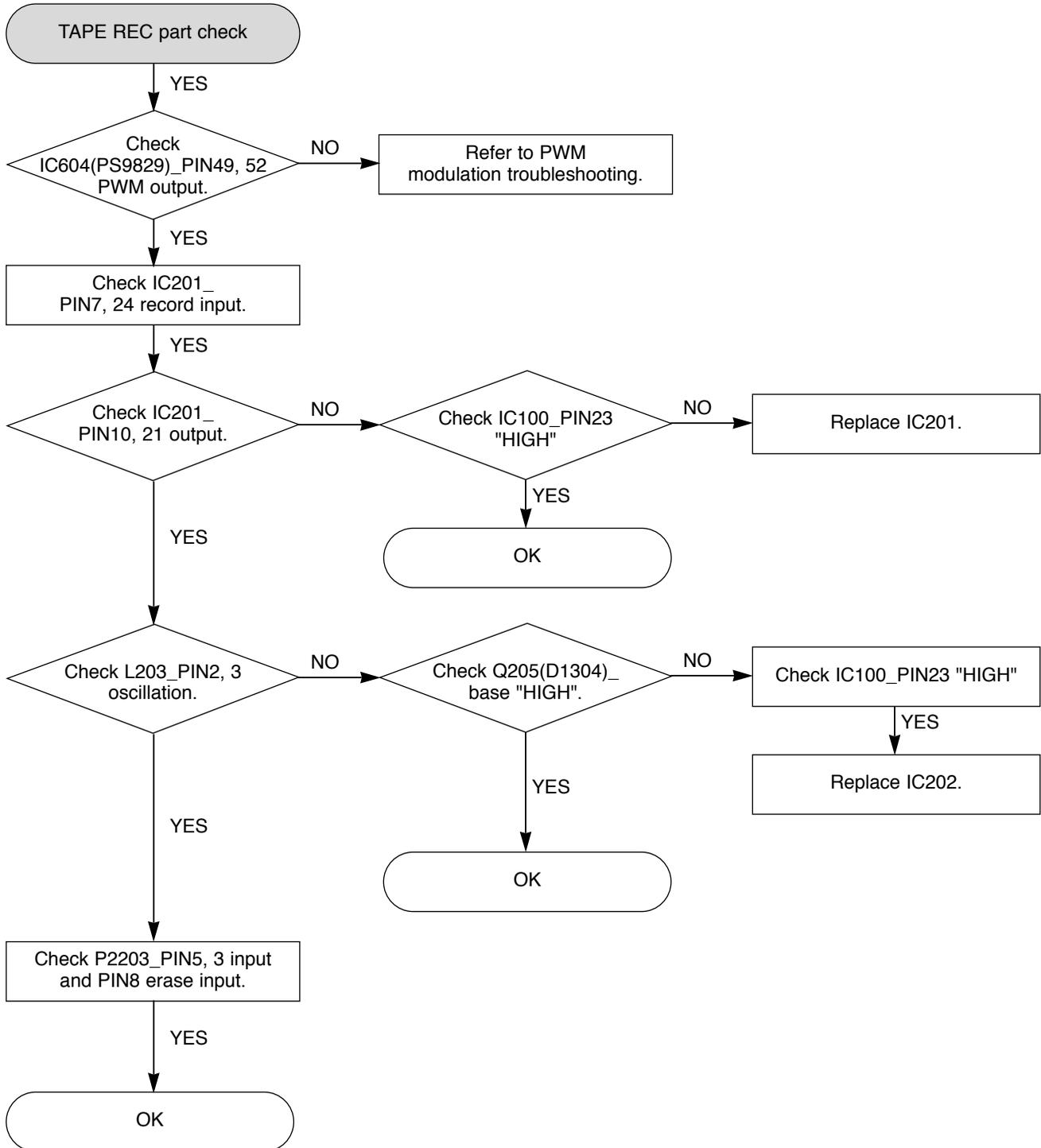
12. TAPE FUNCTION CHECK



13. TAPE PLAY PART CHECK

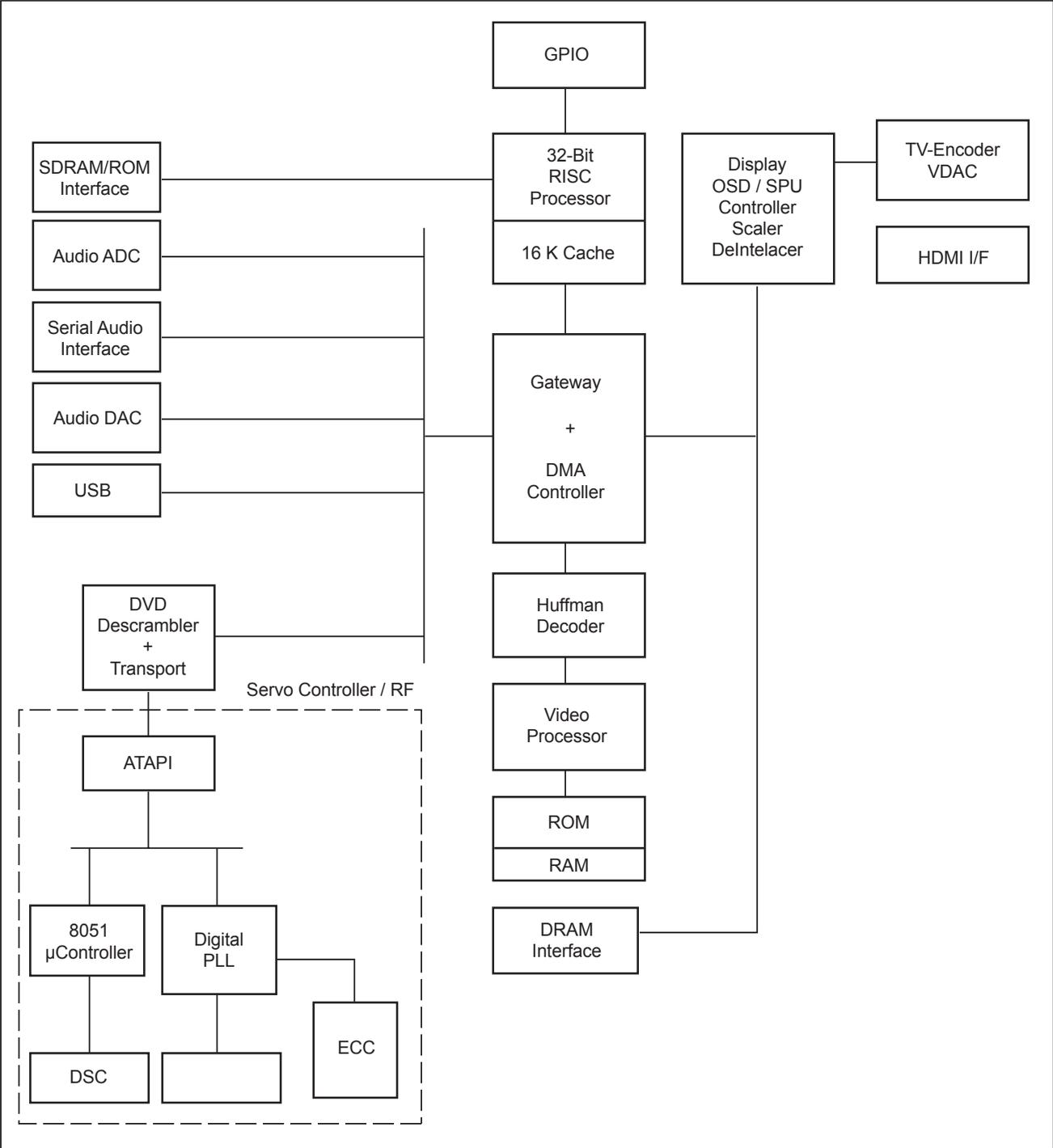


14. TAPE REC PART CHECK

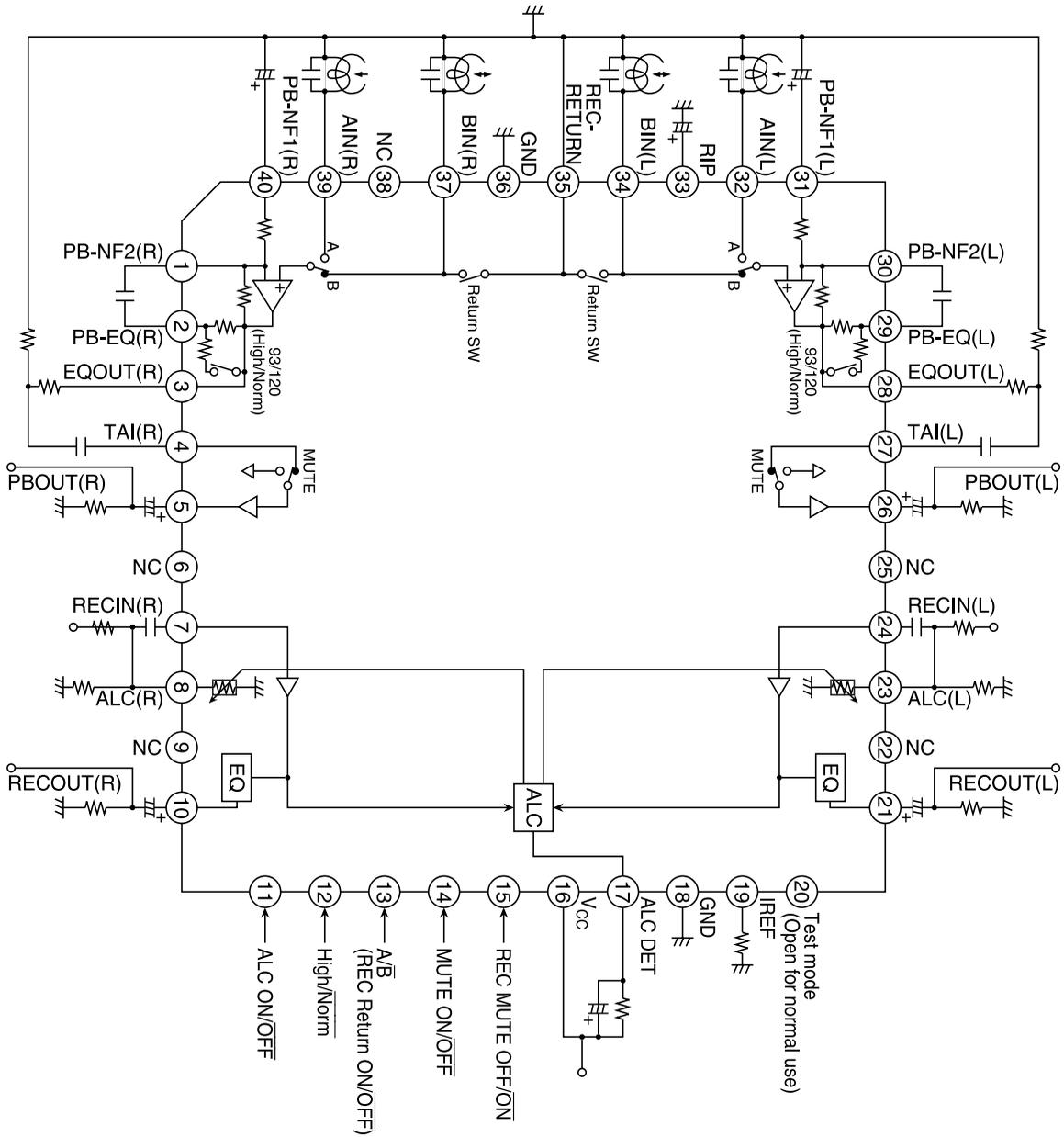


INTERNAL BLOCK DIAGRAM OF ICs

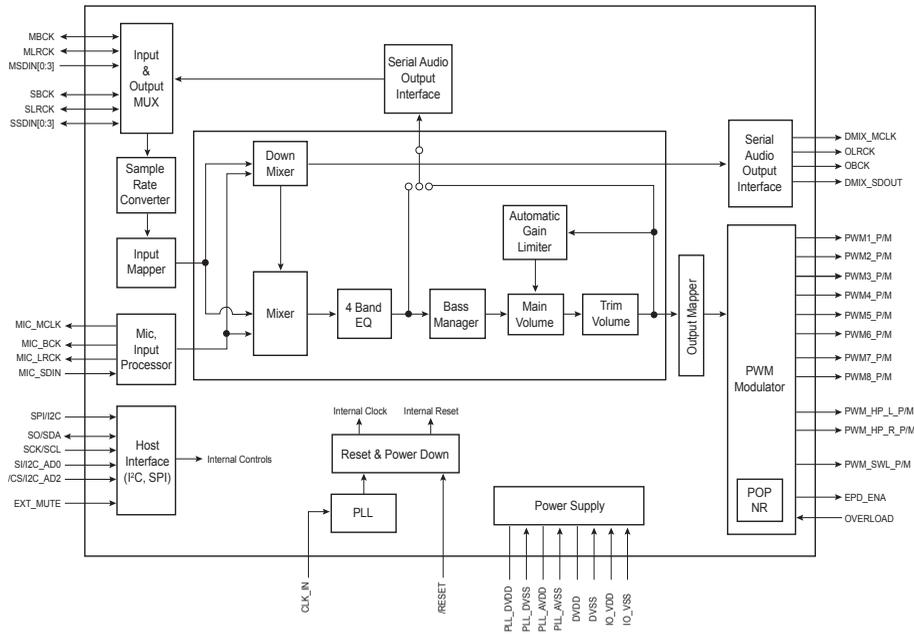
1. ES6838



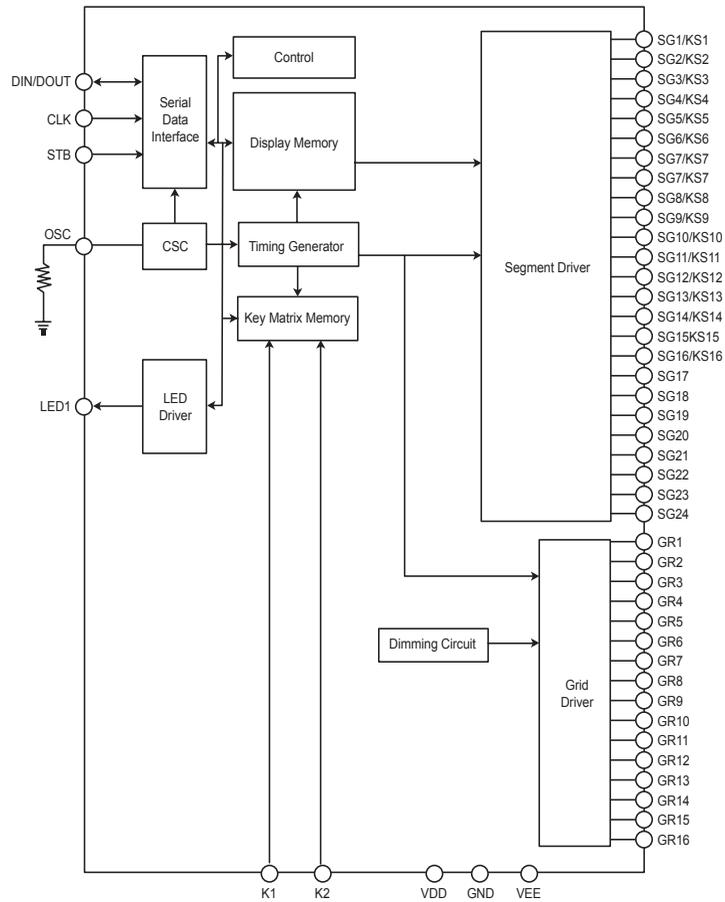
2. HA12237F



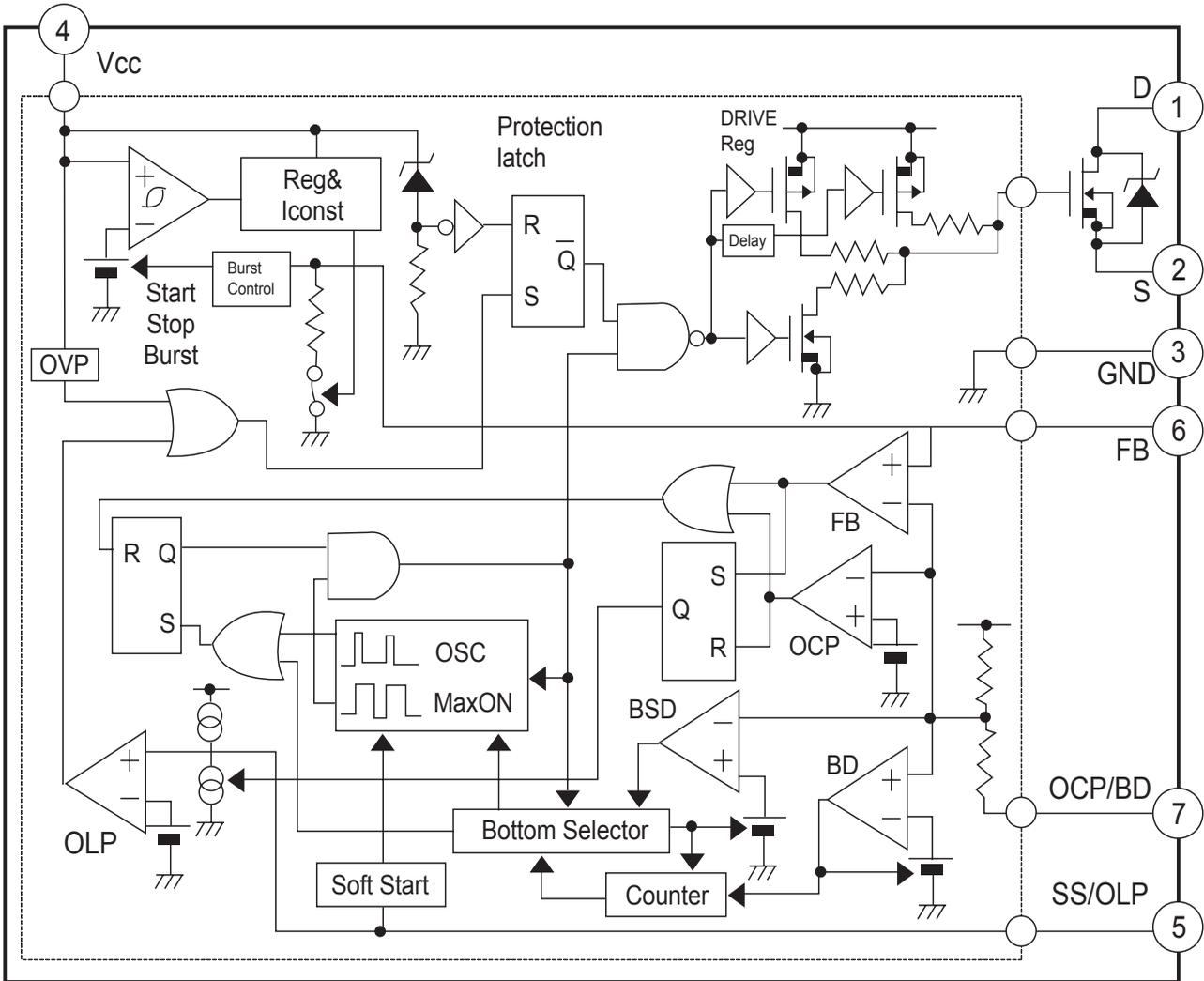
3. PS9829B



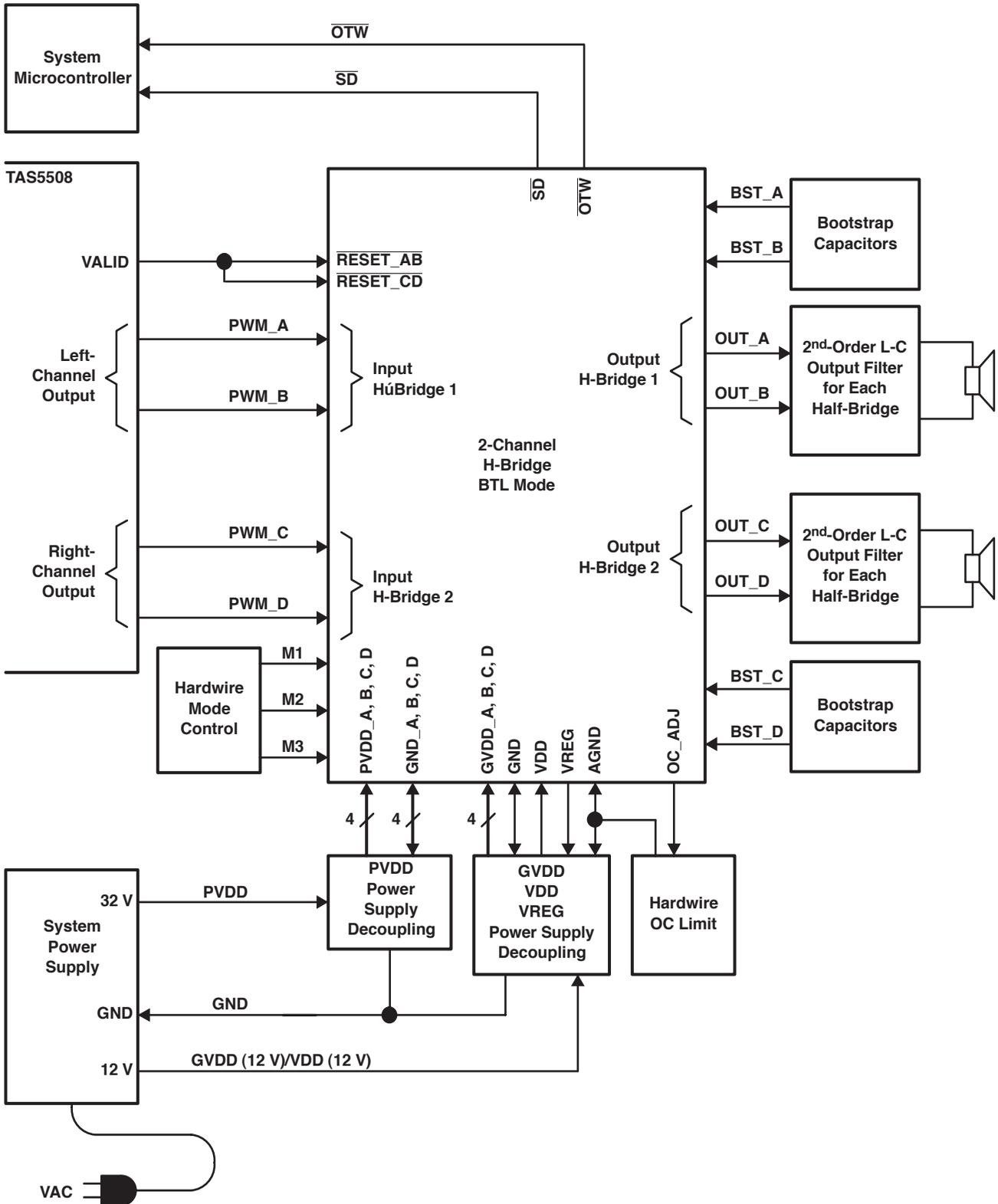
4. PT6324



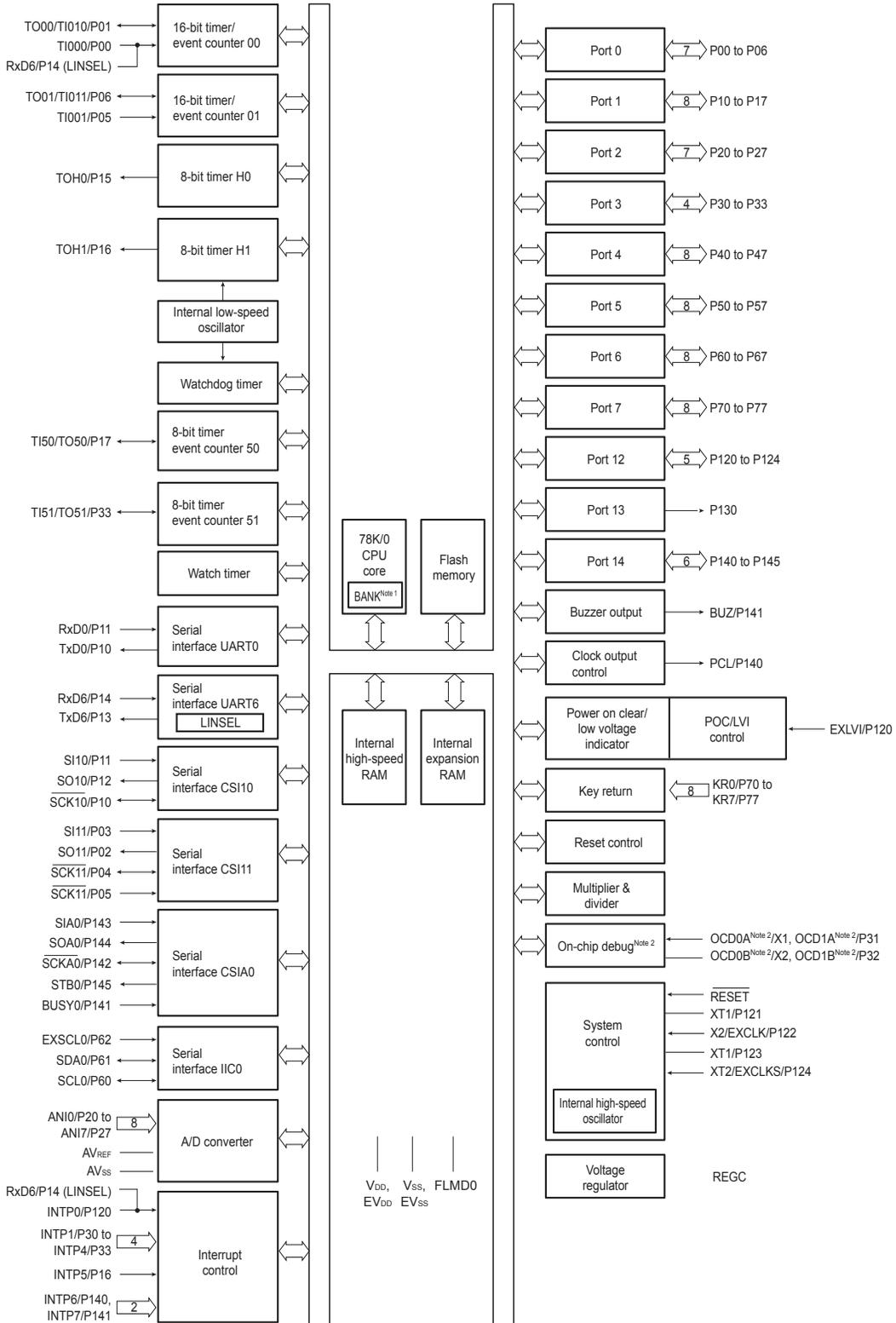
5. STR-S6757IF1905



6. TAS5142



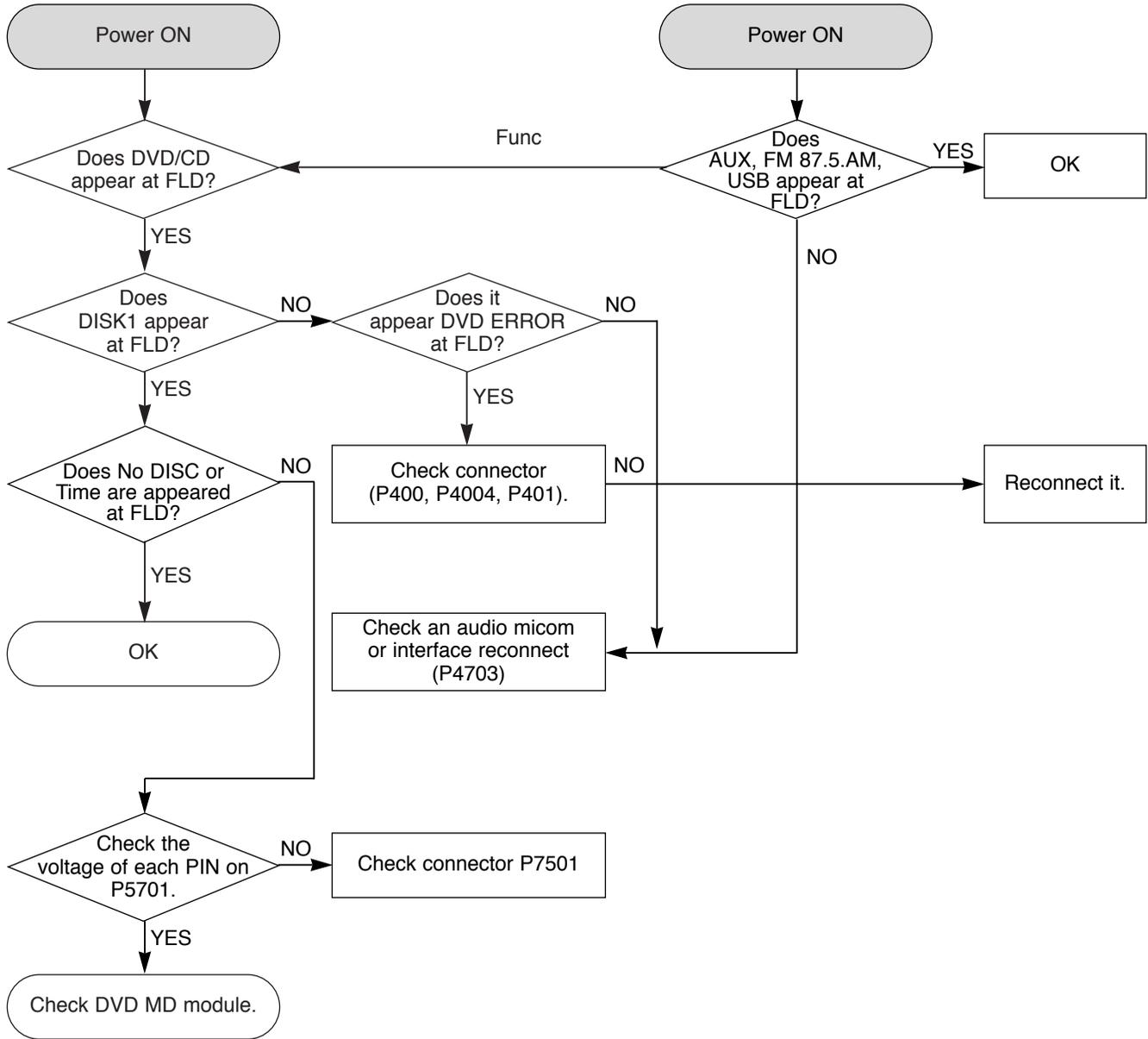
7. U1739EJ2V1UD00/KF2_E



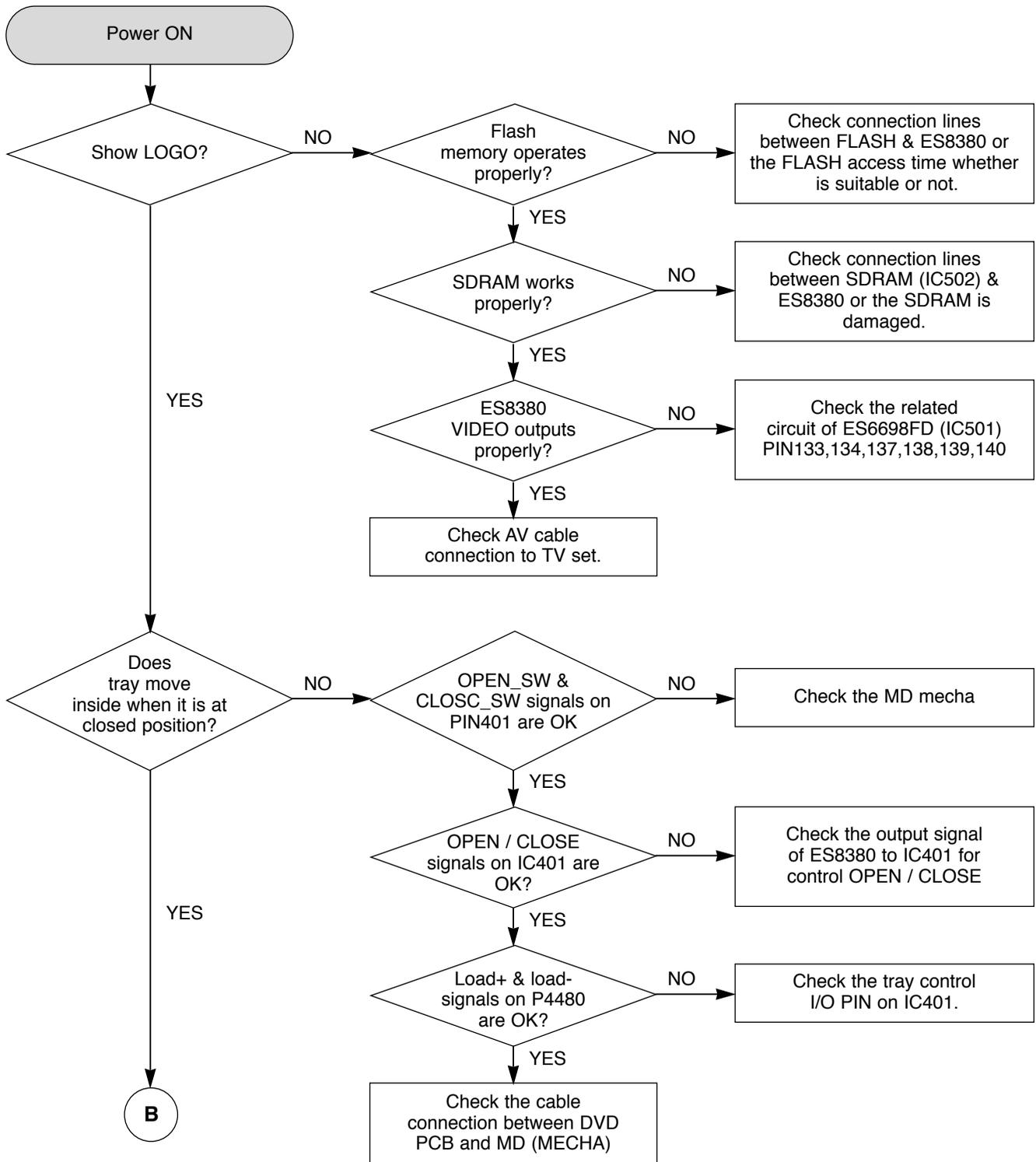
SECTION 4 DVD PART ELECTRICAL

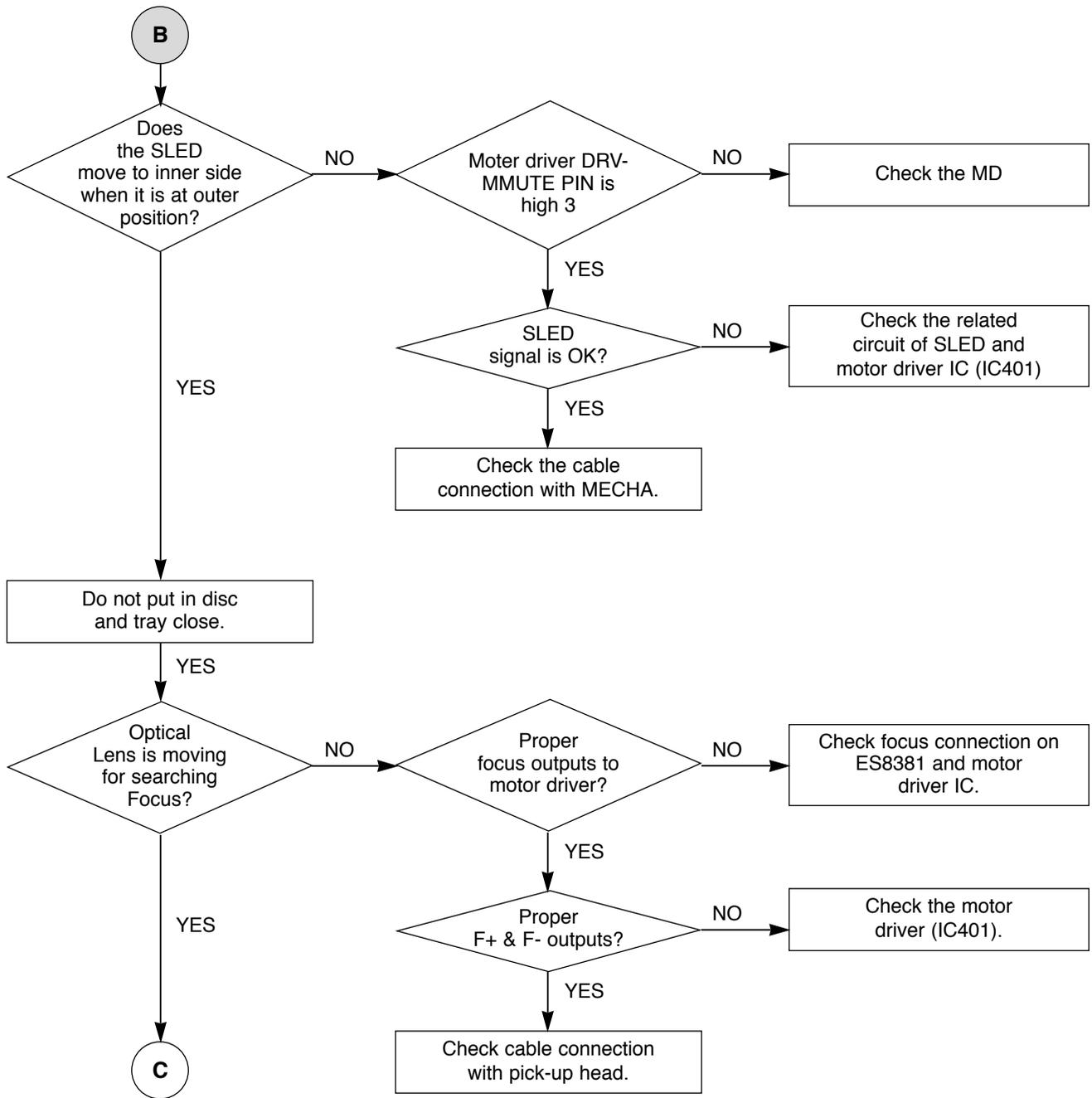
DVD ELECTRICAL TROUBLESHOOTING GUIDE

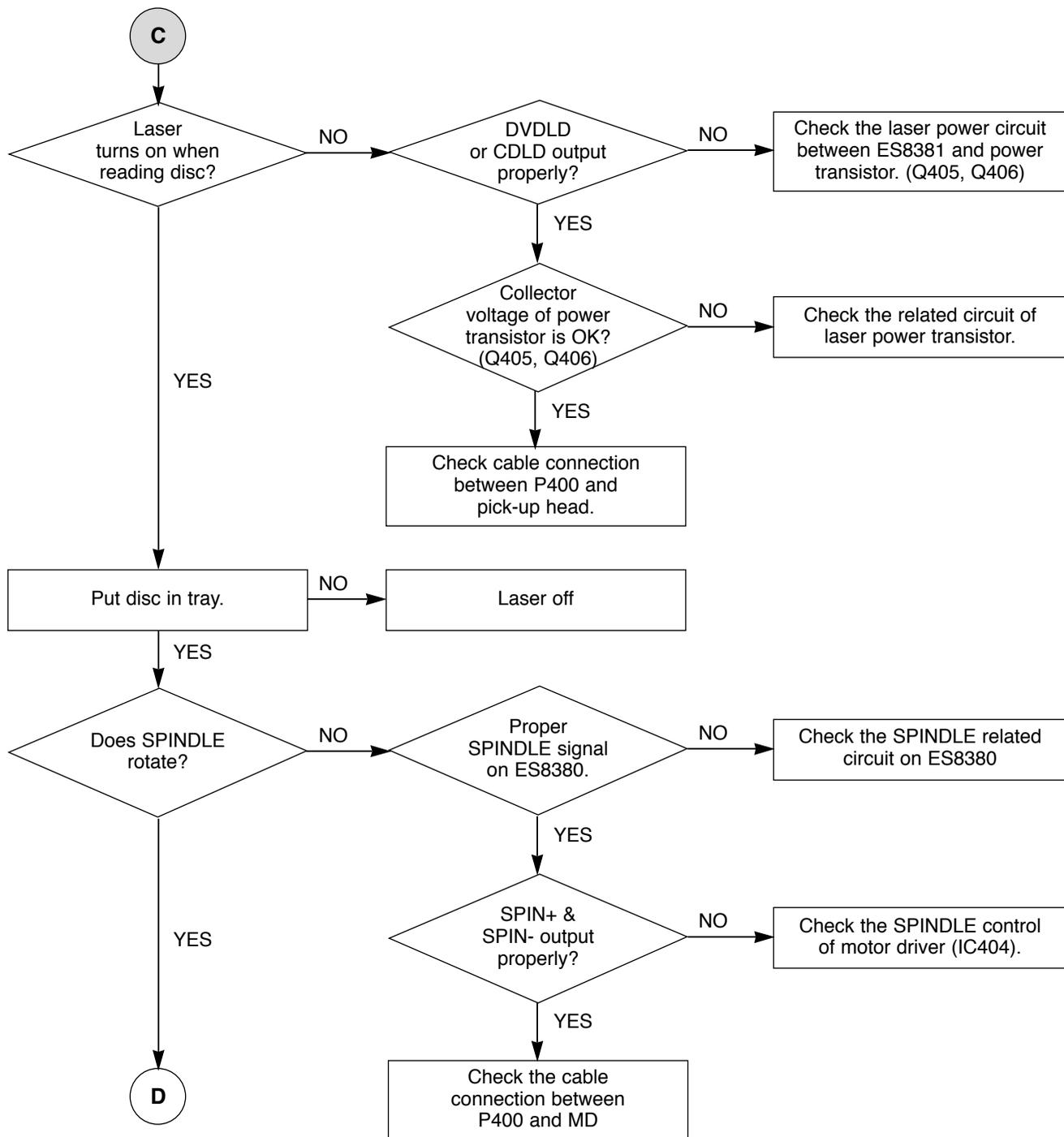
1. POWER CHECK GUIDE

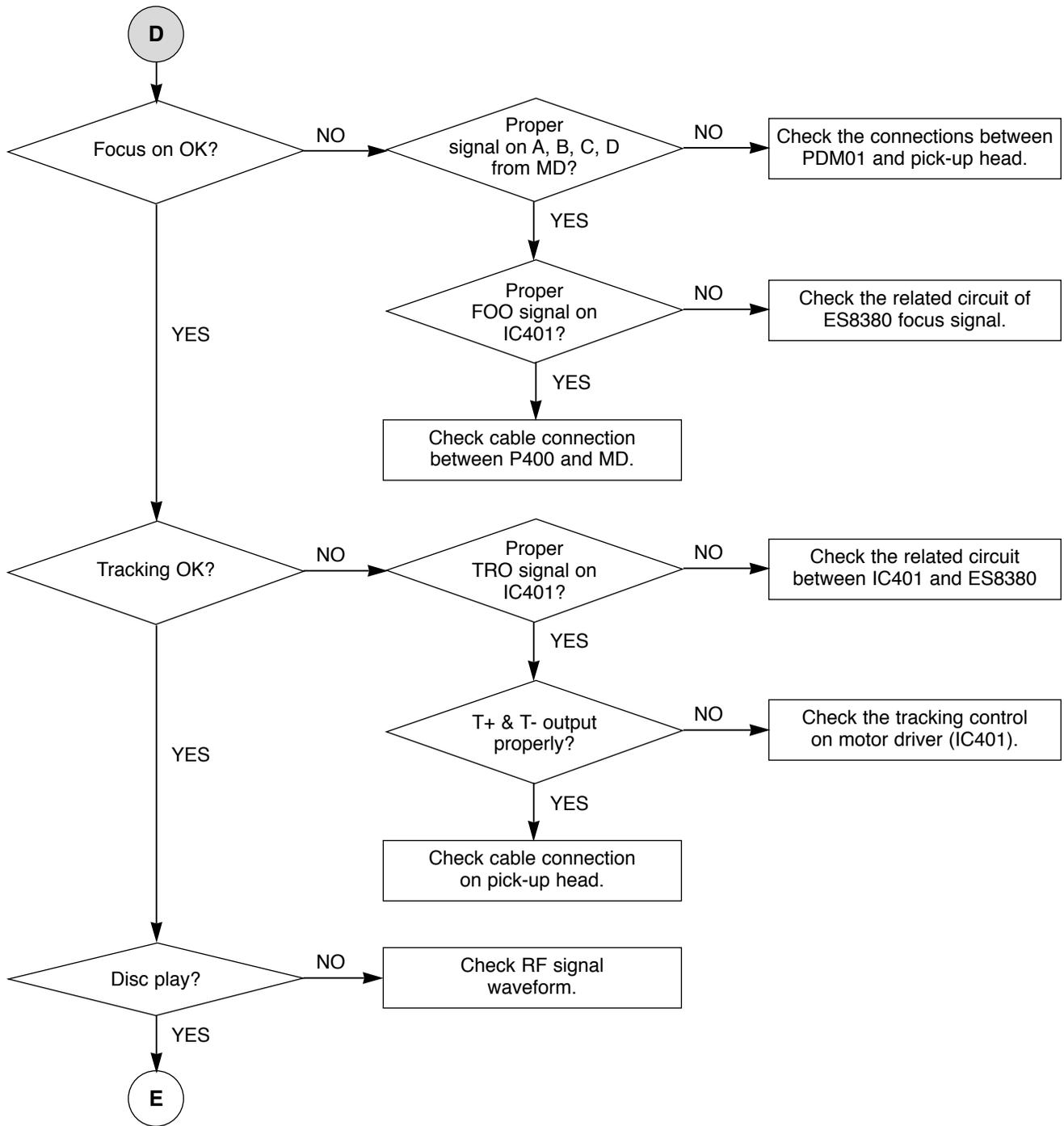


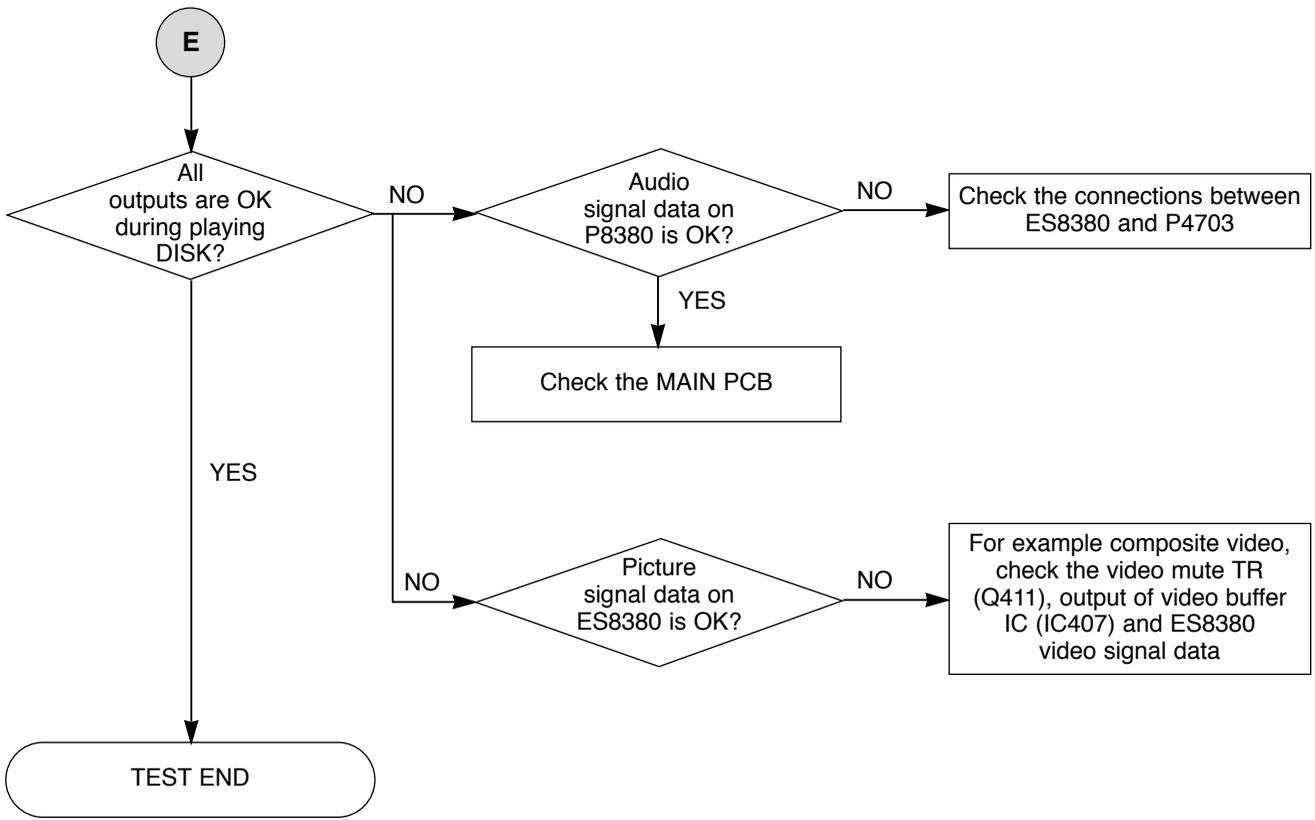
2. TEST & DEBUG FLOW



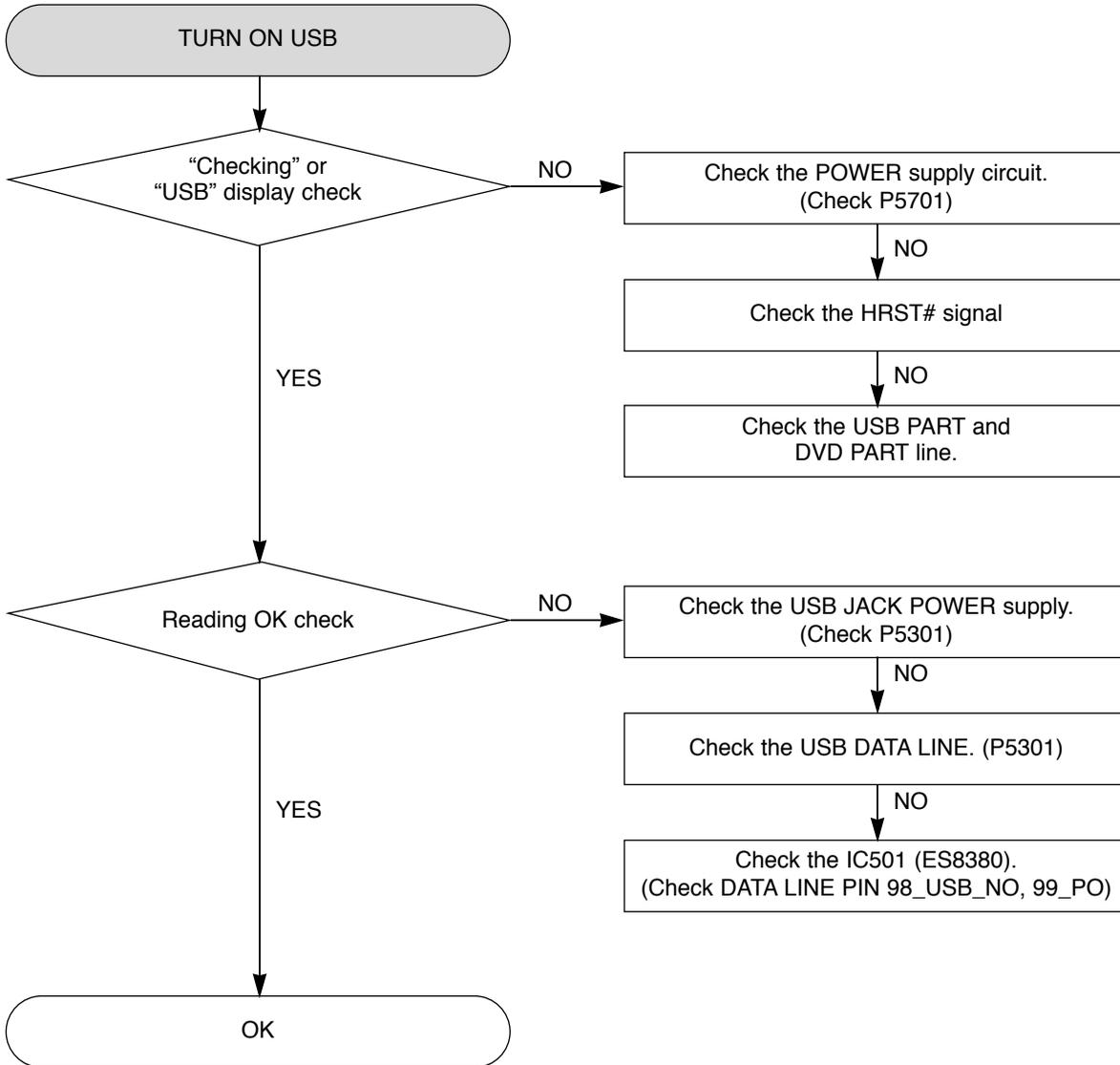






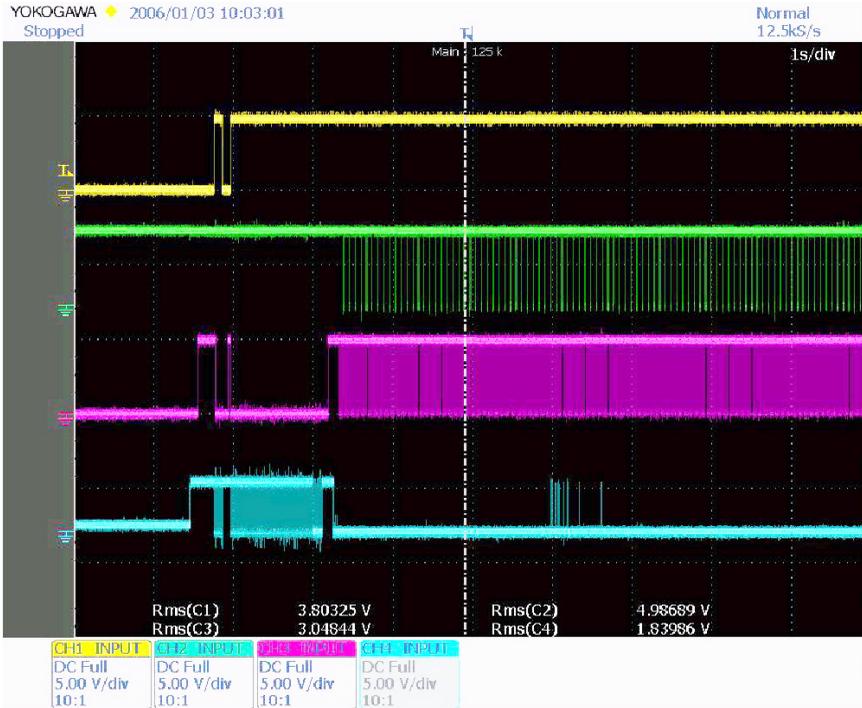


3. USB PART

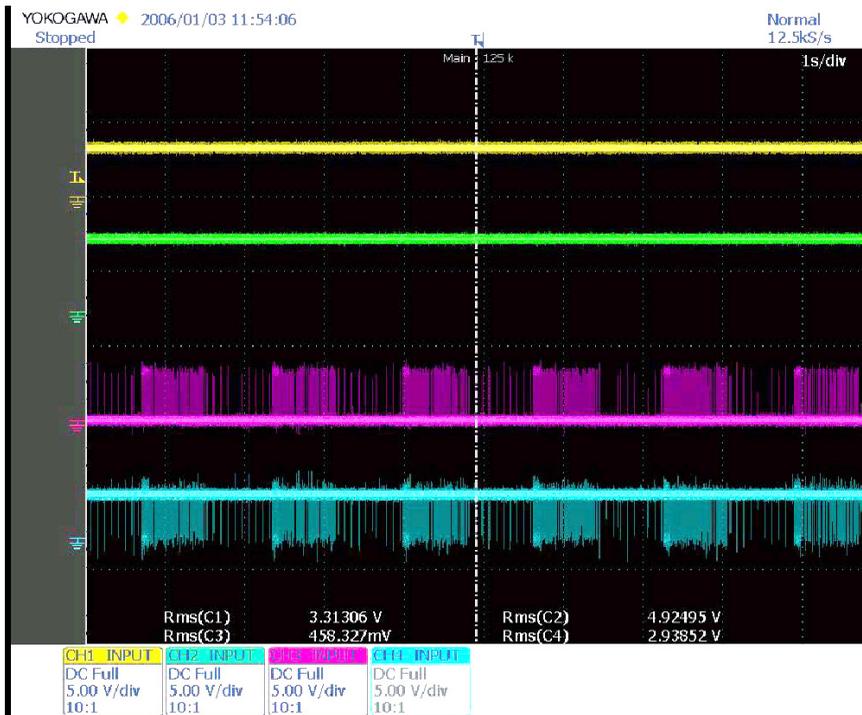


WAVEFORMS

1. WHEN POWER ON, RESET & DATA ETC WAVEFORM



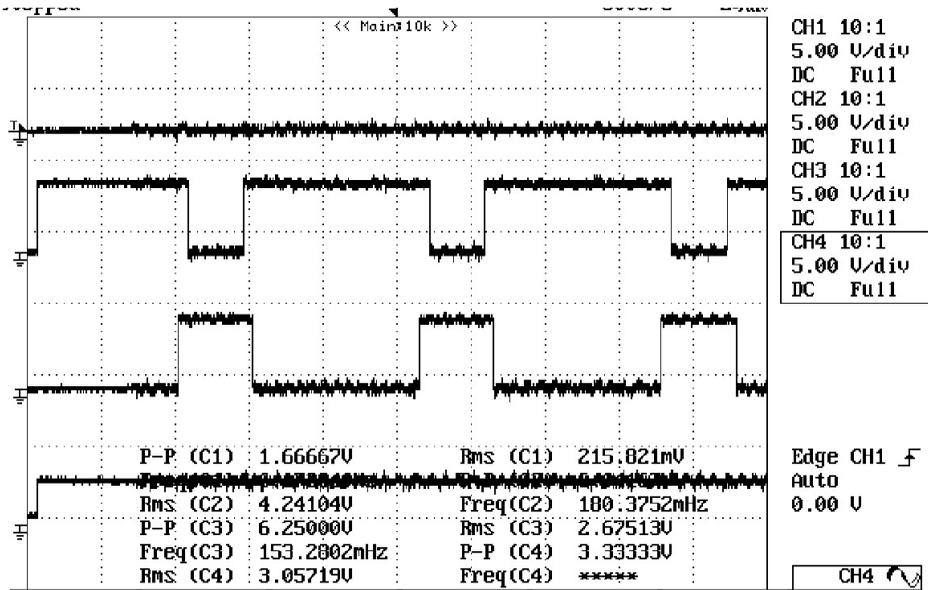
1. RESET(DVD)
2. RX
3. TX
4. LCS3# (FLASH)



Playing at USB function

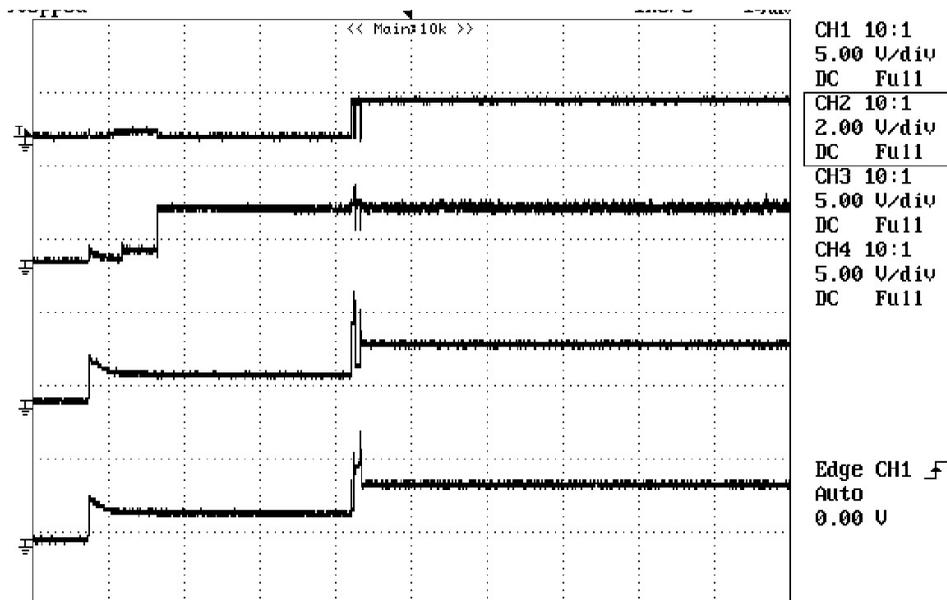
1. HRST#
2. 5V
3. D-
4. D+

2. OPEN / CLOSE WAVEFORM AT POWER ON



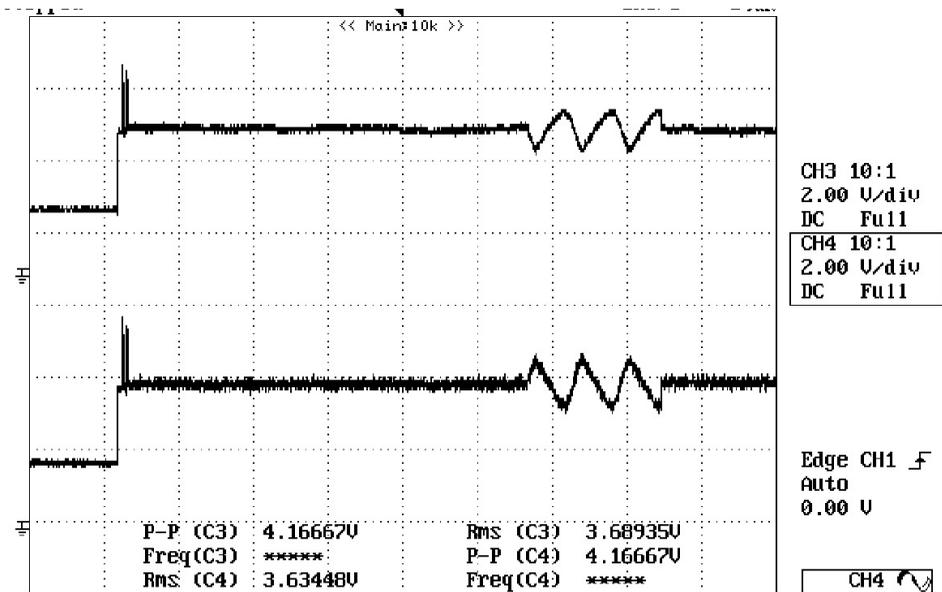
1. open
2. UP-sw
3. DOWN-sw
4. close

3. STARTING ACTION WAVEFORM IN MD DEVICE



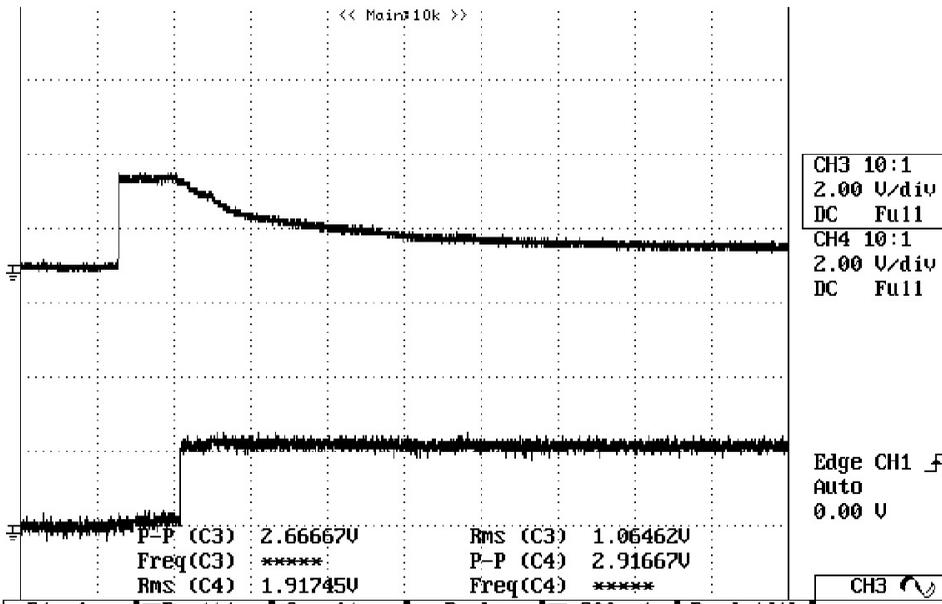
1. Driver STBY
2. SLEGN
3. SL+
4. SL-
(At Power on)

4. FOCUS WAVEFORM (AT CD)



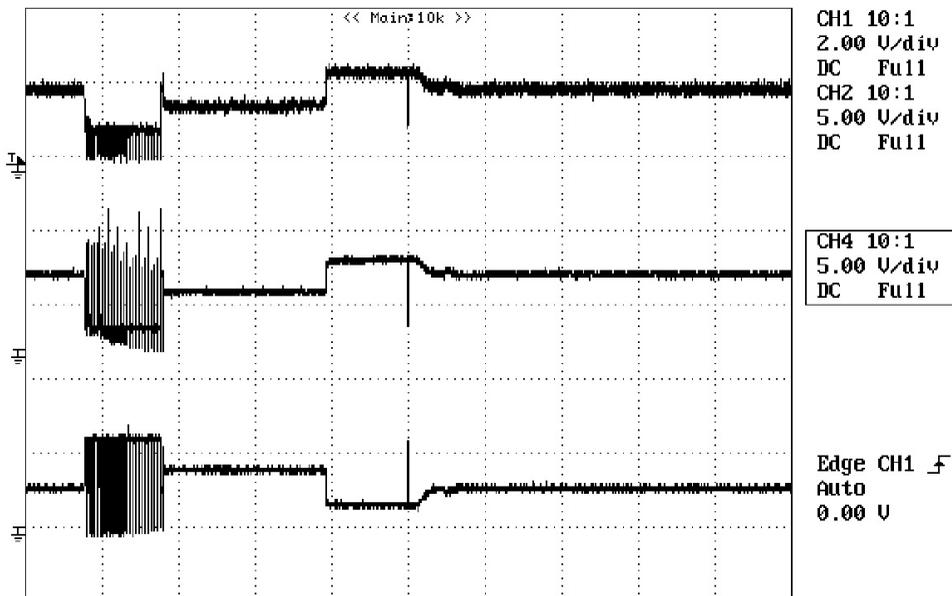
1. F+
 2. F-
- (NO DISK)

5. FOCUS WAVEFORM (AT DVD)



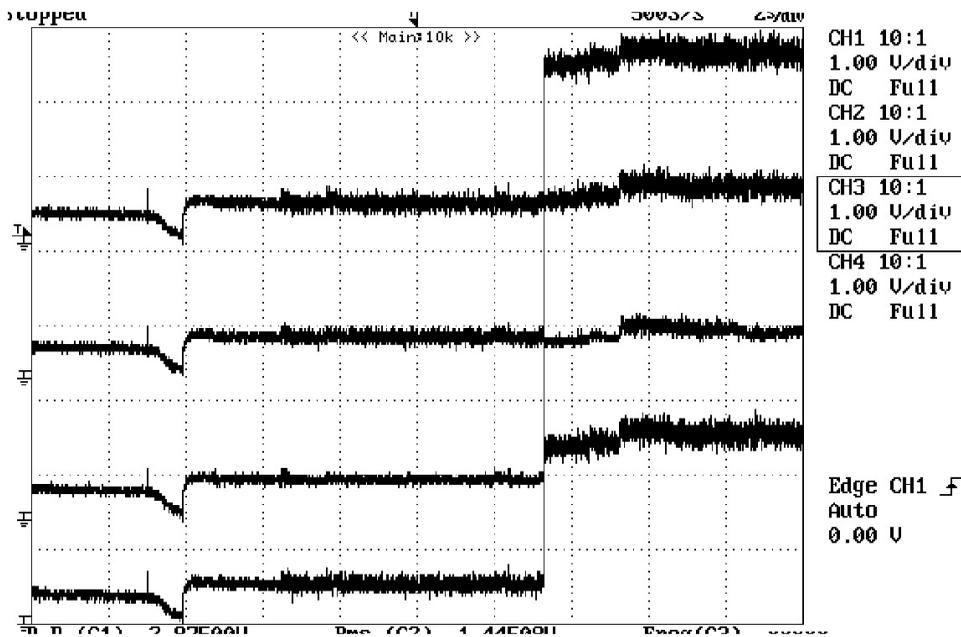
- 1.Q401(DVD_LD)
 - 2.Q402(CD_LD)
- (INSERT CD)

6. AT POWER ON, SPINDLE SIGNAL AT MD DECK



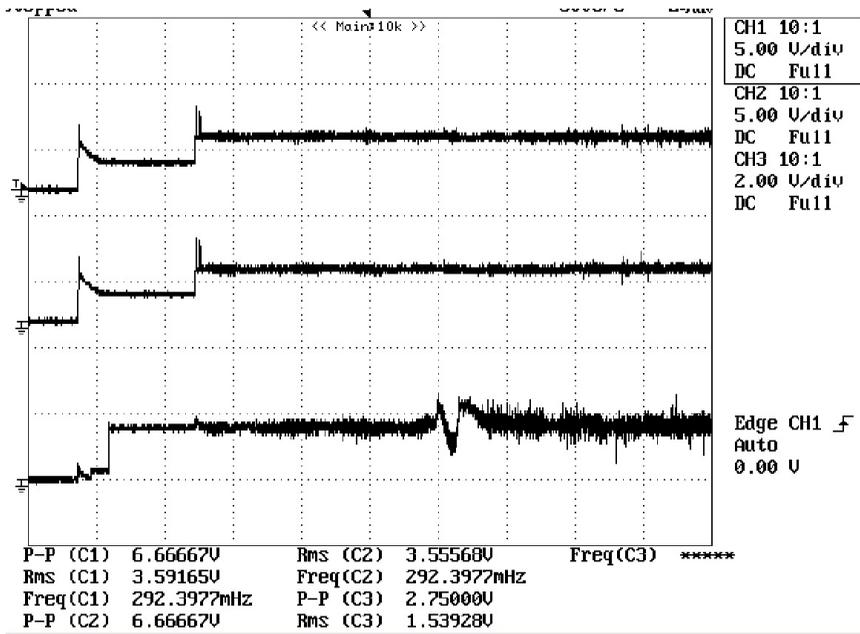
1. Spind
2. Spin+
3. Spin-

7. AT FIRST ACTION, FOCUS SIGNAL A, B, C, D



1. A
2. B
3. C
4. D

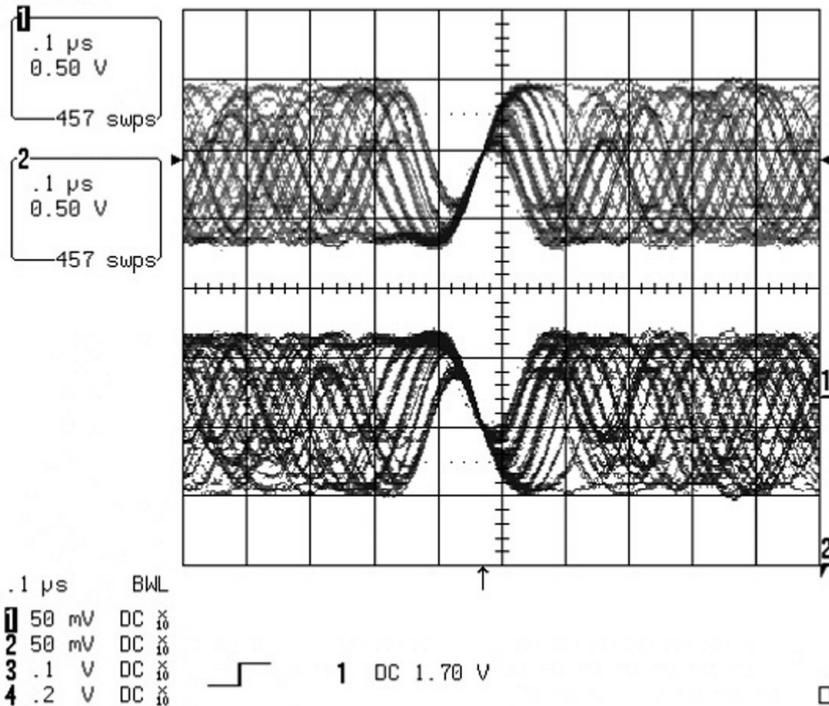
8. TRACKING SIGNAL



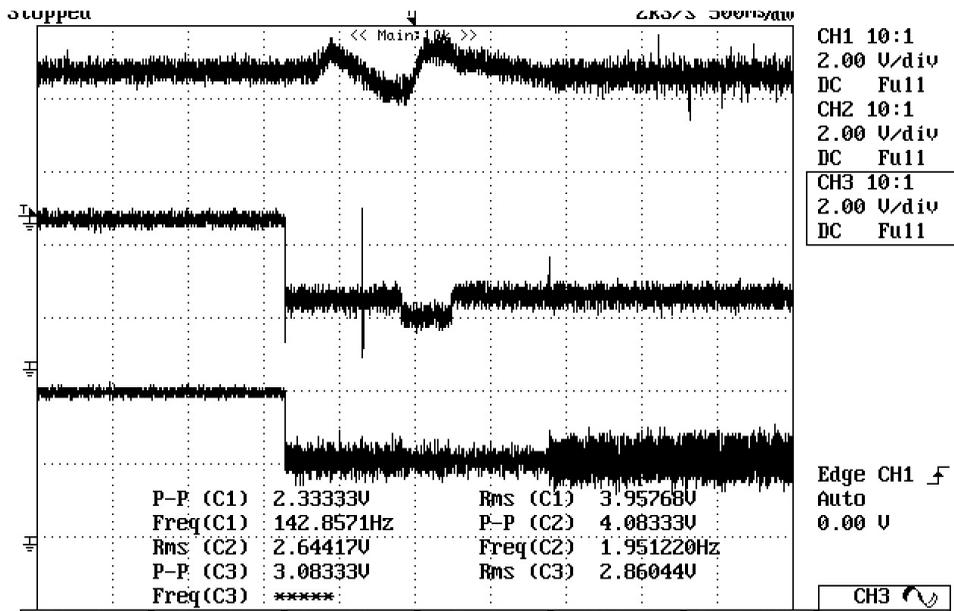
1. Tro
2. Tr-
3. Tr+

9. RF WAVEFORM

10-Dec-02
11:09:42

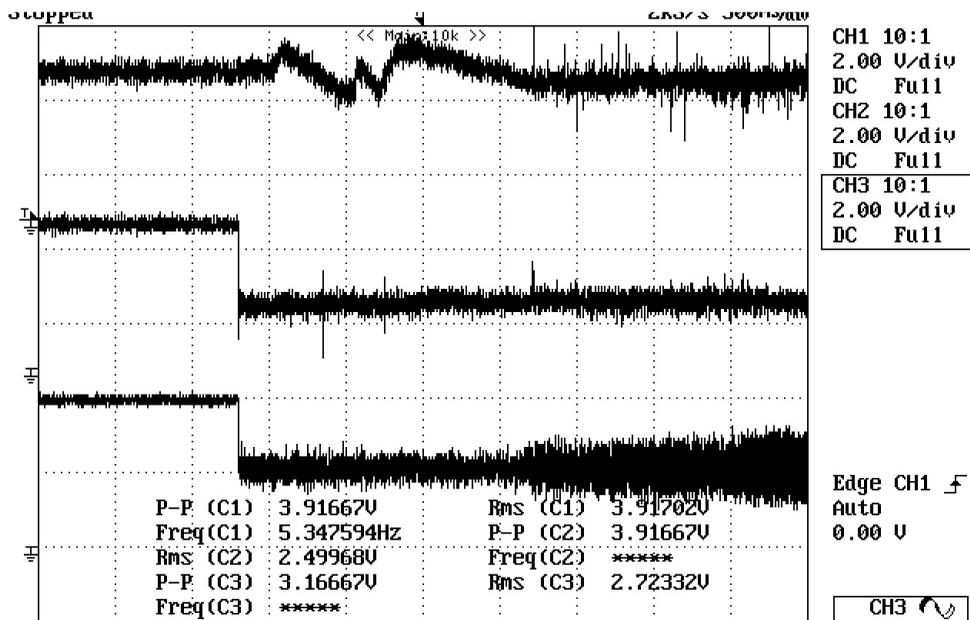


10. DISK TYPE JUGEMENT WAVEFORM



(DVD)

1. F+
2. FDO
3. SVRRF



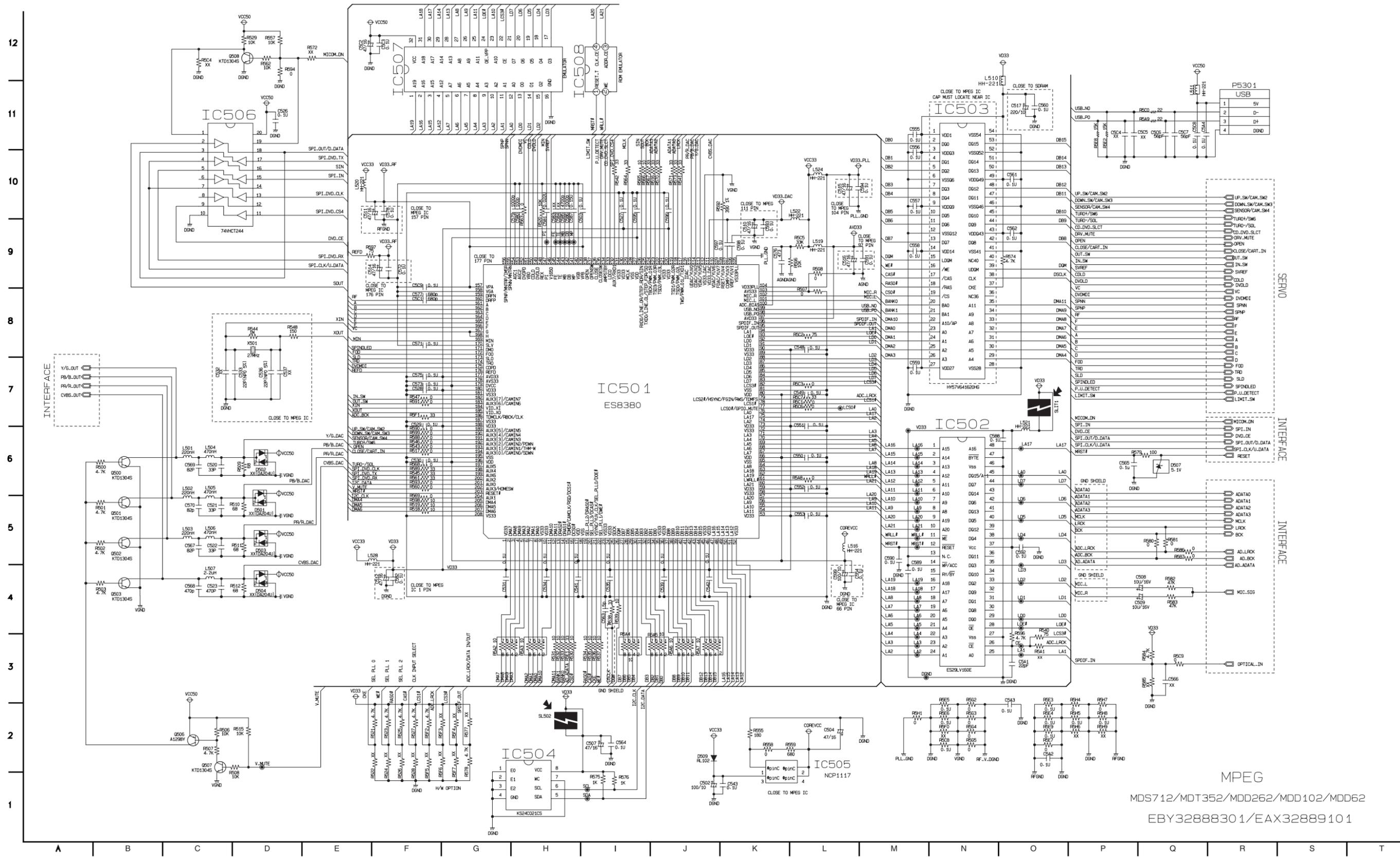
(CD)

MEMO

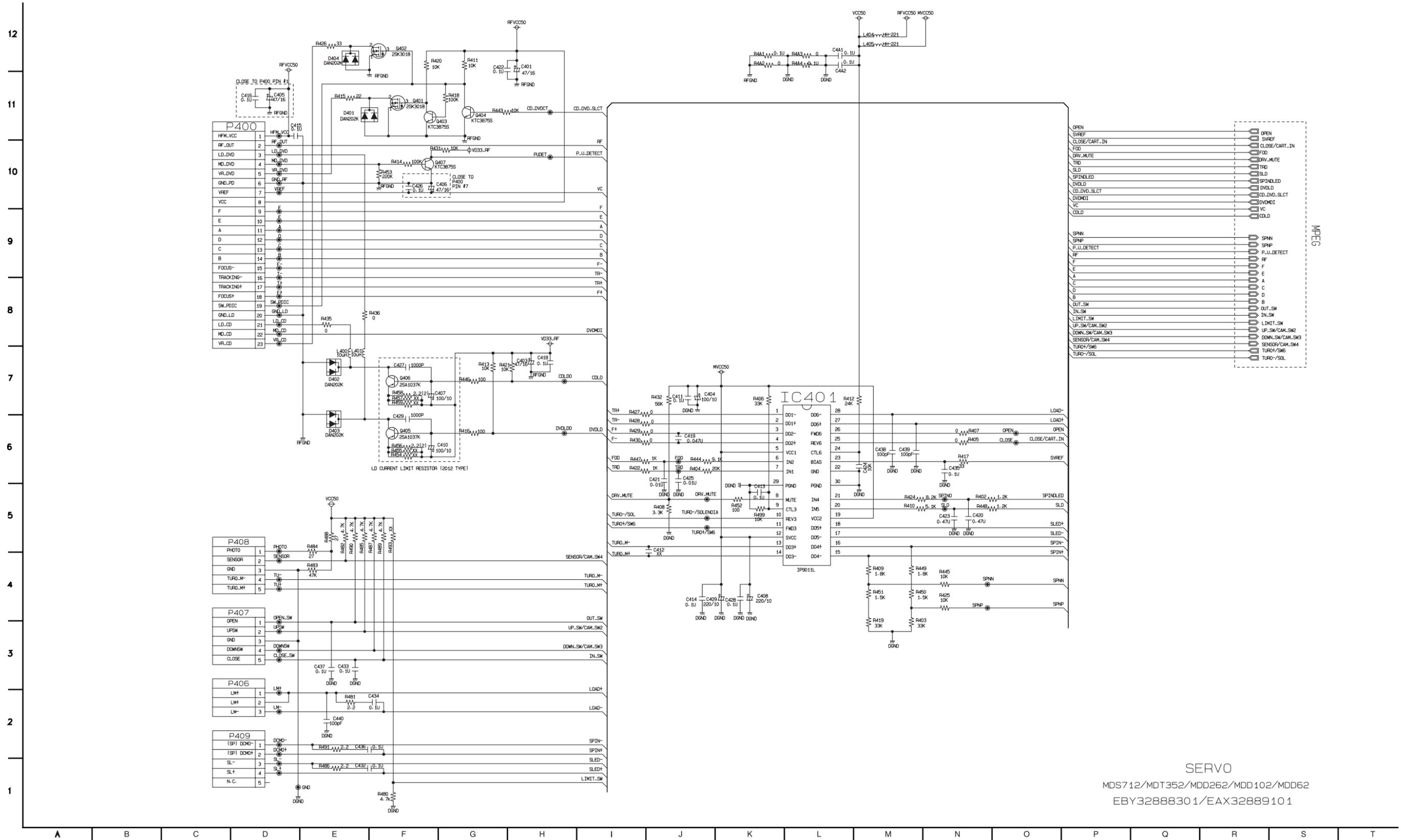
A series of horizontal dotted lines for writing.

SCHEMATIC DIAGRAMS

1. MPEG SCHEMATIC DIAGRAM

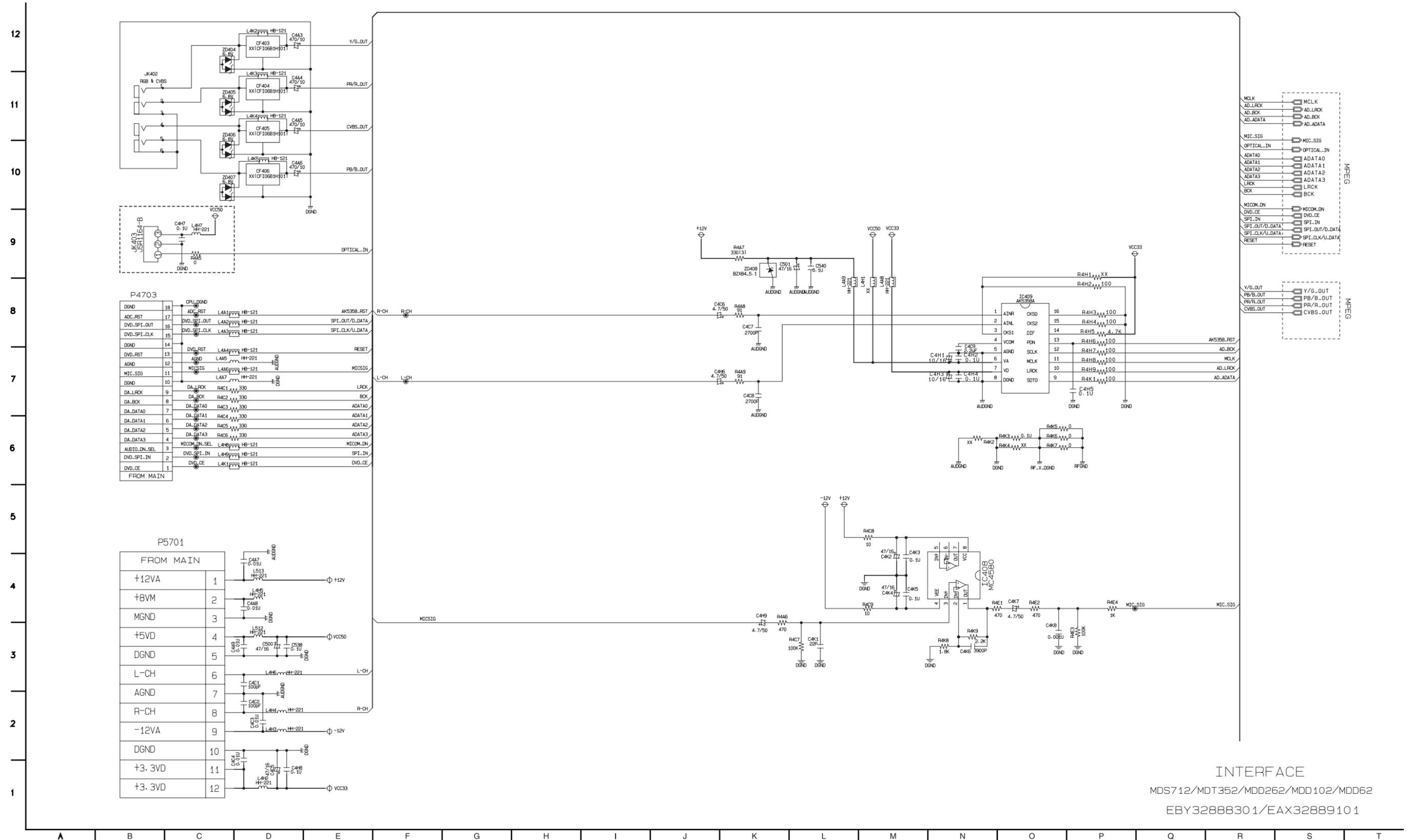


2. SERVO SCHEMATIC DIAGRAM



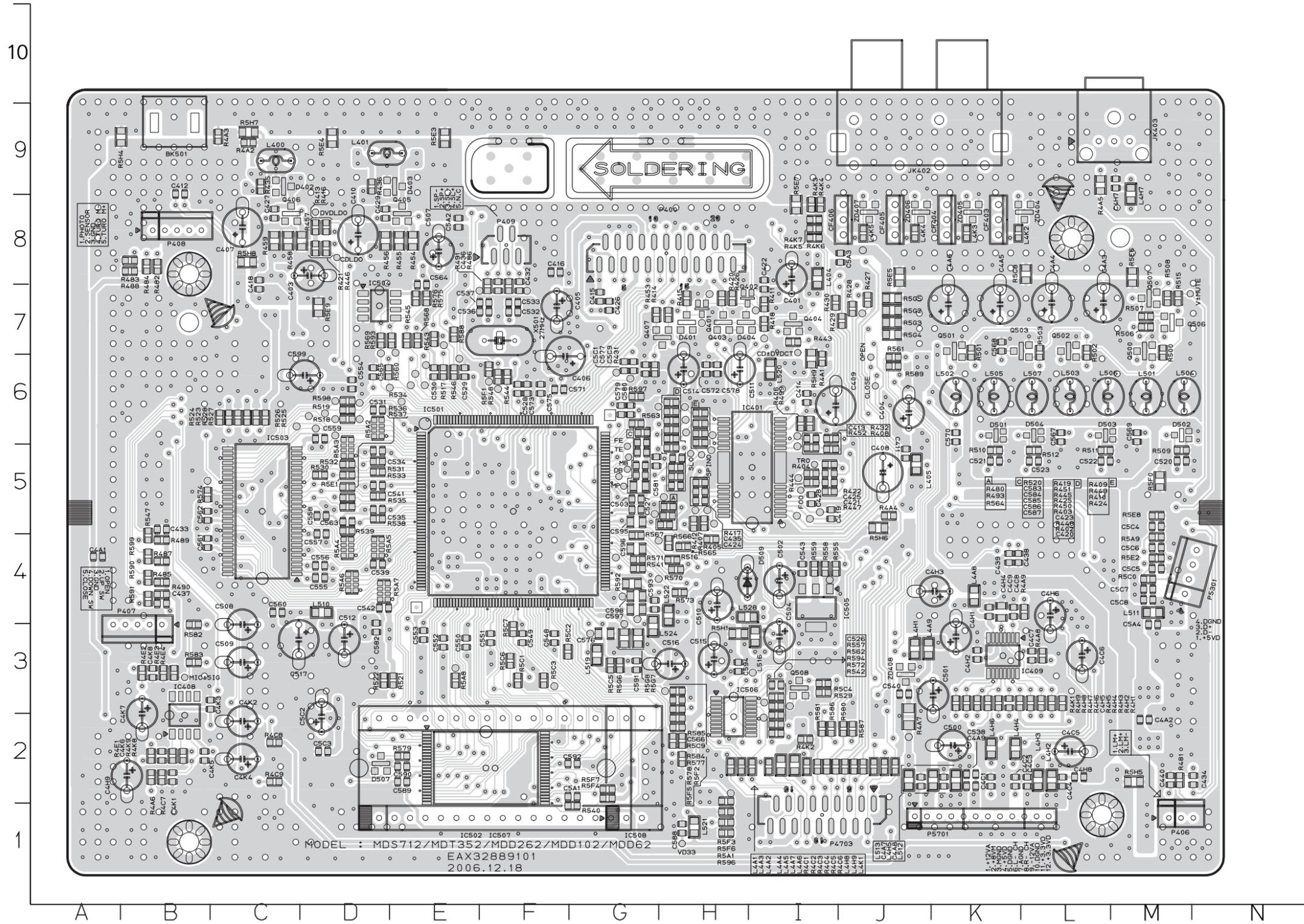
SERVO
 MDS712/MDT352/MDD262/MDD102/MDD62
 EBY32888301/EAX32889101

3. INTERFACE SCHEMATIC DIAGRAM

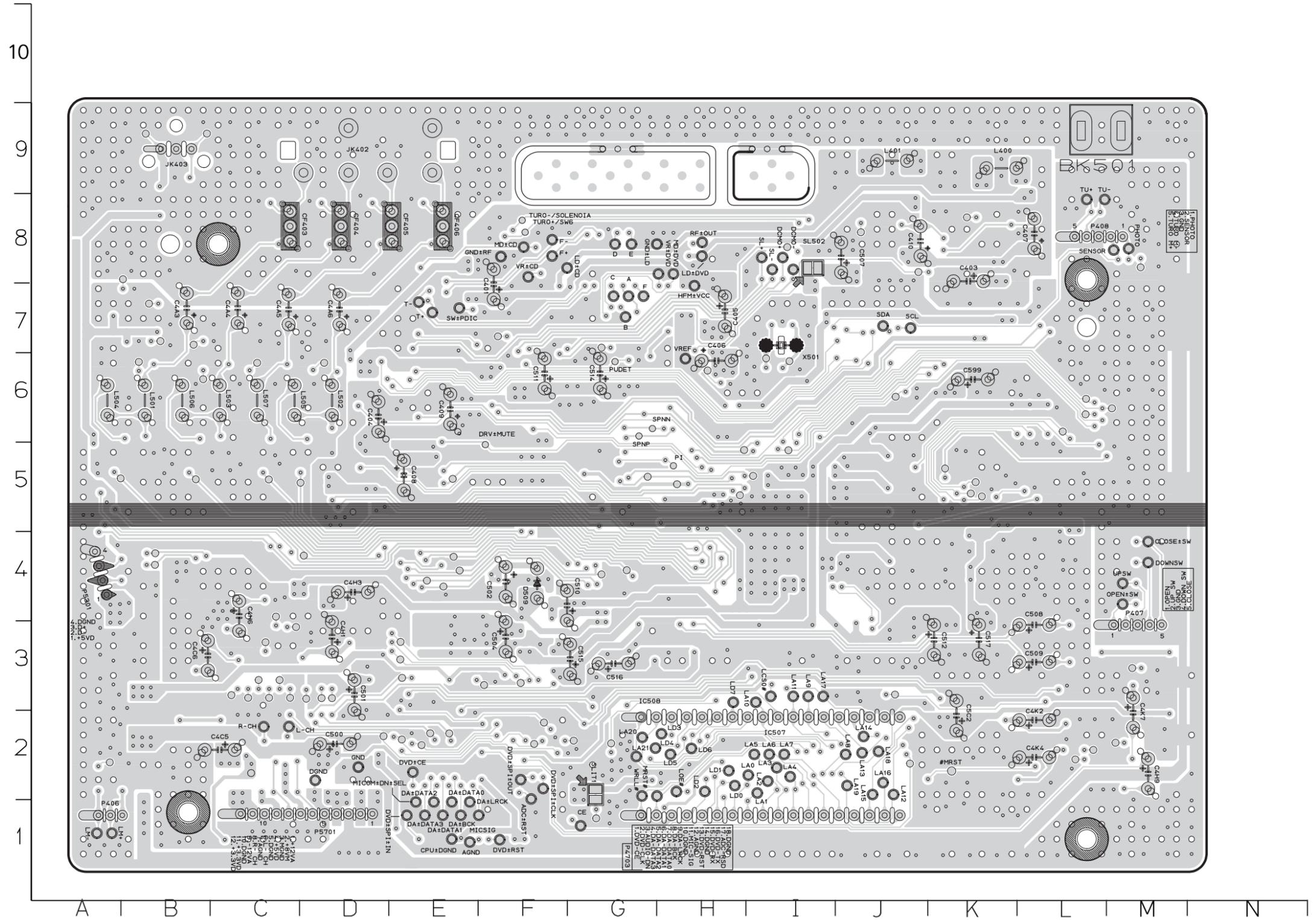


PRINTED CIRCUIT DIAGRAM

DVD P.C.BOARD (TOP VIEW)



**DVD P.C.BOARD
(BOTTOM VIEW)**



MEMO

A series of horizontal dotted lines for writing on page 4-25.

MEMO

A series of horizontal dotted lines for writing on page 4-26.