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LG Electronics Inc.

SERVICE MANUAL MODEL MF-FE421(F) MF-FE422(F/T/FP/FT/FW) MF-FE425F/FP



# MP3 PLAYER SERVICE MANUAL

## CAUTION

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



**MODEL: MF-FE421(F)  
MF-FE422(F/T/FP/FT/FW)  
MF-FE425F/FP**

# [CONTENTS]

## ○ SECTION 1. GENERAL

- ESD PRECAUTIONS ..... 1-2
- SPECIFICATION .....1-3
- THE OTHER COMPONENTS (ACCESSORIES) ..... 1-3
- IDENTIFICATION OF CONTROLS ..... 1-4

## ○ SECTION 2. ELECTRICAL SECTION

- TROUBLESHOOTING ..... 2-1
- INTERNAL BLOCK DIAGRAM OF ICs ..... 2-6
- BLOCK DIAGRAM ..... 2-9
- SCHEMATIC DIAGRAMS ..... 2-11
- PRINTED CIRCUIT DIAGRAMS .....2-17

## ○ SECTION 3. EXPLODED VIEWS

- CABINET AND MAIN FRAME SECTION .....3-1

## ○ SECTION 4. REPLACEMENT PARTS LIST

- REPLACEMENT PARTS LIST .....4-1
- REPLACEMENT PARTS LIST (LGEMT: TAIWAN) .....4-5

# || SECTION 1. GENERAL

## □ 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 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 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 handling 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 APROWHEAD SYMBOL. WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK.
	THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF IMPORTANT SAFETY INFORMATION IN SERVICE LITERATURE.

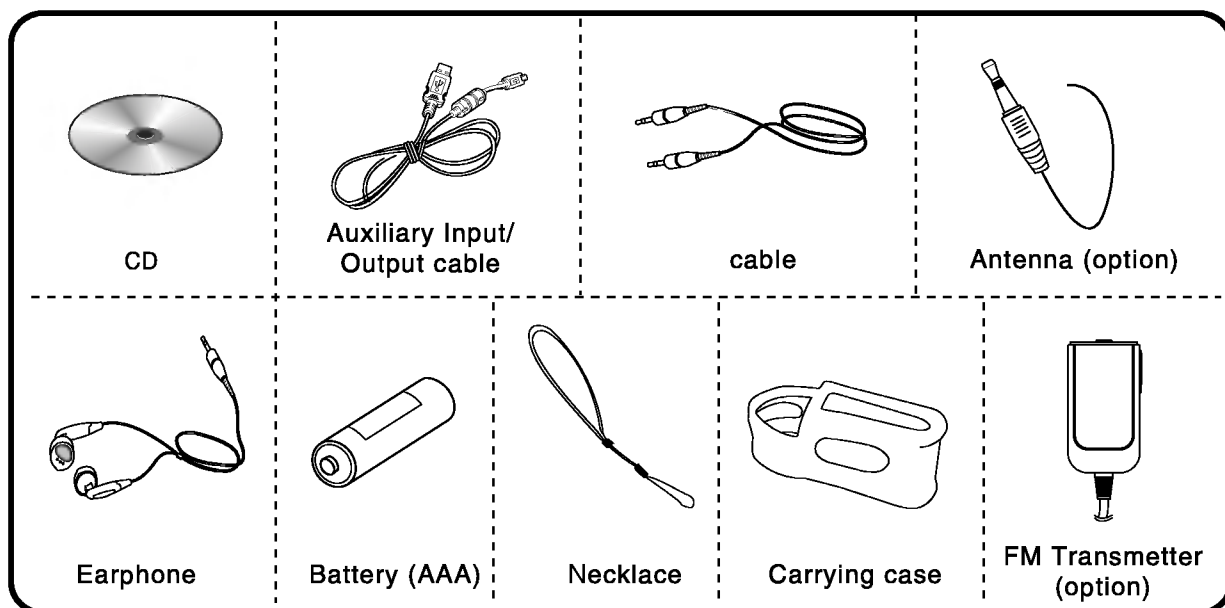
## ❑ SPECIFICATIONS

- Memory Capacity .....MF-FE421 : 128 MB  
MF-FE422 : 256 MB  
MF-FE425 : 512MB  
MF-FE429 : 1GB
- Battery .....AAA type (1EA)
- Dimensions (WxHxD) .....68.2x22.2x30.8mm
- Weight .....45g (without battery)
- Operating Voltage .....1.5V DC
- Dynamic Range .....55/80dB(No Filter/JIS-A Filter)
- Earphone Output Power .....5mW+5mW
- Channel Separation .....40/40dB (1kHz/10kHz)
- Output .....5mW + 5mW (1kHz, 0dB/1 6Ω)
- Equalizer .....FLAT/JAZZ/CLASSIC/POP/ROCK/CIASSIC/POP/CONCERT/USER SRS/TRUBASS/WOW

### FM radio

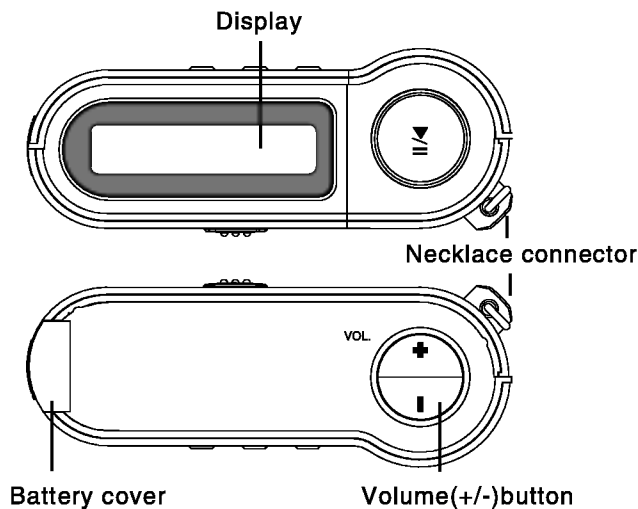
- Frequency Range .....87.5MHz~108MHz
- S/N Ratio .....38 dB
- Channel Separation .....20 dB
- Antenna .....Earphone Antenna

## ❑ THE OTHER COMPONENTS (ACCESSORIES)

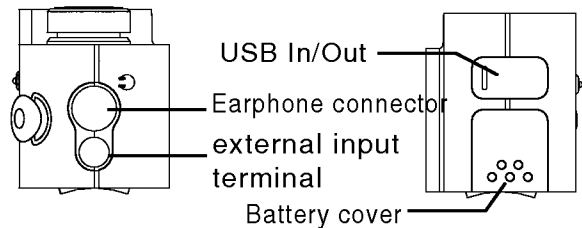


# IDENTIFICATION OF CONTROLS

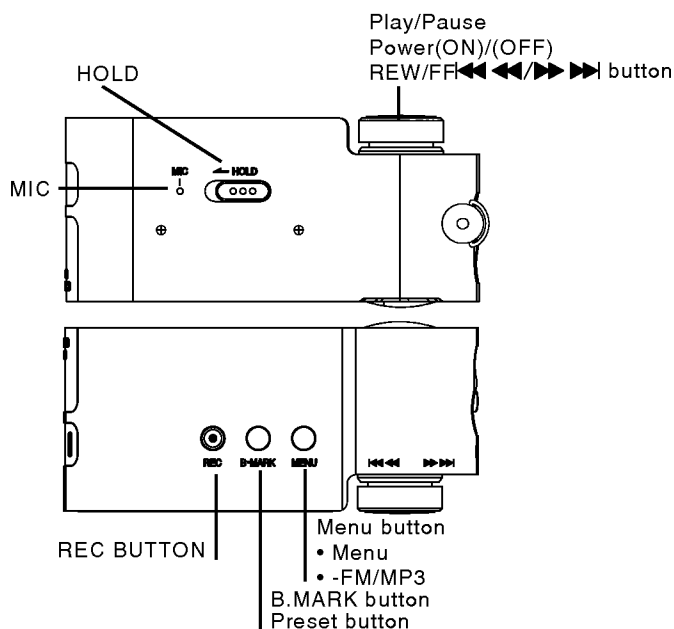
## Front/Rear part



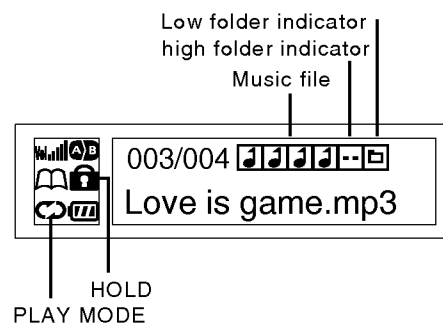
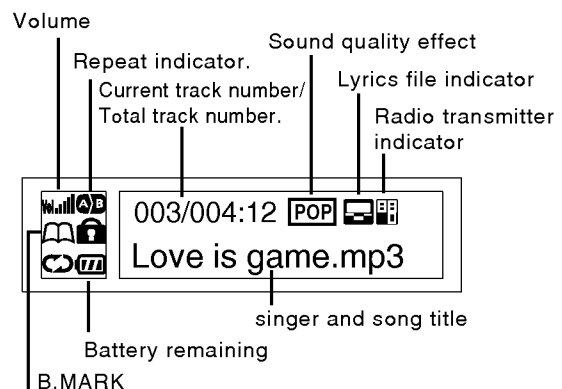
## Upper/Bottom part



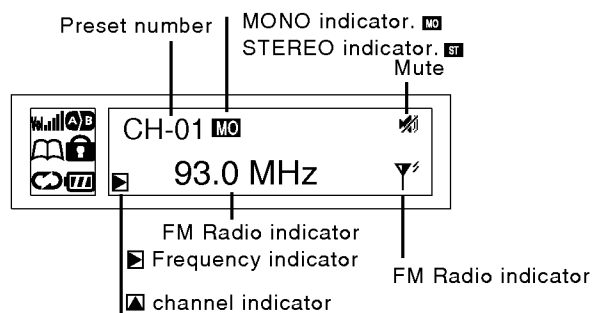
## Side part



## DISPLAY (MP3)

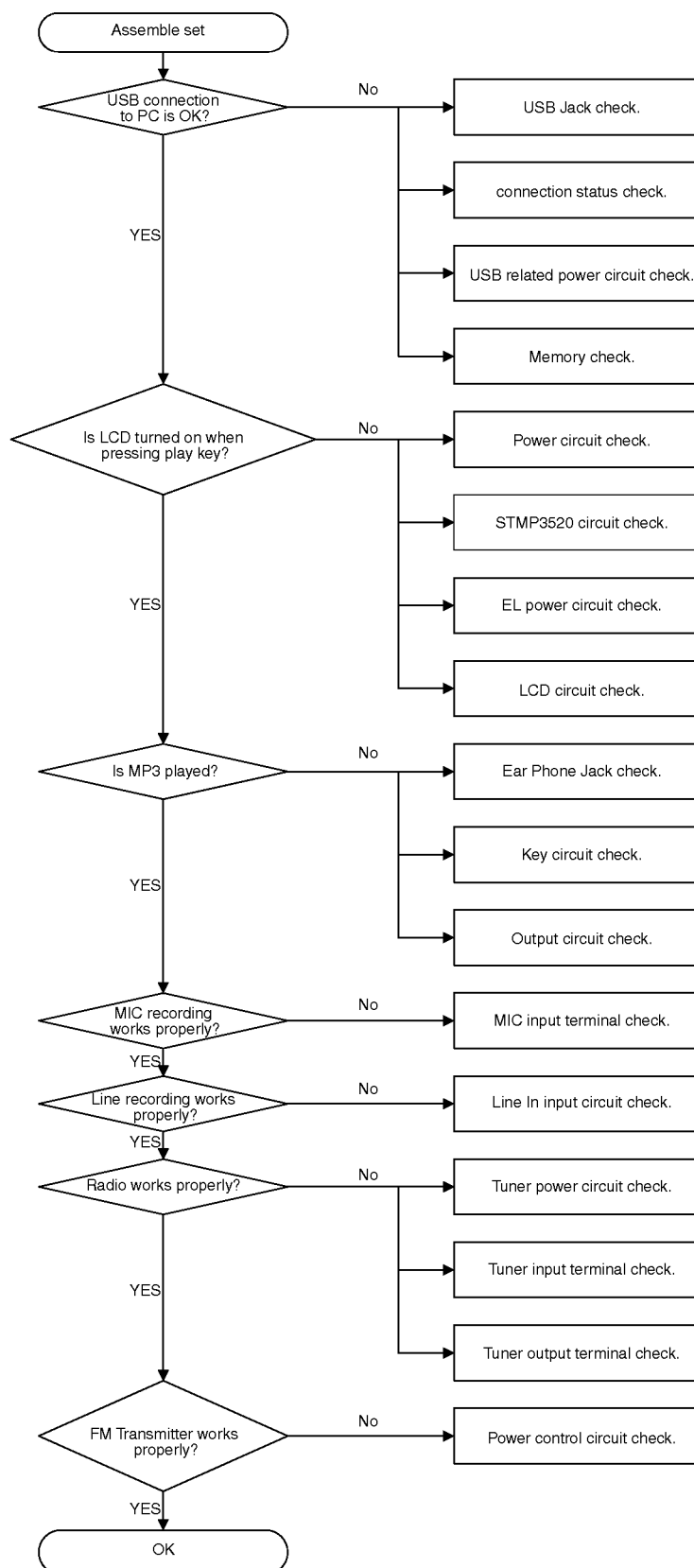


## DISPLAY (FM Radio)

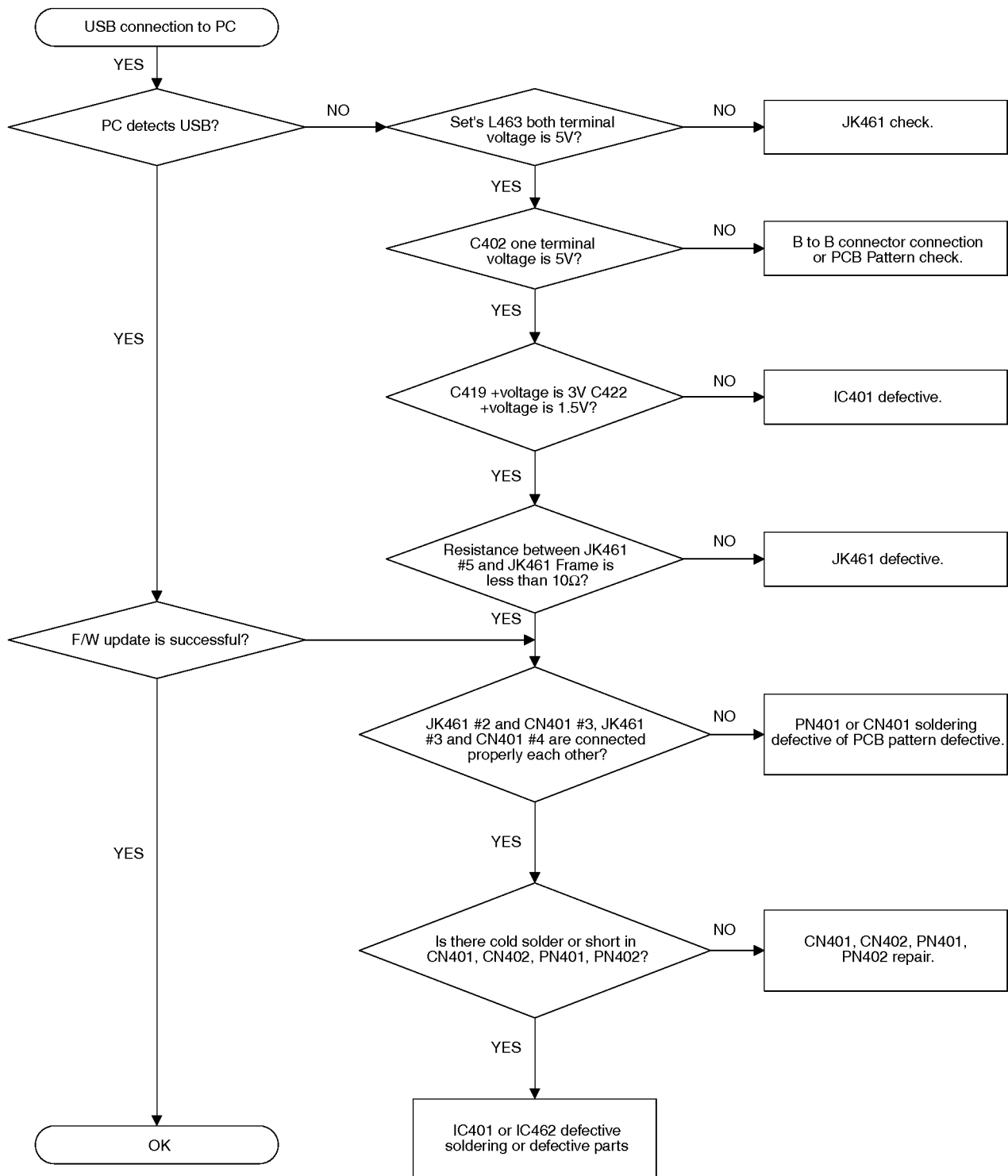


# || SECTION 2. ELECTRICAL SECTION

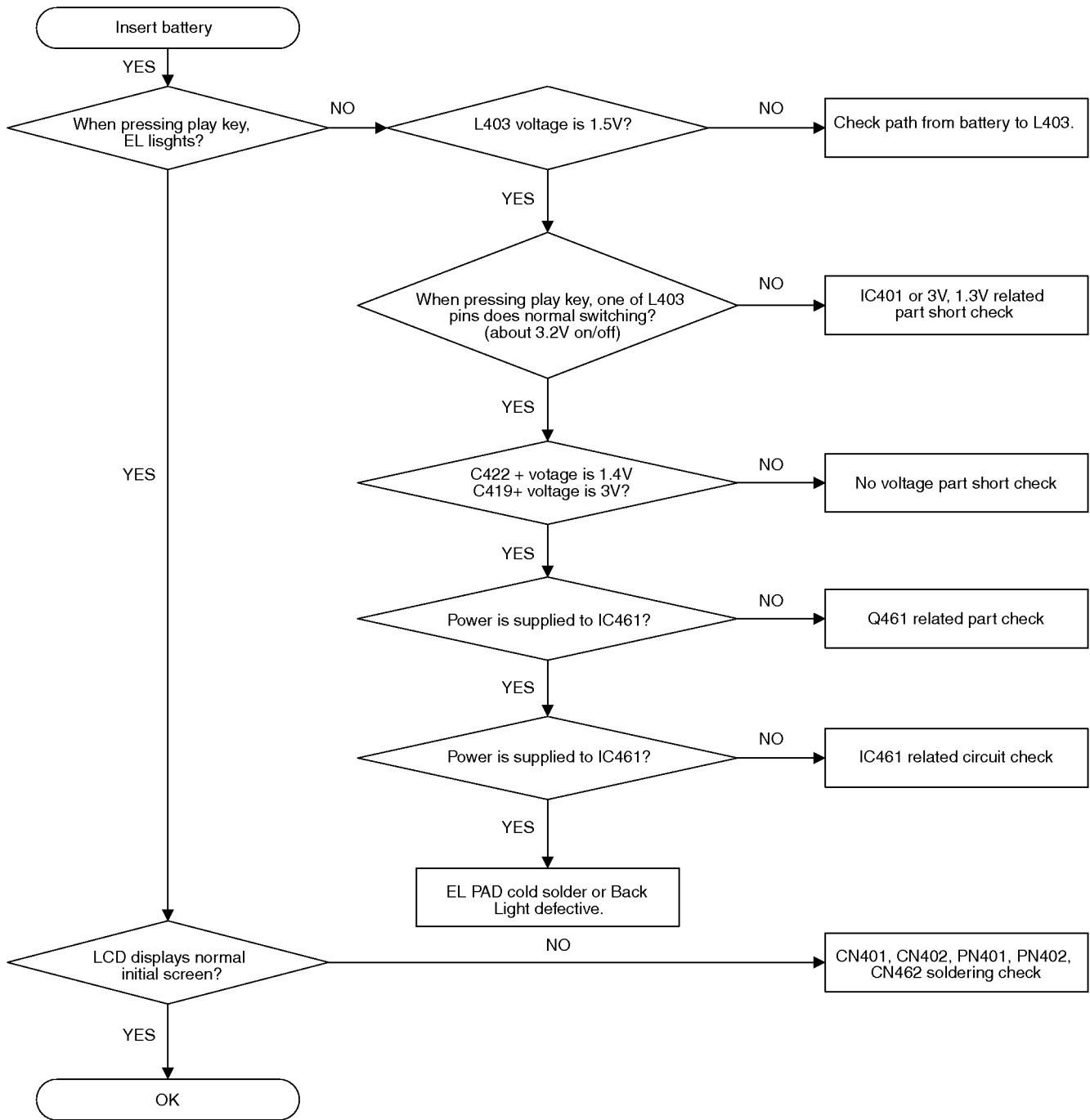
## □ TROUBLESHOOTING



# 1. USB operation connection

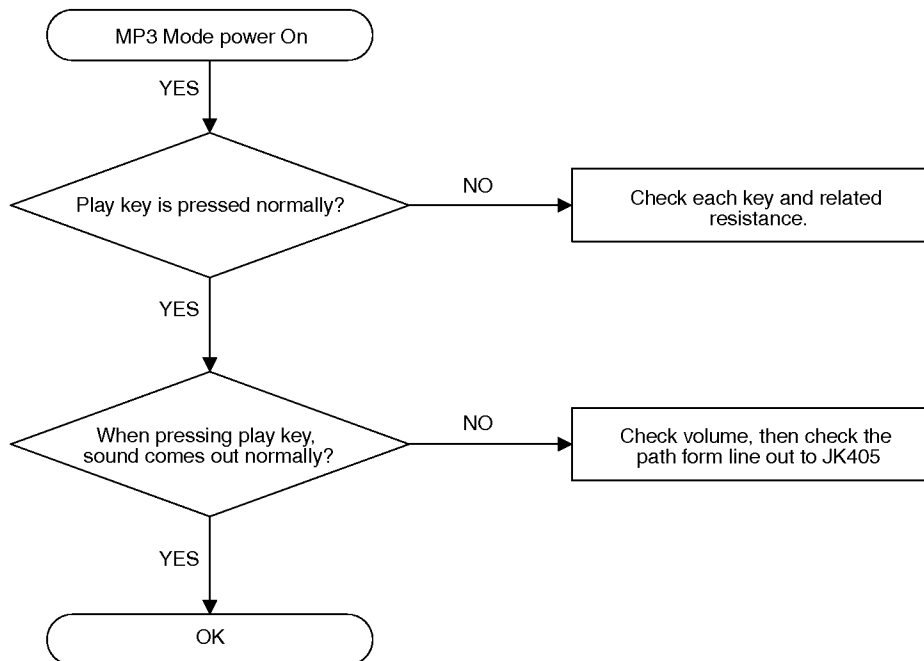


## 2. Power check

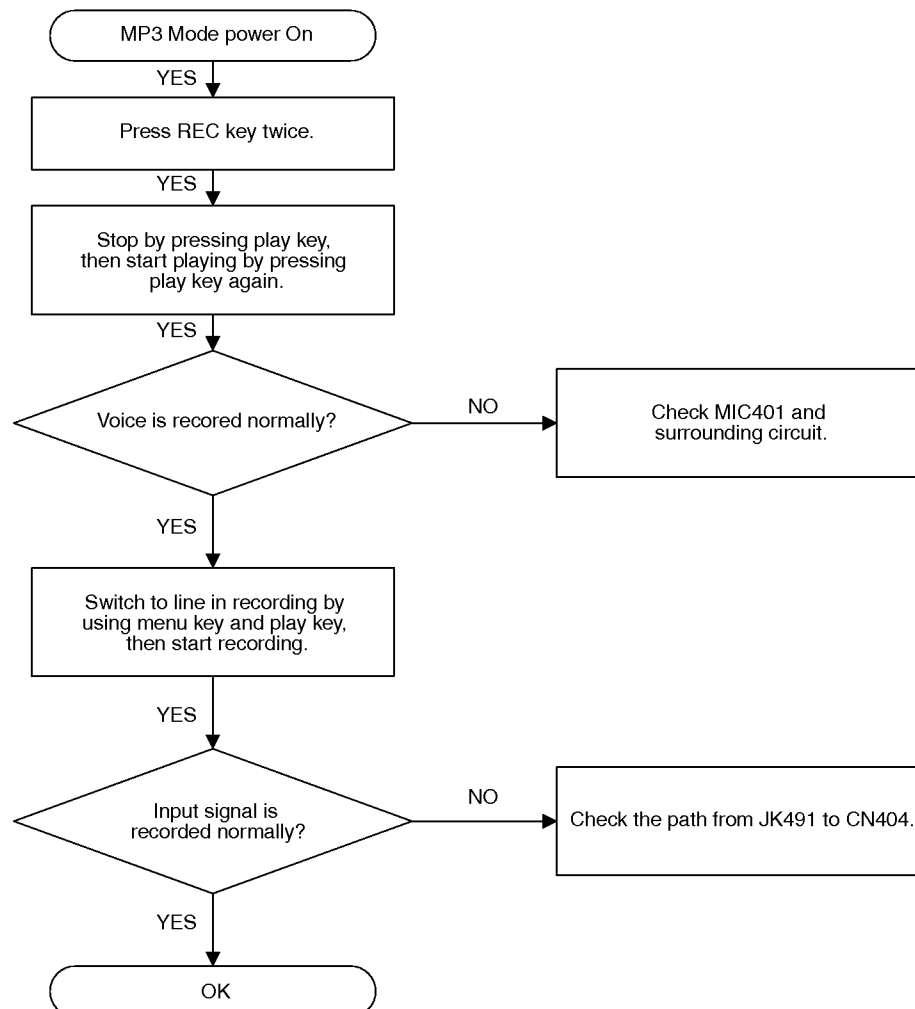




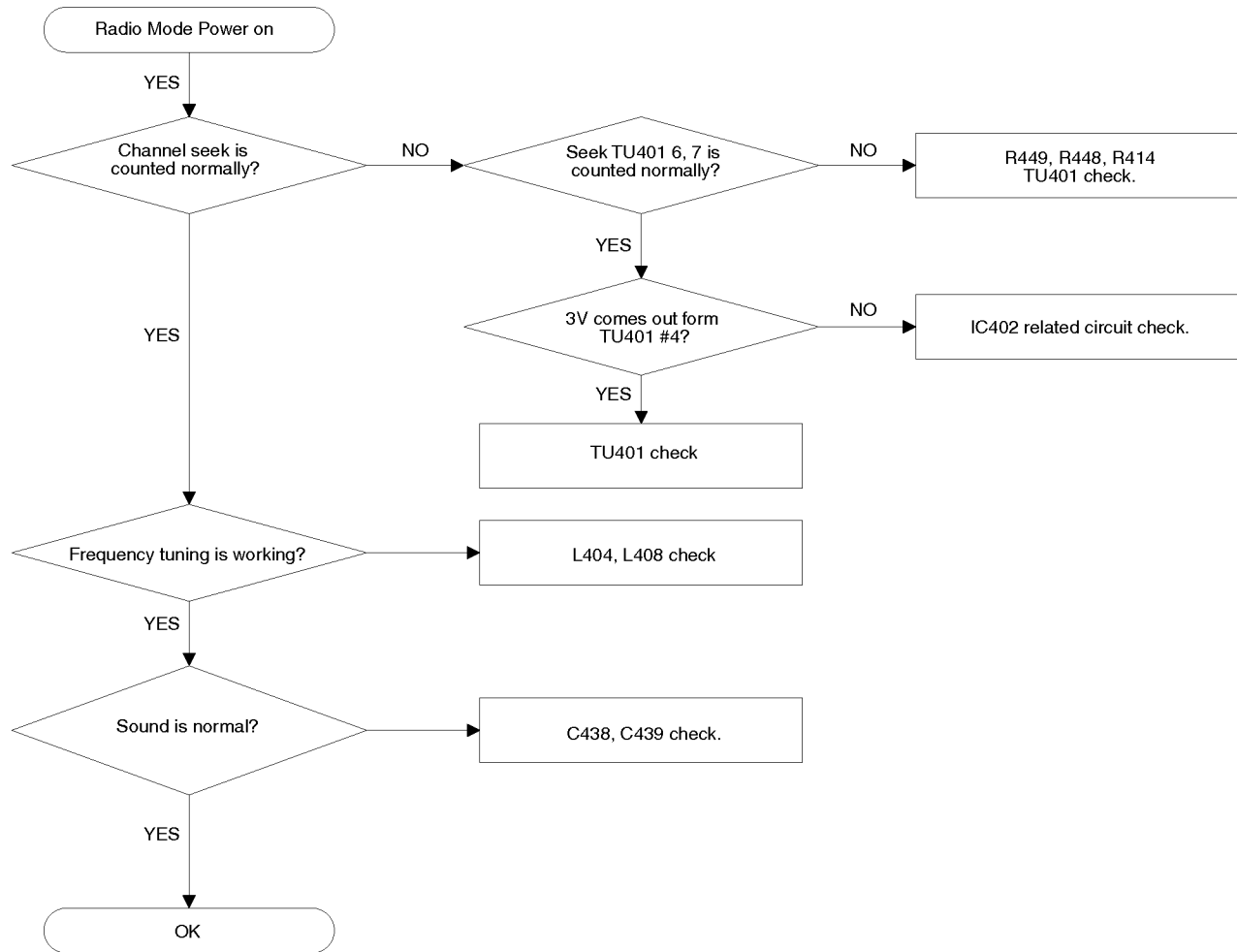
### 3. MP3 play check



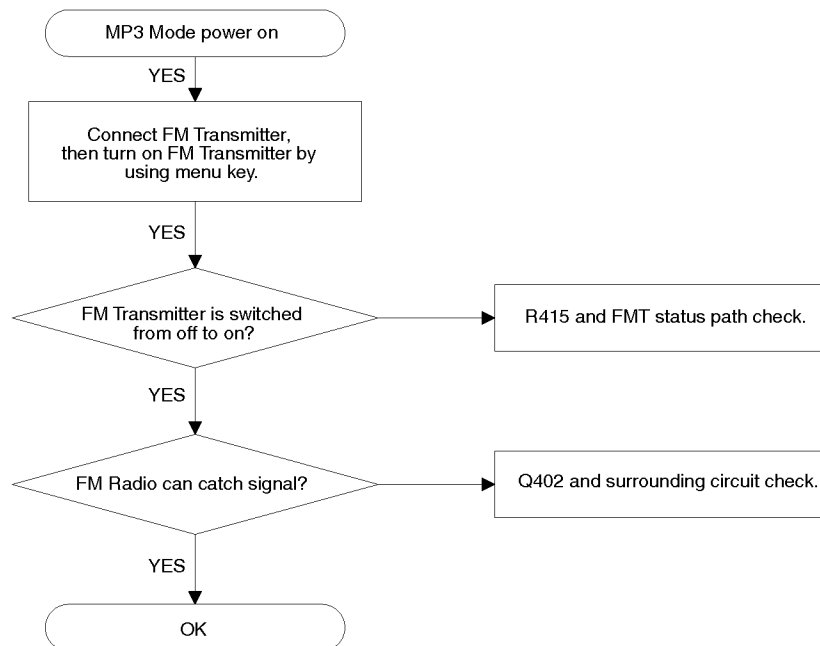
### 4. Recording check



## 5. Radio check



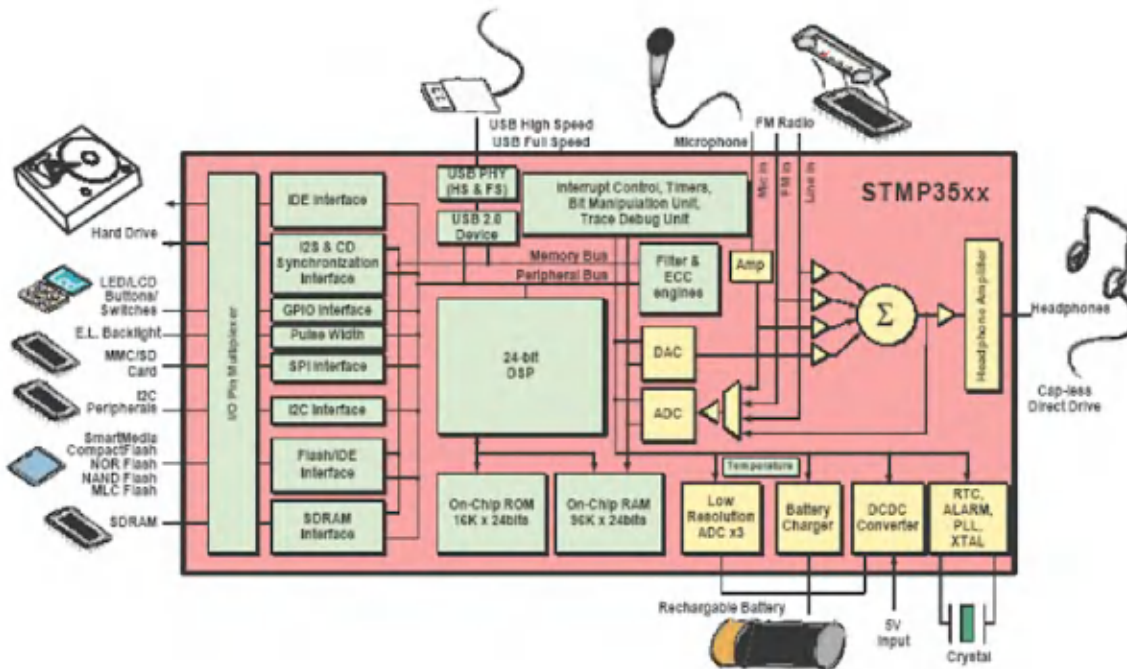
## 6. FM Transmitter check



## INTERNAL BLOCK DIAGRAM OF ICs

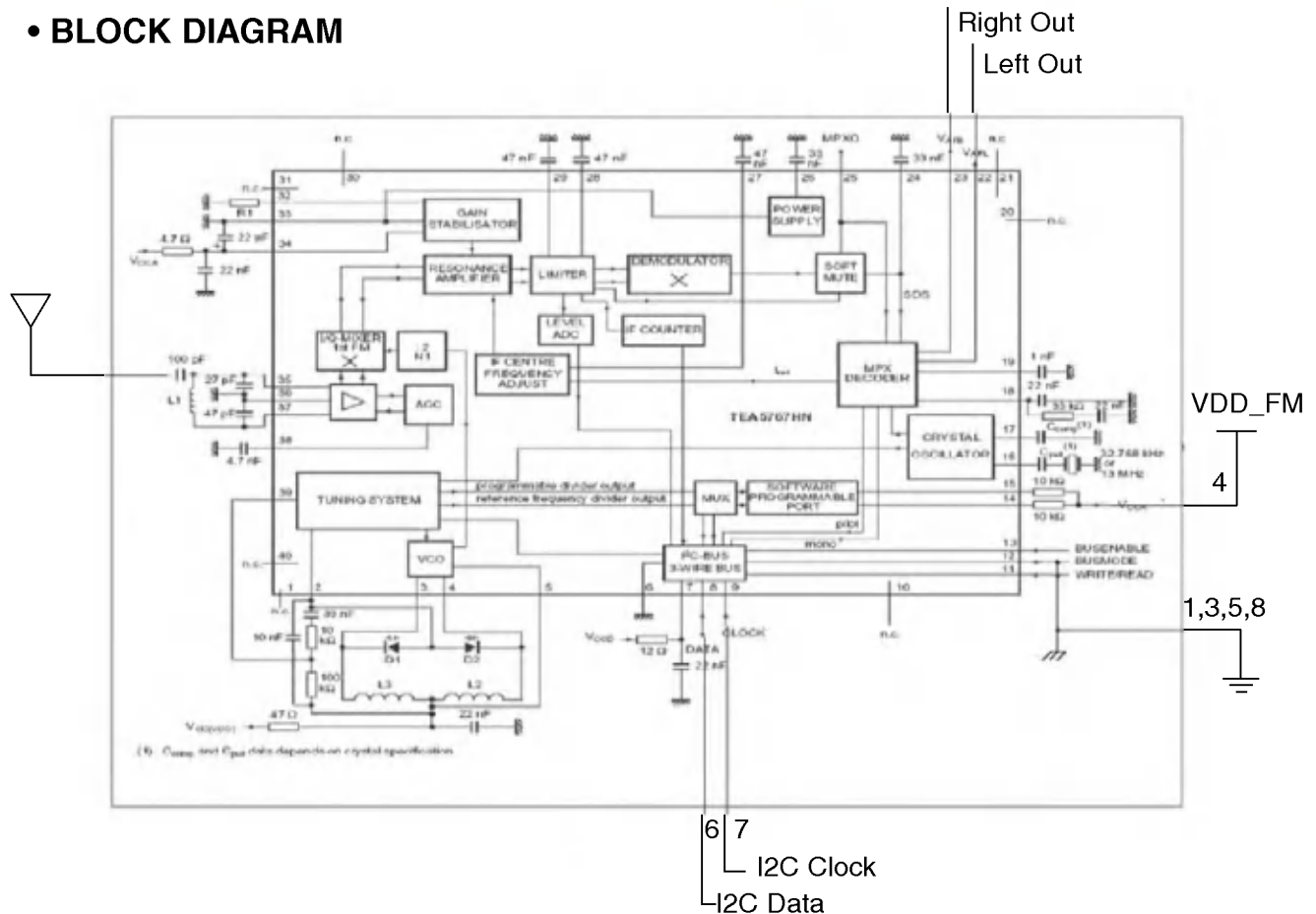
## ■ Main CPU STMP 3520

- **BLOCK DIAGRAM**



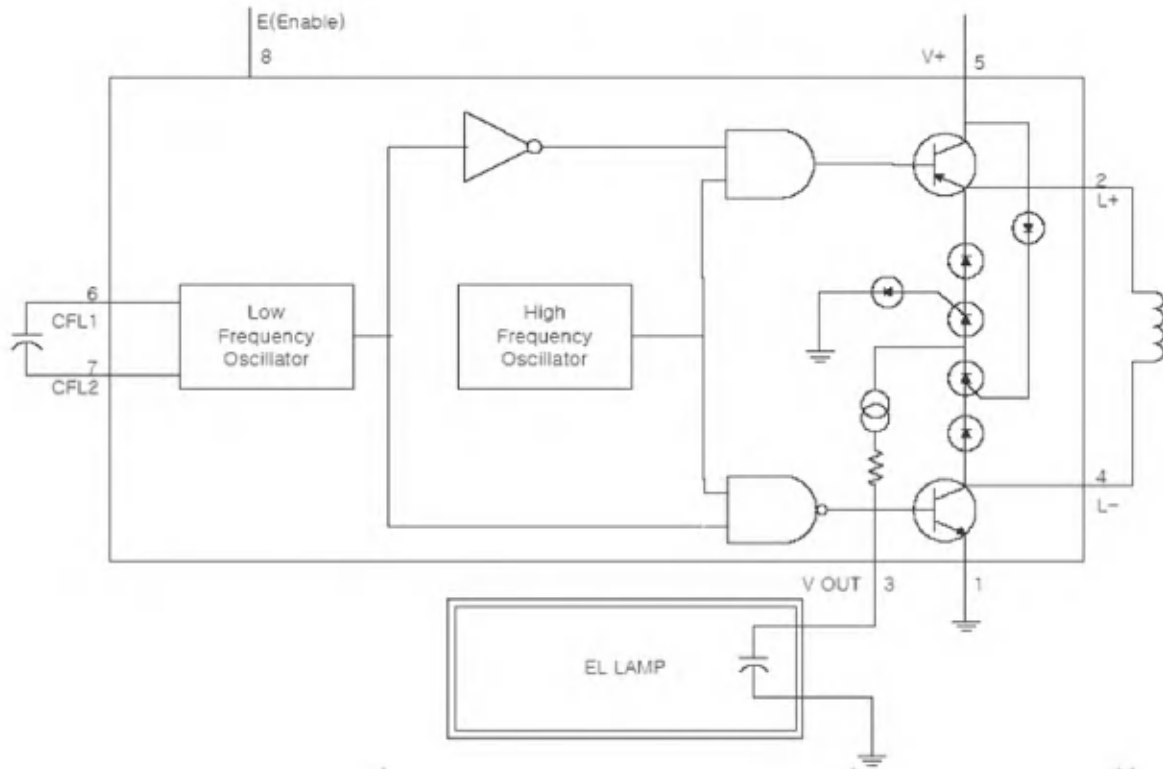
## ■ Tuner Module MP301

- **BLOCK DIAGRAM**



■ EL Driver D355B

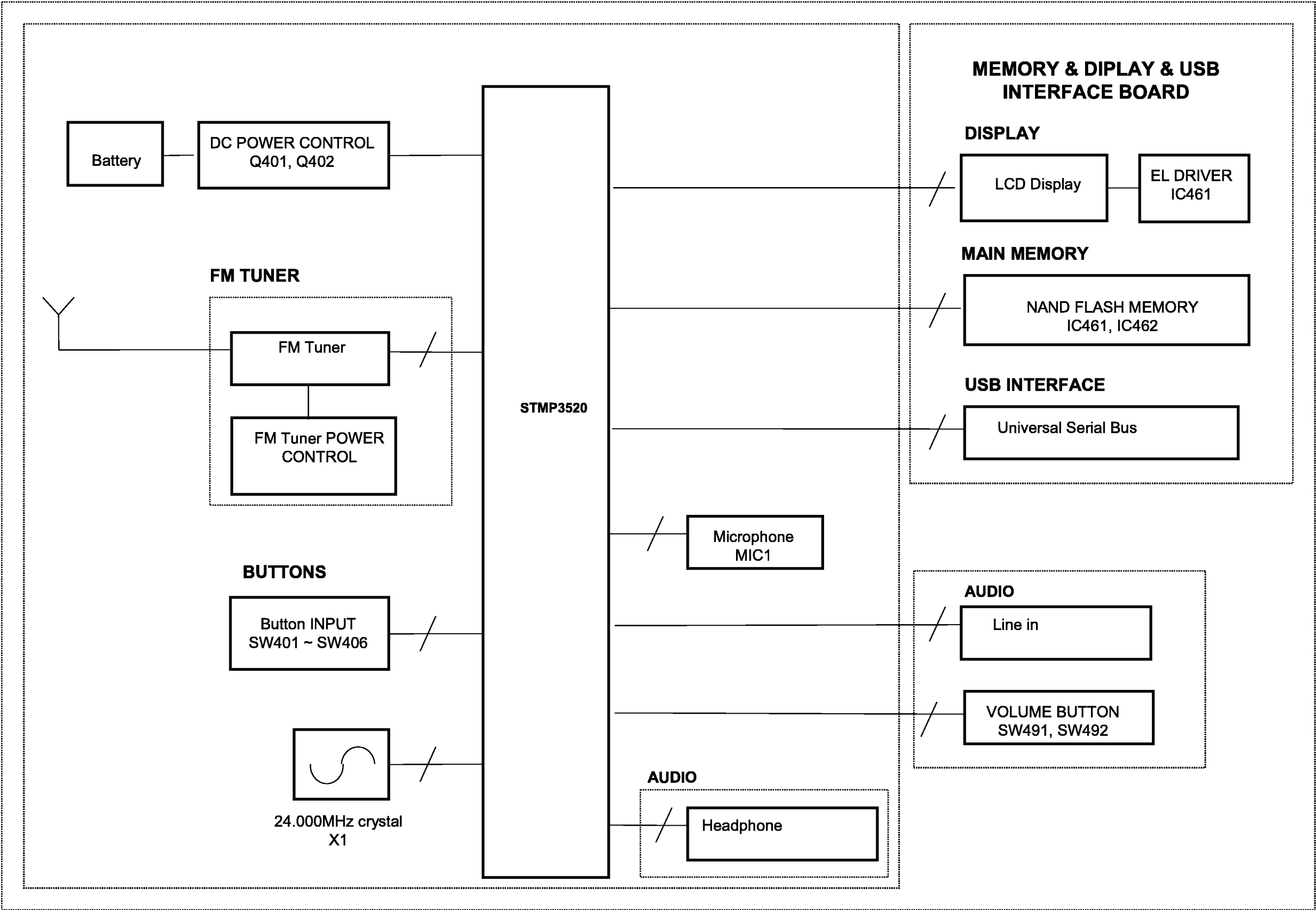
- Block Diagram



**MEMO**

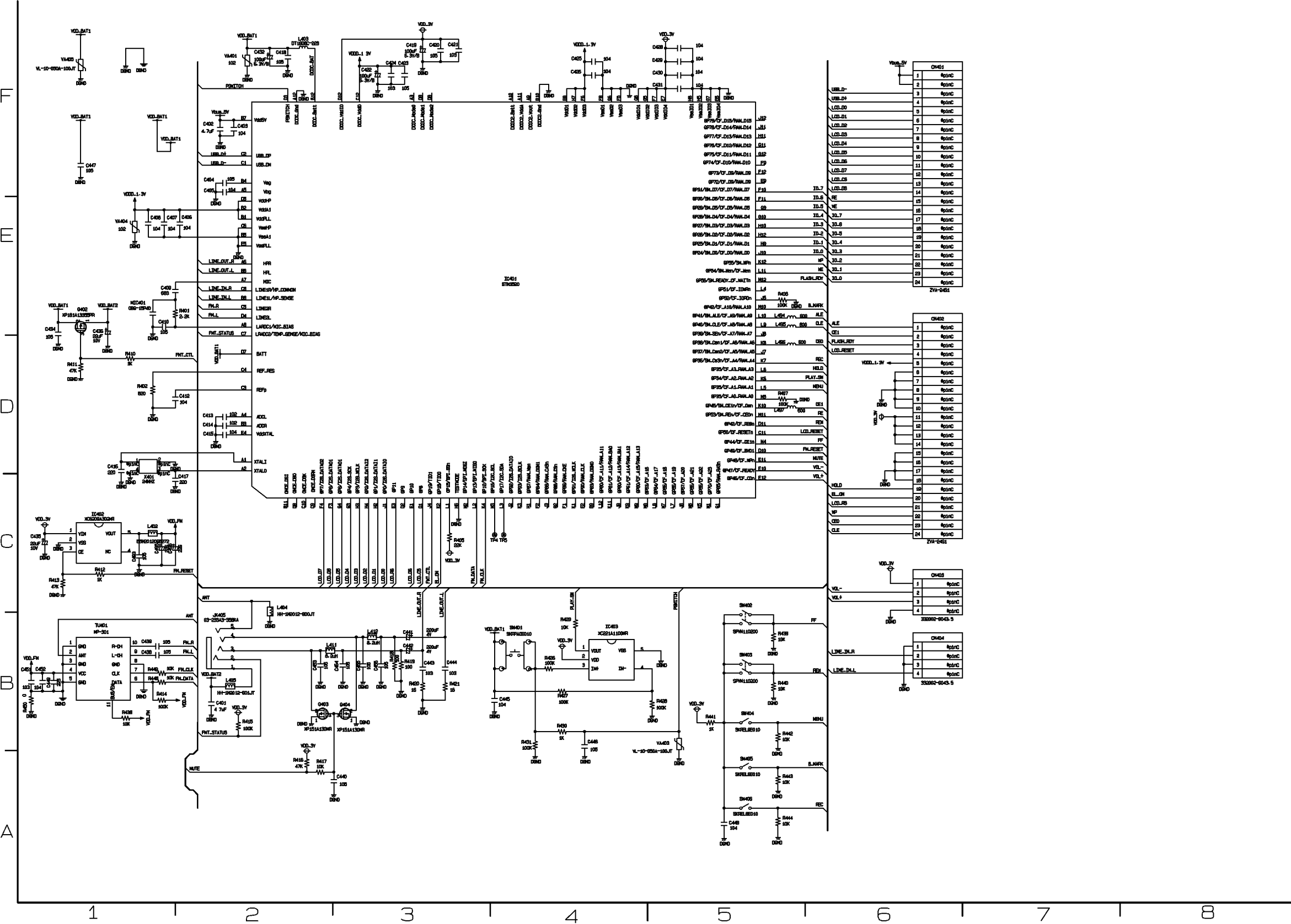
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❑ BLOCK DIAGRAM

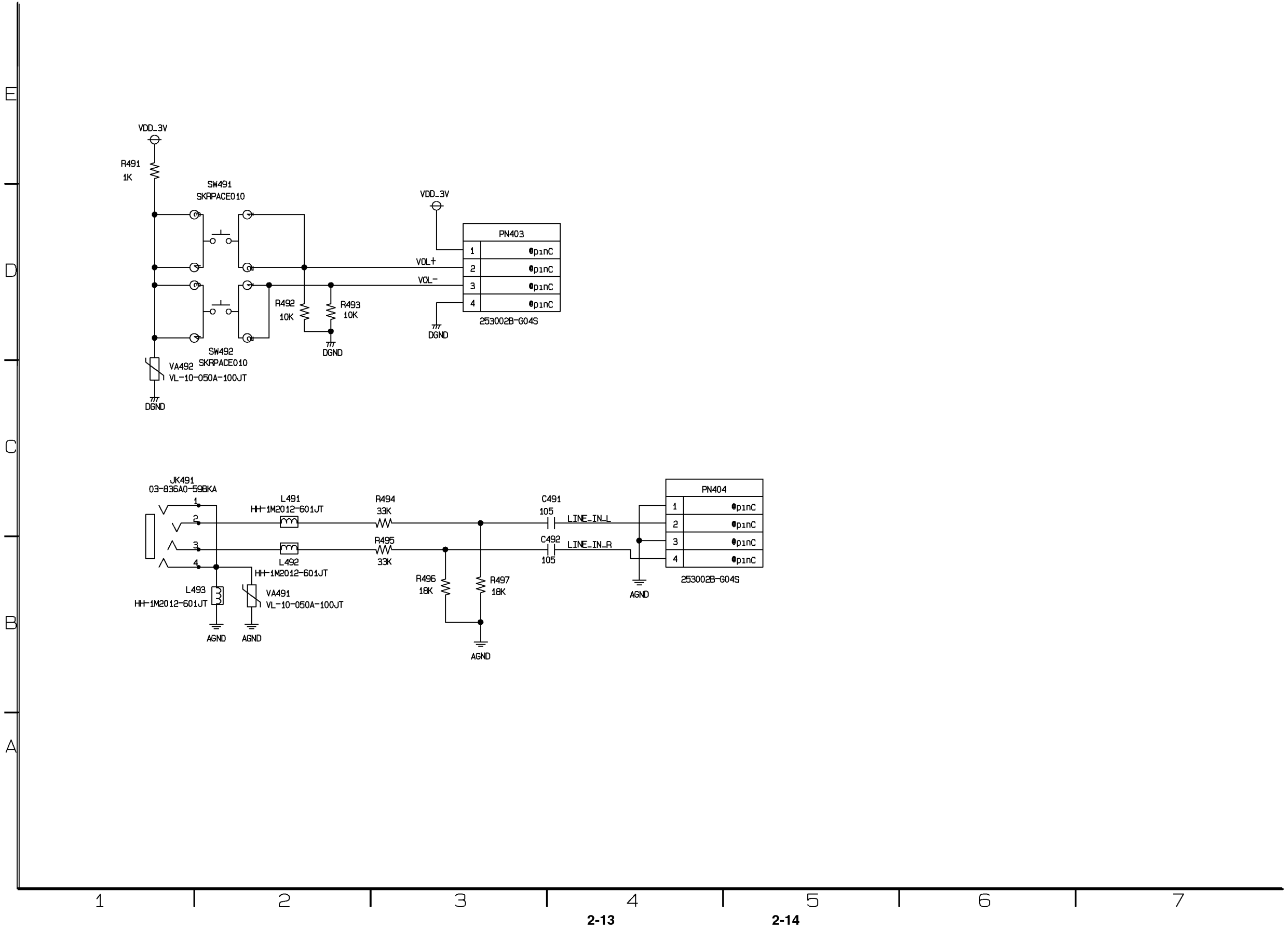


SCHEMATIC DIAGRAM

MAIN SCHEMATIC DIAGRAM

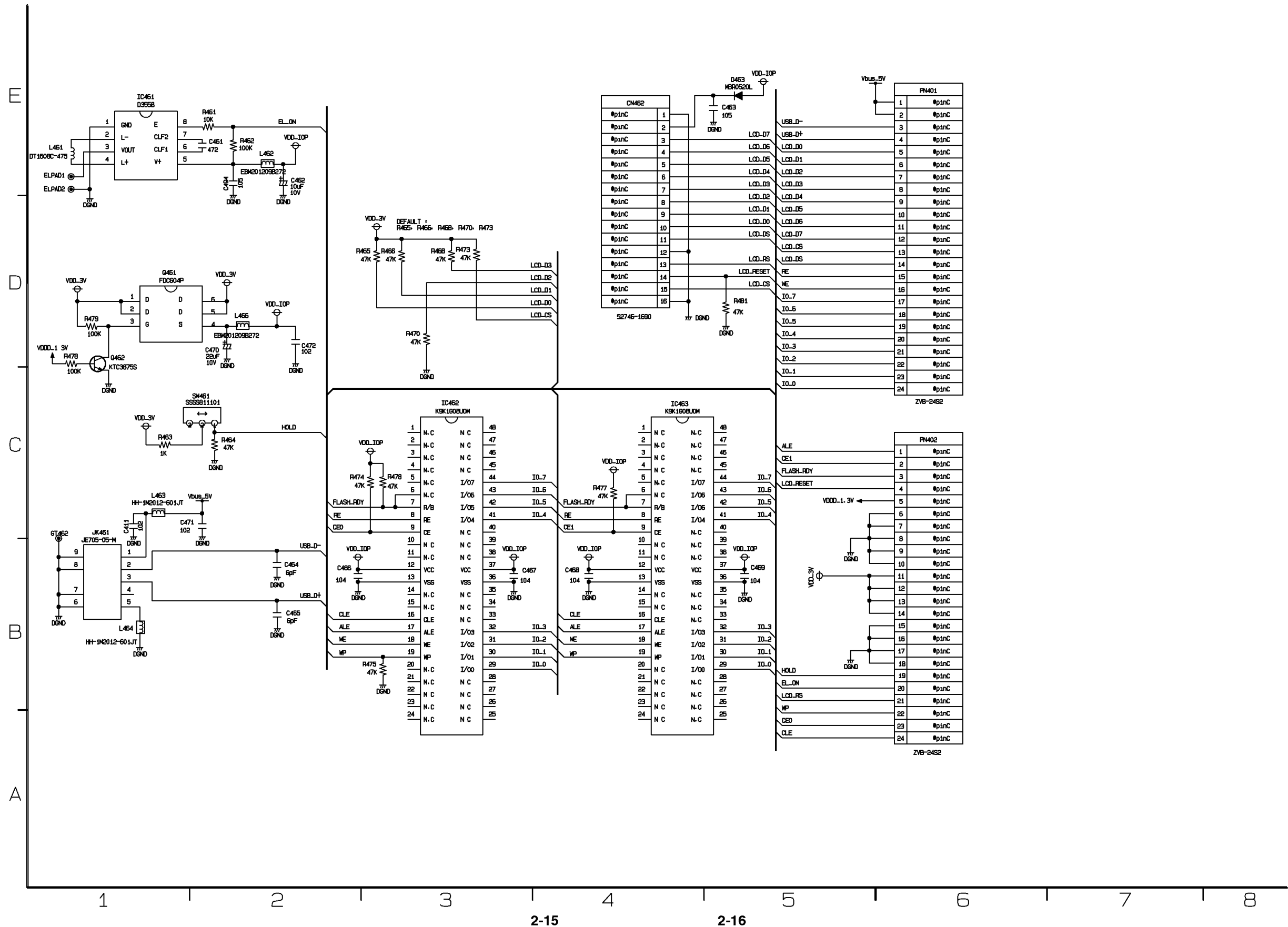


• JACK SCHEMATIC DIAGRAM



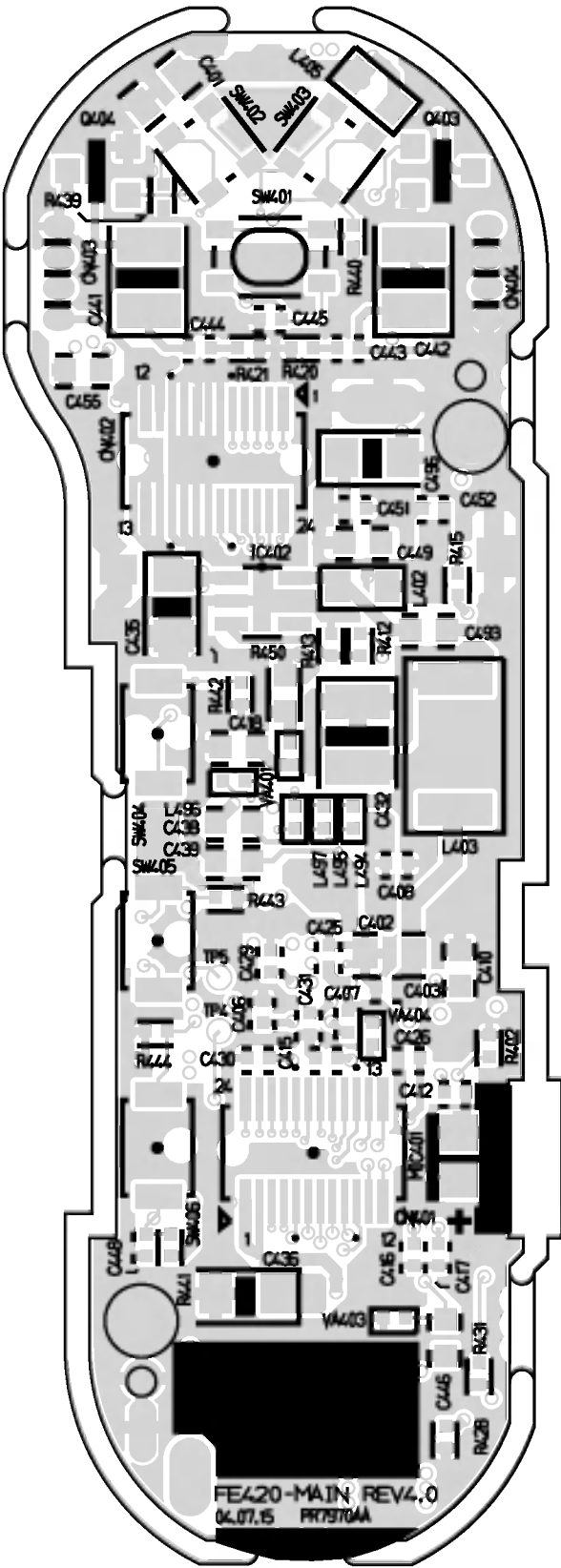
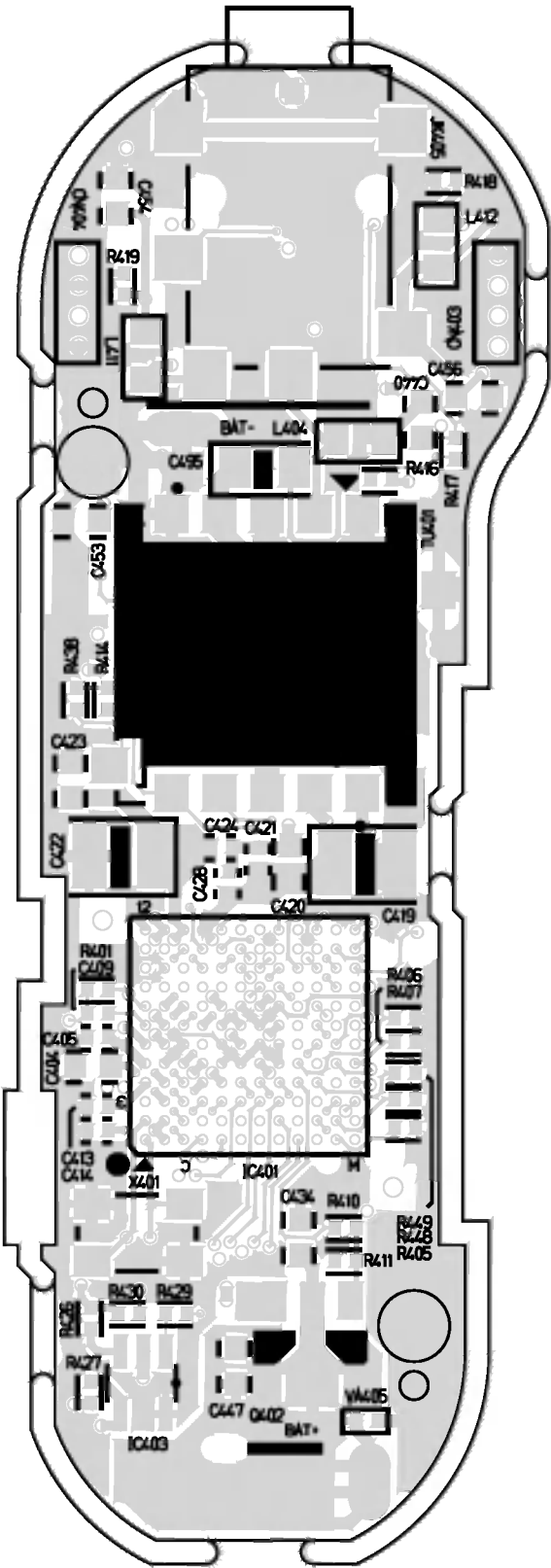


• MEMORY SCHEMATIC DIAGRAM

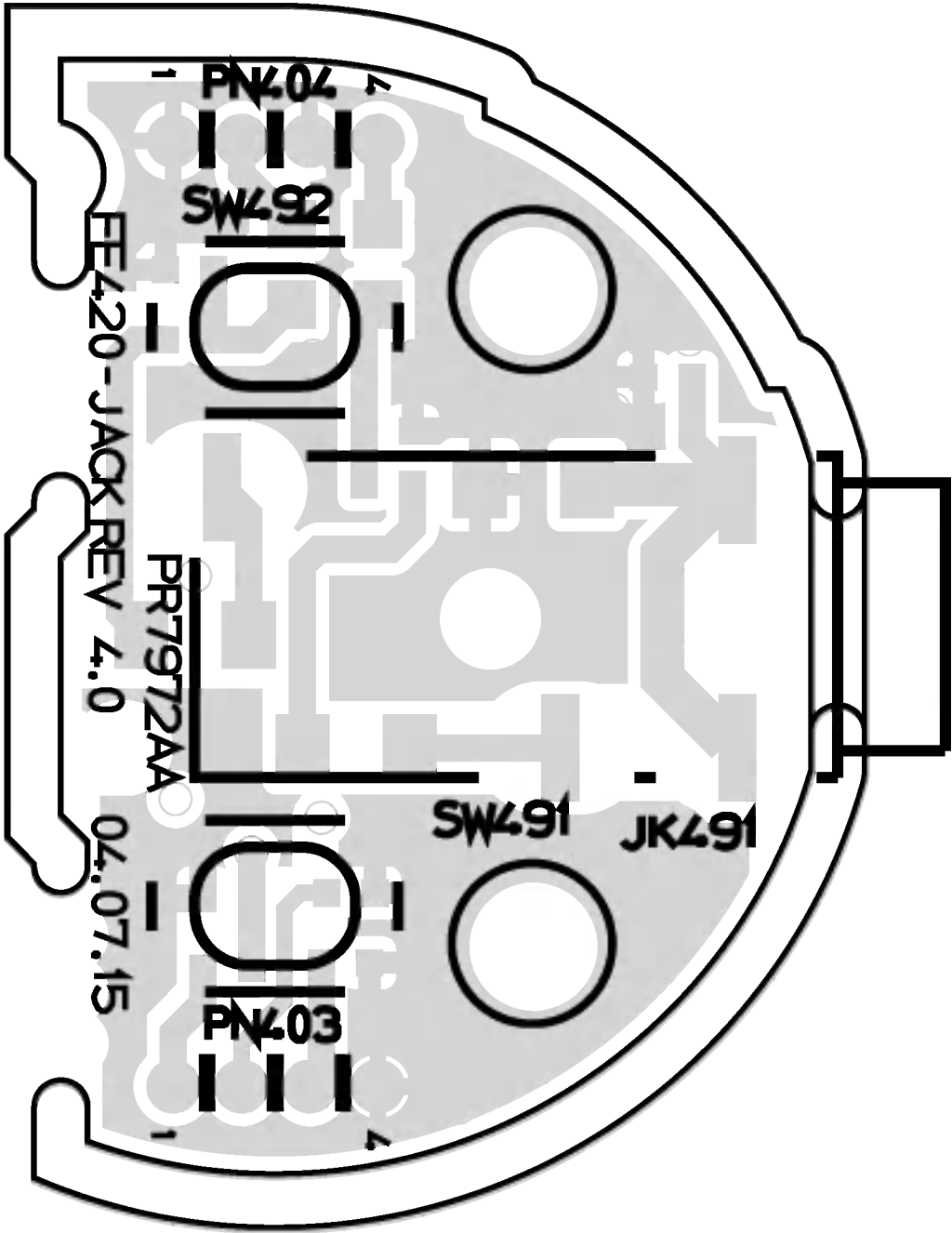
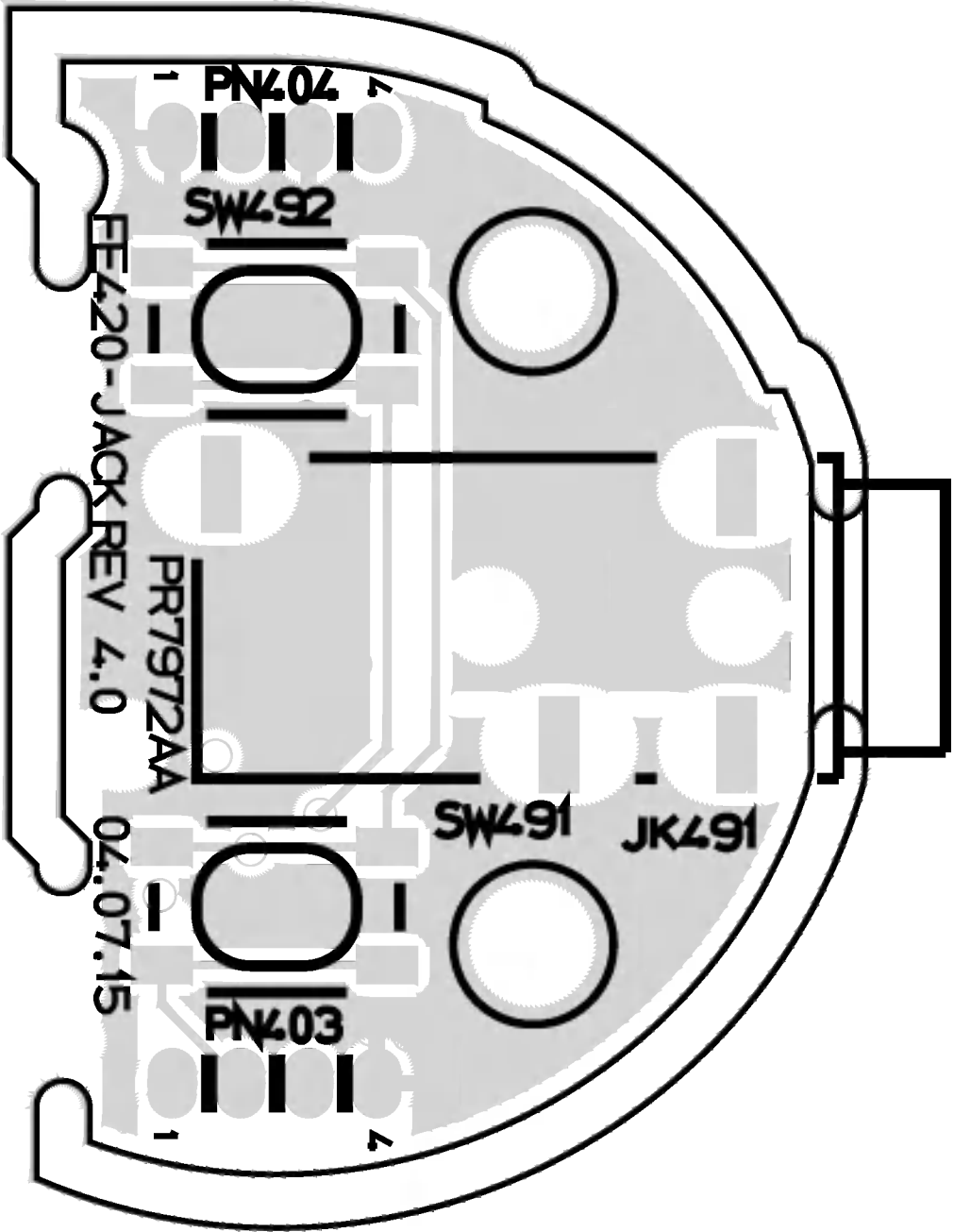


PRINTED CIRCUIT DIAGRAMS

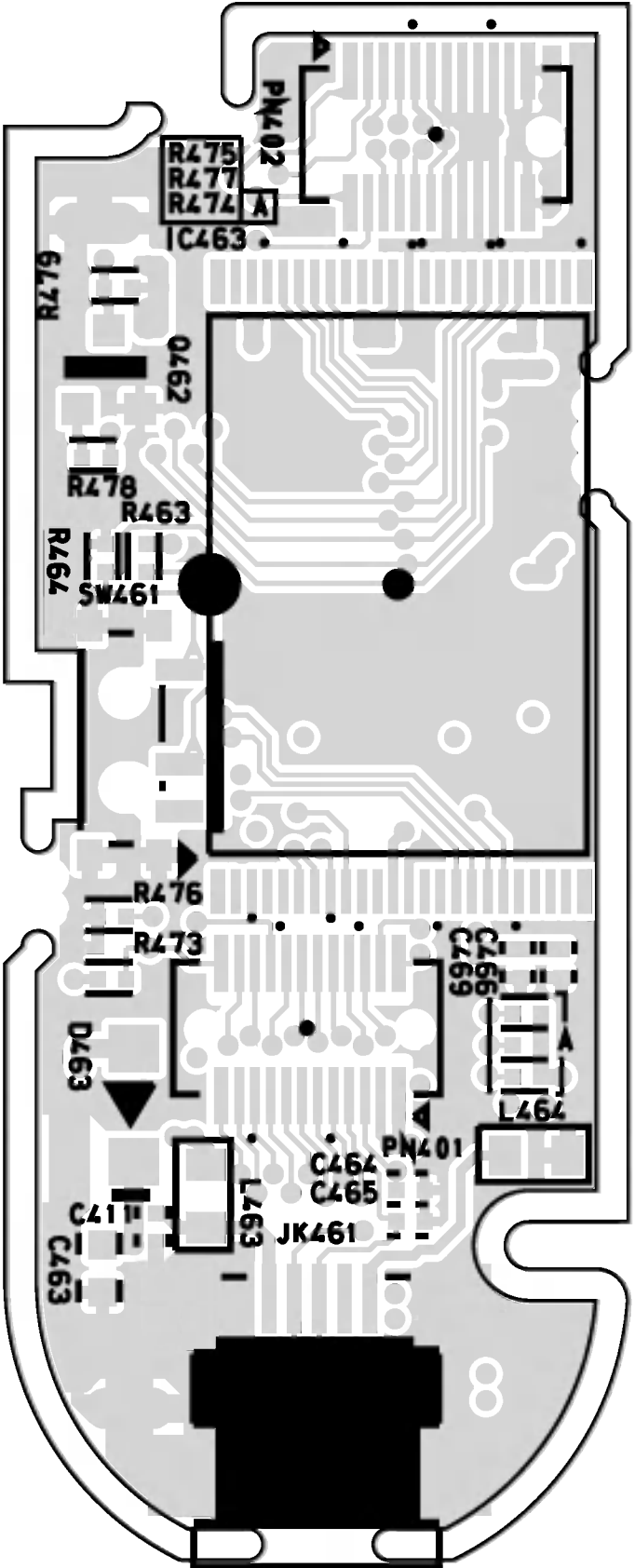
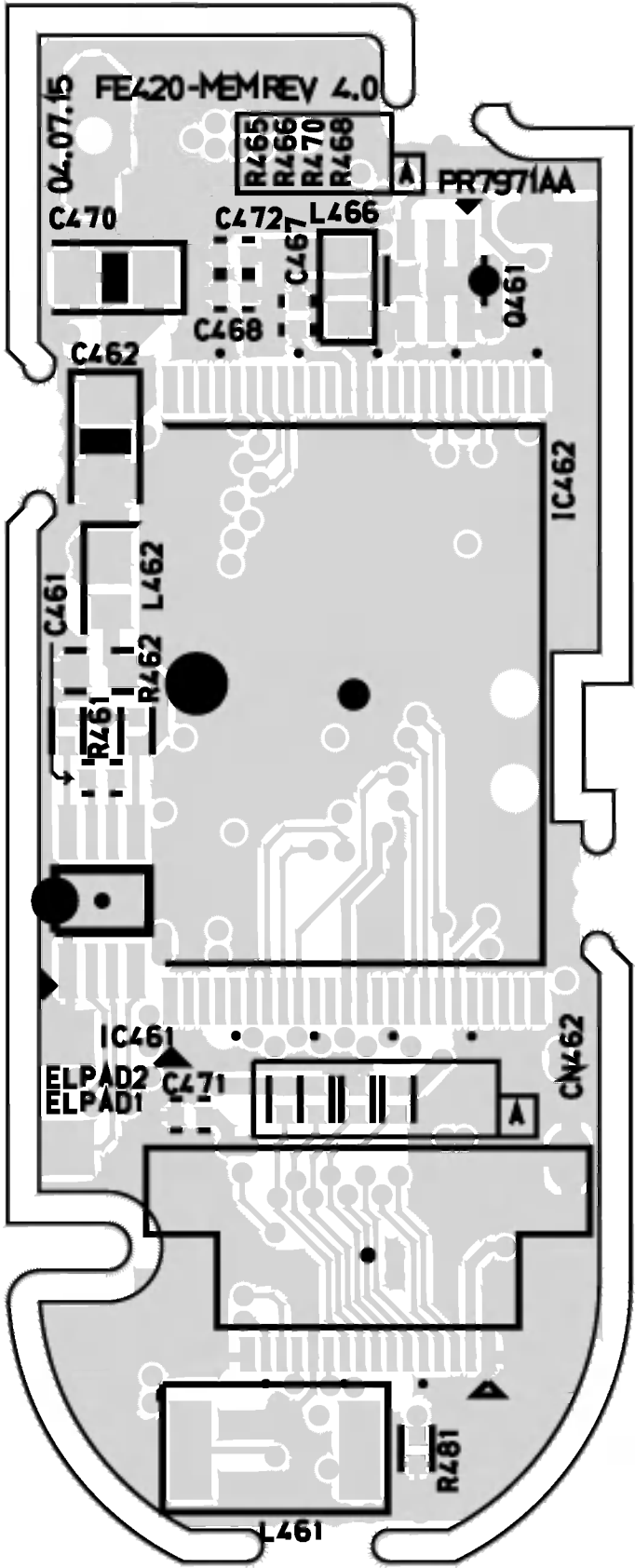
MAIN P.C. BOARD



• JACK P.C. BOARD



• MEMORY P.C. BOARD



# SECTION 3. EXPLODED VIEWS

## CABINET AND MAIN FRAME SECTION

NOTE) Refer to "SECTION 4 REPLACEMENT PARTS LIST" in order to look for the part number of each part.

