

SERVICE MANUAL & PARTS LIST

(without price)

Pocket PC **EM-505F** (JX-673E)

CASSIOPEIA

SEP. 2000



CASIO®

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* i486 and Pentium are registered trademarks of Intel Corporation.

1. MAIN FEATURES

EM-505F is the EM-500 French Version unit.

Visit the following CASIO Tokyo Web site whenever you want to obtain the information (Main Features, Specifications, and so on) and the software concerning CASIO overseas products.

Address: <http://www.casio.co.jp/English/>

Visiting this homepage, you will see the screen display as shown to the right.

You can select CASIO overseas products genre using page.

When you want to obtain the information concerning CASSIOPEIA, select **CASSIOPEIA**.

However, select **Business Solution** concerning EG-800.

You can obtain the significant and available information (Main Features, Specifications, FAQ, and so on) and the application software concerning overseas CASSIOPEIA products.

The screenshot shows a web page with a navigation menu and a list of product categories. At the top, there is a date "May 24, 2000" and three news items: "CASIO introduces a full line up of Pocket PCs to meet both consumer and corporate needs - April 19, 2000", "CASIO and Vodafone AirTouch to bring the world wide wireless web to the palm of your hand. - February 1, 2000", and "CASIO and Siemens cooperate to enter fast emerging wireless Internet devices market - December 15, 1999". Below this is a "PRODUCT INFORMATION" section with a note "for the countries except North America." and a grid of buttons for "CASSIOPEIA", "Wrist Gear", "QV Digital Camera", "Pocket Viewer", "Musical Instrument", "LCD Color Television", "Consumer Calculators", "Worldwide Education Web", and "Label Printer", "Business Solution". At the bottom, there is a Microsoft Internet Explorer logo and the text "It is best viewed with I.E.4.0 or later." and a footer "All Rights Reserved, Copyright © CASIO COMPUTER CO., LTD. 1995 - 2000."

When you visit overseas CASSIOPEIA directly, visit the following CASSIOPEIA Web site

Address: <http://www.casio.co.jp/English/ce>

You can visit CASIO America Web site (<http://www.casio.com>) selecting **North America** in this home page also.

Overview

The new slim designed EM-505F is a mobile multimedia tool that targets younger generations. Designed to highlight Casio's new faster processor, the EM-505F is stylishly designed and engineered to take advantage of the new and emerging digital content that is available on the internet. The EM-505F also supports multi-media software, which can be used for viewing still images or movies, and for playing back high-quality MP3 audio files.

Main features

1. VR4122 (System Clock 150MHz) is newly adopted compared with VR4121 (System Clock 131MHz) for E-115 concerning CPU to realize much more speedier system workings.
2. USB (Universal Serial Bus) port on PC can be newly applicable to ActiveSync 3.1 concerning the connection the unit with PC.
Therefore, USB cable is enclosed in EM-505F unit.
Off course, RS 232C COM port can be also applicable to ActiveSync 3.1.
3. The slim size MMC (Multi Media Card) is newly adopted compared with CF card for the former models (E-115 etc.) due to realize the new slim design as described above.
Therefore, CF camera card JK-710-DC can not be available to EM-505F.
4. The new powerful AC Adopter AD-C59200 (DC 5.9V, 2A output) is adopted compared with AD-C50200 (DC 5.0V, 2A output) for the former units (E-115 etc.).
5. Stereo Earphone with Remote Control JK-840HE is applicable to EM-505F.
For use with music, reading E-mail and E-book with this remote control.
6. RAM Memory capacity is 16MB, and is less than 32MB for E-115.
7. The unit body color can be changed replacing the upper/lower cases etc.
Five bode color variations are prepared except the basic dark blue body color.
Refer to PARTS LIST and EXPLODED VIEW in this manual for detail.

Refer to the later pages for detail concerning above 1~7.

2. SPECIFICATIONS

Model:	EM-505F
Display:	240 × 320 dots TFT Color LCD (65,536 colors)
CPU:	VR4122
Memory:	16MB
Interfaces:	Serial: RS-232C, 115.2 kbps max. Infrared: IrDA Ver. 1.2 Range: 20 cm max. USB (Client)
Card Slot:	MultiMediaCard
Headphone jack:	∅ 3.5 mm stereo output Accepts monaural earphone, stereo earphones/headphones, remote control earphones.
Power Supply:	Main: Rechargeable battery pack JK-211LT (Lithium-Ion battery) AC adapter (AD-C59200) Backup: One CR2032 lithium battery
Power Consumption:	2.0 W
Approximate Battery Life (Normal Temperature)	Main: (Actual time may be shorter due to conditions when charging.) 7 hours: Continuous input and data display at a ratio of 1:10, with screen brightness at lowest possible level. <ul style="list-style-type: none">• Even when the unit is turned off, small amounts of power are required to retain memory contents, etc. This can cause batteries to go dead even when you do not use the unit.• The actual amount of operation time that can be expected from batteries depends on operating conditions, settings, and other variables. Backup: 5 years: Main battery is charged or replaced immediately after appearance of message to replace main battery. 1.5 week: No battery replacement after appearance of message to replace main battery.
Approximate Charge Time (Normal Temperature)	4 to 5 hours: Charge time is longer for the first charges after purchasing the unit or installing a new battery pack.
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Dimensions:	18.9H × 81.8W × 128D mm (3/4"H × 3 1/4"W × 5"D)
Weight:	Approximately 218 g (7.7 oz)

Current consumption:

NOTES:

1. When measuring these current, it is recommended to use the analog ammeter to make the measurement easier due to protecting the ammeter from noises.
2. Make LCD display contrast suitable (default) condition before measurement.
3. Measure under the ambient temperature 15°C~35°C

Operation Mode	Input Voltage	Current consumption
Main menu of OPERATION CHECK in this manual	Rechargeable Battery : 4.0 ± 0.1V	≤180mA
* POWER CONTROL of OPERATION CHECK	Rechargeable Battery : 4.0 ± 0.1V	≤370mA
* POWER CONTROL of OPERATION CHECK	AC Adapter : 5.9V ± 0.1V	≤370mA
Power/OFF	Rechargeable Battery : 4.0 ± 0.1V	≤1.3mA
Power/OFF	Lithium battery for Back-up 3.0 ± 0.1V	≤1.0mA

*Tapping **5 POWER CONTROL** in the OPERATION CHECK Main Menu screen display, the following display will appear.

Currently CPU clock is 150 MHz
VTClock is 50 MHz

Push Action key to exit

Voltage Detectors:

Main (Rechargeable) Battery:

VDET1B : approximately 3.5 V (Low battery message)

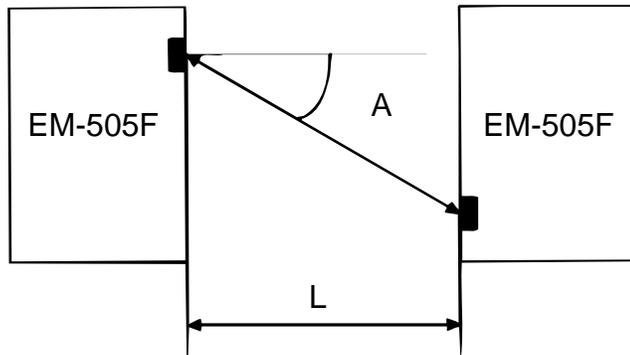
VDET2 : approximately 3.2 V (Forced power OFF)

Back-up Battery:

VDETS : approximately 2.7 V (Low battery message)

Unit Alignment Condition for Data transfer using IrDA :

Length (L)	Angle (A)
L ≤ 20 cm	A ≤ 15°



3. UNPACKING

Visit the following CASIO TOKYO Web site home page.

address: http://www.casio.co.jp/English/ce/uk/product/em500_accessory.html

3-1. Enclosed products and parts

Refer to OTHERS and CRADLE in **PARTS LIST** along with **EXPLODED VIEW** in this manual concerning enclosed products. These products (parts) can be supplied as spare parts.

3-2. Options

Refer to the following home page for EG-800 also.

<http://www.casio.co.jp/English/system/pa/products/>

■ Power supply

Car Adapter

Attach it directly to the EM-505F or to the EM-505F cradle to provide power and recharge the batteries.

- **JK-210CA**



■ Communication

USB/RS232C Cradle

232C Cable & USB Cable included Keep a spare in the office or home for convenient transfer of data. This can be used both USB cable and RS232C cable.

- **JK-515CR**



USB Cable

Connecting EM-505F to PCs

- **JK-582CA**



RS232C Cable

Connecting EM-505F to PCs

- **JK-580CA**



■ Others

Stereo Earphone with Remote Control

For use with music, reading E-mail and E-book with the remote control.

- JK-840HE



Stylus

For your replacement, 2 stylus are included

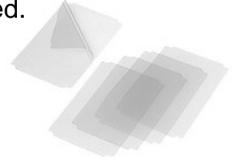
- JK-820ST2



Screen Protectors

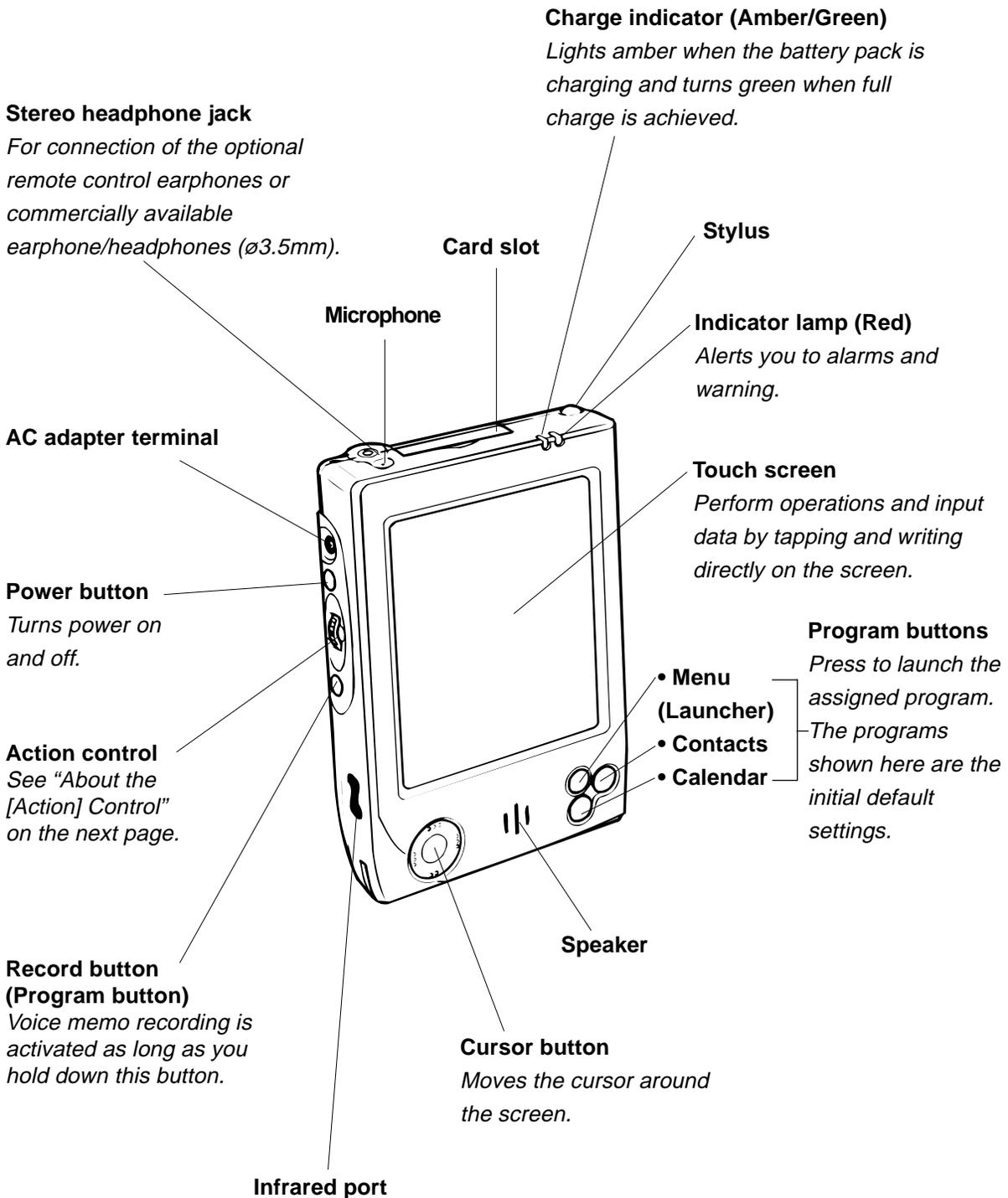
Helps protect your screen from pen and pencil damage. 5 sheets are included.

- JK-811PS5



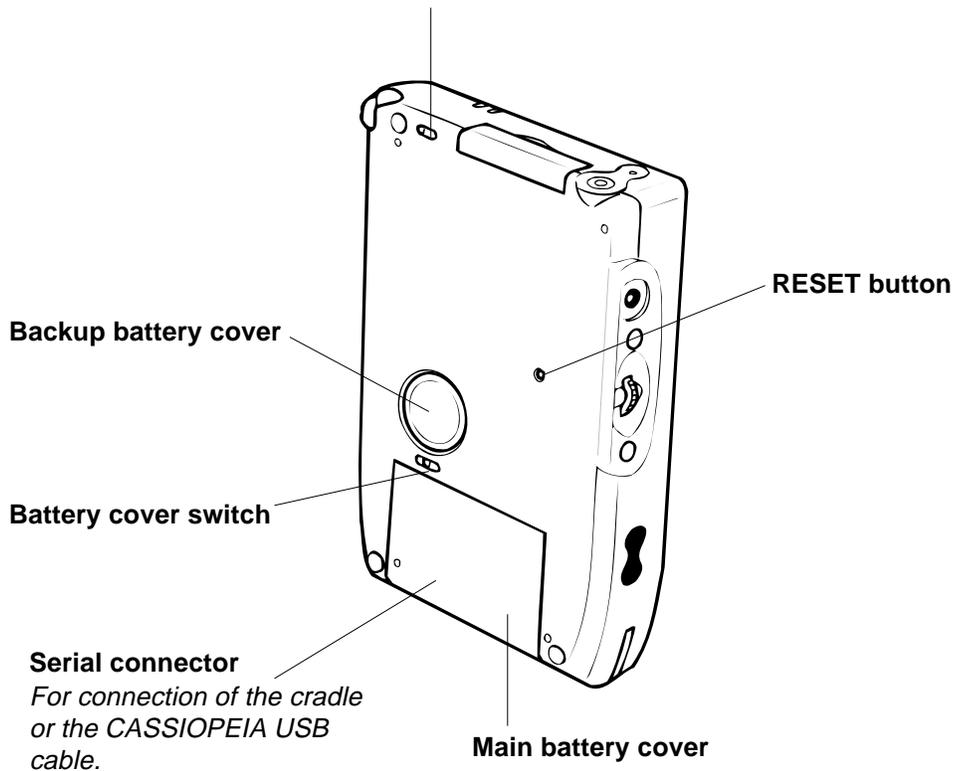
4. GENERAL GUIDE and INITIAL SET UP

4.1. General Guide



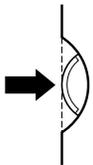
Card lock switch

This switch locks the card in place so it does not come out accidentally.



About the [Action] Control

Operations can be performed by pressing and rotating the [Action] control.



Pressing the [Action] control performs an operation similar to the Enter key of a computer keyboard.

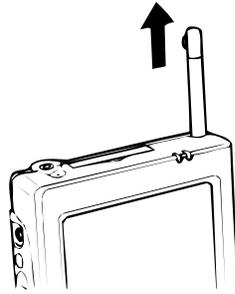


Rotating the [Action] control performs operations similar to the up and down arrow keys of a computer keyboard.

See Pocket PC online help for information about using the [Action] control with each application. The text in the online help indicates an [Action] control press operation as "Action," and an [Action] control rotate operation as "Up/Down control."

Using the Stylus

Data input and virtually all other operations are performed using a stylus, which is housed inside the stylus holder in the higher right corner of the CASSIOPEIA.



The following defines the various operations that you can perform with the stylus.

Tap Touch the screen once with the stylus to open items and select options.

Drag Hold the stylus on the screen and drag across the screen to select text and images.
Drag in a list to select multiple items.

Tap-and-hold Tap and hold the stylus on an item to see a list of actions available for that item. On the pop-up menu that appears, tap the action you want to perform.

Important ⚠

- Take care that you do not misplace or otherwise lose the stylus by always storing it in the stylus holder when you are not using it.
- Take care to avoid breaking the tip of the stylus.
- Use only the stylus that comes with the CASSIOPEIA, or some other stylus type instrument* to perform touch screen operations. Never use a pen, pencil, or other sharp writing implement.
*(with a soft, blunt point)

Recalibrating the Touch Screen

You should recalibrate the touch screen whenever touch screen response is bad, or when the operation performed is different from the operation you expected when tapping on the touch screen.

To recalibrate the touch screen, press the [Action] control while holding down the [Power] button (or tap , **Settings**, the **System** tab, and then the **Align Screen**). Next, follow the instructions that appear on the screen.

Adjusting Display Contrast

Perform the following operations to adjust display contrast and make figures on the display darker or lighter.

- Tap  and then **Settings**. On the **System** tab, tap **Brightness**. Follow the instructions on your screen for adjusting the contrast.
- You can also adjust contrast by holding down [Action] and pressing the top of the cursor button to make contrast darker, and the bottom of the cursor button to make it lighter.

Adjusting Display Brightness

Use the following operations to adjust display brightness to make it easier to read.

- Tap  and then **Settings**. On the **System** tab, tap **Brightness**. On the dialog box that appears, tap the **Brightness** tab.
- While holding down the [Action] button, press the right side of the cursor button to make the screen brighter, or the left side of the cursor button to make it dimmer.

Adjusting Auto Dimming Settings

1. Tap  and then **Settings**. On the **System** tab, tap **Brightness**.
2. On the dialog box that appears, tap the **Auto Dim** tab.
3. Follow the instructions that appear on the screen to make auto dimming settings.
 - You can make separate auto dimming settings for battery power and AC adapter power by checking the appropriate check box.

Changing Applications Assigned to the Program Button

- Tap and then **Settings**. On the **Personal** tab, tap **Button**, and then follow the instructions that appear on the display.
- Button Assignment Utility makes it easy to assign CASIO Mobile Calendar to the  button and CASIO Mobile Address Book to the  button. To use Button Assignment Utility, tap , **Programs, Utility**, and then **Button Assignment**.

Using the Cradle

The cradle provides quick and easy connection between your CASSIOPEIA and a personal computer. CASSIOPEIA can also be powered from an AC power source when it is placed on the cradle.

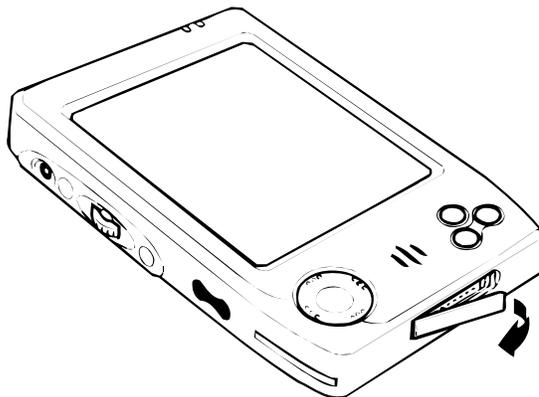
- The battery pack charges while the CASSIOPEIA is on the cradle. See page 20 for more information.

Important

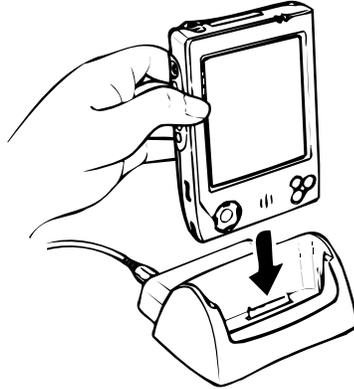
Make sure that CASSIOPEIA power is turned off before you place it onto or remove it from the cradle.

Use the following procedure to place the unit onto the cradle.

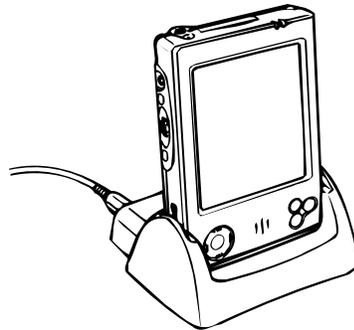
1. Place the cradle on a desk or other flat, level surface.
2. Turn off the CASSIOPEIA.
3. Remove the CASSIOPEIA's serial connector cover to open it.



4. Orient the CASSIOPEIA in relation to the cradle as shown in the illustration below.



5. Taking care to align the serial connector on the bottom of the CASSIOPEIA with the connector on the cradle, lower the CASSIOPEIA into the cradle as shown in the illustration below.

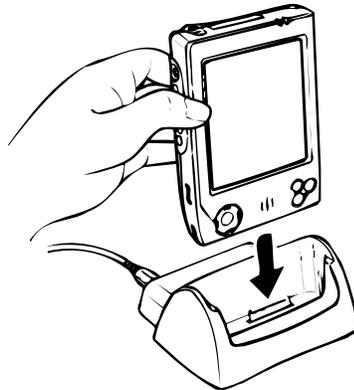


Important ⚠

Make sure the CASSIOPEIA lowers securely into the cradle as far as it can go.

To remove the CASSIOPEIA from the cradle

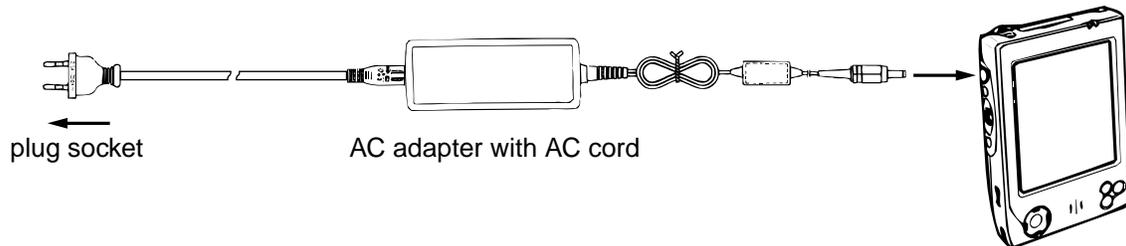
Slide the CASSIOPEIA straight up from the cradle.



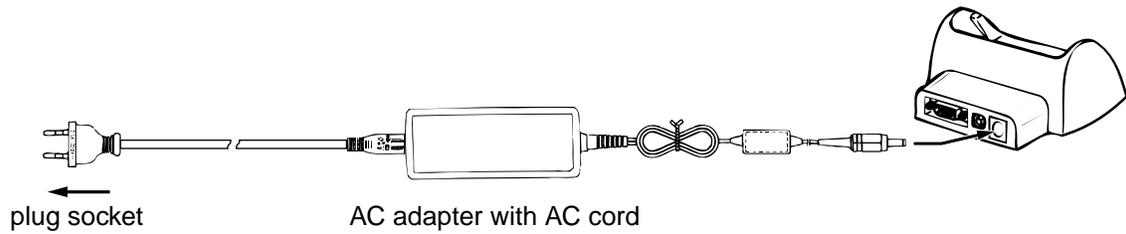
Using the AC Adapter and AC cord

You can use the AC adapter to directly power the CASSIOPEIA or to supply power through the cradle. The battery pack charges while the CASSIOPEIA is directly connected to a power source by the AC adapter or while it is on the cradle. Refer to EXPLODED VIEW concerning AC Adapter and AC cord.

■ Direct Connection



■ Cradle Connection



Warning ⚠

Use only the AC adapter that is specified for this unit. Use of another type of AC adapter creates the danger of malfunction and bursting of battery.

Important ⚠

- Power also will not turn on if the main battery loaded in the CASSIOPEIA is dead.
- Long term use of the AC adapter can cause it to become warm to the touch. This is normal and does not indicate malfunction.
- Be sure to unplug the AC adapter from the power outlet whenever you are not using it.
- The AC adapter is designed for indoor use only. It should not be used outdoors.

Using a MultiMediaCard (MMC)

Your CASSIOPEIA supports MultiMediaCards.

* Refer to page 5 concerning MMC.

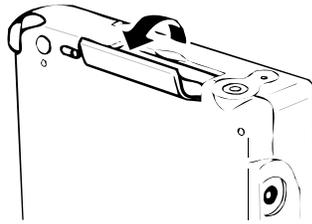
Important ⚠

- The card slot cover will not close when certain types of cards are in the slot.
- Gently but firmly slide the card into place as far as it will go, but do not force it. Forcing a card can damage connectors. If you have problems inserting a card, pull it out and check to make sure it is oriented correctly.
- We strongly recommend that you store all unsaved data you are inputting or editing before performing this procedure.
- Sometimes, your CASSIOPEIA may not be able to detect a MultiMediaCard. This is indicated when a program on the card does not start up normally. When this happens, remove the card, reinsert it, and then press the RESET button.

1. Make sure your CASSIOPEIA is turned off.

- Press the [Power] button to turn off power.

2. Open the cover.

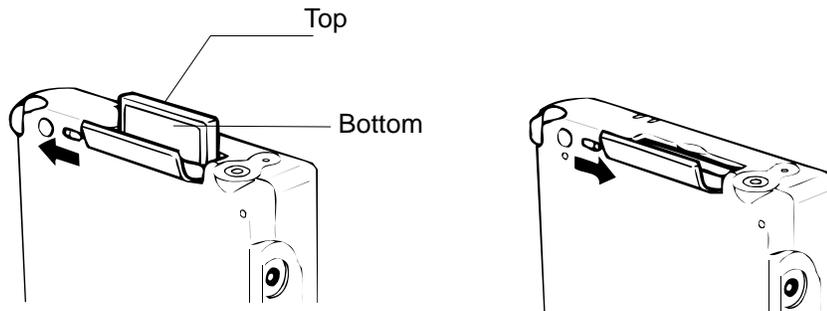


- Slide the card lock switch to the FREE position.

3. If there is already a card in the slot, press in on the card and then remove it.

4. Slide the card you want to use into the card slot.

- Make sure the top of the card is facing towards the top of the CASSIOPEIA unit. A card that is not oriented correctly will not slide all the way into the slot.



Carefully slide the card into the slot as far as it will go.

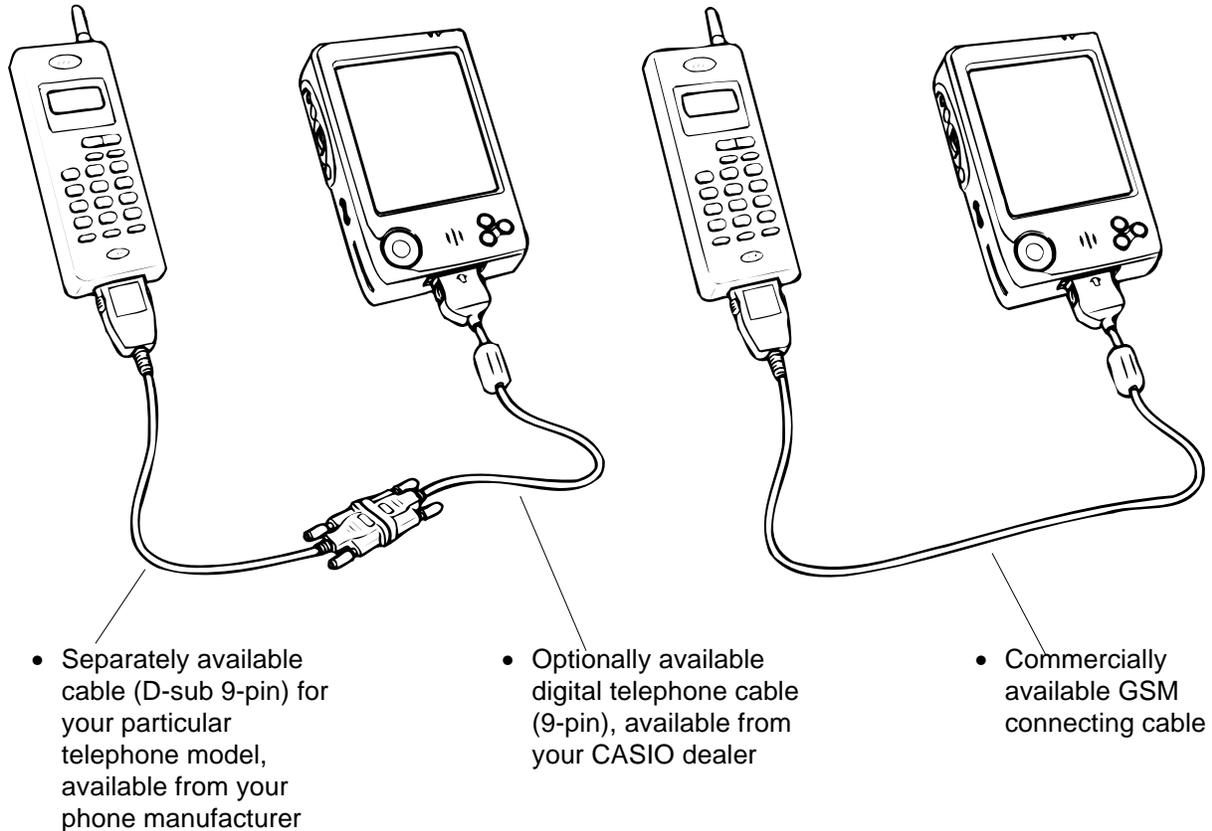
- Slide the card lock switch away from the FREE position to lock the card into place.

5. Close the card slot cover.

Digital Phone Connection Cable

- U.S. and Canada: Use a cdma digital phone connection cable (JK-541CA).
- For a GSM type digital phone, use a commercially available cable that is compatible with the CASSIOPEIA connector.
- After you connect the CASSIOPEIA to your digital telephone, you can dial up our Internet service provider or company server.

The following shows how to connect the CASSIOPEIA to a digital telephone.



To disconnect the digital telephone cable from the CASSIOPEIA, squeeze the release buttons on the sides of the connector and unplug it.

Important ⚠

- Make sure your CASSIOPEIA is turned off before connecting the digital telephone cable.
- See the *Pocket PC User's Guide* for information about settings, operations, and precautions when connecting to a company network or the Internet.
- Make sure you are in an area where your telephone signal is strong before trying to dial in to a computer.

Data communication may not be possible if you are within an area with poor signal reception, even though it is within the service area of your telephone service provider.

Also note that noise can cause errors and make communication impossible, even though the signal is strong. If this happens, try again.

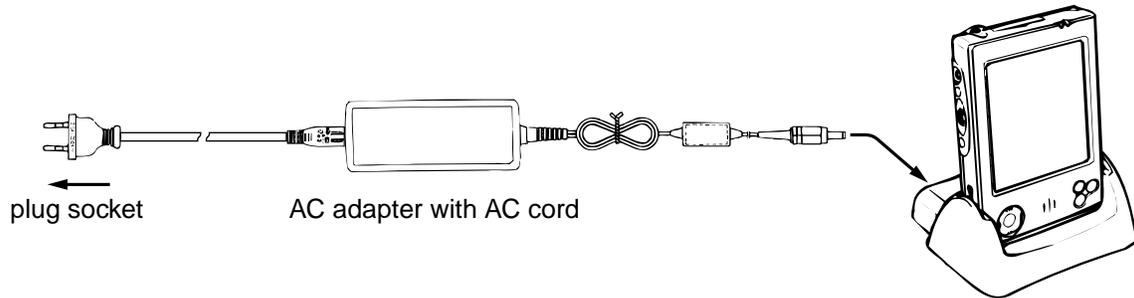
- Never unplug the cables or turn off power while data communication is in progress.
- You may not be able to establish a connection with another computer that is also using a portable telephone for communication.
- Whenever you disconnect the digital telephone cable from the CASSIOPEIA, wait at least three seconds before you connect it again. Disconnecting the cable and immediately reconnecting it again can make subsequent data communications impossible.
- Disconnect the digital telephone cable from the CASSIOPEIA when you are finished with data communication.
- See the documentation that comes with your digital telephone for information about its operations.

Important ⚠

Check to make sure that the battery pack is charged before using the modem adapter. Low battery power can cause sudden interruption of communications, unstable communications, and loss of data.

Charging the Battery Pack

1. Install the battery pack into the CASSIOPEIA.
2. Attach the AC adapter with AC cord to the cradle and place the CASSIOPEIA onto the cradle.



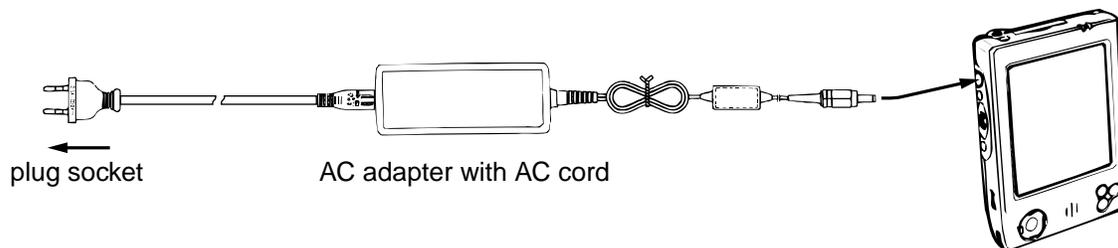
- Charging starts automatically as soon as you place the CASSIOPEIA onto the cradle.
- The charge indicator is amber while charging is in progress, and turns green when charging is complete.
- It takes about **four or five hours** to reach full charge.
- You can use your CASSIOPEIA while the battery pack is charging.

Important ⚠

- Do not use the CASSIOPEIA while it is charging for the first time after you purchased it or for the first time after you installed a newly purchased battery pack.
- If the battery pack does not achieve full charge after the normal charge time, unplug the AC adapter from the CASSIOPEIA to stop charging.

Remove the CASSIOPEIA from the cradle after charging is complete.

The following illustration shows how to connect the AC adapter with AC cord directly to the CASSIOPEIA for charging.

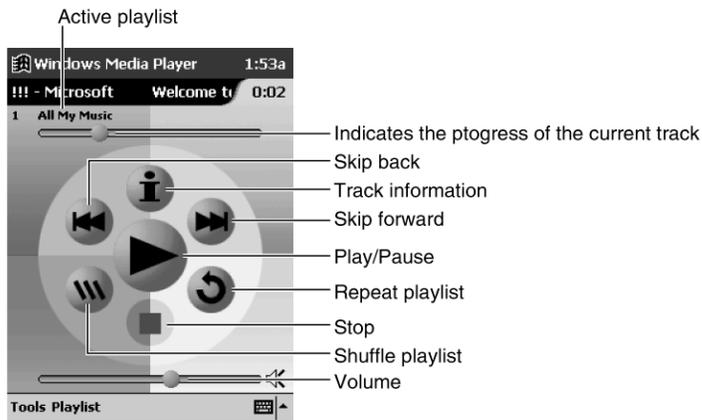


- Charging starts automatically as soon as you attach the AC adapter to the CASSIOPEIA.
- Direct connection charging conditions are the same as those described for cradle charging above.

Windows Media Player for Pocket PC

Use Windows Media Player for Pocket PC to listen to digital audio files.

To switch to Windows Media Player, tap  and then **Windows Media Player**.

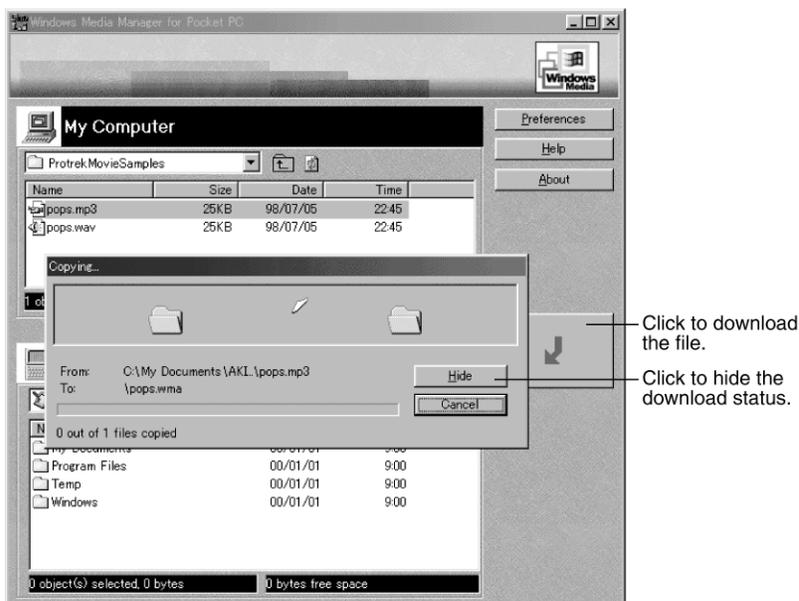


Using Windows Media Manager for Pocket PC

Use Windows Media Manager for Pocket PC on the desktop computer to create digital audio files in Windows Media format and to transfer audio content to your Pocket PC or storage card. With Windows Media format, you can create high-quality audio for your Pocket PC without using large amounts of Pocket PC memory.

You can transfer the following media formats to your Pocket PC for use with the Windows Media Player: ASF (Advanced Streaming Format), WMA (Windows Media Audio), MP3 (MPEG Audio Layer 3), and WAV (waveform).

Windows Media Manager is included in the Extras folder on the ActiveSync CD. You must install Windows Media Manager on your desktop computer to copy and convert digital audio files.



To Install Windows Media Manager to your PC, click wmmsetup.exe file icon in the Media holder in the Extras holder, and then operate your PC according to messages on the screen. It is recommended to read readme.txt file in this Media holder. Completing above installation, Windows Media Manager for Pocket PC will be added to the start program menu of your PC.

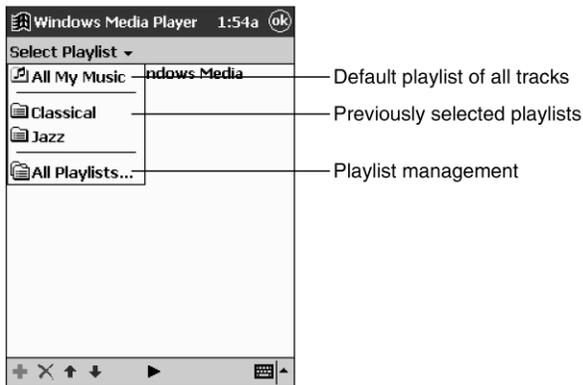
What is Packaged Content?

Packaged content is digital music that has been encrypted for distribution to prevent unauthorized access to copyrighted content. Windows Media Player for Pocket PC cannot play packaged content without a valid license. First use Windows Media Player on the desktop computer to obtain packaged content that has a license that allows transferring the content to your Pocket PC. Then use Windows Media Manager for Pocket PC to transfer the packaged content and its license to your Pocket PC or storage card. To successfully transfer packaged content, your Pocket PC or storage card may require a hardware serial number.

You can play packaged content until the license expires. During license download, you will be informed of the terms of the license. License terms can be for an unlimited time, a set amount of time, or a set number of playbacks. A license can support content being copied to a Pocket PC or storage card an unlimited number of times or one time only. Terms are entirely dependent on the content provider.

Using the Playlist Manager

Use the playlist manager to set the track playback order. All **My Music** is the default playlist. It contains all digital audio files available for playback on your Pocket PC and storage card. To see a list of recently selected playlists, tap **Select Playlist**. To create or edit playlists, tap All Playlists.



Tap and hold a track or playlist to perform actions such as copying, moving, and deleting.

For more information on using Windows Media Player, tap  and then **Help**.

For the other information on the software, refer to the Use's Guide for EM-505F for detail!

4-2. Initial Setup

After you first unpack your CASSIOPEIA, perform the following initial setup procedure before using it for the first time.

1. Load the main battery (rechargeable battery pack).

Important

Be sure to use the AC Adapter to charge the battery pack before doing anything else. Your CASSIOPEIA will not operate correctly if you load the backup battery before charging the battery pack.

2. Use the AC Adapter to charge the battery pack.
3. Load the backup battery.
4. Press the [Power] button.
 - After a few moments the welcome screen appears.

5. Follow the steps in the Welcome Wizard.

6. When finished, you'll see the Today screen.

- See "Pocket PC Basics" at the back of *Quick Start Guide* for information about the Today screen and other Pocket PC Basics.
- You also need to install ActiveSync before you can communicate with a desktop computer.

Important

- If the touch panel does not respond when you tap it or if nothing appears on the display, try performing a full reset. If this does not restore proper operation, remove the main battery and the backup battery and wait for about five minutes. Reload the main battery first and then the backup battery, and perform the above procedure again from step 4.
- If the message "**A problem with memory contents has been found...**" appears on the display, perform a full reset.

Important

While performing above Initial Setup or FULL RESET operations, be sure to perform the following "Cut " and "Paste" operation. Otherwise, you can not continue to perform these operation, and the unit can not be completed Initial Setup or FULL RESET.

Tapping "Next" in Stylus Wizard screen, pop-up menus Wizard display will appear.
Holding down "Dr. Johnson's office" or "Dental appointment" using the stylus, "Cut" display will appear. Then, after holding down its "Cut" character, hold down item 11. After that, "Paste" display will appear. Then, hold down "Paste" character using the stylus. Then, tap "Next".

5. RESET OPERATION and BATTERY REPLACEMENT

5-1. Reset Operation and FULL RESET

Resetting the Unit

“Reset” is similar to a computer reboot. Performing a reset deletes any data that is in the process of being input or edited, without yet being saved. Data stored in memory and all settings, however, are retained.

Perform the reset operation whenever the unit fails to operate correctly due to operational error or some other abnormality. Any of the following symptoms indicate that reset is required.

- Failure of the unit to respond when the screen is tapped or a button is pressed.
- The hourglass icon remaining on the screen.

Performing a Reset

1. Use the stylus to press the RESET button.

- The unit performs a reset followed by a memory check operation.
If no data error is found, the following two screens appear on the display in succession.
 - Startup screen
 - Desktop

2. Normal unit operation is possible after the desktop appears.

- Memory data and settings are retained when you reset the Pocket PC.

Important

If the above operation does not solve the problem, perform a full reset (memory initialize, page 19).

Memory Error Message

If the memory check operation that the unit performs when the RESET button is pressed detects a data error, the following message appears on the screen instead of the startup screen.

“A problem with memory contents has been found. Press [Action] to continue with the reset procedure, which restores normal system operation.

Note that if the system determines that user memory cannot be repaired, it will delete all user data currently in memory.

See the User’s Guide for details about initializing memory.”

This message indicates that the memory error is fatal and so recovery is impossible.

Press the [Action] control to execute a full reset (memory initialize), which deletes all data stored in memory.

- Pressing the [Action] control should display the Startup screen followed by the touch screen calibration screen. Perform steps 5 through 6 under “Initial Setup” on page 16 to set up the unit.
- If pressing the [Action] control returns to the desktop without displaying the startup screen first, see the following explanation for the procedure you need to follow.

What to do if the startup screen does not appear when you press the [Action] control

Even though the desktop appears when you press the [Action] control, there is still a data error in memory and you have to perform a full reset (memory initialize). Before you do, however, there is the chance that some of the data in memory can be recalled and even transferred to a computer. Try recalling the data you need before performing the procedure described on the next page to perform a full reset.

Important

Do not use the ActiveSync backup function to back up data to a computer when you suspect a data error. Doing so may also include the corrupted data that is causing your problem, which means the problem will reappear when you restore the data.

Full Reset (Memory Initialize)

Full reset (memory initialize) deletes all data, and resets all unit parameters to their initial defaults. The following are conditions when you should perform a full reset.

- When you want to delete all memory data and return unit settings to their factory defaults
- When you forget your password and need to clear it
- When a data error causes operational problems
- Appearance of the message: **“A problem with memory contents has been found...”**

Performing a Full Reset

Important

- The following procedure deletes all data in memory. Be sure that data is backed up or that you no longer need it before performing the following procedure.
- If there is a MultiMediaCard in the CASSIOPEIA's slot, remove the card before performing the full reset.

1. Make sure that unit power is turned on.
2. While holding down the [Power] button, use the stylus to hold down the RESET button for about two seconds.
 - This causes the following message to appear on the display screen.

“Proceeding with this operation initializes memory. Press [Action] to proceed or [Record] to cancel.”

3. Press the [Action] control.
 - This causes the following message to appear on the display screen.

“Proceeding with this operation deletes all data stored in memory. Press [Action] to proceed or [Record] to cancel.”

4. Press the [Action] control again.
 - This starts the full reset operation, which deletes all data in memory.
 - Pressing the [Action] control displays the Startup screen. Perform steps 5 through 6 under “Initial Setup” on page 16 to set up the unit.

You can abort the full reset operation while the messages in steps 2 and 3 are on the display by pressing the [Record] button.

Errors Following a Full Reset

Either of the following two conditions can cause errors to continue, even after you perform a full reset.

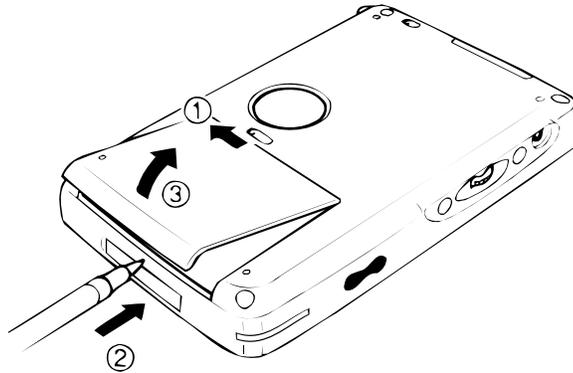
- Hardware defect
- System problem caused by failure by you to correctly perform the reset procedure before using the unit for the first time

If you suspect that the problem is being caused because you did not properly reset the unit before using it for the first time, perform the procedure on page 52 of this manual. This should correct the problem.

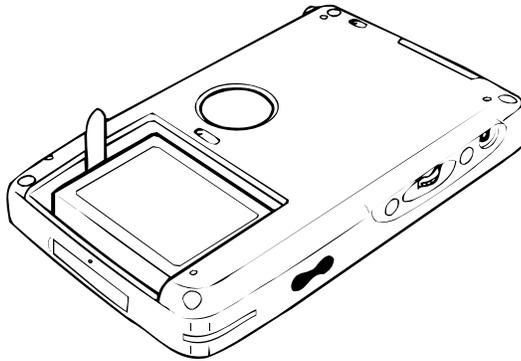
5-2. Battery Replacement

Replacing the Main Battery

1. Make sure your CASSIOPEIA is turned off.
 - Press the [Power] button to turn off power.
2. Turn the CASSIOPEIA over.
3. Slide the battery cover switch to MAIN. Press the tip of the stylus into the hole on the bottom of the CASSIOPEIA to release the battery cover, and then remove it.



4. Pull on the tape to raise the main battery.
5. Remove the main battery and then load a new battery pack.
 - Make sure that the battery pack is oriented correctly.



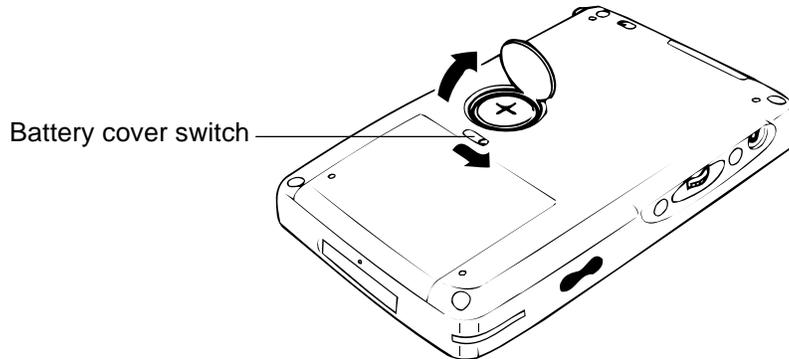
6. Replace the main battery cover.
7. Slide the battery cover switch to LOCK.

Replacing the Backup Battery

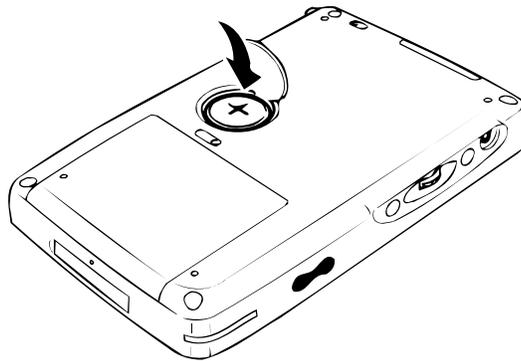
Important

- Never remove the main battery and backup battery from the CASSIOPEIA at the same time. Doing so causes all data stored in memory to be deleted.
- Should the main battery and the backup battery both require replacement, be sure to always replace the main battery first.
- Be sure to replace the backup battery as soon as possible whenever the following message appears on the display: **“Backup Battery Very Low. To prevent possible data loss, replace or recharge your backup battery according to the owner’s manual.”**

1. Make sure your CASSIOPEIA is turned off.
 - Press the [Power] button to turn off power.
2. Turn the CASSIOPEIA over.
3. Slide the battery cover switch to BACK UP, and then remove the backup battery cover.



4. Remove the old battery.
5. Wipe off a new lithium battery (CR2032) with a dry cloth, and load it into the CASSIOPEIA.



Make sure the positive side is facing up, so you can see it.

6. Replace the backup battery cover.
7. Slide the battery cover switch back to LOCK.

6. DATA COMMUNICATIONS

6-1. General

Performing **Initial Setup** and **FULL RESET**, data saved in the unit will be deleted. Performing **MEMORY BACKUP/RESTORE** and **CARD BACKUP TOOL** Operations described in this Chapter, save these data to PC and MMC before performing Initial Setup and FULL RESET. The following data communications are mainly applicable to EM-505F.

1. Between PC and EM-505F using Activesync 3.1
2. Between MMC and EM-505F
3. Between Mobile phone and EM-505F (Refer to page 12,13.)
4. Between two EM-505F units using IrDA
5. Between notebook-sized PC and EM-505F using IrDA

6-2. Connection to PC

Connecting the Cradle to a Computer

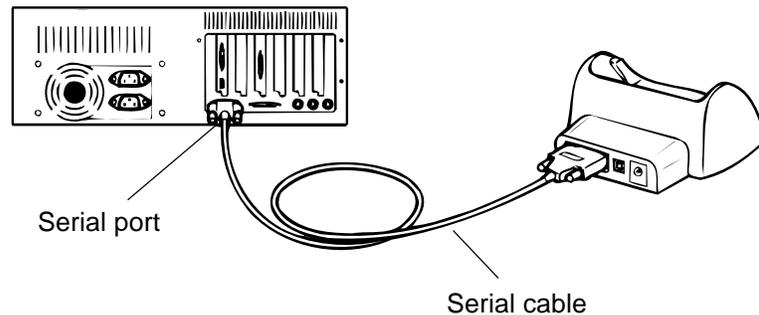
You can connect the cradle to a computer using either a serial cable or the USB cable.

Important

- See “Required System Configuration” on page 24 for details on the type of computer system required for use with the cradle.

Serial Cable Connection

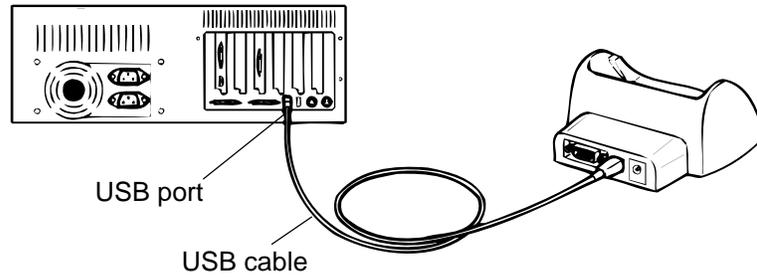
Use a separately available serial cable to connect the cradle to your computer as shown below.



- Be sure to turn off the CASSIOPEIA and your computer before connecting the cradle.
- The cradle is equipped with a 9-pin serial connector, so you can connect it to a computer using a separately available straight type serial cable. Note that some computers may require a 25-pin connector.
- Do not have the serial cable and USB cable connected to the cradle at the same time. When using one, be sure to unplug the other.

USB Cable Connection

Use the USB cable as shown below.



- The above illustrations are just two examples of possible connection configurations. The locations and layouts of serial and USB ports vary from computer to computer. See the documentation that comes with your computer for full details on connecting cables to it.
- Do not have the serial cable and USB cable connected to the cradle at the same time. When using one, be sure to unplug the other.
- Note that after connecting the cradle to your computer, you also need to make certain ActiveSync settings on your computer to enable data transfers. See the *ActiveSync Help* for details about setting up and using ActiveSync.

Using the CASSIOPEIA USB Cable

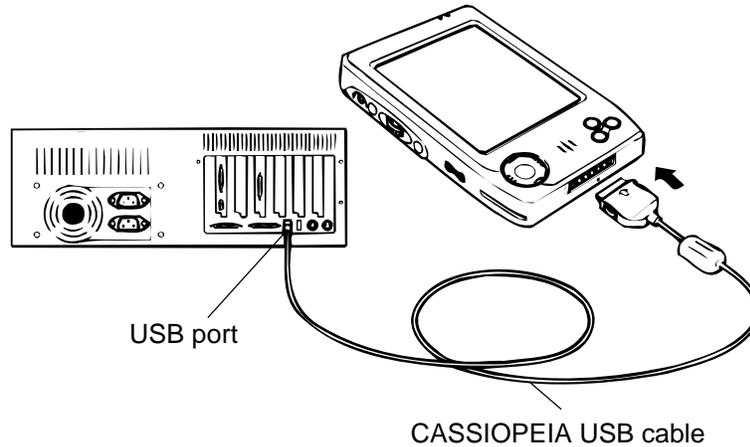
You can use the CASSIOPEIA USB cable to connect the CASSIOPEIA directly to a computer.

Important

- See “Required System Configuration” on page 24 for the computer system that is required for direct USB connection.
- The illustration on the next page is just one possible connection configuration. The location and layout of USB ports vary from computer to computer. See the documentation that comes with your computer for full details on connecting cables to it.
- You must have ActiveSync installed on your computer in order to exchange data with the CASSIOPEIA over a USB connection. See the *Pocket PC User's Guide* for information on installing and using ActiveSync.

To connect to a computer using the CASSIOPEIA USB cable

1. Plug the USB cable into the USB port of your computer.
2. Turn off your CASSIOPEIA.
3. Connect the other end of the USB cable to your CASSIOPEIA.



Required System Configuration

The minimum system configuration required for running ActiveSync[®] 3.1 is described below.

ActiveSync[®] 3.1 System Requirements

- Microsoft[®] Windows[®] 2000, Windows NT[®] Workstation 4.0 with **Service Pack 3 or greater**, or Windows 95/98. (U.S. version)
- Desktop computer with a Pentium processor for Windows NT (166MHz required for Windows 2000)
- Desktop computer with a 486/66 DX or higher processor (Pentium P90 recommended) for Windows 95/98
- 16MB of memory for Windows 95/98 (more memory will give improved performance) or Windows NT Workstation 4.0 (32MB recommended for Windows NT, 64MB recommended for Windows 2000)
- Hard disk drive with 10 to 50MB of available hard disk space (actual requirements will vary based on selection of features and user's current system configuration)
- Available 9 or 25-pin communications port (adapter required for 25-pin communication port), Infrared port, or USB port (available for Windows 95/98 or Windows 2000 only).
- One CD-ROM drive
- VGA graphics card or compatible video graphics adapter at 256 color or higher
- Keyboard
- Microsoft Mouse or compatible pointing device

PC Companion Device Requirements

- **Handheld PC:** Windows CE Handheld PC versions 2 and 3 with Windows CE Core System version 2.0 or greater
- **Palm-size PC:** All models and versions
- **Pocket PC:** All models and versions

Options for Windows 2000, Windows NT Workstation 4.0 or Windows 95/98

- Audio card/speakers for sound
- Microsoft Office 95 or Microsoft Office 97 or Microsoft Office 2000
- Modem for remote synchronization
- Ethernet LAN connection for remote synchronization

Requirements for Mobile Channels or Mobile Favorites Support

Microsoft Internet Explorer 4.0 or higher. Internet Explorer 5.0 is included on the CD, which requires 56-98MB of hard disk space.

Requirements for Microsoft Outlook® 2000

Microsoft Outlook 2000 requires 153 MB of disk space for a full installation. 24 MB system RAM recommended.

Note

- Different minimum system requirements are required when using the applications included on the *CASSIOPEIA Applications CD-ROM*. See the documentation contained on the CD-ROM for full details.
- Your CASSIOPEIA comes with a USB cable for connecting it to a computer. If your computer does not support USB connection, it is up to you to purchase the required cable.

Important

- When installing ActiveSync on a computer, check to make sure that the specified COM port number correctly indicates the serial port to which the cradle is connected.
- Some laptop and sub-compact computers with built-in infrared ports and modems are initially configured so the COM port is not always used as a serial port. In such a case, you must change the setting so the COM port is always used as a serial port.
See the documentation that comes with your computer for full details on COM port numbers and settings.

6-3. ActiveSync 3.1

Refer to **5. DATA TRANSFER** in the Service Manual for E-115 concerning the installation etc. USB (Universal Serial Bus) port on PC is applicable to ActiveSync 3.1 as described in **1.MAIN FEATURES** in this manual.

6-4. BACKUP/RESTORE using ActiveSync 3.1

Refer to **5. DATA TRANSFER** in the Service Manual for E-115 also.

You can perform this operation according to this chapter as well as **BACKUP/RESTORE** between PC and E-115.

Be sure to protect the important data from data disappearance and collapse using this function.

6-5. Card Backup Tool (Quotation from CASIO TOKYO home page)

Prepare a MMC before taking advantage of this tool.

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- Sample displays shown in this manual may differ somewhat from the displays actually produced by the product.

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Card Backup Tool lets you quickly and easily back up your CASSIOPEIA memory data to a memory card. Backed up data can be used to restore your system should it start to malfunction due to some data error.

Backed Up Data

Card Backup Tool backs up the following three types of data in CASSIOPEIA memory.

- **Files**
Files are created using Notes, Pocket Excel, Pocket Word, and other applications and add-on programs. Files transferred from your desktop computer to the CASSIOPEIA are also backed up.
- **The Registry**
The registry contains setup data for Windows CE and built-in applications.
- **Database Data**
Database data is Calendar, Contacts, Tasks, and Inbox data.

Password

Backed up data can be protected by a password. By assigning a password to backed up data, you protect against unauthorized access because the data cannot be restored unless the correct password is entered first.

Time Required for Backup

Depending on how much data you are backing up (or restoring), the backup operation can take anywhere from about 10 seconds to a number of minutes. Backing up 4MB of data, for example, takes three or four minutes. To check how much data is on your system, tap , **Settings**, **System** tab and then **Memory**. On the dialog that appears, tap the **Main** tab. The value under **Storage** indicates how much data is stored in memory. See the pocket PC User's Guide and CASSIOPEIA online help for more information.

Important!

The restore operation can take a very long time if you do not have enough storage memory allocated. When this happens, quit the restore operation, increase the size of the storage memory, and then try the restore operation again.

■ Using Card Backup Tool

This section provides details about the backup and restore operations you can perform using Card Backup Tool. Be sure to read the following precautions before using Card Backup Tool for either backup or restore.

Read this first!

- Always reset your CASSIOPEIA before backing up or restoring data. Make sure you perform a reset operation. Do not perform a full reset operation! See the separate Hardware Manual for information about how to reset your CASSIOPEIA.
- Be sure to power your CASSIOPEIA with the AC adapter whenever performing a backup or restore operation.
- If main battery or backup battery power is low when you start a backup or restore operation, a warning message appears and the backup or restore operation is cancelled. Before starting a backup or restore operation, charge the battery pack or load new batteries.
- Do not perform any button or screen operations on the CASSIOPEIA while a backup or restore operation is in progress. Do not touch the CASSIOPEIA at all until the backup or restore operation is complete.
- Files and other data are automatically compressed before being stored in CASSIOPEIA memory. Make sure the memory card you are using for backup has enough unused space to store the data.

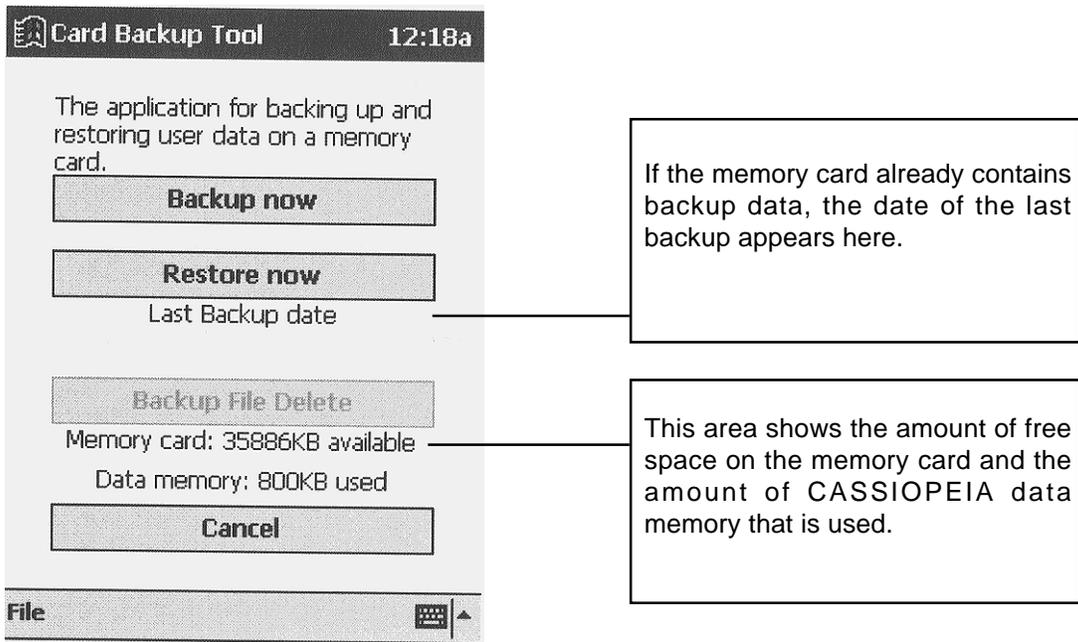
Backing Up Data

Use the following procedure to back up data. Make sure you read the precautions under “Read this first!” before starting.

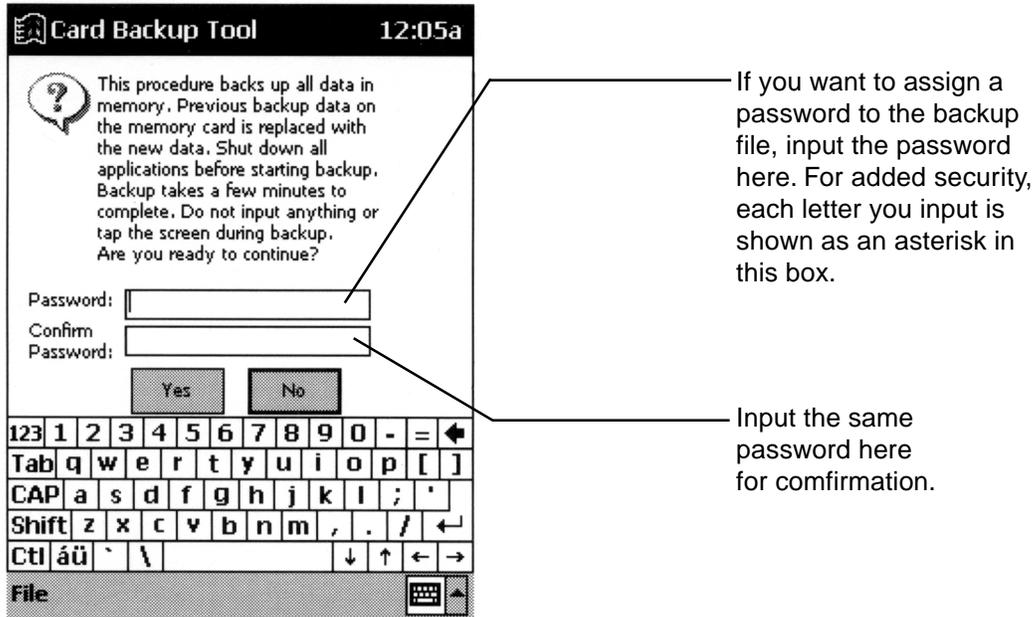
To back up data

1. Connect the AC adapter to your CASSIOPEIA.
2. Reset the CASSIOPEIA.
3. Insert a memory card with sufficient free space to store the backup data into the MultiMediaCard slot of the CASSIOPEIA.

4. Tap , **Programs, Utility**, and then **Card Backup**.
 - This starts up Card Backup Tool and causes the dialog shown below to appear.



5. Tap **Backup now**.
 - This causes the dialog shown below to appear.



- If you do not wish to assign a password, go to step 6 without inputting anything.
6. Tap **Yes** to start the backup or **No** to close the dialog without backing up anything.
 - The “Backup in Progress” dialog appears while the backup operation is being performed.
 - The message “Backup complete!” appears on the display after the backup operation is complete.
 7. After backup is complete, tap **OK** to quit Card Backup Tool.

NOTE

- If the backup operation is interrupted or unsuccessful for any reason and there is a previous backup file on the memory card you are using, the previous file remains intact on the card.

To interrupt a backup operation

1. Tap the **Cancel** button on the message box that is on the screen while a backup operation is in progress.
 - This causes the message “Do you really want to cancel?” to appear.
2. Tap **Yes** to cancel the backup operation or **No** to resume it.

Quitting Card Backup Tool

- Tapping the **OK** button on the dialog box that appears at the end of a backup operation automatically quits Card Backup Tool.
- To quit Card Backup Tool without performing a backup operation, tap the **Cancel** button.

Restoring Data

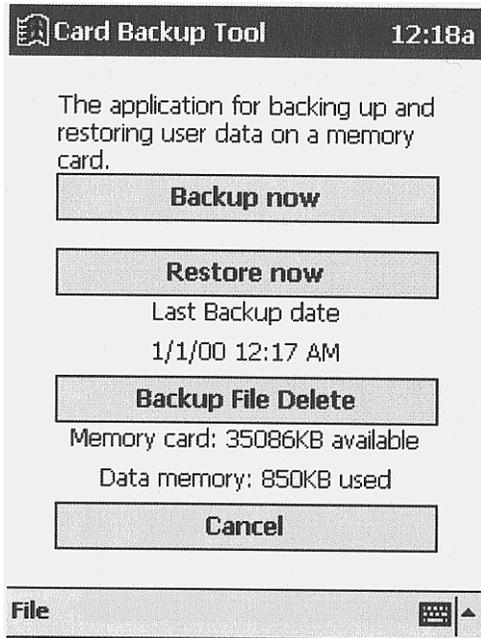
The following applies whenever you perform a restore operation.

- If the same file or registry data exists in both CASSIOPEIA memory and on the memory card, the data in CASSIOPEIA memory is overwritten with the data on the memory card.
- Any files or registry data in CASSIOPEIA memory that is not on the memory card is left as-is.
- Calender, Contacts, Tasks, and Inbox data in CASSIOPEIA memory is all overwritten with the corresponding data from the memory card.
- To return CASSIOPEIA to the exact status it was when you backed up the data, perform a full reset before restoring the data. See the separate Hardware Manual for information about the full reset.

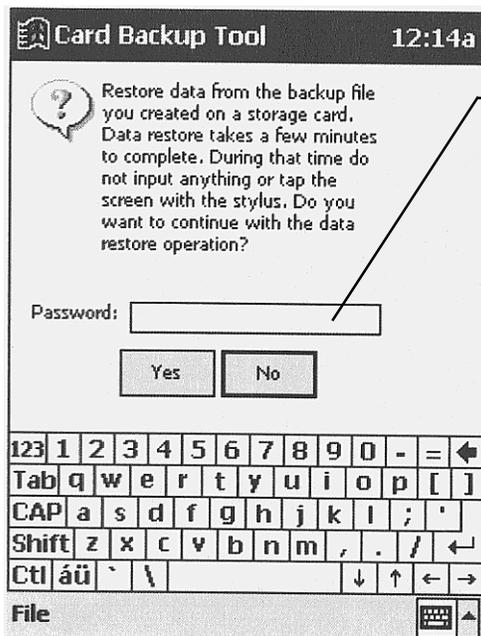
Use the following procedure to restore data. Make sure you read the precautions under “Read this first!” on page 27 before starting.

To restore data

1. Connect the AC adapter to your CASSIOPEIA.
2. Reset the CASSIOPEIA.
3. Insert the memory card that contains the data you want to restore into the MultiMediaCard slot of the CASSIOPEIA.
4. Tap , **Programs, Utility**, and then **Card Backup**.
 - This starts up Card Backup Tool and causes the dialog shown below to appear.



5. Tap **Restore now**.
 - This causes the dialog shown below to appear.



If the data is protected by a password, input the password here. If the data is not password protected, go to step 6 without inputting anything here.

6. Tap **Yes** to start the restore or **No** to close the dialog without restoring anything.
 - The “Restore in Progress” dialog appears while the restore operation is being performed.
 - The message “Restore complete!” appears on the display after the restore operation is complete.
7. After restore is complete, tap **OK** to quit Card Backup Tool.
8. Reset your CASSIOPEIA again.

To interrupt a restore operation

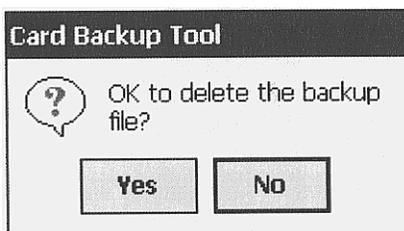
1. Tap the **Cancel** button on the message box that is on the screen while a restore operation is in progress.
 - This causes the message “Do you really want to cancel?” to appear.
2. Tap **Yes** to cancel the restore operation or **No** to resume it.

Deleting a Backup File

You can use the following procedure to delete the backup files you created using Card Backup Tool. Delete a file when you no longer need it, when you want to free up space on a memory card, etc.

To delete a backup file

1. Insert the memory card that contains the backup file you want to delete into the MultiMediaCard slot of the CASSIOPEIA.
2. Tap , **Programs, Utility**, and then **Card Backup**.
 - This starts up Card Backup Tool.
3. Tap **Backup File Delete**.
 - This causes the dialog shown below to appear.



4. Tap **Yes** to delete the backup file or **No** to close the dialog without deleting anything.

6-6. Mobile communication

Refer to page 12,13 in this manual.

Supports WAP, SMS, E-mail and Internet

when used in combination with a GSM mobile phone.

MTDS  MTDS Web Site

*Internet access requires an account with an Internet service provider.

note

Communication systems differ from country-to-country. Contact your local CASIO retailer for full details about communications that are supported in your area.



Pocket Internet Explorer



Mail Setup Tool

Mail Setup Tool is a special application that simplifies troublesome settings you need to make in order to send and receive e-mail on your Pocket PC.

Bonus Software



Mobile E-Mailer



Mail Setup Manager for CASSIOPEIA

This application lets you copy your computer's e-mail account settings to your Pocket PC for automatic configuration of the Pocket PC e-mail settings.

Bonus Software

6-7. Infrared Communication (Quotation from User's Guide)

Refer to the User's Guide concerning "Getting Connection".

You can use your Pocket PC to exchange information with other Windows-powered Pocket PCs as well as your desktop computer, a network, or the Internet. Use the infrared (IR) port on your Pocket PC to send and receive files between two Pocket PCs. In addition to using a cradle, cable, or IR port to connect your Pocket PC to your desktop computer (as described in Chapter 3), you can connect to your desktop computer while away from the office by using a remote connection. You can also connect your Pocket PC to a network or the Internet by using a remote connection. You have the following connection options.

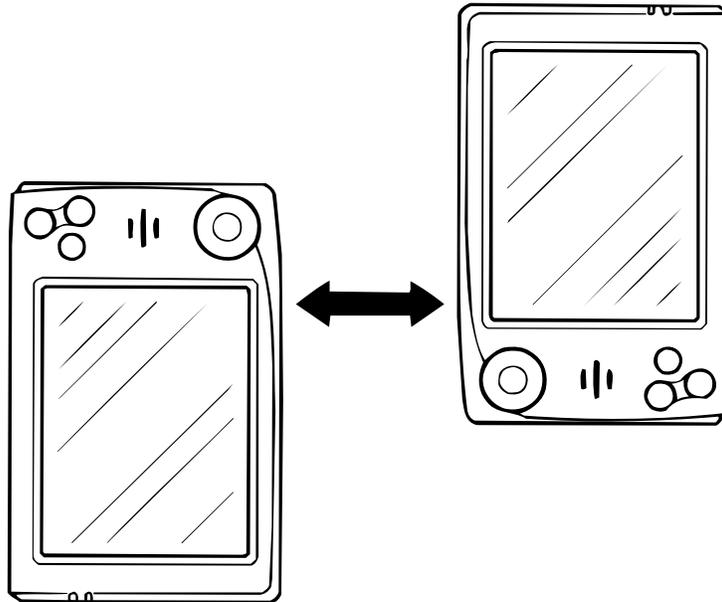
- Connect to your Internet service provider (ISP). Once connected, you can send and receive e-mail messages by using Inbox and view Web pages by using Pocket Internet Explorer. If this is the method you want to use, see "Connect to an ISP" The communication software for creating an ISP connection is already installed on your Pocket PC. Your service provider will provide software needed to install other services, such as paging and fax services.
- Connect to the network at your company or organization. Once connected, you can send and receive e-mail messages by using Inbox, view Web pages by using Pocket Internet Explorer, and synchronize with your desktop computer. If this is the method you want to use, see "Connect to Your Network."
- Connect to your desktop computer to synchronize remotely. Once connected, you can synchronize information such as your Pocket Outlook data. If this is the method you want to use, see ActiveSync Help on your desktop computer or Connections Help on the Pocket PC.

Transfer Items Using Infrared

Using infrared (IR), you can send and receive information, such as contacts and appointments, between two Windows-powered Pocket PCs.

To send information

1. Switch to the program where you created the item you want to send and locate the item in the list. If you want to send more than one item, drag the stylus across the items you want to send.
2. Align the IR ports so that they are unobstructed and within a close range.



- The two infrared ports should be within about 20cm from each other.

3. Tap and hold the item, and tap **Send via Infrared** on the pop-up menu.



You can also send items, but not folders, from File Explorer. Tap and hold the item you want to send, and then tap **Send via Infrared** on the pop-up menu.

To receive information

1. Align the IR ports so that they are unobstructed and within a close range.

2. Tap , **Programs**, and then **Infrared Receive**.



You can also receive items from Tasks, Contacts, Calendar, and Notes by tapping **Tools** and then **Receive via Infrared** in list view.

7. ADJUSTMENT

There are two kinds of adjustments using Operation Check diagnostic program concerning EM-505F. Refer to OPERATION CHECK in this manual concerning how to enter into Operation Check Mode. The following two adjustments can not be performed without entering into Operation Check Mode. It is recommended to perform these adjustment whenever replacing Main PC Board Assembly.

■ Display Quality adjustment (TFT VCOM voltage adjustment)

When flickers and vertical stripes appear in the screen display, try to perform this adjustment according to the following procedure.

1. Enter into Operation Check Mode referring to **OPERATION CHECK** in this manual. Doing so, **Main Menu** for Operation Check will appear.
2. Tapping **8 COLOR BAR**, the following Color Bar check Menu display appears.

** COLOR BAR **

- 1 Contrast
- 2 Scroll
- 3 GRAY

3. Tapping **3 GRAY**, all gray display appears on the screen.

If abnormal displays (flicker, vertical stripes and so on) are detected, change **VCOM** voltage rotating the variable resistor **VR300** using a ceramic screwdriver (minus/1.8 mm width) so that these abnormal displays disappear.

Refer to **PCB ASSY/MAIN** in **EXPLODED VIEW** in this manual concerning position of **VR300**.

VR300 can be supplied as one of the spare parts.

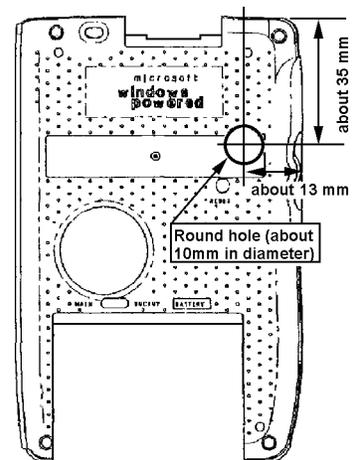
Refer to **PARTS LIST** in this manual.

Refer to page 70 in the Service Manual for **E-115** concerning **VCOM**.

VCOM: Common electrode voltage for TFT LCD pixel.

To perform this adjustment, it is recommended to adjust after assembling the dummy lower case to which a round hole is added as shown to the right. Adjust inserting above the screwdriver into this round hole.

Refer to the item 21 of **PARTS LIST** and **EXPLODED VIEW** concerning the lower case for EM-505F.



■ Adjustment to correct (compensate) AD converter error voltage

This is the adjustment to correct or compensate AD converter error voltage/ digital data.

Generally speaking, the differential and linear errors exist in the output digital data and voltage which are passed AD/ DA converter.

When calibration for touch panel, battery voltage detection, and so on are not correctly performed, try to perform this adjustment.

Important ! ⚠

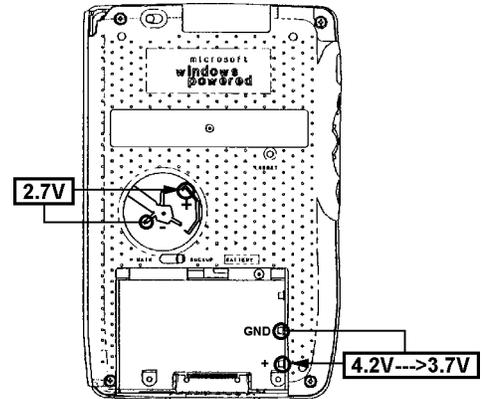
This adjustment for the main PC Board Assembly for the spare parts has not been performed in the factory.

Therefore, be sure to perform this adjustment whenever you replace the main PC Board Assembly.

It is recommended to prepare two DC voltage stabilizers for Main and sub (back up) power supplies.

Perform this adjustment according to the following procedure.

1. While supplying powers as shown to the right, display **Main Menu** for the operation check.
 - * Remove AC Adapter.
 - * Slide the battery cover switch to LOCK position.
2. Make the voltage power supply added to the main battery terminal $4.2V \pm 0.05V$. Then, make the voltage power supply added to the back up battery terminal $2.7V \pm 0.05V$. If turning off the unit power, stop to supply power for the back up battery at first, then for the main battery. After performing **Initial Setup**, display **Main Menu** for the operation check again.



3. Tapping **9 voltage Write**, the following display appears.
*** <AD Revision Value Write> ***
<Max Level Write>

Voltage Write-> Contacts Key
Escape -> ON Key

4. Pressing **Contacts** button, the following display appears.
*** <AD Revision Value Write> ***
<Max Level Write>
AD Value Read! 0x8...
<Min Level Write>

Voltage Write-> Contacts Key
Escape -> ON Key

If the unit can not read the voltage 4.2V correctly, "**No Good. Please retry!!**" message will appear. Note that the unit can not be progressed in the next stage whenever this message appears.

5. Make the voltage power supply added to the main battery terminal $3.7V \pm 0.05V$. Then, press **Contacts** button again. Doing so, the following display appears.
*** <AD Revision Value Write> ***
<Max Level Write>
AD Value Read! 0x8...
<Min Level Write>
AD Value Read! 0x8...
<SUB Level Write>

Voltage Write-> Contacts Key
Escape -> ON Key

6. Pressing **Contacts** button again, the following display appears.

```
*** <AD Revision Value Write> ***
<Max Level Write>
  AD Value Read!      0x8...
<Min Level Write>
  AD Value Read!      0x8...
<SUB Level Write>
  AD Value Read!      0x8...
```

```
Write Data Value
  Max=0x...    Sub=0x...
  Min=0x...
-----> Test END
          Push Action Key
```

7. Pressing **Action Control** button, the following display appears along with **Main Menu** display.

```
AD Code=OOOOO
CPROG Rev.1.00 for JX-670
```

If missed, the following # displays appear instead of O.

```
AD Code=# # # #
CPROG Rev.1.00 for JX-670
```

If this display appears, be sure to try to perform these adjustments again.

After turning off the unit power, stop to add the powers to the unit from DC voltage stabilizers.

After setting the rechargeable battery, back up battery and AC Adapter to the unit again, perform **Initial Setup**, then display **Main Menu**.

8. OPERATION CHECK

8-1. Preparation

1. EM-505F (Prepare two units to perform IrDA communication check)
2. MMC: MMB-16 (This card can be supplied as one of the spare parts. Code No. etc. are as follows;
Code No.: 1001 6339/ Specification: SDMB-16)
3. Rechargeable battery pack MK11-2288 (Refer to **PARTS LIST**.)
4. AC adapter (AD-C59200) and (AC power cord) (Refer to **PARTS LIST**.)
5. Cradle (Refer to **PARTS LIST**.)
6. PC installed ActiveSync 3.1
7. Diagnostic program file (Diag.exe) for EM-500
(This file name "Diag.exe" is the same as ones for E-100/ E-105/ E-115 etc. Take care not to confuse.
Note that this file is wholly different from ones for E-100/ E-105/ E-115.
This file is also applicable to the other EM-500 Series Units (EM-500G/ EM-505I/ EM-505S).)
8. USB cable S1467A (Refer to **PARTS LIST**.)
If there are no USB terminals on PC, use the following RS-232C cable.
This RS-232C cable is enclosed in the option JK-515CR.
This RS-232C cable can be supplied as one of the spare parts also.
Code No.: 1003 4174/ Specification: CCJ681AA01A
9. Stereo Earphone with Remote Control (Model Name: JK-840HE)/ Ordinary stereo earphone (16 Ω)
10. Two DC Power Supply Stabilizers

NOTES:

- * Be sure to make backup copies of all data in the unit before repair using **BACKUP/ RESTORE** function in ActiveSync 3.1 software because FULL RESET must be performed to finish or abort this operation check.
The program files for EM-500 (Diag.exe/ CASIO_JXdiag.exe) will be supplied along with this Service Manual.

8-2. How to install the diagnostic program

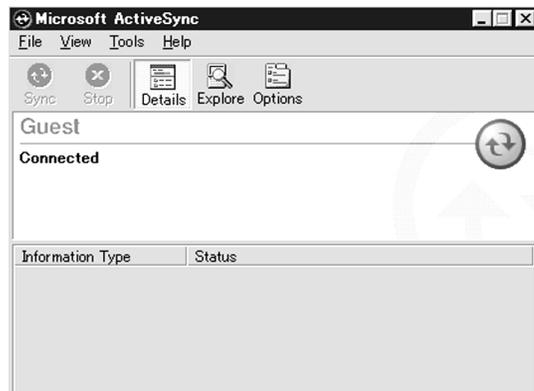
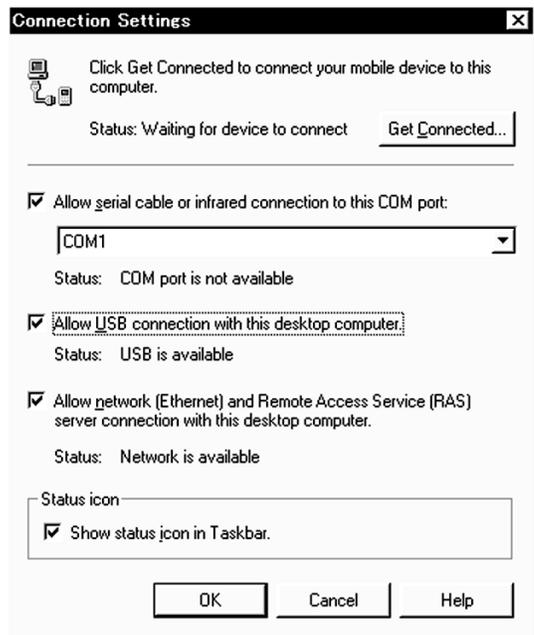
There are two ways to install the diagnostic program to EM-505F.

8-2-1. Installation in MMC and D-RAM in the unit at the same time

Using MMC installed the diagnostic program, OPERATION CHECK can be performed without PC and the cradle after installation.

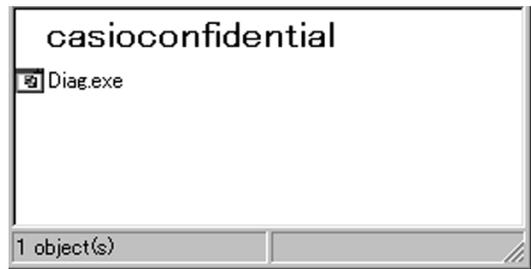
To make this MMC installed the diagnostic program, at first, it is necessary to install the diagnostic program to MMC according to the following procedure.

1. Insert a MMC into Card slot of the unit.
2. Connect a cradle and PC installed ActiveSync 3.1 using USB or RS-232C cable.
3. Set the unit to this cradle. And then, open ActiveSync 3.1.
4. Selecting **File**, then **Connection Settings...**, the dialog box shown to the right appears. It is recommended that you enter "V" marks in the four squares in the right dialog box to be able to use USB, RS-232C COM port etc. on PC.
5. After doing so, perform "**Get Connected...**" procedure. "**Get Connected...**" procedure may automatically start.
6. You had better choose "**No**" for Set Up a Partnership.
7. After that, this connection procedure will be completed.
8. After this procedure is completed, the display shown to the right appears.
9. After clicking **Explore** icon in the right dialog box, click **My Pocket PC** icon.
10. Doing so, **Storage Card** holder icon will appear. "Storage Card" holder indicates MMC. If MMC is not inserted into the slot, this holder will not appear.
11. After clicking this icon, make a new holder named **jx670diag**.
12. Make a new holder named **casiococonfidential** in **jx670diag** holder. Perform these spellings precisely. Otherwise, the installation of the diagnostic program can not be performed.
13. Enter **Diag.exe** file in this **casiococonfidential** holder. Total directory is as follows;
Storage Card>jx670diag>casiococonfidential>Diag.exe
14. Doing so, the installation of the diagnostic program to MMC and D-RAM in the unit starts automatically.
15. While performing this installation, the display shown to the right will appear.



16. Completing this installation, the display shown to the right will appear.

- * Once the diagnostic program is installed in MMC and D-RAM in the unit, this program is not deleted even if **RESET** operation is performed.



17. Performing the following operation with the unit, confirm that the diagnostic program has been installed in MMC.

Tapping **Start, Programs, File Explore, My documents, My Device, Storage Card, jx670diag**, and then **casioconfidential** using a stylus, **Diag** icon will appear.

If **Diag** icon appears, the diagnostic program is installed in MMC card.

Tapping this **Diag** icon, Operation Check **Main Menu** display appears.

8-2-2. Installation in Only D-RAM in the unit without MMC

Using the following procedure, you can install the diagnostic program in D-RAM in the unit without MMC.

1. Perform 2~9 in the procedure of 8-2-1.

2. Clicking **Windows** holder, open this holder.

3. Enter **CASIO_JXdiag.exe** file into this holder.

4. Doing so, the installation of the diagnostic program to D-RAM in the unit starts automatically.

- * Once the diagnostic program is installed in D-RAM in the unit, this program is not deleted even if **RESET** operation is performed.

5. Performing the following operation with the unit, confirm that the diagnostic program has been installed in D-RAM in the unit.

Tapping **Start, Programs, File Explore, My documents, My Device**, and then **Windows** using a stylus, **CASIO_JXdiag** icon will appear in Windows holder.

If **CASIO_JXdiag** icon appears, the diagnostic program is installed in D-RAM.

Tapping this **CASIO_JXdiag** icon, Operation Check **Main Menu** display appears.

8-3. How to delete the diagnostic program

If necessary, delete the diagnostic program in MMC and D-RAM in the unit using the following procedure.

8-3-1. How to delete the diagnostic program in MMC

1. After connecting the unit set MMC card to PC using ActiveSync 3.1, be sure to delete **Diag.exe** file itself in **casioconfidential** holder with ActiveSync 3.1.

Never delete **jx670diag** or **casioconfidential** holder.

Refer to 8-2-1 concerning above connection for detail.

2. Performing the following operation with the unit, confirm that the diagnostic program has been deleted in MMC according to the following procedure.

Tapping **Start, Programs, File Explore, My documents, My Device, Storage Card, jx670diag**, and then **casioconfidential** using a stylus, **Diag** icon will disappear.

If **Diag** icon disappears, the diagnostic program in MMC card is deleted .

8-3-2. How to delete the diagnostic program in D-RAM in the unit

There are two ways to delete the diagnostic program in D-RAM.

1. After connecting the unit and PC using ActiveSync 3.1, delete **CASIO_JXdiag.exe** file itself in **Windows** holder.

Refer to 8-2-1 concerning above connection for detail.

2. Perform **FULL RESET** for the unit.

To perform **FULL RESET**, press **RESET** button while holding down **Power** button, then operate the unit according to the messages on the screen.

* Performing the following operation with the unit, confirm that the diagnostic program has been deleted in D-RAM in the unit.

Tapping **Start**, **Programs**, **File Explore**, **My documents**, **My Device**, and then **Windows** using a stylus, **CASIO_JXdiag** icon will disappear in **Windows** holder.

8-4. Operation Check

8-4-1. How to enter into Operation Check Mode

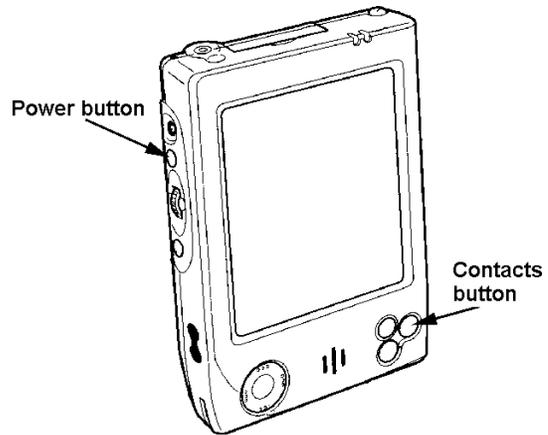
It is recommended to perform **FULL RESET** with the unit to delete the data saved in D-RAM before this check.

To enter into this check Mode, perform the operation described in item 17 of 8-2-1 or item 5 of 8-2-2 after installation of diagnostic program.

Or, while holding down **Power** button after this installation, press the **Contacts** button over 3 seconds. Try again if missed.

After stopping to press **Contacts** button, then stop to hold down **Power** button.

After performing one of the operations described above, the following **Main Menu** display for Operation Check appears on the screen.



```

** Main Menu **

1 DISPLAY
2 TOUCH PANEL
3 MEMORY
4 SERIAL
5 POWER CONTROL
6 AUDIO
7 Others
8 COLOR BAR
9 VOLTAGE Write
10 MASTER CODE

AD Code = #####
CPRG Rev. 1.00 for Jx-670

```

If MMC installed the diagnostic program is used, this Main Menu display will not be disappeared even if MMC card is pulled out from the slot because this diagnostic program has been saved in D-RAM in the unit.

However, it is recommended not to pull out during this check.

8-4-2. Operation Check

*If the unit is locked during this check, enter into this check mode again after perform **RESET** or **FULL RESET** operation.*

8-4-2-1. Display Check

1. Tapping above **1 DISPLAY** on the screen using a stylus, the red screen appears.

2. Tapping the screen, the green screen appears.

3. Tapping the screen again, the blue screen appears.
4. Tapping the screen again, the white frame display appears.
5. Tapping the screen again, the black frame display appears.
6. Tapping the screen again, no display appears.
7. Tapping the screen again, **Main Menu** display appears.

8-4-2-2. Touch Panel Check

1. Tapping above **2 TOUCH PANEL** on the screen using a stylus, the following Touch Panel Check Menu appears.

**** Touch Panel ****

- 1 Case**
- 2 Points**
- 3 Cross**

2. Tapping **1 Case**, "**Case ---> OK**" display appears.
Pressing **Action Control** button, display Touch Panel Check Menu again.
Generally speaking, pressing **Action Control** button, prior Menu or Display can be recovered during **Operation Check**.
3. Tapping **2 Points**, four cross marks appears near four corners in the screen.
If succeeded to tap the center of the cross mark, its cross mark will disappear.
Tap the centers of these cross marks until all cross marks disappear.
After that, "**Touch Panel----> OK**" display appears.
4. Pressing **Action Control** button twice, **Main Menu** display appears.

* If performing **2 Points** check, it is unnecessary to perform **3 Cross** check.

8-4-2-3. Memory Check

1. Tapping **3 MEMORY**, the following Memory Check Menu display appears.

**** MEMORY ****

- 1 ROM CHECK SUM(32MByte)**
- 1' ROM CHECK SUM(16MByte)**
- 2 ROM BUS SUM(32MByte)**
- 2' ROM BUS SUM(16MByte)**
- 3 ROM TYPE**
- 4 RAM TEST**
- 5 RAM LOOP**
- 6 RAM R/W TEST**

2. Tapping **1' ROM CHECK SUM(16MByte)**, the following display appears.

**** ROM CHECK SUM ****

base addr. Sum value
SUM 1 (bf000000) = a738
SUM 2 (bf000002) = df35

ROM CHECK SUM ... end

Above hexadecimal digits (numbers) will be modified without prior notice in response to the modifications for OS etc..

Pressing **Action Control** button, Memory Check Menu display appears again.

3. Tapping **3 ROM TYPE**, the following display appears.

**** ROM TYPE ****

Flash ROM

ROM Type CHECK ... end

Mask ROM may appear instead of above **Flash ROM**.

Pressing **Action Control** button, Memory Check Menu display appears again.

4. Tapping **4 RAM TEST**, the following display appears.

The other displays may appear.

**** RAM CHECK ****

- RAM CHK OK -

Pressing **Action Control** button, Memory Check Menu display appears again.

5. Tapping **6 RAM R/W TEST**, the following display appears.

**** RAM CHECK ****

- RAM DATA WRITE -

Write ... end ActionKey PUSH

6. Pressing **Action Control** button according to above message, the following display appears.

**** RAM CHECK ****

- RAM DATA WRITE -

Write ... end ActionKey PUSH

-- RAM DATA READ --

-- RAM CHK OK --

Pressing **Action Control** button twice, **Main Menu** display appears again.

8-4-2-4. Serial ports Check (Communication Check)

Try to communicate with PC using ActiveSync 3.1 after connecting the unit to PC using the cradle and USB/ RS-232C cables concerning USB and RS232C checks.

Because, special jigs are needed to perform USB/ RS-232C checks by this diagnostic program.

1. Tapping **4 SERIAL**, the following Serial port Check Menu display appears.

**** Serial ****

1 Loop Back <RS232C Ck>

2 Send / Receive <RS232C Ck>

3 Interactive <IrDA Ck>

4 Send / Receive <IrDA Ck>

5 Loop Back2

6 USB Check

7 MMC / SD Check

2. Tapping **7 MMC / SD Check** during inserting MMC card installed the diagnostic program, the following display appears.

** MMC/SD CHECK **

Detect the MMC/SD card .

```

Clock : 0.1764 MHz...
  CMD9 OK :      CMD10 OK :
Clock : 0.3528 MHz...
  CMD9 OK :      CMD10 OK :

```

.....

```

Clock : 11.2896 MHz...
  CMD9 OK :      CMD10 OK :

```

MMC/SD Check END

Pressing **Action Control** button, Serial port Check Menu display appears.

3. Prepare another unit for IrDA communication check.
Display Serial port Check Menu with another unit as well as the checking unit.
4. Tapping **4 Send / Receive <IrDA Ck>** with both units, the following displays appear.
5. Tap **2 Receive data (MAX Baudrate)** with another unit, then tap **1 Send data (MAX Baudrate)** with the checking unit. Doing so, the following display appears.

In case of the checking unit;

<Send mode>

In case of another unit;

<Receive mode>

```

HHHHHHHHHHHHHHHHHHHH
HHHHHHHHHH.....

```

The letter "H" will continue to appear one after another.

6. To stop this data communication, press **Action Control** buttons with both units.
7. Exchanging the checking unit for another unit, perform operations of above 3~6.
Press **Action Control** buttons few times with both units to display **Main Menu**.
Turn off another unit power after performing FULL RESET.

8-4-2-5. Audio Check

1. Tapping **6 AUDIO**, the following Audio check Menu appears.

** Audio **

- 1 0.5kHz
- 2 1kHz
- 3 2kHz
- 4 LR-Channel
- 5 Record

2. Tapping **1 0.5kHz**, 0.5kHz sound is emitted.
3. Tapping **2 1kHz** after pressing **Action Control** button, 1 kHz sound is emitted.
4. Tapping **3 2kHz** after pressing **Action Control** button, 2 kHz sound is emitted.
Press **Action Control** button again.

- After setting a stereo earphone to the unit, tap **4 LR-Channel**.
Doing so, the following sound can be heard from its earphone with stereo.
"Right channel" from the right
"Left channel" from the left

Press **Action Control** button again.

8-4-2-6. Others Check

- Tapping **7 Others**, the following Others check Menu display appears.

**** Others ****

- 1 Switch**
- 2 Keyboard RANDOM**
- 3 Disp Loop**
- 4 BackLight**

- Tapping **1 Switch**, the following display appears and Red light is flickered from the right LED.

VDET1B		OFF
VDET2		OFF
VDET3		OFF
VDETS		OFF
AC Adapter	USED	
Cover		CLOSED
Charge	ON	
AD Remocon		OFF
Audio Jack		OFF
CFCLSB	ON	
VDET MMC	ON	

- Removing the back up battery, **VDETS** will become **ON**.
Set its back up batter to the unit again.
- Removing AC Adapter, **AC Adapter** will become **NOT USED**.
Connect AC Adapter to the unit again.
- Connect a Stereo Earphone with Remote Control (Model Name: JK-840HE) to the unit.
Pressing Play button on the remote control unit, **AD Remocon** will become **PLAY**.
Pressing FF button on the remote control unit, **AD Remocon** will become **FF**.
Pressing RWD button on the remote control unit, **AD Remocon** will become **RWD**.
Never holding down these buttons over 2 seconds. Otherwise, the unit may be locked.
- Removing above Stereo Earphone with Remote Control, connect a ordinary earphone to the unit.
Doing so, **Audio Jack** will become **ON**.
Remove this earphone.
- Removing MMC card, **VDET MMC** will become **OFF**.
Insert this card into the slot again.
- Pressing **Action Control** button, Others check Menu display appears again.
- Tapping **2 Keyboard RANDOM**, the following display appears.
**** Keyboard RANDOM ****
Pressing any button except power button, Key name corresponded to the pressed button appears on the screen. Pressing **Power** button finally, Others check Menu display appears again.
- Tapping **4 BackLight**, for example, the following display appears.

439

Another number may appear.

- While holding down the downward key in the cursor button, display on the screen becomes dimmer, then lighter suddenly.
Pressing **Action Control** button twice, **Main Menu** appear.

8-4-2-7. Color Bar Check (including a display adjustment)

- Tapping **8 COLOR BAR**, the following Color Bar check Menu display appears.
**** COLOR BAR ****

- Contrast**
- Scroll**
- GRAY**

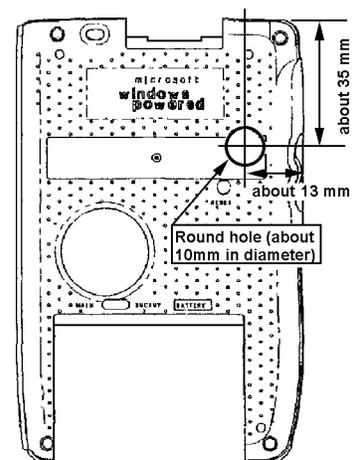
- Tapping **1 Contrast**, the following color bar display appears.

RED
GREEN
BLUE
BLACK
WHITE

Pressing **Action Control** button, Color Bar check Menu display appears again.
Even if tapping **2 Scroll**, this unnecessary check can not be performed.

- Tapping **3 GRAY**, all gray display appears on the screen.
If abnormal displays (flicker, and so on) are detected, change **VCOM** voltage rotating the variable resistor **VR300**. Refer to page 70 in the Service Manual for **E-115** concerning **VCOM**.
VCOM: Common electrode voltage for TFT LCD pixel. Refer to **PARTS LIST** concerning **VR300**.
To perform this adjustment, it is recommended to adjust after assembling the dummy lower case to which a round hole is added as shown below.
Refer to the item 21 of **PARTS LIST** and **EXPLODED VIEW** concerning the lower case.

Pressing **Action Control** button twice, **Main Menu** display appears.



8-4-2-8. Setting (Adjusting) DC voltage to AD converter

The following operation are not only for Check, but also for setting (adjusting) for DC voltage to AD converter in CPU.
When calibration for touch panel, battery voltage detection and so on are not correctly performed, try to check and perform these settings (adjustments).

It is recommended to prepare two DC voltage stabilizers for Main and sub (back up) power supplies.

Important ! ⚠

These settings (adjustments) for the main PC Board Assembly has not been performed in the factory. Therefore, be sure to perform this setting (adjustment) whenever you replace the main PC Board Assembly.

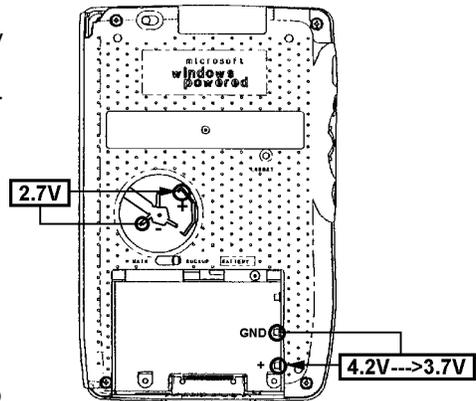
1. While supplying powers as shown to the right, display **Main Menu** for the operation check.

- * Remove AC Adapter.
- * Slide the battery cover switch to LOCK position.

2. Make the voltage power supply added to the main battery terminal $4.2V \pm 0.05V$.

Then, make the voltage power supply added to the back up battery terminal $2.7V \pm 0.05V$.

If turning off the unit power, stop to supply power for the back up battery at first, then for the main battery. After performing **Initial Setup**, display **Main Menu** for the operation check again.



3. Tapping **9 voltage Write**, the following display appears.

```
*** <AD Revision Value Write> ***
<Max Level Write>
```

Voltage Write-> Contacts Key
Escape -> ON Key

4. Pressing **Contacts** button, the following display appears.

```
*** <AD Revision Value Write> ***
<Max Level Write>
AD Value Read!      0x8...
<Min Level Write>
```

Voltage Write-> Contacts Key
Escape -> ON Key

If the unit can not read the voltage 4.2V correctly, "**No Good. Please retry!!**" message will appear. Note that the unit can not be progressed in the next stage whenever this message appears.

5. Make the voltage power supply added to the main battery terminal $3.7V \pm 0.05V$.

Then, press **Contacts** button again.

Doing so, the following display appears.

```
*** <AD Revision Value Write> ***
<Max Level Write>
AD Value Read!      0x8...
<Min Level Write>
AD Value Read!      0x8...
<SUB Level Write>
```

Voltage Write-> Contacts Key
Escape -> ON Key

6. Pressing **Contacts** button again, the following display appears.

```
*** <AD Revision Value Write> ***
<Max Level Write>
  AD Value Read!      0x8...
<Min Level Write>
  AD Value Read!      0x8...
<SUB Level Write>
  AD Value Read!      0x8...
```

```
Write Data Value
  Max=0x...    Sub=0x...
  Min=0x...
-----> Test END
          Push Action Key
```

7. Pressing **Action Control** button, the following display appears along with **Main Menu** display.

```
AD Code=00000
CPROG Rev.1.00 for JX-670
```

If missed, the following # displays appear instead of 0.

```
AD Code=# # # #
CPROG Rev.1.00 for JX-670
```

If this display appears, be sure to try to perform these settings (adjustments) again.

After turning off the unit power, stop to add the powers to the unit from DC voltage stabilizers

After set the rechargeable battery, back up battery and AC Adapter to the unit again, perform **Initial Setup**, then display **Main Menu**.

8-4-2-9. Master Code Setting (Registration)

SD (Secure Digital) Card can be applicable to EM-505F Series units along with MMC card.

In this card, there are many key data to induct and save MP3/ MPEG2 AAC data for music except user's data area. SD card may be sold in future. In another word, users will buy to get these key data without knowing these key data existence in future.

There are the key data (Master Code) to induct and save MP3/ MPEG2 AAC data in EEPROM assembled onto Main PC board also. User can not know this key data existence also.

After combining and comparing above key data, MP3/ MPEG2 AAC data for music can be inducted and saved in the unit or SD Card in order to prevent from the breach of copyright.

In another word, users buy this right at the same time when buying the unit and SD card without knowing key data existence.

Therefore, if Master Code is not written to EEPROM using this setting (registration), user can not induct and save MP3/ MPEG2 AAC music data.

Be sure to perform Master Code Setting (Registration) after repair or reassembling according to the following procedure.

1. Tapping **10 MASTER CODE**, the following display for Master Code Setting appears.

```
** MASTER CODE **
 1 CODE Write
 2 CODE Read
```

2. At first, tapping **2 CODE Read**, confirm that Master Code has been written in EEPROM.
If written, the following display appears.

```
*** <Master Code Read> *****  
----- > Read  
      Master Code Sum = 0x....  
      Master Code -- > OK
```

Exit pushes the action key

If Not written, **NG** display will appear instead of **OK**.

3. After pressing **Action Control** button according to above message, tap **1 CODE Write**.
Doing so, Master Code is written in EEPROM, then the display shown above appears again.
4. Pressing **Action Control** button twice, **Main Menu** appears.

----- **END** -----

After removing MMC card saved the diagnostic program, perform **FULL RESET**.

9. TROUBLE SHOOTING

Before assuming malfunction and contacting your service provider when experiencing operational problems, be sure to check the following information as well as the troubleshooting section of the *Pocket PC User's Guide* first.

Nothing happens when the [Power] button is pressed.	
Possible Cause	Recommended Action
Main battery is weak.	Charge the battery pack.
Internal malfunction	Reset the unit. If resetting the unit does not correct the problem, perform a full reset (memory initialize).*

Operation is disabled when the AC adapter is connected.	
Possible Cause	Recommended Action
Main battery is weak.	Charge the battery pack.
The unit is not mounted on the cradle correctly.	Mount the unit on the cradle correctly.

Replacing the main battery caused malfunction.	
Possible Cause	Recommended Action
Main battery is not loaded correctly.	Remove and then reload the main battery. <ul style="list-style-type: none"> • Make sure the positive (+) and negative (–) poles are oriented correctly.
The battery replacement procedure was not followed correctly.	Perform a full reset (memory initialize).* <ul style="list-style-type: none"> • If the above action does not solve the problem, remove the main battery and contact with experts.

Rechargeable battery pack life is very short after each charge.	
Possible Cause	Recommended Action
Battery pack is damaged or has reached the end of its service life.	Purchase a new battery pack.

The low backup battery message continues to appear even after replacement of the backup battery.	
Possible Cause	Recommended Action
The backup battery is upside down.	Remove the backup battery, turn it over, and reload it.
The backup battery was loaded before the main battery.	Remove the backup battery, and reload it.
Power was left on while the battery pack was replaced.	Turn power off and then back on again.

Nothing happens when the touch screen is touched.	
Possible Cause	Recommended Action
The touch screen is out of calibration.	Recalibrating the touch screen.
Static electricity or some other problem has caused the touch screen to malfunction.	Reset the unit.
The touch screen is damaged.	Contact your original dealer or an authorized CASIO service provider.

The screen is locked up.	
Possible Cause	Recommended Action
Internal malfunction	Reset the unit. If resetting the unit does not correct the problem, perform a full reset (memory initialize).*

A message about a data error is on the screen.	
Possible Cause	Recommended Action
Internal malfunction	Follow the instructions that appear on the screen.

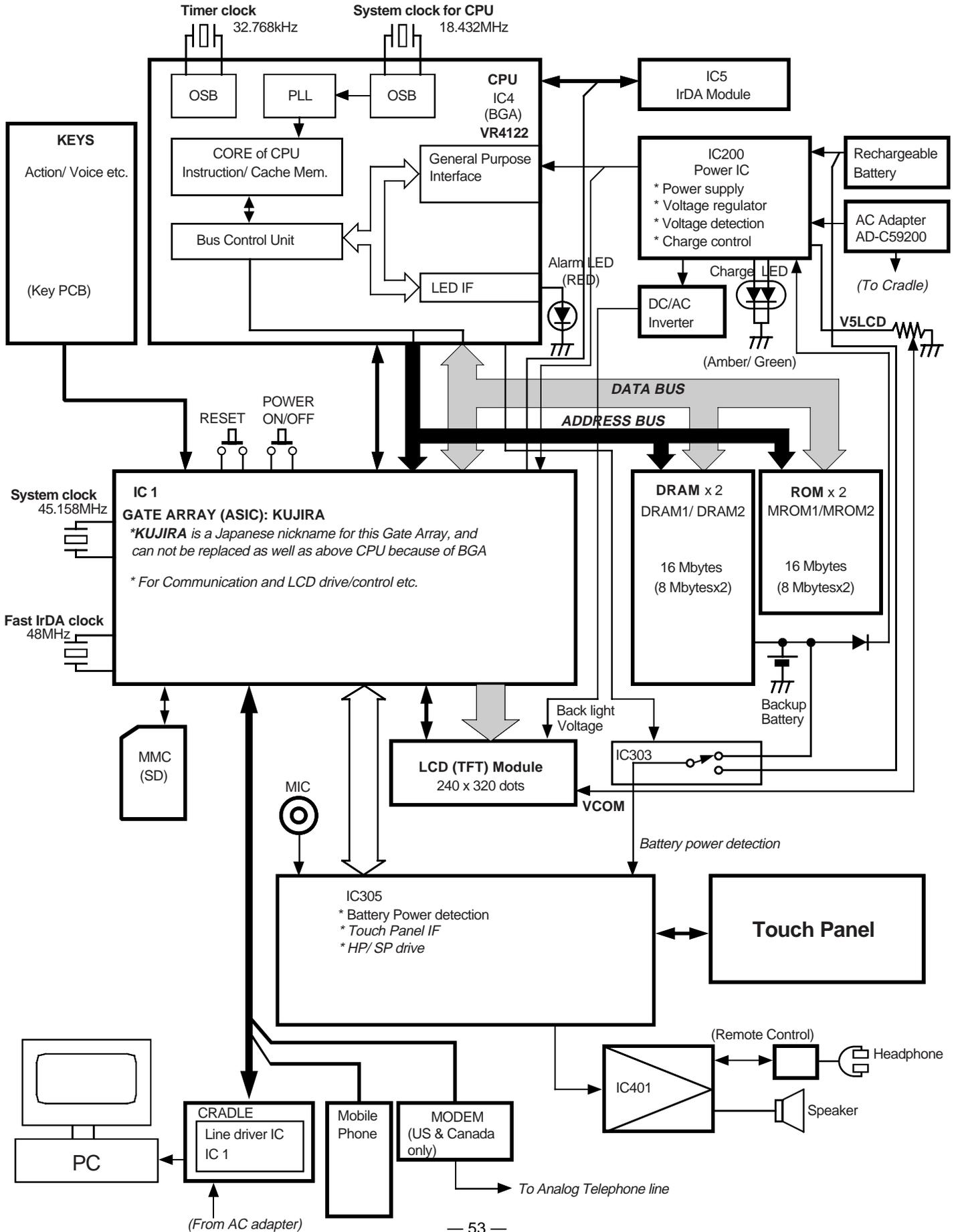
* Perform the procedure on the next page when the full reset (memory initialize) does not correct the problem.

- Perform the following procedure if your CASSIOPEIA remains locked up even after you perform a full reset.

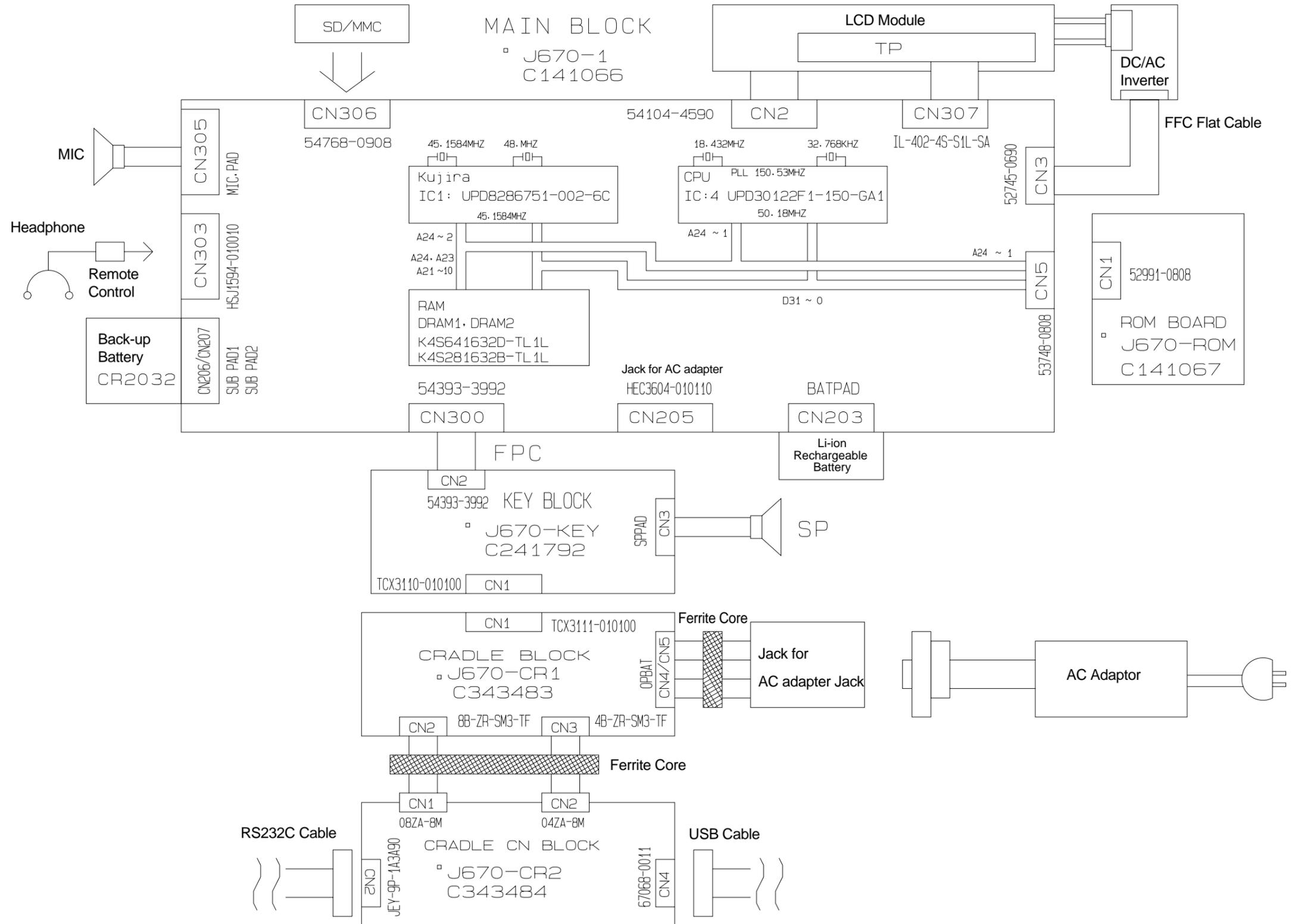
Important

- The following operation deletes all data in CASSIOPEIA memory.
 - If you previously backed up your CASSIOPEIA data to your desktop computer hard disk or a MultiMediaCard, you will be able to restore the data after performing the following operation.
 - If backed up data includes data that is the cause of the original problem, your CASSIOPEIA may start malfunctioning again after data is restored. In this case, you will not be able to use the backed up data.
 - To protect against backing up corrupted data that can cause problems when restored, first synchronize Pocket Outlook program data between your CASSIOPEIA and desktop computer. Next, use drag and drop to copy other files to you computer. See *ActiveSync Help* for information about synchronizing data and copying files.
1. Remove both the main battery and the backup battery from the CASSIOPEIA.
 2. Wait for about **five minutes**.
 3. Reload the main battery.
 - Be sure to load the main battery first. The CASSIOPEIA will not operate properly if you load the backup battery first. If you inadvertently load the backup battery first, start over from step 1 above.
 4. Attach the AC adapter and charge the battery pack.
 5. Reload the backup battery.
 6. Make sure the battery cover switch is in the LOCK position.
 7. Wait for about **five seconds** and then press the [Power] button to turn on your CASSIOPEIA.
 - Turning on power displays the startup screen, following by the touch panel calibration screen.
 8. Follow the instructions that appear on the screen to make initial settings.
 9. After setting up your CASSIOPEIA, turn it off.
 - After completing the above procedure, you can restore data you have backed up on your desktop computer hard disk or MultiMediaCard. See *ActiveSync Help* for information about restoring backed up.
 - See the *Card Backup Tool* manual (PDF file) on the *CASSIOPEIA* Application *CD-ROM* for information about using the Card Backup Tool program to restore data from a MultiMediaCard.

10. CIRCUIT BLOCK DIAGRAM

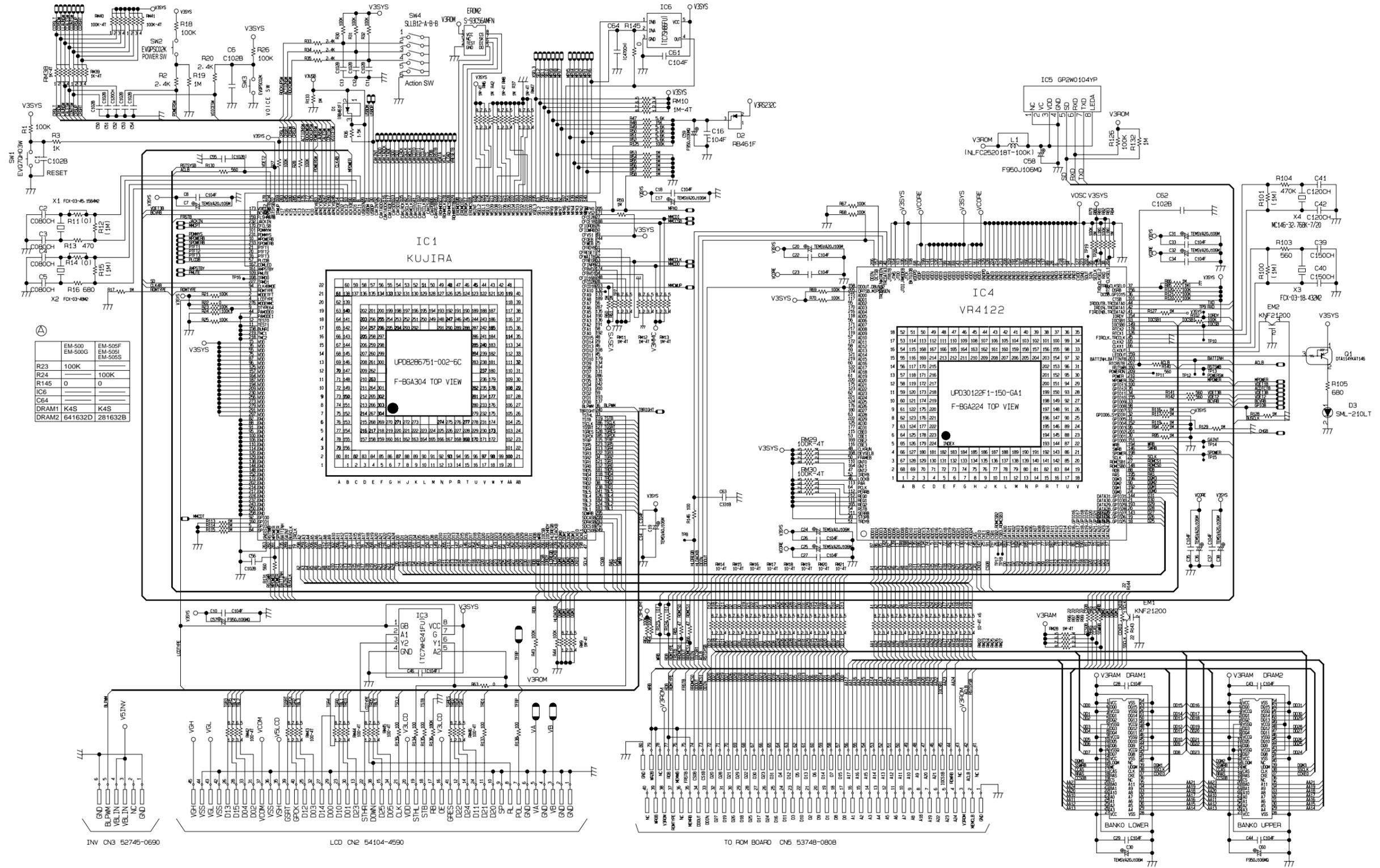


11. WIRING DIAGRAM

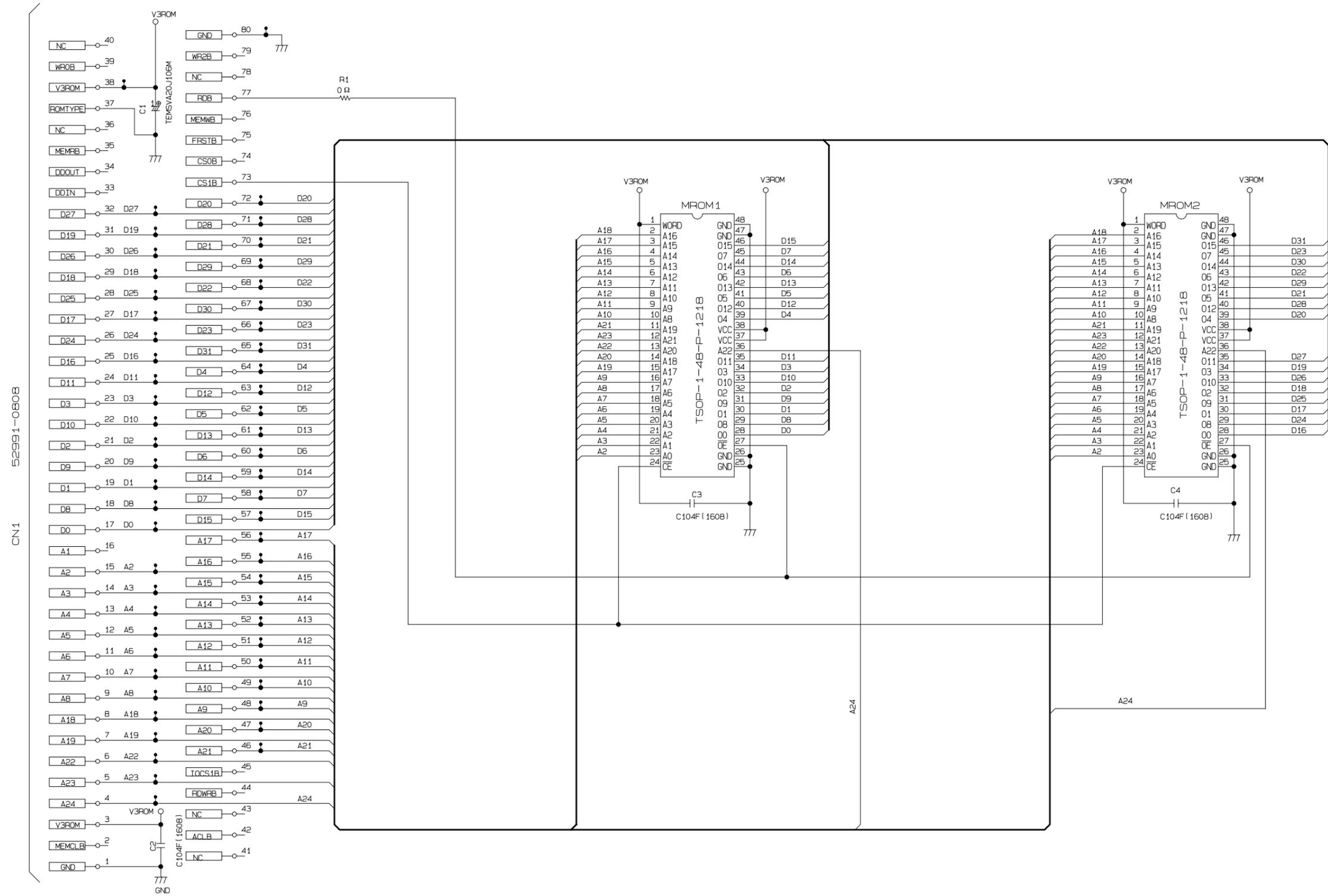


12. SCHEMATIC DIAGRAMS

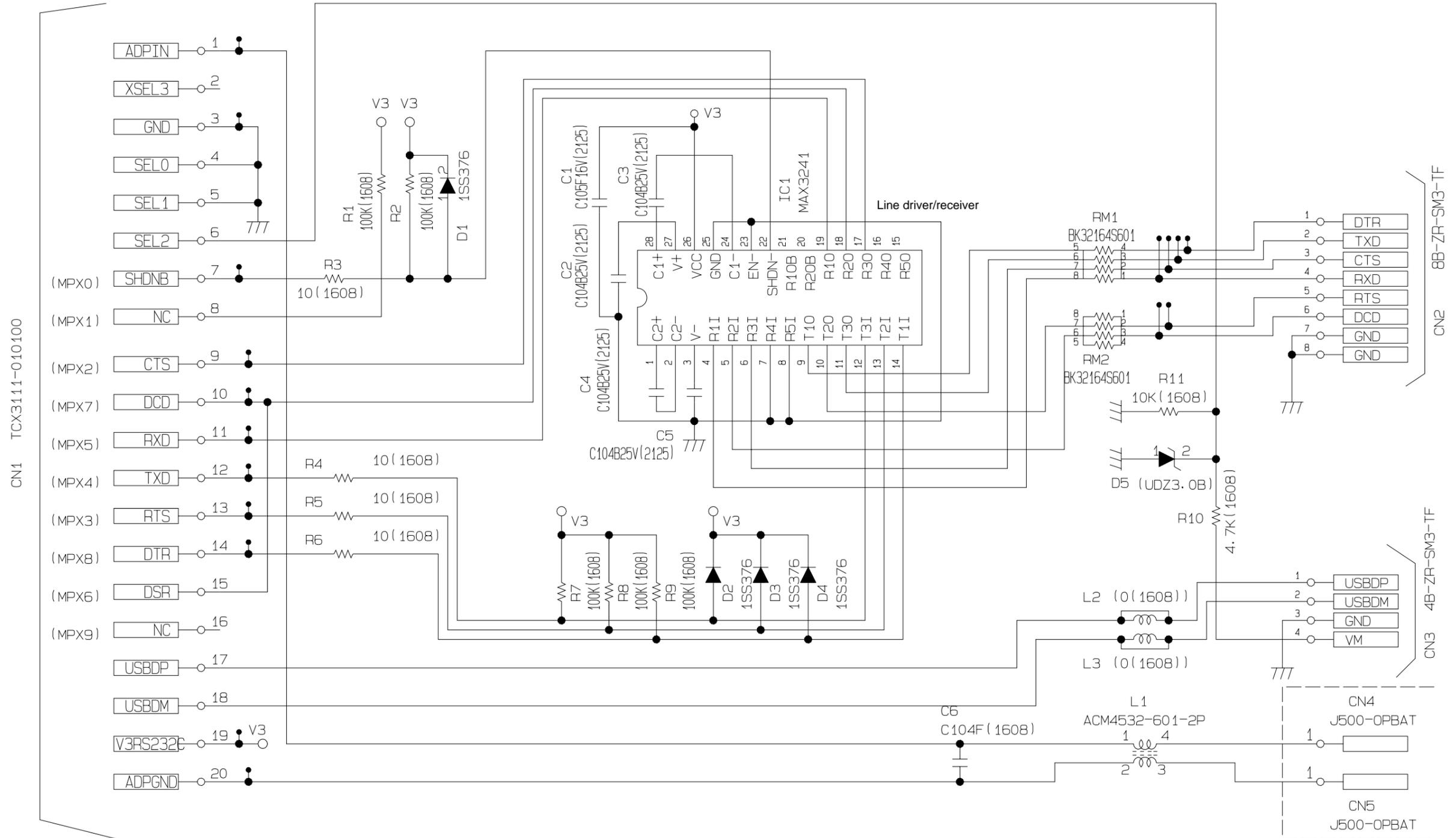
12-1. Main block (1/3)



12-2. ROM block

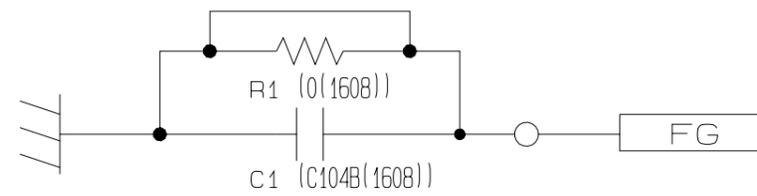
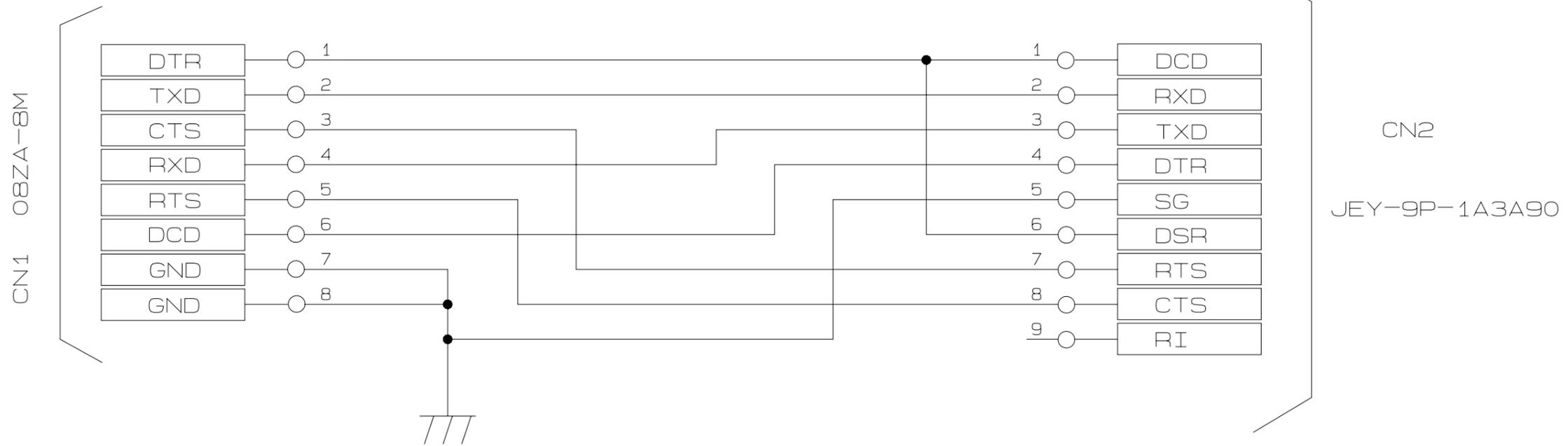


12-4. Cradle block

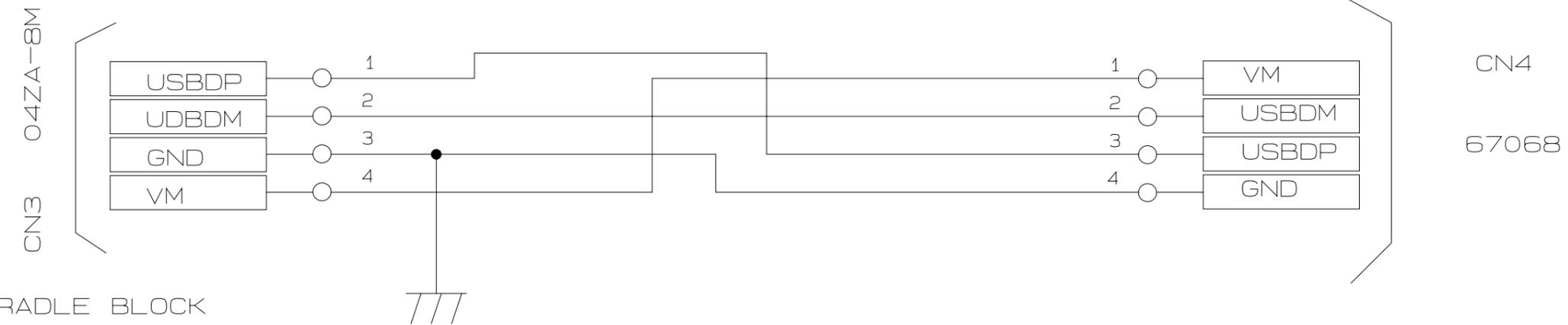


12-5. Cradle Connection block

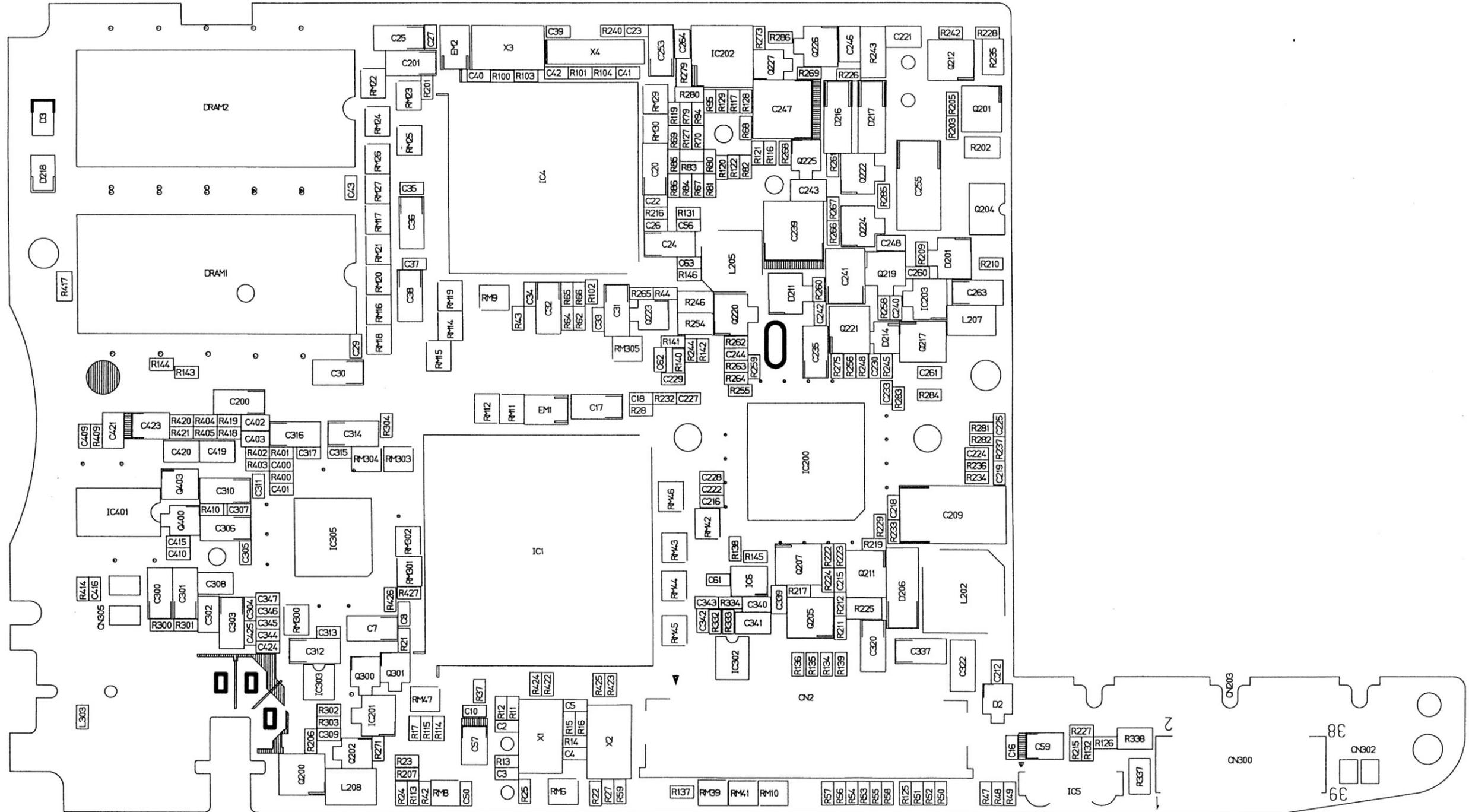
TO CRADLE BLOCK

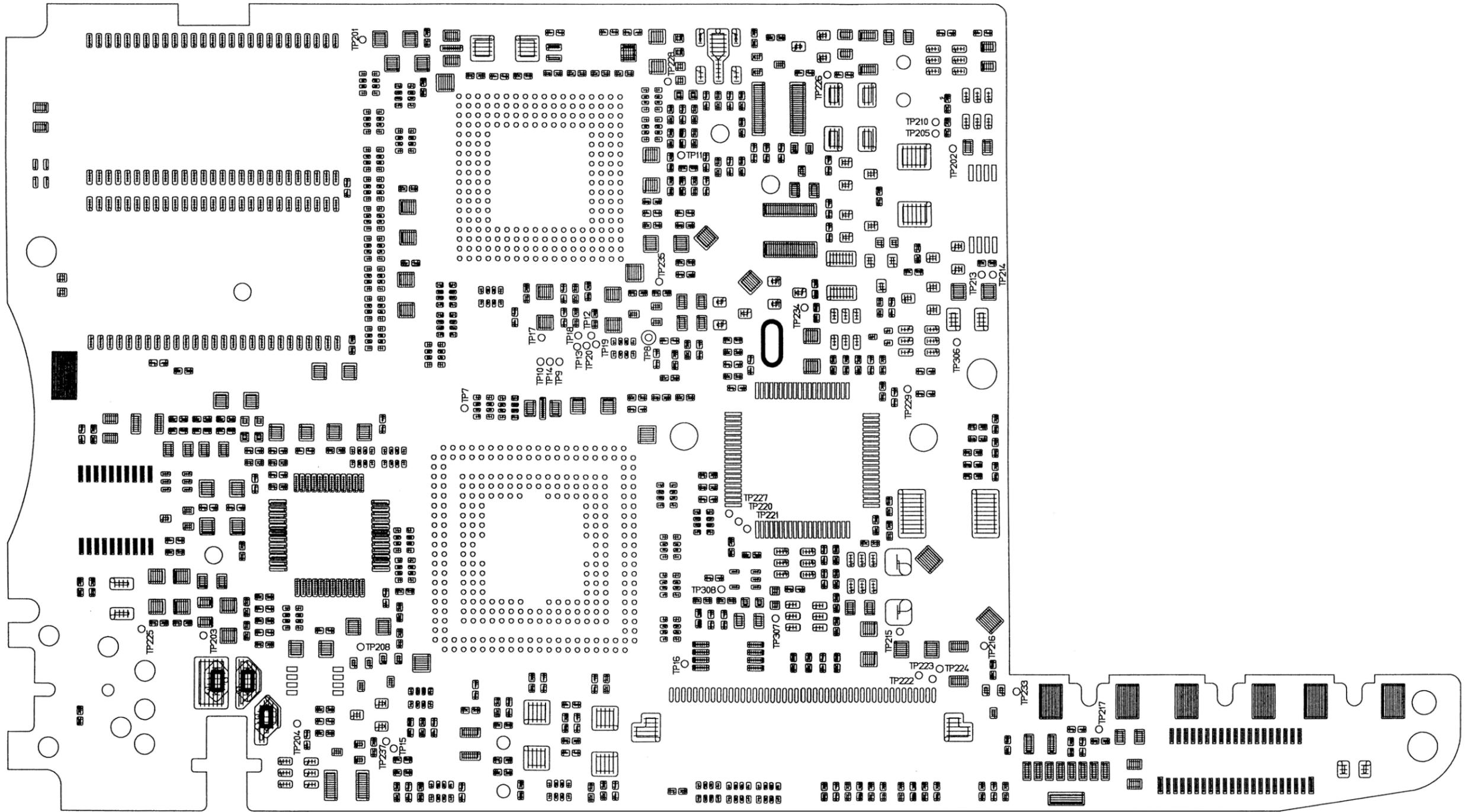


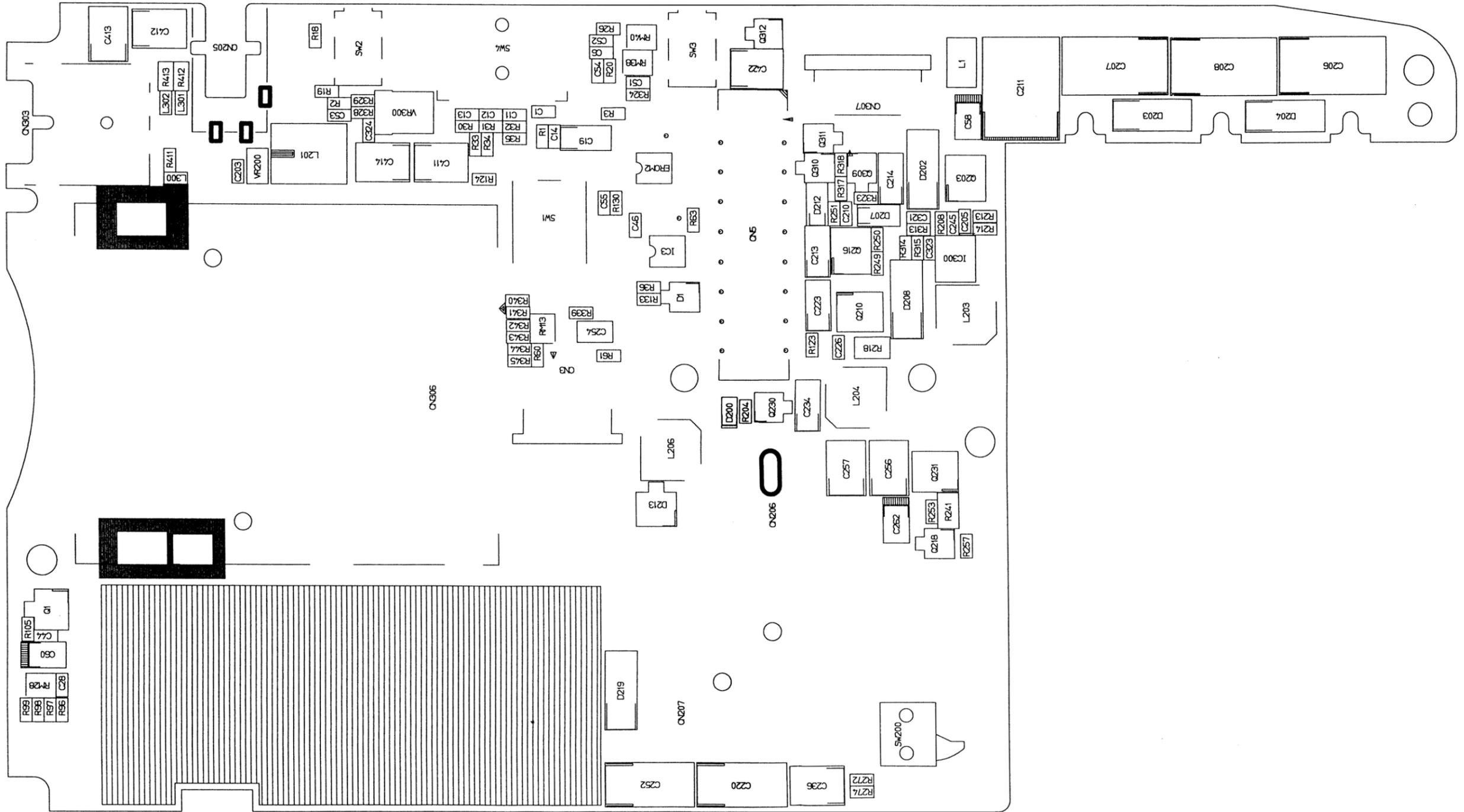
TO CRADLE BLOCK

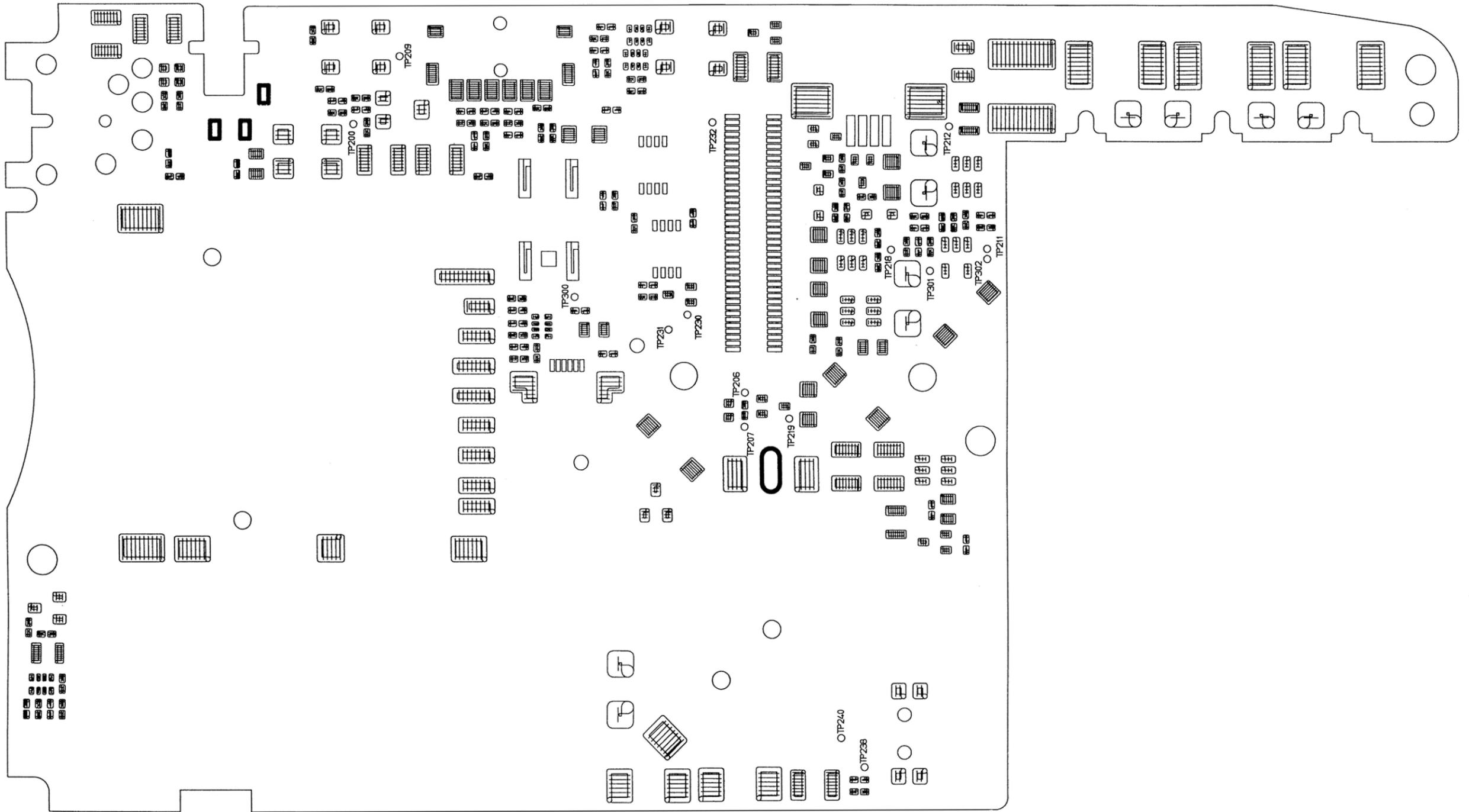


13. PCB VIEW (Main block)









14. DISASSEMBLY PROCEDURE

Refer to **PARTS LIST** and **EXPLODED VIEW** in this manual.

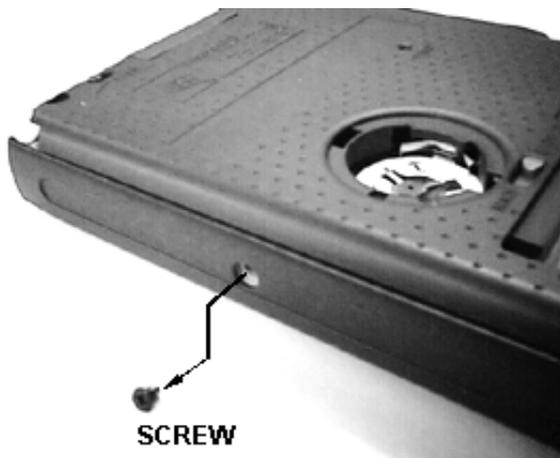
1. Remove a stylus, a lithium battery for memory backup, and a rechargeable battery etc. as shown to the right photograph.
Refer to **RESET OPERATION** and **BATTERY REPLACEMENT** in this manual concerning how to remove.



2. After peeling item 54 PLATE, be sure to remove a screw assembled behind this plate as shown to the illustration and below photograph. Otherwise, the lower case (the upper case) assembly can not be removed as described in **EXPLODED VIEW** in this manual.

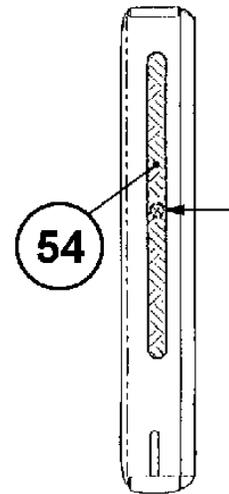
Important! ⚠

Note that this screw is assembled behind item 54 plate.



REMARK!

* To disassemble the unit, be sure to remove a screw assembled behind item 54 after peeling item 54.



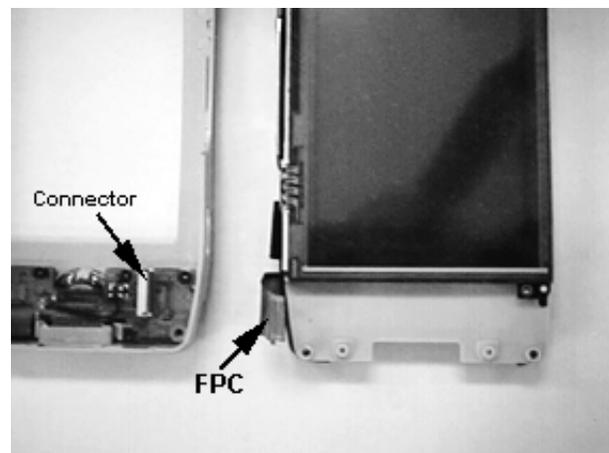
3. Remove the item 49 battery sheet after removing two tiny screws as shown in the right photograph. Refer to **EXPLODED VIEW** in this manual concerning these screws. Then, remove four long screws in the right photograph.



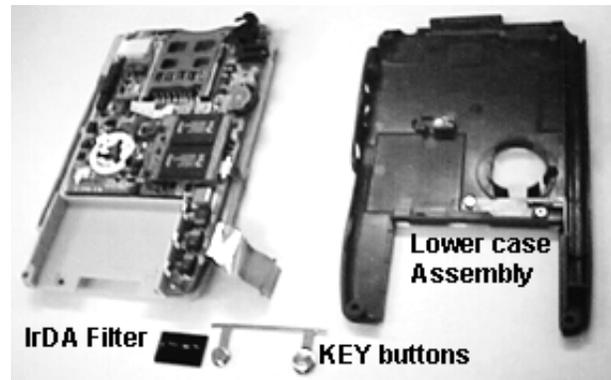
4. Disassemble the upper case assembly as shown to the right photograph.



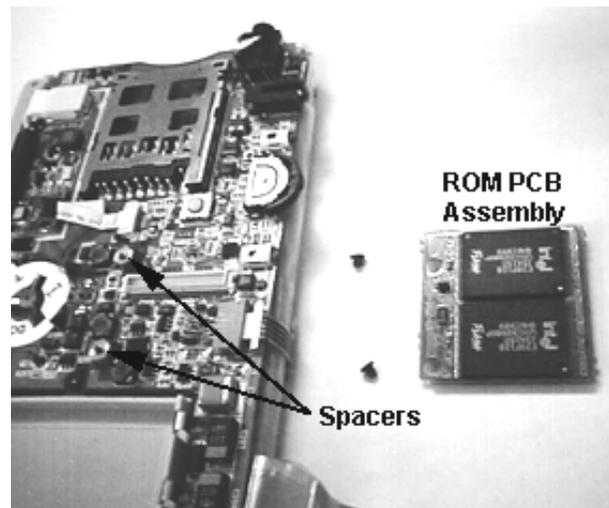
5. After removing FPC from the connector assembled onto the upper case assembly, remove the upper case assembly as shown to the right photograph.



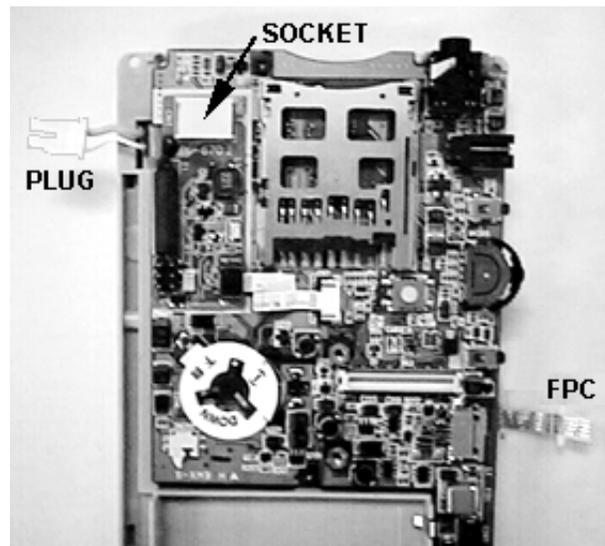
6. Remove the lower case assembly, IrDA filter and KEY button as shown to the right photograph.



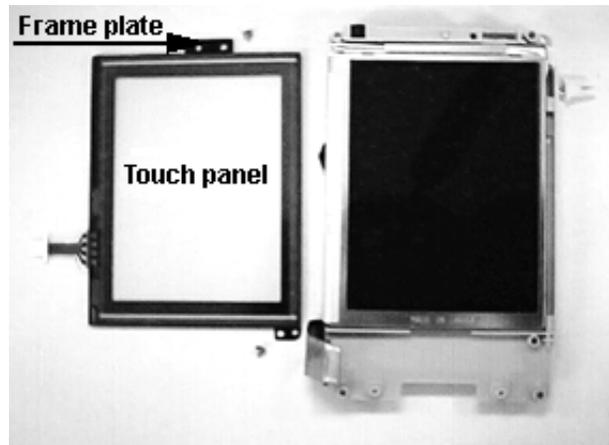
7. After removing two tiny screws from spacers assembled onto main PC Board, remove ROM PC Board Assembly (PCB ASSY/ROM) as shown to the right photograph.



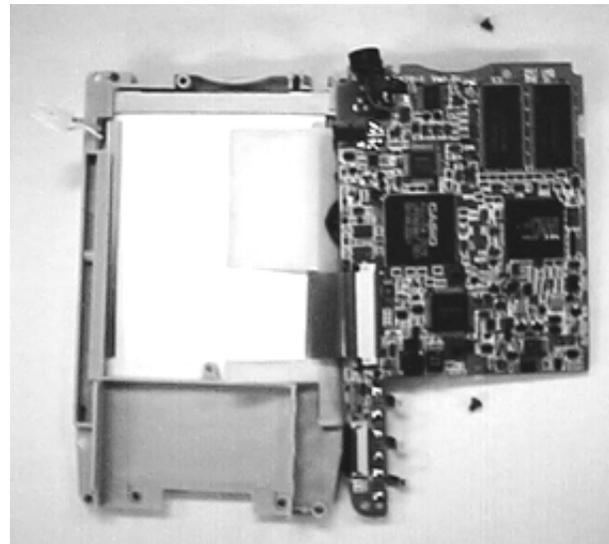
8. Remove the plug and FPC from the socket connector as shown to the right photograph.



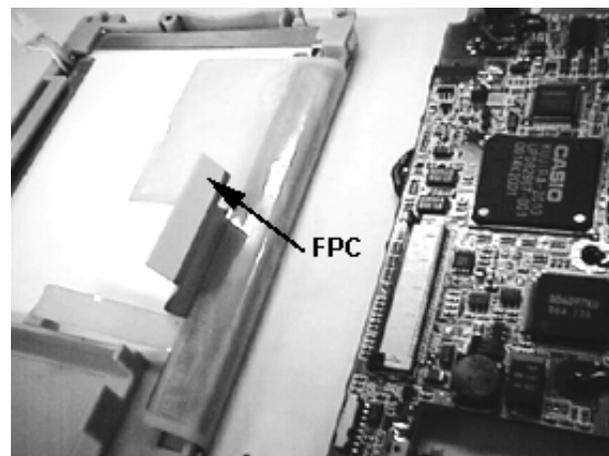
9. After removing screws, remove the touch panel with the black frame plate.



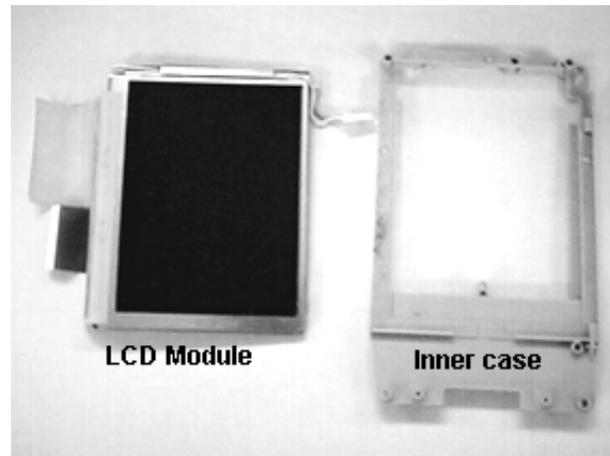
10. After tiny screws disassemble the main PC Board assembly as shown to the right photograph.



11. After removing FPC assembled onto LCD Module, remove the main PC Board assembly as shown to the right photograph.



12. Finally, peel the inner case using a small minus screwdriver and opener etc not to damage LCD Module.
Don't use alcohol and the other liquid chemical substances at this time.
Otherwise, LCD Module will be damaged by these substances.



15.PARTS PRICE LIST

N	Item	Code No.	Parts Name	Specification	Q	Price Code	R
PCB ASSY/MAIN (C141063*2)							
	1	1002 8029	SPRING/BATTERY	C343301-1	3	AA	C
	2	1002 8030	SPRING/EARTH	C444292-1	1	AA	C
	3	6562 1331	SPRING/BATTERY	C442225A-1	1	AA	C
	4	6511 0770	SPRING/BATTERY	C311380-1	1	AA	C
	5	6410 4560	TAPE/INSULATION	C413459-1	1	AA	C
	6	6566 3010	SPACER	C443027-1	2	AA	C
	7	3335 6646	MIC	WM-64KY102	1	AM	C
	70	6562 1620	HOLDER	C442143-1	1	AA	C
	D3	2370 1390	LED	SML-210LTT86M	1	AA	C
	VR300	3122 3717	RESISTER/CHIP SEMI-FIXED	MVR32HXBRN222	1	AA	C
	Q1	2259 2695	TRANSISTOR/DIGITAL	DTA114YKAT146	1	AA	C
	Q230	7911 3038	TRANSISTOR/DIGITAL	DTC114YUAT106	1	AA	C
	Q300,Q400	2259 2513	TRANSISTOR/DIGITAL	DTA114EUAT106	2	AA	C
	Q301	2259 2765	TRANSISTOR/DIGITAL	DTC114EUAT106	1	AA	C
	Q309,Q311	2250 1605	TRANSISTOR/CHIP	2SC4081T106	2	AA	C
	CN2	3502 2460	CONNECTOR	54104-4590	1	AH	C
	CN3	3502 2412	CONNECTOR	52745-0690	1	AB	C
	CN5	1001 1098	CONNECTOR	53748-0808	1	AO	C
	CN205	1001 2339	CONNECTOR	HEC3604-010110	1	AE	C
	CN300	1002 8035	CONNECTOR	54393-3992	1	AI	C
	CN303	1002 8032	CONNECTOR	HSJ1594-010010	1	AF	C
	CN306	1003 3388	CONNECTOR	54768-0908	1	AZ	C
	CN307	3501 8547	CONNECTOR	IL402-4S-E1000	1	AC	C
	SW1	3412 1946	SWITCH	EVQ7QH03W	1	AB	C
	SW2,SW3	2370 1392	SWITCH	EVQPSC02K	2	AB	C
	SW4	3412 2084	SWITCH	SLLB12-A-B-B	1	AN	C
	SW200	3412 2107	SWITCH	ABC1112P	1	AB	C
INNER CASE ASSY							
N	8	1004 0276	PCB ASSY/MAIN	C141063*2 TK	1	EM	B
	9	1000 3145	PANEL/TOUCH	KTB97B002A	1	BW	B
	10	1002 6477	LCD MODULE	COM38T3104DPQ	1	EC	B
	11	1002 8522	CASE/INNER	C141040-1	1	AN	X
	12	1002 8524	PLATE	C343383-1	1	AQ	C
	13	1002 8523	CABLE/JOINT	C343300-1	1	AH	C
	14	1002 8525	CABLE/JOINT	C444176-1	1	AB	C
	15	1002 8526	TAPE	C444294-1	2	AA	C
	16	1002 8527	TAPE	C444294-2	1	AA	C
	17	1002 8518	TAPE	C444294-3	1	AA	C
	18	1002 8519	TAPE/INSULATION	C444358-1	1	AA	C

N	Item	Code No.	Parts Name	Specification	Q	Price Code	R
	19	1002 8520	TAPE	C444486-1	1	AA	C
	20	1002 8521	PCB ASSY/INVERTER	INV-J670-S	1	BR	B
LOWER CASE ASSY							
	21	1002 8577	CASE/LOWER	C141039-1	1	BG	X
	22	1002 8578	COVER	C343380-1	1	AC	C
	23	1002 8507	KNOB	C343374-1	1	AA	C
	24	1002 8508	KNOB	C343375-1	1	AA	C
	25	1002 8510	HOLDER	C343377-1	1	AA	C
	26	1002 8511	HOLDER	C343378-1	1	AA	C
	27	1002 8509	KEY	C343376-1	1	AB	C
PCB ASSY/KEY(C343479*1)							
	28	3335 6578	SPEAKER	20D2	1	AV	C
	CN2	1002 8035	CONNECTOR	54393-3992	1	AI	C
	CN1	2259 2752	CONNECTOR	TCX3110-010100	1	AR	C
UPPER CASE ASSY							
	29	1002 8569	CASE/UPPER	C141038-1	1	AU	X
	30	1002 8570	COVER	C141042-1	1	AZ	C
	31	1002 8571	NET/SPEAKER	C444299-1	1	AC	C
	32	1002 8490	KEY	C343369-1	1	AF	C
	33	1002 8491	COVER	C343370-1	1	AA	C
	34	1002 8496	COVER	C343392-1	1	AA	C
	35	1002 8492	KEY	C343371-1	1	AF	C
	36	1002 8499	BUTTON	C444287-1	1	AD	C
	37	1002 8500	BUTTON	C444288-1	1	AD	C
	38	1002 8501	BUTTON	C444289-1	1	AD	C
	39	1002 8493	RUBBER/KEY	C343372-1	1	AB	C
	40	1002 8494	RUBBER/KEY	C343373-1	1	AB	C
	41	1003 0144	PCB ASSY/KEY	C343479*1 TK	1	BY	X
	42	1002 8495	FILTER/IRDA	C343381-1	1	AB	C
	43	1001 1979	SPACER	C443900-1	1	AA	C
COMPONENTS							
N	44	1002 8443	PEN SUB ASSY	C343481*1	1	AJ	B
	45	1004 0273	PCB ASSY/ROM	C241847*1 TK	1	CX	B
	46	1002 8446	SPACER	C444332-1	1	AA	C
	47	1002 8440	COVER	C343389-1	1	AB	C
	48	1002 8439	COVER/BATTERY	C343384-1	1	AG	C
	49	1002 8445	SHEET/BATTERY	C444291-1	1	AB	C
	50	6566 3310	BADGE/CASIO	C443357-1	1	AE	C
N	51	6566 5390	LABEL/CAUTION	C341668-4	1	AA	C
	52	1002 8435	COVER/BATTERY	C241768-1	1	AL	C

N	Item	Code No.	Parts Name	Specification	Q	Price Code	R
N	53	1003 9855	PLATE	C343475-8	1	AA	C
	54	1002 8447	PLATE	C444429-1	1	AF	C
OTHERS							
	55	1002 9281	BATTERY/ACCUMULATOR	MK11-2288	1	CP	C
	56	1002 9292	CASE/SOFT	SCJ670AA01	1	AS	C
N	57	1003 9862	SOFTWARE/CD-ROM(MS)	CDJ673AA01A	1	BU	C
N	58	1003 9863	SOFTWARE/CD-ROM(CASIO)	CDJ673AA02A	1	AM	C
	61	1002 5916	CABLE/USB	S1467A	1	AO	C
<i>* Refer to EXPLODED VIEW concerning this USB cables (item 61).</i>							
	63	1001 5583	ADAPTER/AC	AD-C59200G	1	CH	C
<i>* AC Input voltage range of this AC Adapter (item 63) is 100~240V.</i>							
<i>* Refer to EXPLODED VIEW concerning this AC Adapters (item 63).</i>							
	64	1000 6300	CODE/AC	CBL-K799-AC-EU	1	AR	C
<i>* Refer to EXPLODED VIEW concerning this AC Power code (item 64).</i>							
Parts prices will be informed separately by Parts Price List.							

Notes:N-New parts

Q-Quantity used per unit

R-Rank

R- A:Essential

B:Stock recommended

C:Others

X:No stock recommended

CRADLE

	Item	Code No.	Parts Name	Specification	Q	Price Code	R
	101	1003 0146	CRADLE	C241784*1 TK	1	CU	C
	102	1003 0147	PCB ASSY	C241787*M1 TK	1	CD	C
	103	3335 6735	JACK	HEC4670-010010	1	AE	C
	104	3030 4055	FERRITE	L5T18X6X10	1	AC	C
	105	1003 0148	PCB ASSY	C343476*1 TK	1	BN	C
	106	1002 8477	PLATE	C342293-17	1	AA	C
	107	6566 2880	RUBBER/FOOT	C443090-1	4	AA	C
	108	3035 0583	FERRITE	KRCBC130714	1	AG	C
Parts prices will be informed separately by Parts Price List.							

Notes:N-New parts

Q-Quantity used per unit

R-Rank

R- A:Essential

B:Stock recommended

C:Others

X:No stock recommended

The following parts are not enclosed in the unit.

However, these parts can be supplied as spare parts because users and CASIO agents will need these parts.

N	Item	Code No.	Parts Name	Specification	R	Price Code
N	201	1003 4174	CABLE/COMMUNICATION	CCJ681AA01A	C	BG
	202	1001 6339	MMC	SDMB-16	C	DG
	203	1001 3447	MMC	SDMB-32	C	DR

Notes:N-New parts

R-Rank

R- A:Essential

B:Stock recommended

C:Others

X:No stock recommended

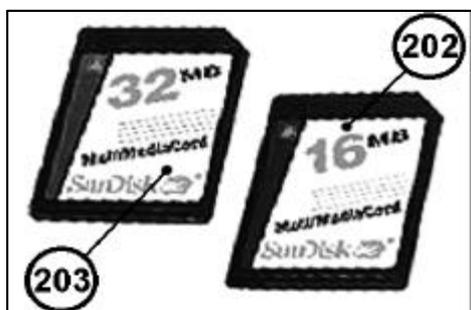
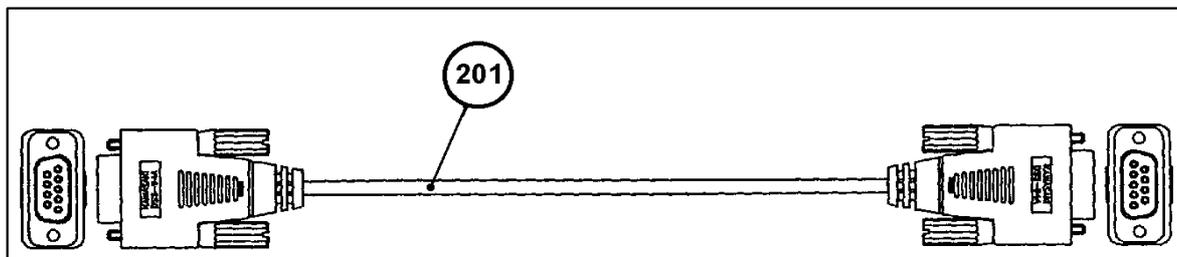
1. If there are no USB terminals on PC, use RS-232C communication cable (item 201) instead of USB cable (item 61).

2. CF card can not be inserted into the slot of the unit.

Above MMC card can be inserted into this slot. Memory capacities are as follows;

SDMB-16: 16M bytes

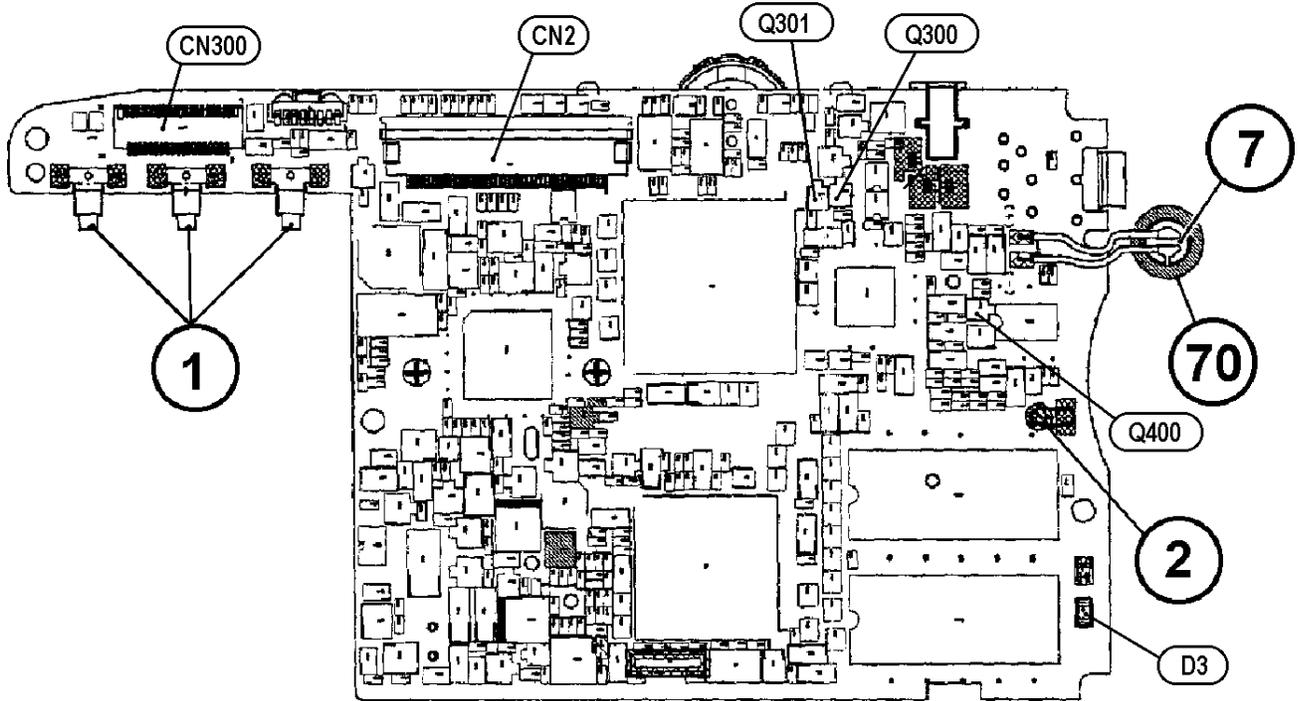
SDMB-32: 32M bytes



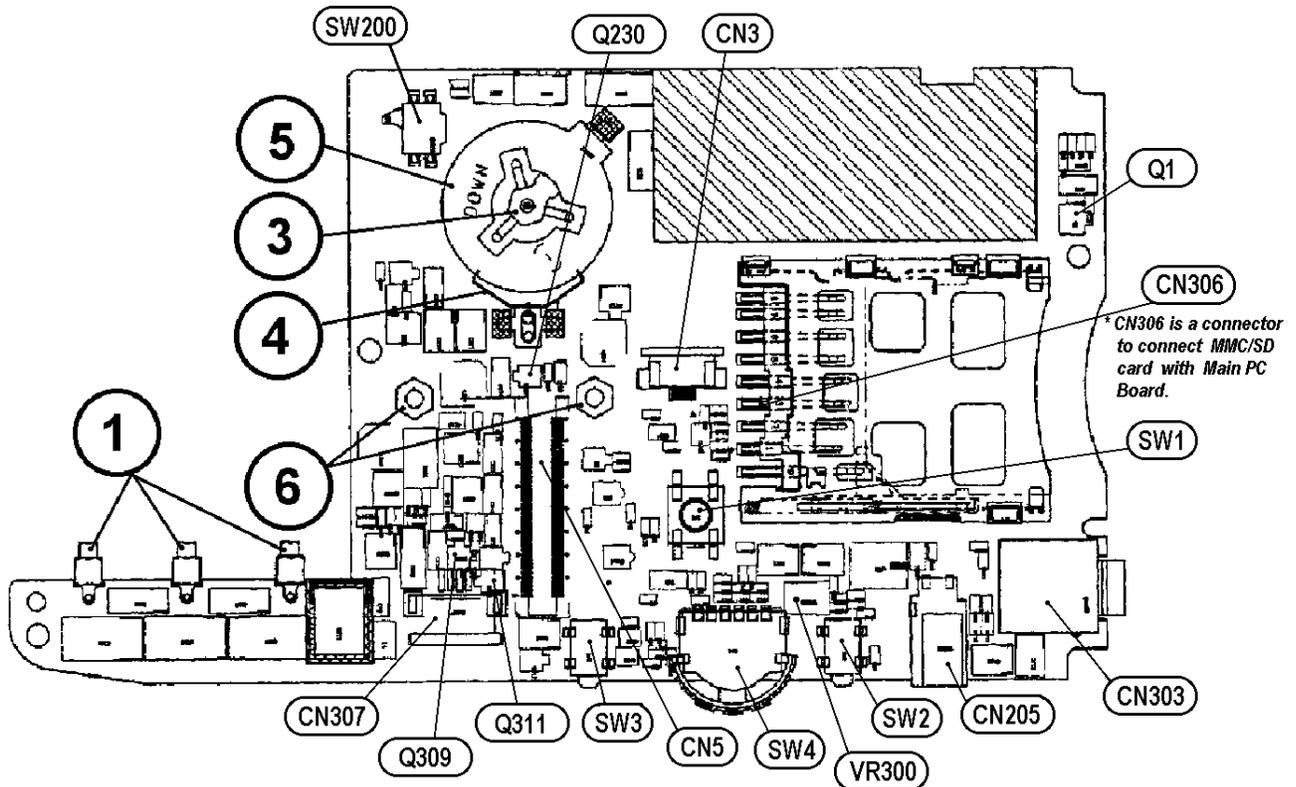
16. EXPLODED VIEW

16-1. PCB ASSY/MAIN (Item 8)

**For the other information, refer to PCB VIEW in this manual.*

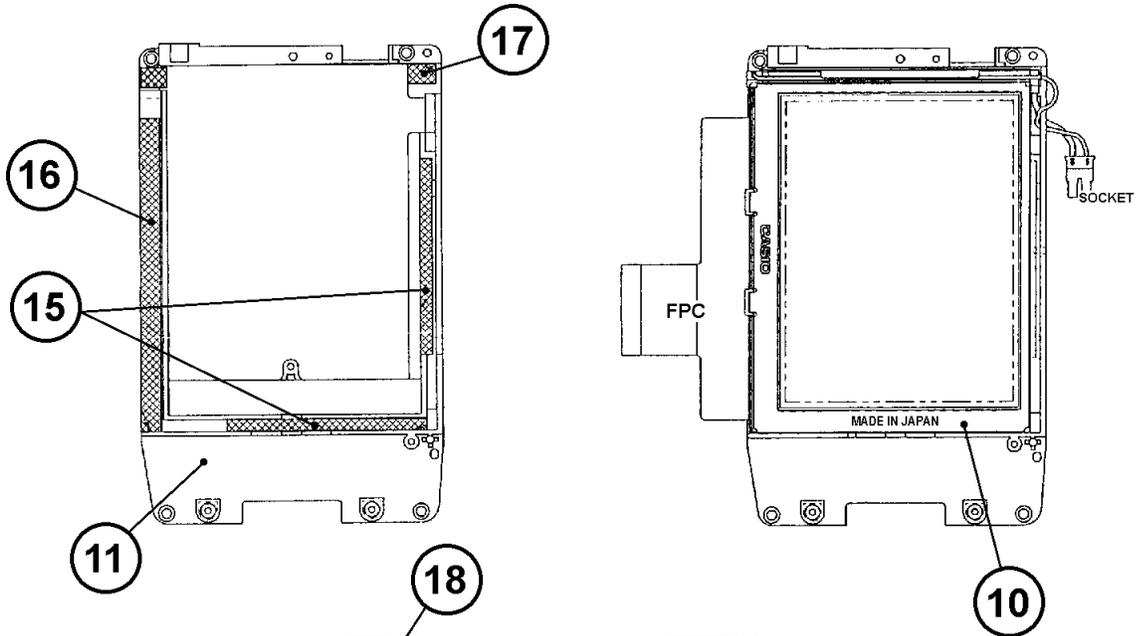


<TOP VIEW>

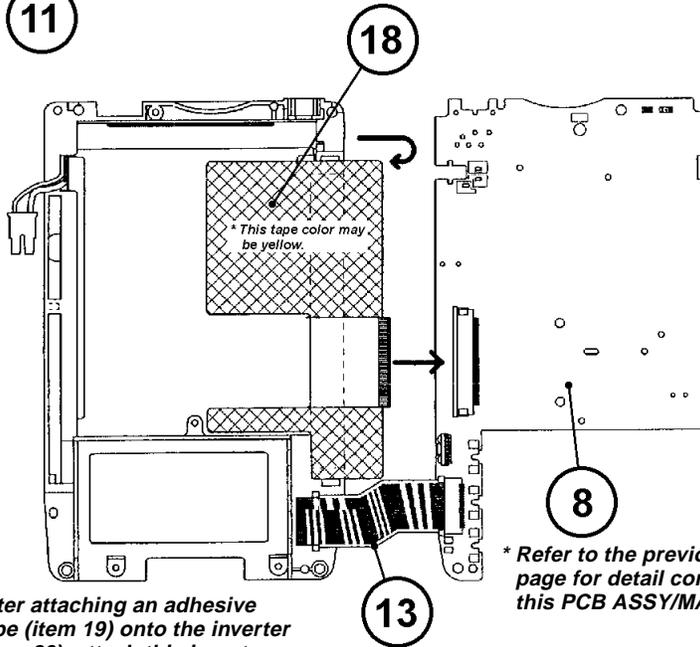


<BOTTOM VIEW>

16-2. INNER CASE ASSY



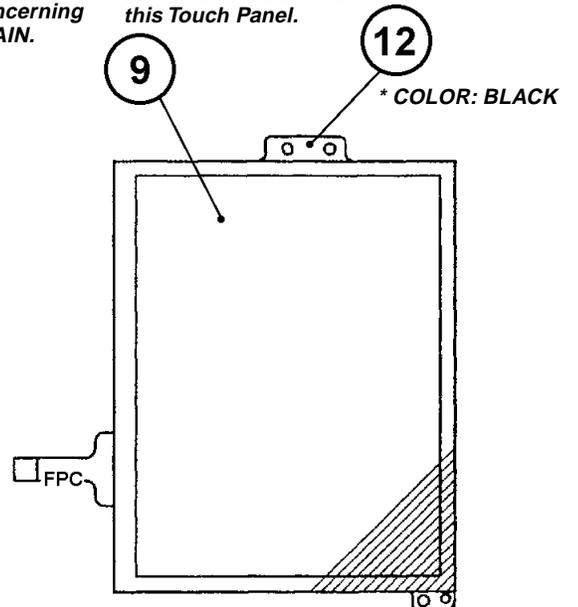
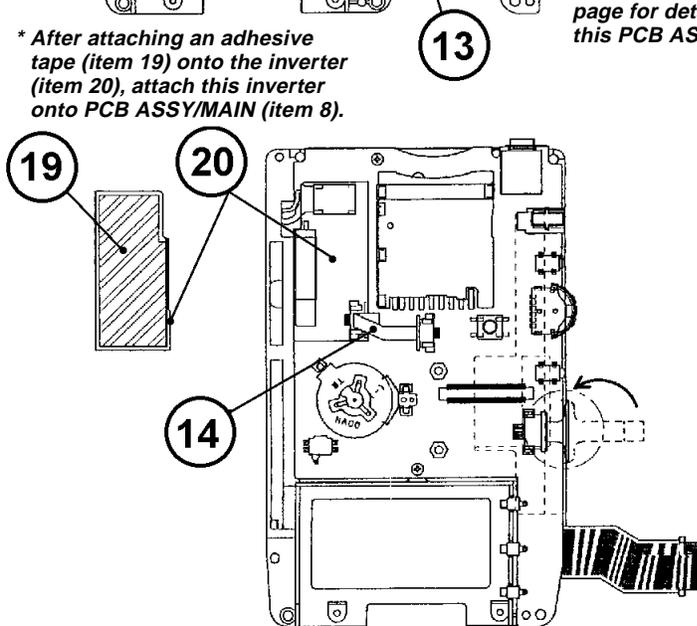
* FPC, a socket, a fluorescent lamp, LCD and so on are assembled onto this TFT LCD MODULE.



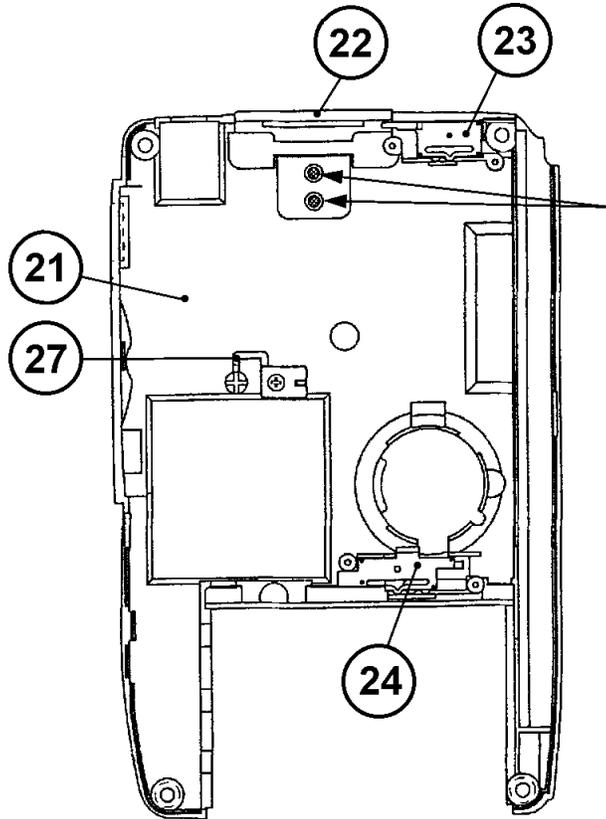
* After attaching an adhesive tape (item 19) onto the inverter (item 20), attach this inverter onto PCB ASSY/MAIN (item 8).

* Refer to the previous page for detail concerning this PCB ASSY/MAIN.

* FPC is assembled onto this Touch Panel.

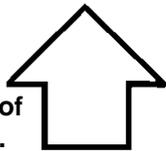


16-3. LOWER CASE ASSY

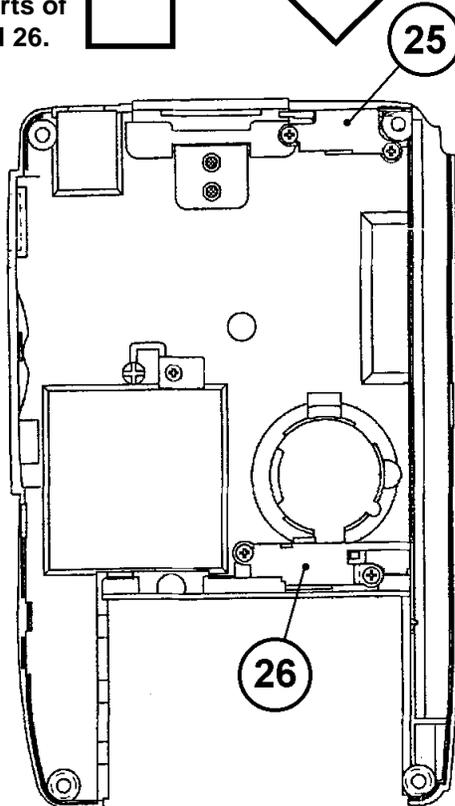
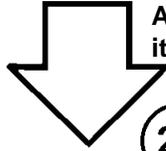


** The cover of item 22 is assembled onto the lower case (item 21) by resolving two ribs with heat. Therefore, one of these two parts can not be separately replaced. When replacing, replace these both parts at the same time.*

Remove parts of item 25 and 26.

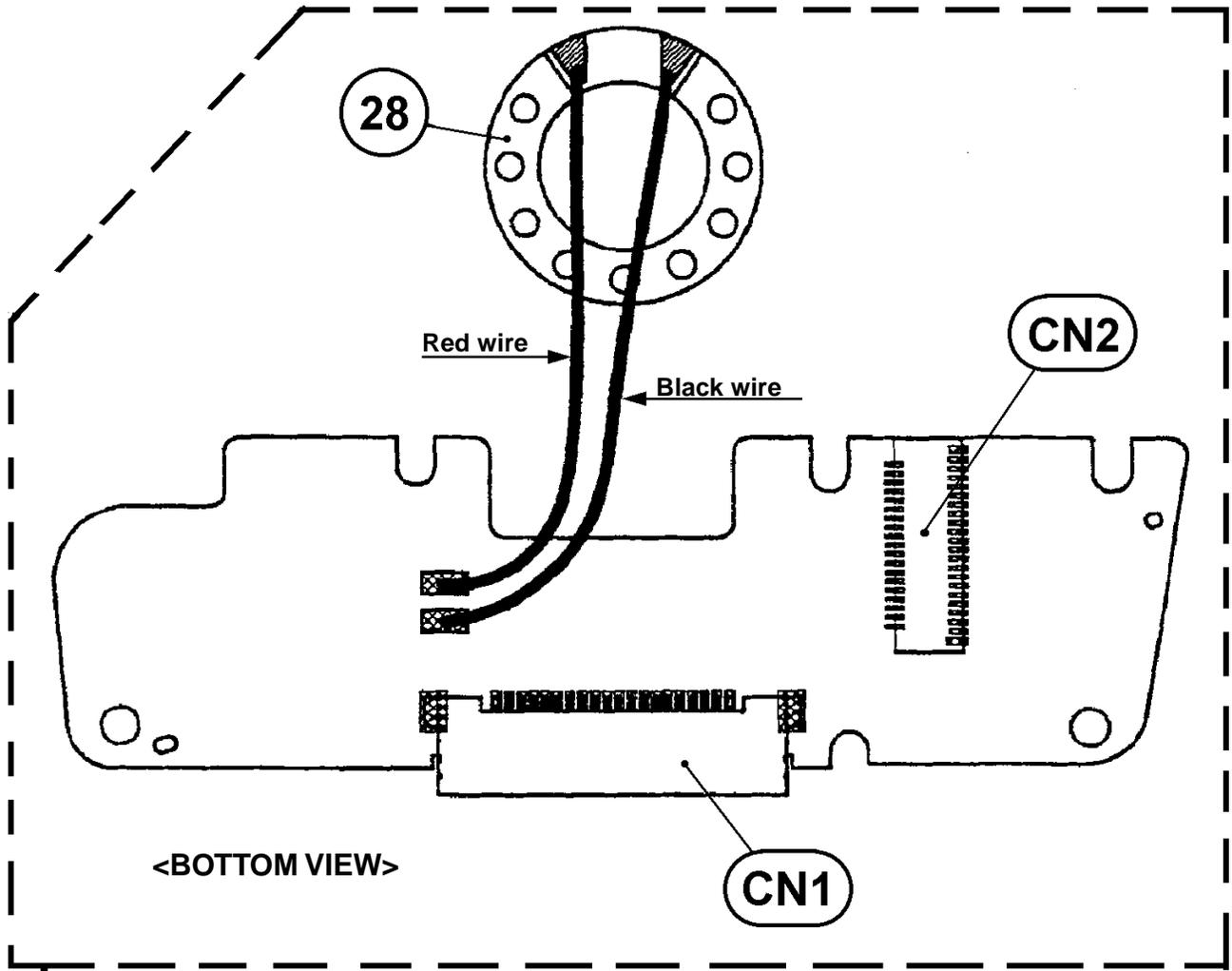


Assemble parts of item 25 and 26.

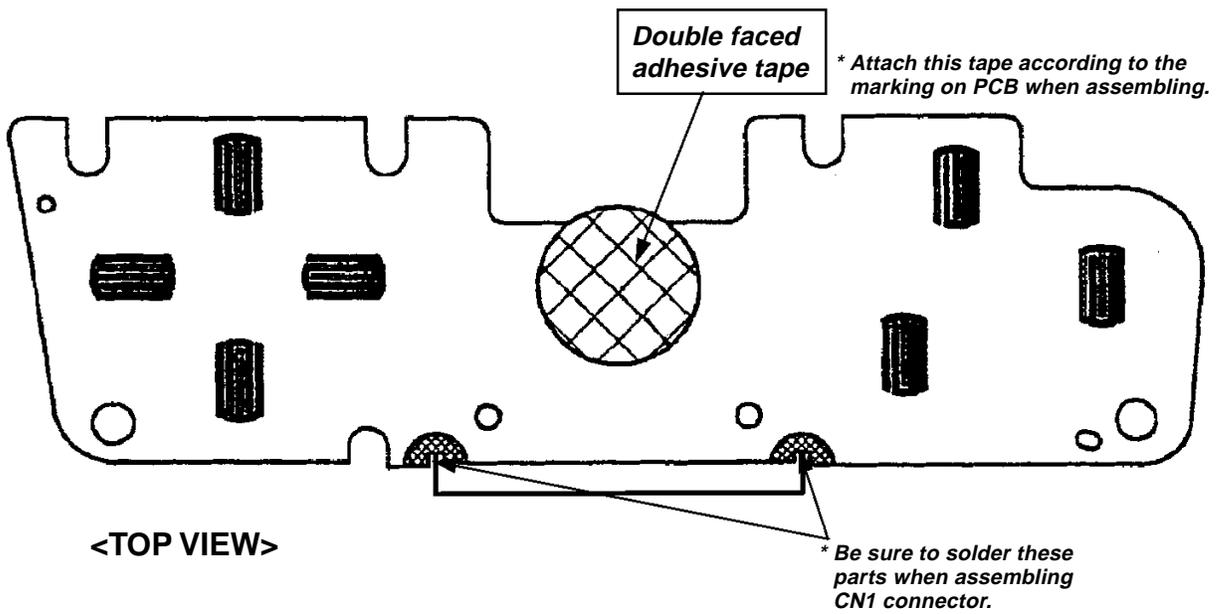


16-4. PCB ASSY KEY (Item 41)

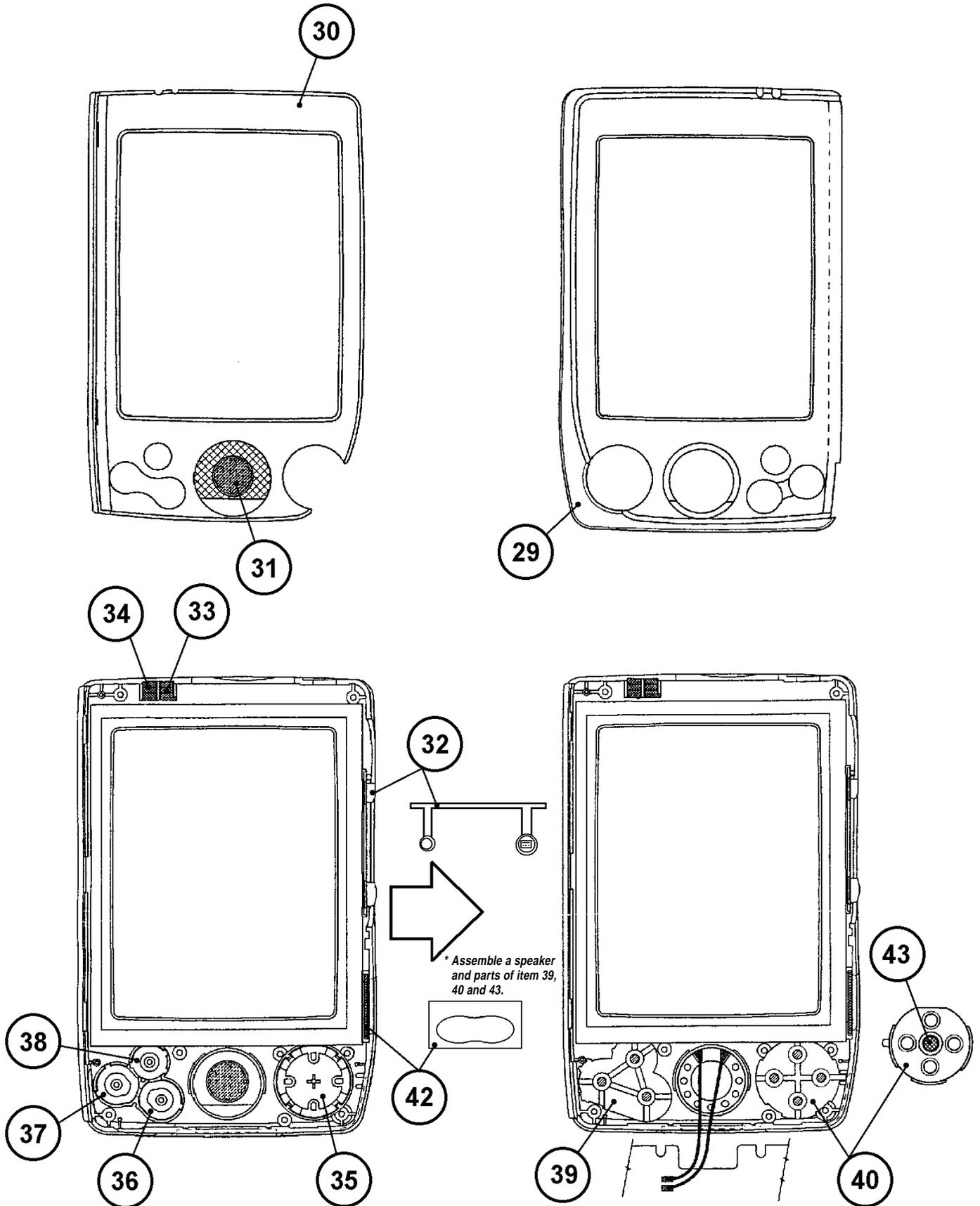
* This PC Board assembly is assembled beneath Menu, Contacts, Calendar and Cursor buttons.



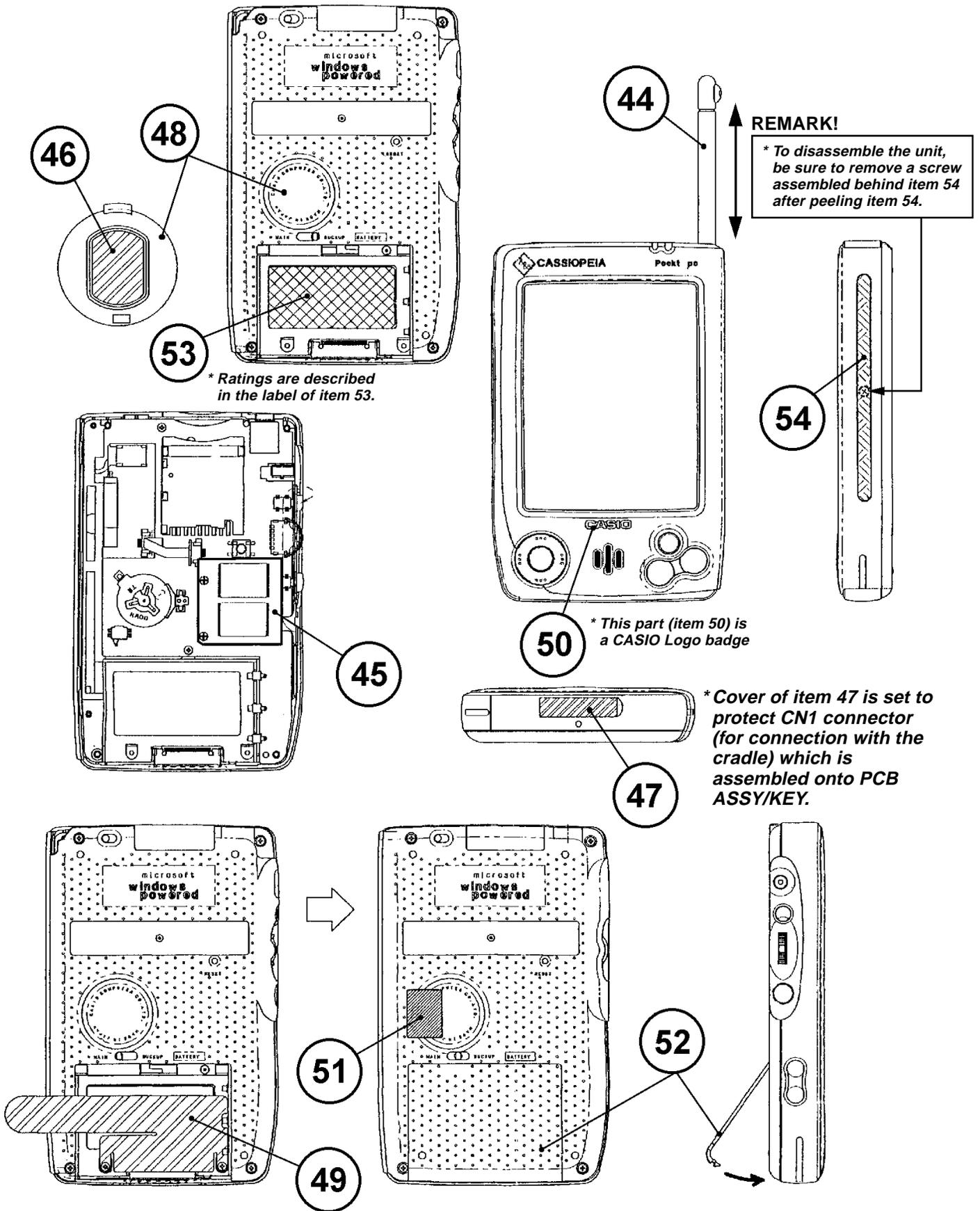
41



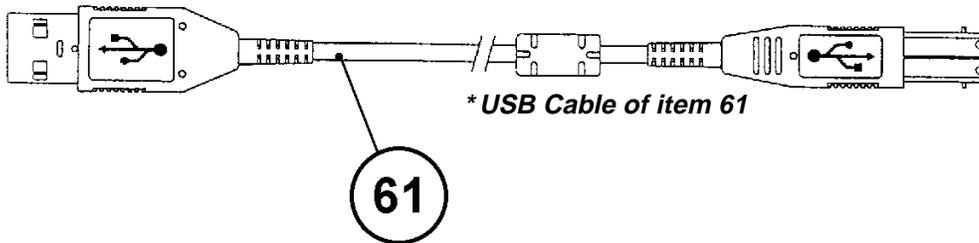
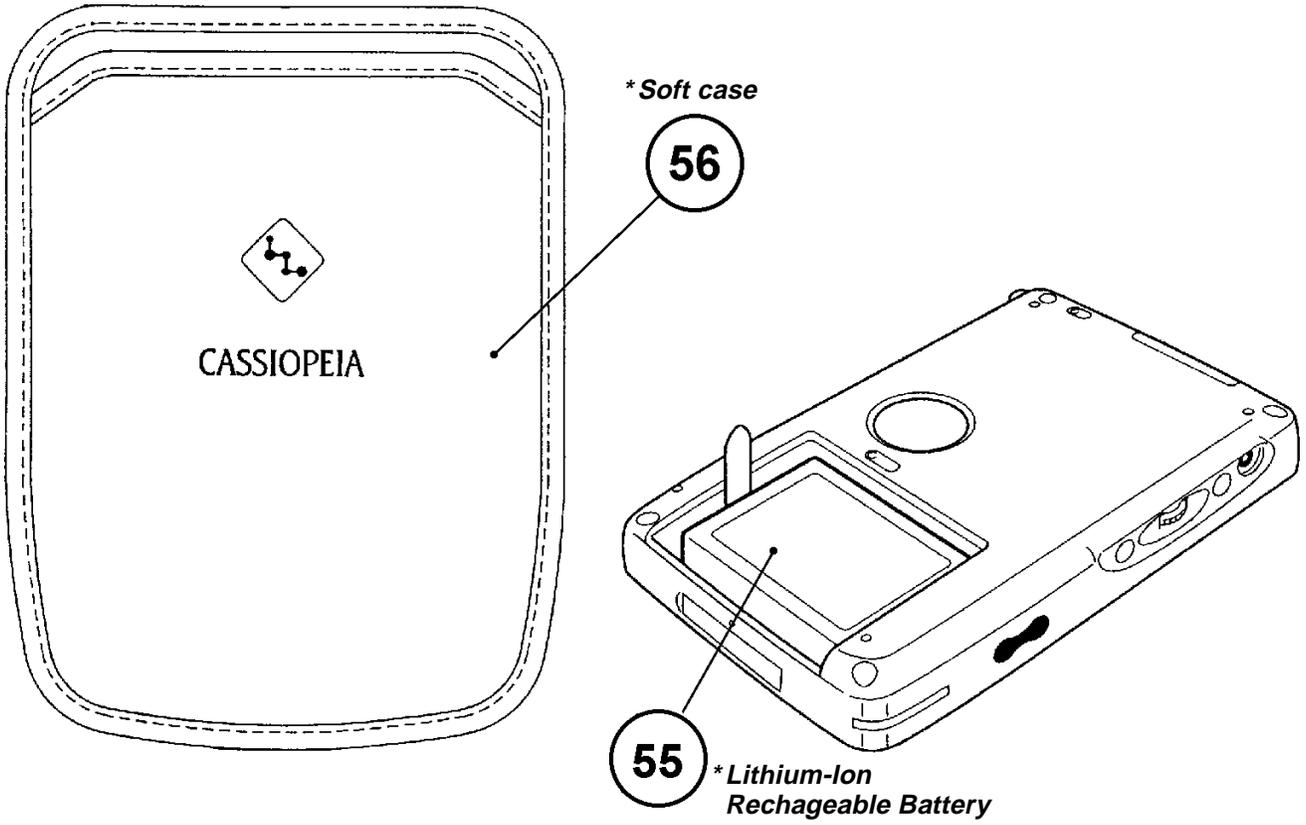
16-5. UPPER CASE ASSY



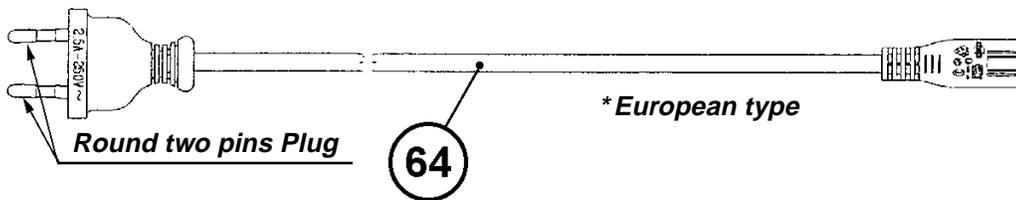
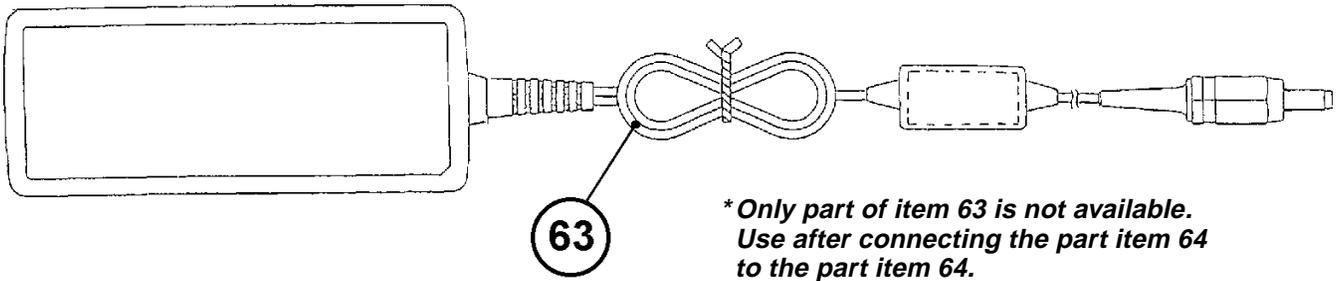
16-6. COMPONENTS



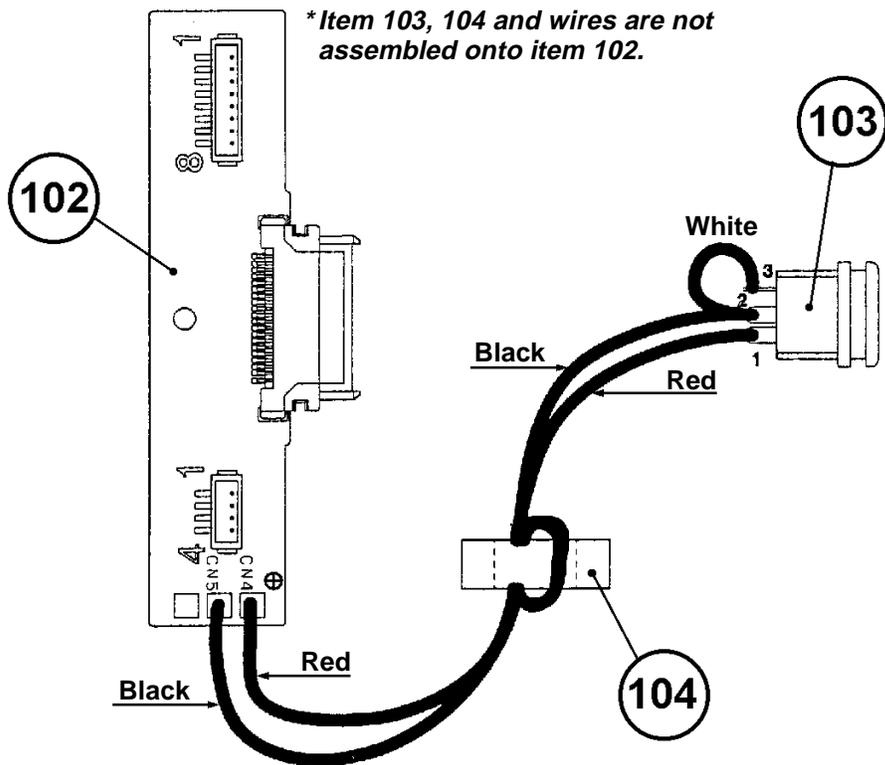
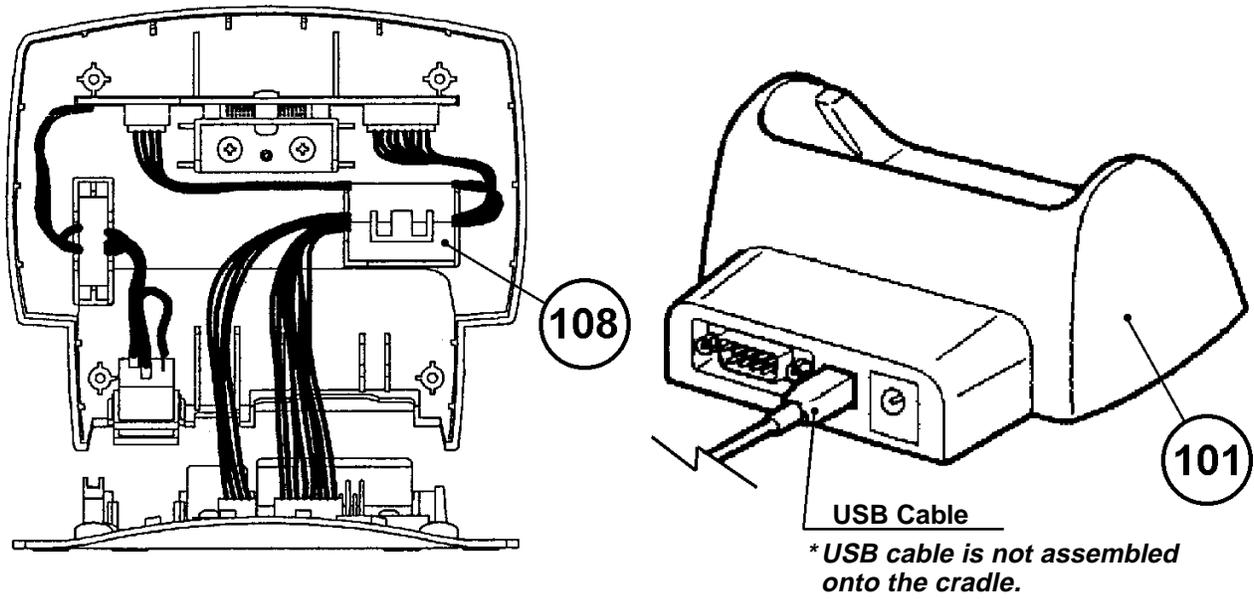
16-7. OTHERS (1/2)



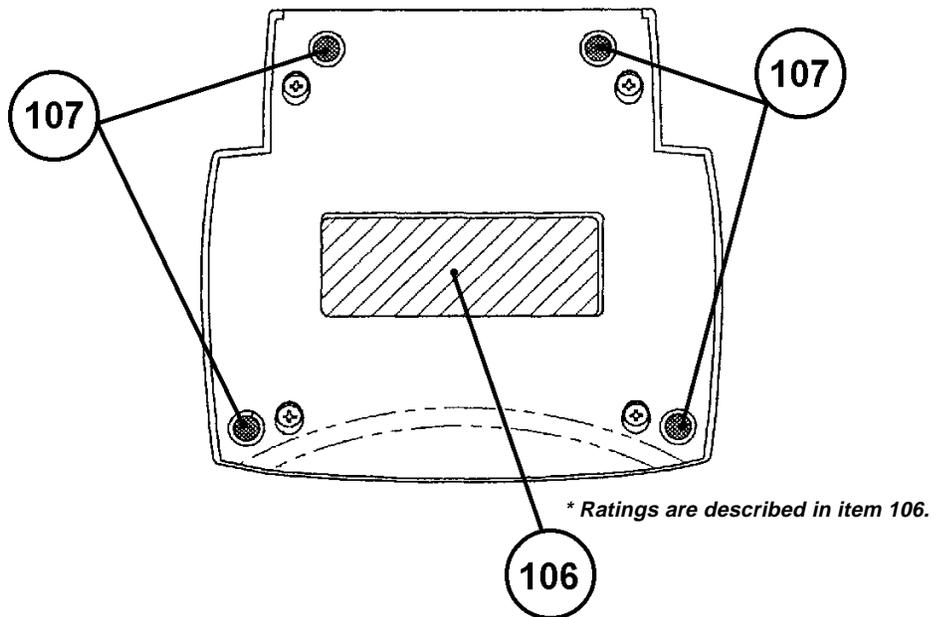
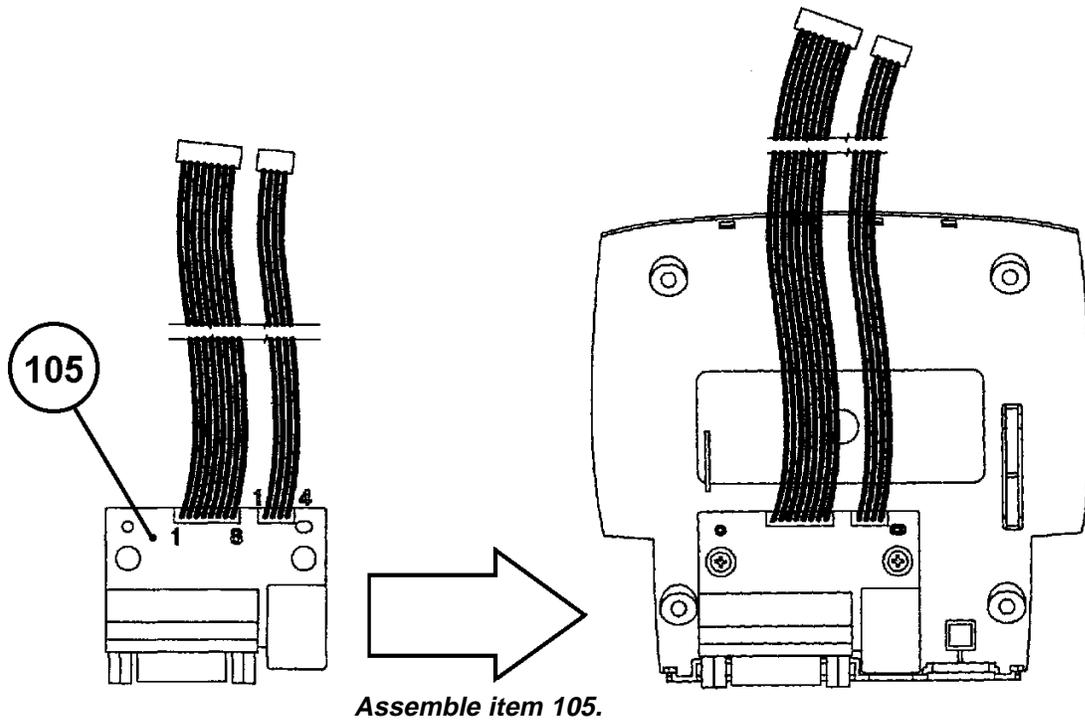
16-7. OTHERS (2/2)



16-8. CRADLE (1/2)



16-8. CRADLE (2/2)



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