APPENDIX J: MANUAL

Please refer to the following pages.

iPAD

Operations Guide

Revision 1.0

90000610

FUJITSU

Using the IPAD

This manual contains important information required for using the iPAD safely. Before attempting to use the iPAD, read this manual carefully to ensure that you understand its contents. For safe operation of the product, pay particular attention to the section "Notes on Safety." Also keep this manual in a safe but convenient location for quick reference. Since Fujitsu takes every precaution to ensure that its products can be used safely without physical harm to users or damage to a product or peripheral equipment, use the iPAD only as instructed in this manual.

Preface

Thank you for purchasing the iPAD. Before using the iPAD, read this manual thoroughly so that you will be able to take full advantage of its functions.

July 2002 First Edition

VCCI Compatibility Standard

This product is a Class A information technology device that complies with the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). Since use of the IPAD in a home environment can cause interference, appropriate protective measures may be required.

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Using the iPAD in Mission-Critical Situations

The iPAD is designed and manufactured for use in standard applications such as those for general office, personal, and household use. It is not intended for specialized uses, such as atomic energy control systems, aeronautical or space systems, mass transportation control systems, medical devices for life support, or weapons firing control systems where particularly high reliability requirements exist, the pertinent levels of safety are not guaranteed, or a failure or operational error could be life threatening or result in physical injury (referred to hereafter as "mission-critical" use). Customers considering the use the iPAD for mission-critical applications must have safety-assurance measures in place beforehand, and should consult a Fujitsu sales representative before proceeding.

Regulatory Information- iPAD

Radio Frequency Interference Requirements – U.S.A.

This device has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the Federal Communications Commission Rules and Regulations. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial or residential environment. This equipment generates, uses, and radiates radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. There is no guarantee that interference will not occur in a particular installation. If the equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that which the receiver is connected
- Contact a Fujitsu Service Technician for assistance

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

Radio Frequency Interference Requirements – Canada

This device complies with RSS 210 of Industry & Science Canada. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

This Class B digital apparatus complies with Industry Canada Standard ICES-003.
Cet appareil numérique de la classe B est conform à la norme NMB-003 d'Industrie Canada.

Option – RF Devices

Fujitsu's RF products are designed to be compliant with the rules and regulations in the locations into which they are sold and are labeled as required. The majority of Fujitsu's RF devices are type approved and do not require the user to obtain license or authorization before using the equipment. Any changes or modification to Fujitsu equipment, not expressly approved by Fujitsu, could void the user's authority to operate the equipment.

FCC RF Exposure Guidelines

The radio module in this device has been evaluated under FCC Bulletin OET 65C and found compliant to the requirements as set forth in CFR Sections 2.1091, 2.1093, and 15.247(b)(4) addressing RF Exposure from radio frequency devices. The iPad contains an internal low-power radio whose radiated output power is far below the FCC radio frequency exposure limits. Nevertheless, the iPad shall be used in such a manner that the potential for human contact with the radio antenna during normal operation is minimized. The iPad should be utilized/worn in accordance with the instructions for the device.

This device must not be collocated with any other antenna or transmitters.

Option - Laser Devices

This product contains a Class 2 laser and complies with US 21CFR1040.10. These type of lasers use a low power visible light diode. Care should be taken to avoid staring directly into the light. Laser power up to 1.2 mW at 650nm could be accessible in the interior.

"CAUTION – use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser light exposure."

Scanner Safety Labeling

Safety

This product has been certified with Underwriters Laboratories for use in the United States and Canada.

c UL US LISTED

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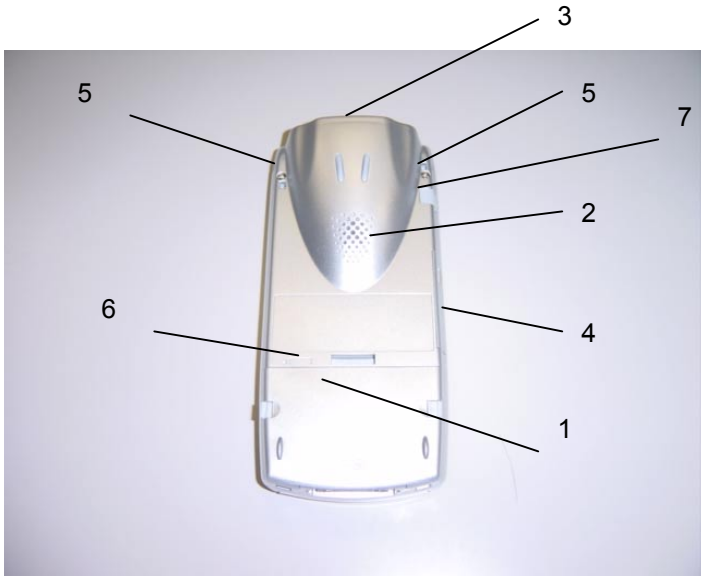
1 Before Using the IPAD

1.1 Names of Parts

<Front>

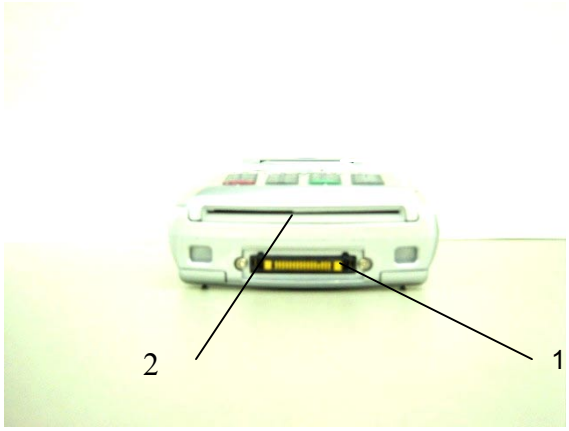
	Part name	Remarks
1	Magnetic card reader	Reads magnetic cards.
2	Trigger key	Used when the barcode scanner is used.
3	Microphone (built-in)	Used for speech input.
4	Operations section	See the <Operations section>.
5	Resistive-film touch panel LCD	Referred to as "touch panel" or "screen" in this manual.
6	LED	Lit during charging on the cradle or during reading by the scanner. Can also be lit by an application.
7	Wireless antenna (built-in)	Used during 11 Mbps wireless communication.
8	Bar code scanner	Outputs the laser beam used to read a bar code.

<Rear>



NO.	Part name	Remarks
1	Main battery compartment	Holds a lithium ion battery (main battery).
2	Speaker (built-in)	Outputs sound.
3	Bar code scanner	Outputs the laser beam used to read a bar code.
4	Compact flash slot	A built-in 11 Mbps antennae for RF card
5	Strap hole	Means by which to attach a strap.
6	Reset switch	Used to forcibly terminate or restart the unit. * Do not use this switch during normal operation.
7	Headset jack	Accepts a 2.5 mm diameter plug.

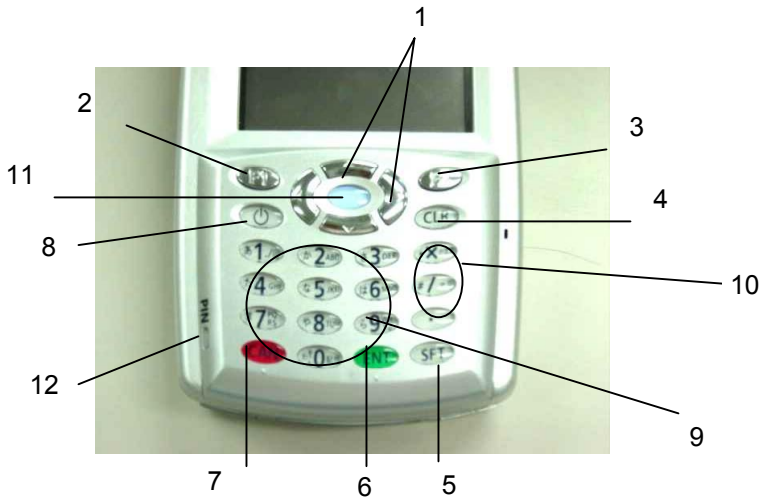
<Bottom>



NO.	Part name	Remarks
1	Cradle interface	Provides the contacts used to charge the iPAD or transfer data when it is mounted on the cradle (IPAD142-01)
2	IC card reader/writer	Available only on the IPAD100-20. Used to make a payment using an IC card. Insert an IC card with the IC terminal side facing up.

For information about the cradle, see the "IPAD Cradle (IPAD142-01) Manual”

<Operations section>



NO.	Part name	Remarks
1	Cursor key	Moves the cursor.
2	Function key 1	Invokes a function defined by an application.
3	Function key 2	Invokes a function defined by an application.
4	Clear key	[CLR] key in this manual.
5	Shift key	[SFT] key in this manual.
6	Enter key	[ENT] key in this manual.
7	Cancel key	[CAN] key in this manual.
8	Power key	–
9	Numeric/character keys	–
10	× / and . (decimal point) keys	–
11	Set key	–
12	PIN LED	Lights when a payment PIN is input.

<Operating style>
The iPAD is designed so that you can either hold it in one hand and operate it with your thumb or hold it in one hand and operate it with the other hand. The two styles shown in Figures 1 and 2. Operate the iPAD as shown in the figures.

[Figure 1]

[Figure 2]

<Using the neck strap>

1.2 Using Batteries

1.2.1 Batteries

- Battery types
  The iPAD has a main battery and an auxiliary battery.
  Main battery: The main battery is used to back up the contents of memory during normal operation and in suspend mode.
  Auxiliary battery: The auxiliary battery is used to back up the contents of memory if the main battery loses its charge or the main battery is being replaced.
- Guidelines on battery life

  1. Main battery
  As a guideline, the life of the main battery is either about 500 chargings and dischargings or two years.
  The more a battery is used, the shorter the time it will last. The life of the main battery has expired if it loses its charge in a very short time after being fully charged. When this happens, replace the main battery with a new one.
  Main battery life may be less than 500 chargings and dischargings or two years depending on ambient temperature and how the iPAD is used.

  2. Auxiliary battery
  The auxiliary battery is used temporarily to retain data while the main battery is being replaced.
  The auxiliary battery backs up data in the iPAD's memory during replacement of the main battery.
  To replace the main battery, have ready a fully charged main battery and complete the procedure within ten minutes.
  The auxiliary battery is embedded in the main unit and cannot be replaced.
- Message screen when recharging message displayed
  When the battery charge falls below a certain level, a message prompting you to recharge the battery appears.
- Checking the battery status
  You can check the status of the battery and the remaining battery charge.

>>Reference>> Section 3.2, "Checking the Battery Status"

1.2.2 Charging the main battery

Charge the main battery the first time that you use it or when the battery charge is low.

You can charge the main battery with any of the following methods:

- Mounting the iPAD on the cradle with the main battery mounted in the iPAD
- Using a single-pack charger
- Connecting two cradles for simultaneous charging of two batteries
- Connecting the single-pack charger and the cradle for simultaneous charging

⚠CAUTION

- Do not unplug the AC adapter before charging has been completed.
- Use only the cradle, AC adapter, and single-pack charger designed for the iPAD to prevent damage to the iPAD resulting from product differences such as voltage or current requirements.

Note

- It is best to charge a battery at room temperature (from 50°F to 86°F).
- The cradle, AC adapter, or single-pack charger may become slightly hot. This is not a malfunction.

For information about the single-pack charger, see the "iPAD Single-pack Charger (CA05951-7080) User's Guide."

■ Charging the main battery using the cradle (IPAD142-01)

You can use one of three methods to charge the main battery when you mount the iPAD on the cradle. The first method uses one cradle to charge one iPAD. The second method uses two cradles connected with a daisychain cable to charge two iPAD units simultaneously. The third method uses one cradle and one single-pack charger connected with a daisychain cable to simultaneously charge a battery and the iPAD.

<Using one cradle>
Using the cradle, you can charge one battery installed in the IPAD.
A cradle (IPAD142-01) and an AC adapter (CA05306-D500) are required for this operation.

(1) Connect the AC adapter to either of the cradle connection ports.
(2) Plug the AC adapter into a wall outlet.
(3) Turn off the iPAD.
(4) Insert the iPAD with the main battery installed into the cradle until you hear a click.

➢ Charging starts.

During charging, the LED is on and is orange. When charging is completed, the LED changes to green.
The charging time is about 2.5 hours.

🔔Note🔔

- Gently mount the iPAD on the cradle to prevent malfunctioning of the iPAD and cradle.
- If the LED does not light, make sure that the IPAD is correctly mounted on the cradle.

⚠CAUTION

- If you mount the iPAD on the cradle while iPAD power is on, the LED lights but the battery is not fully charged.

⌦ This completes the operation.

<Using two cradles (IPAD142-01)>

Using two cradles, you can simultaneously charge two batteries, one in each of two iPAD units.
Two cradles (IPAD142-01), one AC adapter (CA05306-D500), and one daisychain cable (CA72001-1895) are required for this operation.

(1) Using a daisychain cable, connect the AC adapter connection interface on the right of one cradle to the connection interface on the left of the second cradle.
The cable can be connected to either of the two AC adapter connection interfaces provided on a cradle.

(2) Connect an AC adapter to the unoccupied AC adapter connection interface on either of the cradles.

(3) Plug the AC cable of the AC adapter into a wall outlet.

(4) Turn off the iPAD.

(5) Insert the iPAD units with the their main batteries installed into the cradles until you hear a click.

➢ Charging starts.
During charging, the LED is on and is orange. When charging is completed, the LED changes to green.
The charging time is about 2.5 hours.

Note

- Gently mount the iPAD on the cradle to prevent malfunctioning of the iPAD and cradle.
- If the LED does not light, make sure that the iPAD is correctly mounted on the cradle.

⚠CAUTION

- If you mount the iPAD on the cradle while iPAD power is on, the LED lights but the battery is not fully charged.

⌦ This completes the operation.
<Removing the iPAD from a cradle>

Remove the iPAD from the cradle as follows: Lightly hold the iPAD with one hand. Using the other hand, press the Eject button in the center of the cradle. When the iPAD is released from the cradle, hold it lightly and lift it.

Eject button

■ Charging the main battery using a single-pack charger (CA05951-7080)

You can charge the main battery using a single-pack charger (CA05951-7080).
Charging using this method requires a single-pack charger (CA05951-7080) and an AC adapter
(CAS05306-D500).

(1) Connect the AC adapter to the single-pack charger.
(2) Plug the AC cable of the AC adapter into a wall outlet.
(3) Mount the main battery on the single-pack charger.
   ➢ Charging starts.
   During charging, the pack charger LED is on and is orange. When charging is completed, the LED changes to green. The charging time is about 2.5 hours.

🔔Note🔔
- If the pack charger LED lights in red, the battery is faulty and cannot be charged. Replace the battery.

⚠CAUTION
- The LED will not light if the main battery is not correctly installed.

⌦ This completes the operation.

<Using a single-pack charger (CA05951-7080) and a cradle (IPAD142-01) that are connected>

You can simultaneously charge main batteries mounted on a single-pack charger and in the IPAD mounted on a cradle.
A single-pack charger (CA05951-7080), cradle (IPAD142-01), AC adapter (FHTAC601A), and a daisychain cable (CA72001-1895) are required for this operation.

(1) Using the daisychain cable, connect the AC adapter connection interface of the single-pack charger to either the left or right AC adapter connection interface on the cradle. The cable can be connected to either of the two AC adapter connection interfaces provided on the cradle.
(2) Connect the AC adapter to the unused AC adapter connection interface on the cradle.
(3) Plug the AC cable of the AC adapter into a wall outlet.
(4) Turn off the iPAD.
(5) Insert the iPAD with the main battery installed into the cradle until you hear a click.

➢ Charging starts.

During charging, the LED is on and is orange. When charging is completed, the LED changes to green.
The charging time for the two is about 2.5 hours.

🔔Note🔔

- Gently mount the iPAD on the cradle to prevent malfunctioning of the iPAD and cradle.
- If the LED does not light, make sure that the iPAD is correctly mounted on the cradle.

⚠CAUTION

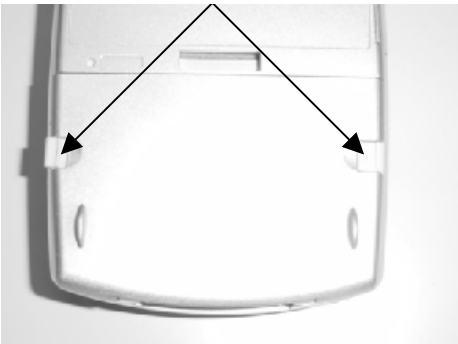
- If you mount the iPAD on the cradle while IPAD power is on, the LED lights but the battery is not fully charged.
- The LED will not light if the main battery is not correctly mounted on a single-pack charger.

⌦ This completes the operation.

1.2.3 Installing and removing the main battery

■ Installing the main battery

(1) On the rear of the iPAD, slide the battery lock switches on both sides of the lower part to the outside.



(2) Slide down the battery cover to remove it.

(3) Insert the main battery in the battery compartment.
In this step, make sure the black ribbon is outside.

(4) Install the battery cover and slide it upward to lock it.
In this step, make sure that the black ribbon does not protrude from the cover.

(5) Slide the battery lock switches inward to lock them.

⚠CAUTION

The iPAD can be turned on only when the battery lock switches have locked.

⌦ This completes the operation.

■ Removing the main battery

(1) Turn off the iPAD.
(2) On the rear of the iPAD, slide the battery lock switches on both sides of the lower part to the outside.
(3) Slide down the cover to remove it.
(4) Pull the black ribbon to remove the battery.

⚠CAUTION

- Be sure to turn off the iPAD before replacing the main battery.
- Make sure that the auxiliary battery has sufficient charge before replacing the main battery. The data in memory may be lost if you replace the main battery while the auxiliary battery alarm message is displayed.
- While the main battery is being replaced, the auxiliary battery backs up data in the iPAD memory.

When replacing the main battery, have ready a fully charged main battery and complete the procedure within ten minutes.

→ The life of the auxiliary battery is significantly reduced if the iPAD is left with the main battery removed.

⌦ This completes the operation.

1.2.4 Charging the auxiliary battery

1. Charging the auxiliary battery

Charge the auxiliary battery by installing a sufficiently charged main battery in the iPAD.
For initial installation, charge the auxiliary battery at least 24 hours, since its voltage is low.
Initially, the auxiliary battery will start to charge once the iPAD has been turned on. (During normal operation, the auxiliary battery is permanently charged as long as the main battery is installed.)

Even though the auxiliary battery is charged, notify your maintenance representative if an alarm is frequently displayed.

⚠CAUTION

- The auxiliary battery is temporarily used to retain data while the main battery is being replaced. The life of the auxiliary battery may be shortened if the iPAD is left with only the auxiliary battery installed.

- Do not leave the iPAD in a state with the main battery removed.

📖For Reference📖

The following are the guidelines for the retention of data in memory while the iPAD is off (suspend mode):

- If both the main and auxiliary batteries are fully charged: About 1 month
- If the main battery is in the alarm state and the auxiliary battery is fully charged: About 3 days
  The usage environment may affect these estimates.

2 Setup

After the iPAD has been removed from its packaging, set it up.

(1) When you turn on the iPAD for the first time, the initial installation screen shown below appears.
To start the setup process, press the [CAN] key while holding down the [SFT] key.

Is this the initial installation?

(2) The touch panel correction screen appears.
Follow the instructions on the screen.

>>Reference>> Section 3.5, "Correcting the Coordinates on the Touch Screen"

(3) Date/Time Properties is activated.
For information about Date/Time Properties, see the ***"iPAD (IPAD100-xx) Systems Users Guide."***

(4) After Date/Time Properties have been set, the setup tool program is activated. When "■ Bringing up the Setup Tool Menu" is displayed, install the applications.

For information about installing an application, see the "i***PAD (IPAD100-xx) Systems Users Guide***."

⚠CAUTION

- The iPAD is not shipped with the main battery installed and charged.
  Perform setup either with the iPAD connected to the cradle or after you have charged the main battery and installed it in the iPAD.

>>Reference>> Section 1.2, "Using the Battery"

- The auxiliary battery is installed in the iPAD.

but it has not been charged.
To charge the auxiliary battery, install a charged main battery in the iPAD.
>>Reference>> Section 1.2.4, "Charging the auxiliary battery"

3 Using the iPAD

3.1 Power on/off (suspend/resume)

3.1.1 Turning on the iPAD (resume mode)

With the power off, press the Power key until the LED lights in green.

➢ The iPAD is turned on, the screen light, and the LED goes off.

- Turning on the iPAD for the first time:
  The initial installation screen appears when you turn on the iPAD for the first time or you initialize the system.
  See the "i***PAD (IPAD100-xx) Systems Users Guide***" for information about performing setup.
- Turning on the iPAD after the first time:
  The screen that was displayed when you stopped the last time is displayed.

⚠CAUTION

- During resume processing (the green LED is on), do not remove the main battery or press the Reset button. Either of these actions may cause the data in memory to be lost.

3.1.2 Turning off the iPAD (suspend mode)

With the power on, press the Power key.

➢ The screen turns black and the iPAD is turned off.

⚠CAUTION

- Do not unlock and remove the main battery from the iPAD until power has been turned off.
  Doing so may cause the data in memory to be lost.
- Do not turn off the iPAD in the following state:
  - Data is being backed up or restored.
    (The hourglass icon is displayed.)

📖For Reference📖

You can also turn off the iPAD as follows:

- Tap the [Start] button, then the [Suspend] button.

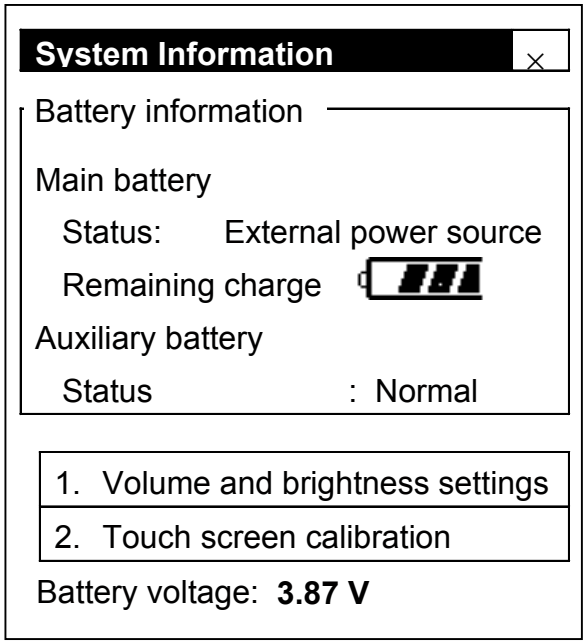
- When power is on, the iPAD has a function that automatically turns itself off if no action is performed for a certain length of time (automatic power-off function). For more information, see the "i***PAD (IPAD100-xx) Systems Users Guide***."

- An application may prevent power from being turned off while the iPAD is operating. If you are using such an application, turn off the iPAD with an instruction from the application.

3.2 Checking the Battery Status

You can check the battery status.

While the iPAD is on, press the [ENT] key while holding down the [SFT] key. The [System Information] window opens.



Check the battery status in [Battery Information].
The items in [Battery Information] have the following meanings:

◆ Main battery

- Status
  - External power source
    Indicates that the iPAD is mounted on the cradle.
  - Normal
    Indicates that the battery can be used.
  - Insufficient charge
    Indicates that the main battery charge is too low. Either charge or replace the main battery.

- Remaining battery charge
  The current main battery charge is shown as one of five levels.

🔔Note🔔

- If [Insufficient charge] is displayed, the remaining battery charge is too low. Either charge the battery or replace it with a spare battery.
- If the charge is too low, a message is displayed on the screen and the iPAD is automatically turned off after a while.
  Either charge or replace the battery.

After checking the battery status, tap the [×] button on the window to close it.

⌦ This completes the operation.

◆ Auxiliary battery

- Status
  Indicates the auxiliary battery status. The displayed status is one of the following:
  - Normal
    Indicates that memory backup is allowed.
  - Insufficient charge
    Indicates that the charge is not sufficient for memory backup. Charge the battery.

🔔Note🔔

- If [Insufficient charge] is displayed, the auxiliary battery charge is too low. Charge the auxiliary battery.

After checking the battery status, tap the [×] button on the window to close it.

⌦ This completes the operation.

⚠CAUTION

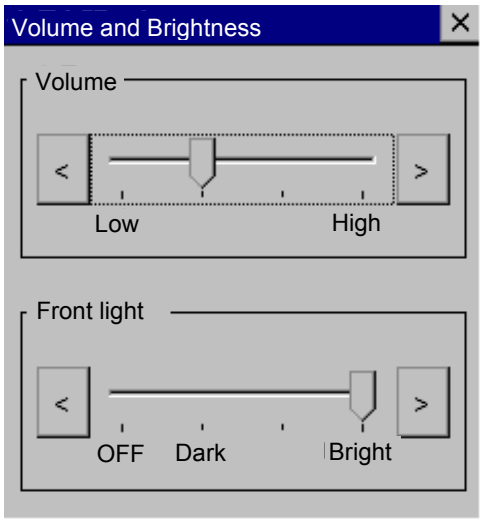
- The data in memory may be lost if you remove the main battery while the auxiliary

battery has an insufficient charge.

>>Reference>> For information about charging the auxiliary battery, see Section 1.2.4, "Charging the auxiliary battery."

3.3 Adjusting the Volume

While the iPAD is on, press the [ENT] key while holding down the [SFT] key to bring up the [System Information] window. Next, tap [1. Volume and brightness settings].



➢ The [Volume and Brightness] window opens.

(1) In the [Volume] area, adjust the speaker volume.

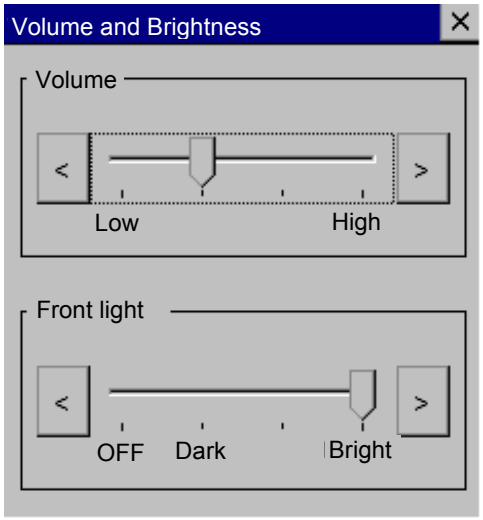
(2) Tap the [<] and [>] buttons to adjust the volume. The order of choices from the left is low, somewhat low, somewhat high, and high.

(3) Tap the [×] button on the window to close it.

⌦ This completes the operation.

3.4 Adjusting the Brightness of the Front Light

While the iPAD is on, press the [ENT] key while holding down the [SFT] key to bring up the [System Information] window. Next, tap [1. Volume and brightness settings].



(1) In the [Front light] area, specify the brightness. Tap the < and > buttons to select the brightness level. The order of choices from the left is off, somewhat dark, somewhat bright, and bright.

(2) Tap the [×] button on the window to close it.

⌦ This completes the operation.

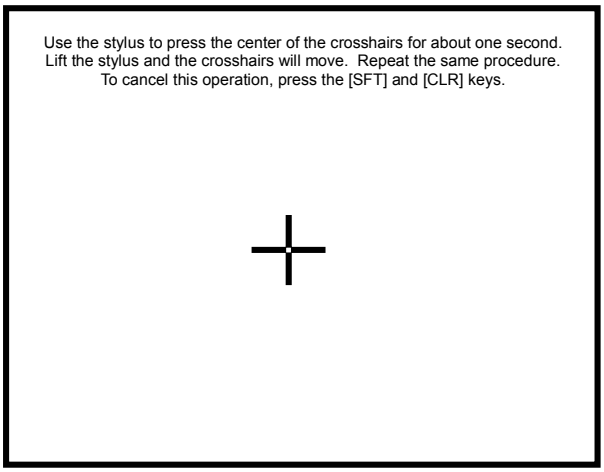
📖For Reference📖

- The front light automatically goes off if the remaining battery charge is too low.

3.5 Calibrating the Touch Screen

The coordinates on the touch panel are misaligned if the touch panel does not respond when you tap the screen and a location different from where you tapped is entered.
If this situation occurs, correct the misaligned coordinates on the touch panel. This operation is called "touch screen calibration."

Perform touch screen calibration as follows: While the IPAD is on, press the [ENT] key while holding down the [SFT] key to bring up the [System Information] window. Next, tap [2. Touch screen calibration] key on the screen or press the [2] key to bring up the following touch screen calibration screen.



(1) As directed on the screen, tap the center of the crosshairs (+) using a stylus.
You will need to tap the center and the four corners of the screen.

(2) After you have tapped all the correct locations, the crosshairs disappear and the message "Calibration settings have been measured" is displayed. Press the [ENT] key to register the correction settings. To cancel the operation, press the [CLR] key while holding down the [SFT] key.

Note

- If you tap a location away from the crosshairs, you will be required to start the operation again from the beginning.
- Do not press the Power key while the touch panel correction tool is running. Doing so will nullify the touch panel correction settings, and the touch panel correction will have to be done again.
- If the battery loses its charge during touch panel correction, charge or replace the battery, then perform touch panel correction

again.
- Use a stylus.
  Do not tap the screen with a pencil, ballpoint pen, or any other pointed object. Doing so may scratch or crack the screen.
- Do not touch the screen with your palm while you are tapping the screen.

⌦ This completes the operation.

3.6 Virtual Keyboard

The screen keyboard is the keyboard that is displayed on the screen.

3.6.1 Displaying the keyboard

Open and close the screen keyboard as follows:

(1) To open the screen keyboard, press the [0] key while holding down the [SFT] key.
The screen keyboard appears on the lower part of the screen.

(2) To close the screen keyboard, press the [0] key while holding down the [SFT] key, as you did to open it.
The screen keyboard disappears from the lower part of the screen.

⌦ This completes the operation.

3.6.2 Inputting a character

To input a character, tap the input field to make it ready for input (the cursor is displayed). When the field is ready for input, tap a character on the screen keyboard. The character is entered in the input field.

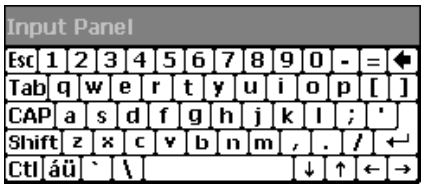
⌦ This completes the operation.

3.6.3 Changing the keyboard type

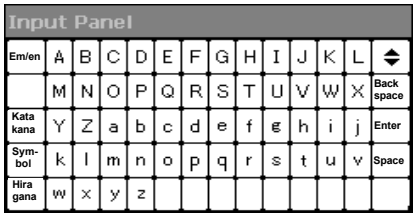
There are three types of screen keyboard: keyboard (Figure 1), extended keyboard (Figure 2), and

handwriting (Figure 3).

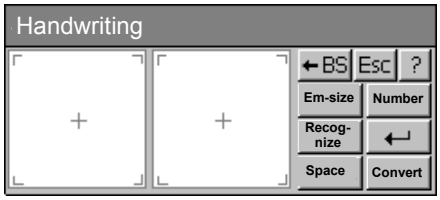
(Figure 1)



(Figure 2)



(Figure 3)



You can change the keyboard type as follows:

(1) Double-tap the [Input Panel] icon in [Control Panel].

(2) When [Input Panel Properties] is displayed, select a keyboard type in [Current Input Method].

(3) Tap the [OK] button.

⚠CAUTION

- The setting will not change if you close the screen by tapping the [×] button instead of using the [OK] button.

⌦ This completes the operation.

3.7 Resetting the iPAD

3.7.1 Using the reset switch

Use the reset switch mainly to install an application or driver or change a setting.

(1) If possible, save the data that you are working on.

(2) Using a stylus, press the reset switch located on the left side of the rear of the iPAD.

(3) The screen turns black, then the power is turned on again.

⚠CAUTION

- If you reset the iPAD, any unsaved data or settings are lost.
- Do not use the reset switch while the iPAD is in operation (saving data or resuming operation). Doing so may cause data in memory to be lost.

⌦ This completes the operation.

3.7.2 Completely resetting the iPAD

Completely reset the iPAD if it is not operating correctly after a reset or if you want to prevent deterioration of the main battery when storing the iPAD for a long period.

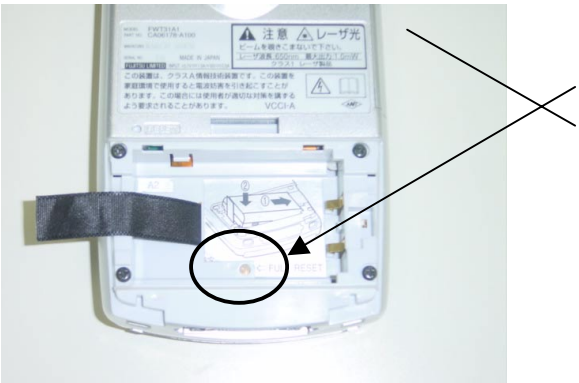
(1) Turn off the iPAD

(2) On the rear of the iPAD, slide the battery lock switches on both sides of the lower part to the outside.

(3) Slide down the cover to remove it.

(4) Pull the black ribbon to remove the battery.

(5) Using the stylus, press the switch exposed when the battery is removed.



➢ All the data in memory is cleared, and memory is initialized.

⚠CAUTION

- When you completely reset the iPAD, all of the data and information (Control Panel settings and installed applications) in its memory is lost
  (except for the data in the flash disk area).
  See the ***"iPAD (IPAD100-xx) Systems Users Guide"*** to restore the applications.

⌦ This completes the operation.

4 LED Indications

This chapter explains the indications of the LED on the IPAD and on the single-pack charger.

4.1 iPAD LED

Equipment status	LED indication		Explanation
	Color	Indication	
iPAD is being turned on	Green	Lights and then goes off.	The iPAD is starting up (resuming operation). Do not operate the iPAD until the LED goes off.
Bar code is being read by the scanner	Green	Lights if the bar code is read correctly.	The iPAD is in scanner reading processing mode. Do not operate the iPAD until the LED goes off.
Magnetic card being read by the reader	Green	Lights if the magnetic card is read correctly. (*1)	The LED can be made to light if the iPAD reads the magnetic card correctly.
Battery on the cradle is being charged	Orange	Lights.	The battery is being charged. The LED turns green when charging is complete.
Battery on the cradle is being charged	Green	Lights.	Charging is complete.
	Yellow	Lights.	A charging error has occurred. Either replace or charge the main battery again.

(*1) The LED can be made to go on by an application when a magnetic card is read by the reader.

4.2 LED on the Single-Pack Charger during Charging

LED indication		Meaning
Color	Indication	
Orange	Lights.	The battery is being charged.
Green	Lights.	Charging is complete.
Red	Lights.	The main battery cannot be charged because it either is not correctly connected to the single-pack charger or is faulty. Either correctly connect the main battery to the single-pack charger or replace the main battery.

5 Wireless LAN (local area network)

The iPAD is designed to use an internal LAN radio as its primary means of communicating data when used as an end-node device within a wireless LAN.

The iPAD is purpose built to use an 802.11b WiFi spread-spectrum radio that operates in the 2.4 GHz band. This does not require a license for operation. The iPAD requires a compact flash radio card. The integration of an 802.11b WiFi spread spectrum radio allows the iPAD to interactively communicate in real-time with its host/server environment via a wireless local area network.

In a store environment, the iPAD can communicate within a radius of 16 to 66 ft. from a wireless LAN access point. (The range of communication may vary significantly depending on the environment of the facility. In a semi-open space, communication can occur from 98 to 164 ft.)

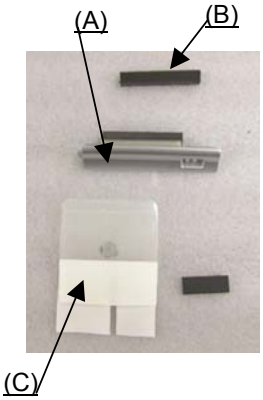
⚠CAUTION

- The iPAD may not be able to communicate if it is used near a microwave oven, security gate, or other device that generates noise.
- Use the iPAD away from a TV set, radio, or another wireless device.

5.1 Installing the RF Card

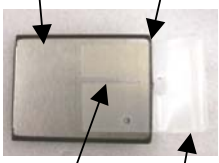
5.1.1 Parts for RF LAN card installation
The following parts are included with main unit:

(A) Side cover
(B) Card stopper
Stopper for Intel / Symbol RF LAN Card
(C) Card Tab
Pull-tab for RF Card



5.2. Installation procedure for Intel or Symbol RF card

Remove battery cover and remove battery pack
Remove the protective sheet from the adhesive tape on the slit side of the pull-tab. Attach the pull-tab to the RF LAN card to match forked portion of the pull-tab with RF card edge as shown here at right.



Insert RF LAN card about 2/3 of the way in. Remove the protective sheet from the RF antenna cable and connect the RF cable and card as shown here.
Connect antenna cable A with inside connecter on RF card.
Antenna cable A has a black mark on the RF connector; make sure the black mark is showing when the cable is connected.

Remove the protective sheet from the adhesive tape of the pull tab and attach it to the RF card so the RF connecters are covered with the pull tab as shown. Make sure the RF connecters are firmly connected.

Insert card completely and tuck the pull-tab and antenna cables into the slot.
Take off ABS resin block and rubber from side cover.
Remove protective sheet of adhesive tape from card stopper and attach card stopper with side cover to the spot where the ABS resin block and rubber were attached.
Attach side cover to main unit

6 Bar Code Scanner

Reading aperture of bar code scanner

6.1 Using the Bar Code Scanner

(1) Aim the bar code scanner of the iPAD at a bar code.

(2) Press either of the trigger switches on the two sides of the iPAD. A scanning beam passes through the reading aperture of the bar code scanner.

(3) Run the scanning beam across the bar code.

(4) The LED lights in green if the data has been read correctly.

(5) The scanning beam automatically stops when reading is completed.

(6) Release the trigger switch.

⚠WARNING

- Do not look into the reading aperture while a scanning beam is being emitted.
  Doing so can injure the eyes.

For Reference

- A scanning beam stops in about one second if you continue to press the trigger key but no bar code is detected from the reading aperture.
- If a bar code cannot be read, try changing the direction of the scanning beam in relation to the bar code or the distance of the IPAD from the barcode.
  Note that if the scanning beam passes over more than one bar code, it cannot be determined which of the bar codes will be read.

6.2 Bar Code Specifications

Item	Specifications	
PCS value	0.25 or more (Value for a 650 nm laser beam)	
Resolution	0.13 mm	
Reading angle	Vertical direction: ± 65° or less Horizontal direction: ± 60° or less Rotation: ± 30° or less	
Reading depth	Narrow bar width	Distance
	0.13 mm	5.6 to 12.7 cm
	0.19 mm	4.6 to 19.0 cm
	0.25 mm	5.08 to 24.6 cm
	0.33 mm	5.08 to 30.4 cm
	0.51 mm	* to 38.1 cm
	1.02 mm	* to 55.8 cm
	1.40 mm	* to 73.6 cm
Reading confirmed by:	LED indication (green)	

* The minimum reading distance is determined by the bar code label width and the reading depth.

6.3 Cleaning the Reading Aperture of the Bar Code Scanner

The reading aperture of the bar code reader must always be clean when it is used.
Clean the reading aperture using a dry cloth or a cloth moistened with water or a diluted neutral detergent solution. Do not use alcohol, thinner, or other volatile solvent.

6.4 Bar Code Sample Chart

Use the sample chart to check whether the scanner is faulty.

NW7

Code 39

JAN standard

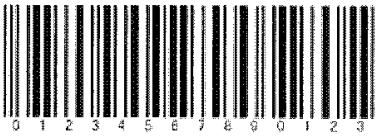
JAN abbreviated

UPC/E

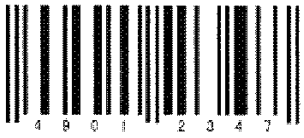
UPC/A

Code 128

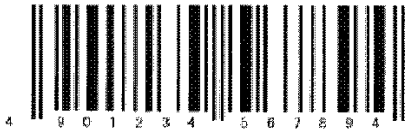
InterLeaved2of5



EAN-8



EAN-13



⚠CAUTION

- This chart may become illegible due to age or improper handling of the User's Manual.

7 Magnetic Card Reader

(1) After making sure of the orientation (direction of the arrow, for example), insert a magnetic card.

(2) Slowly move the magnetic card from left to right.

📖Note📖

- A magnetic card will not be read correctly if movement stops part way, the speed of movement changes, or the card is not moved parallel with the slot.
- The LED can be made to light by an application when a magnetic card is read

correctly.

<Cleaning the magnetic card reader>

The magnetic card reader becomes contaminated with dirt and dust from use. Clean the reader using the cleaning card supplied as an accessory.

- Cleaning cycle: Clean the reader every month or whenever errors are frequent.
- Cleaning method: Insert the cleaning card (supplied) in the reader with the rough side (cleaning side) facing up. (Insertion is the same as for a magnetic card.)
- Replacement cycle: Replace the cleaning card (supplied at a cost) when it becomes contaminated.

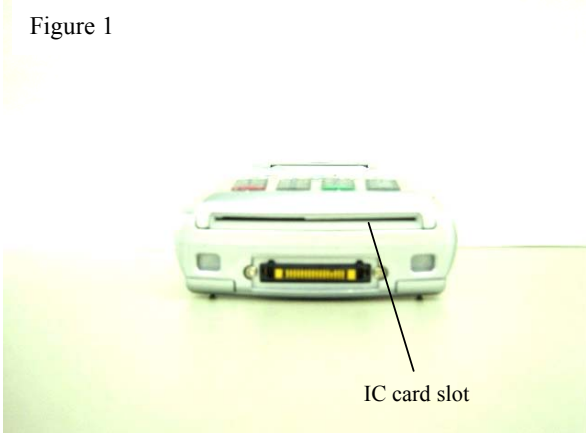
If errors still occur after the reader has been cleaned, notify your Fujitsu maintenance representative.

⚠CAUTION

- Before cleaning the reader, turn off the IPAD to guard against a possible malfunction.

8 IC Card Reader/Writer (Installed in the IPAD100-20)

Figure 1



The IPAD100-20 is equipped with an IC card reader.

(1) When instructed to by message, insert an IC card in the IC card slot with the IC terminal side facing up.

Figure 2

<Cleaning the IC card reader/writer>

The contacts of the IC card reader/writer become contaminated with dirt and dust from use. Clean the reader using the cleaning card supplied as an accessory.

- Cleaning cycle: Clean the reader every month or whenever errors are frequent.
- Cleaning method: Insert the cleaning card in the reader with the rough side (cleaning side) facing up. (Insertion is the same as for an IC card.)
- Replacement cycle: Replace the cleaning card (supplied at a cost) when it becomes contaminated.

If errors still occur after the reader has been cleaned, notify your Fujitsu maintenance representative.

⚠CAUTION

- Before cleaning the reader, turn off the iPAD to guard against a possible malfunction.

9 User Action in Response to Messages

If any of the following messages are displayed, take the action described in the following table.

Message	Cause	User response
Main battery alarm The front light is off.	The main battery charge is too low.	Either replace the main battery or charge the main battery using the battery charger or cradle. >>Reference>> **Section 1.2.2, "Charging the main battery"** **Section 1.2.3, "Installing and removing the main battery"**
Auxiliary battery alarm	The auxiliary battery charge is too low.	Charge the auxiliary battery. >>Reference>> **Section 1.2.4, "Charging the auxiliary battery"**
Is this the initial installation?	No application programs have been installed.	Press the [SFT] and [CAN] keys simultaneously to install application programs. >>Reference>> ***"IPAD Systems Users Guide"***
A power failure may have occurred.	The memory data was deleted because, for example, the battery charge was too low.	Press the [SFT] and [CAN] keys simultaneously to automatically recover the application programs. >>Reference>> ***"iPAD Systems Users Guide"***
An error was detected on the flash disk.	An error occurred in the system information storage area of the flash ROM.	Tap the [OK] button to initialize the flash ROM and then reinstall the application programs. >>Reference>> ***"iPAD Systems Users Guide"***

10 Troubleshooting

If you encounter any of the problems described in the following table while using the IPAD, take the indicated action before notifying your maintenance representative.

Problem	User response
The IPAD cannot be turned on.	The main battery has no charge. Replace it with a charged main battery. >>Reference>> **Section 1.2, "Using the Battery"** Alternatively, charge the main battery. >>Reference>> **Section 1.2.2, "Charging the main battery"** If the main battery is completely dead, all the data and information in memory in the IPAD may be lost. If data has been lost, reinstall the applications again.
	The service life of the main battery has expired or the battery is faulty. Install a new main battery. >>Reference>> **Section 1.2, "Using the Battery"**
The iPAD cannot be turned on. (continued)	The main battery may not be correctly installed. Install the main battery correctly. >>Reference>> **Section 1.2.3," Installing and removing the main battery"**
	The battery lock switch may be unlocked. >>Reference>> **Section 3.7.2, "Completely resetting the iPAD"**
The screen appears for a moment, then turns black when you press the Power key to turn on the power.	The main battery may have no charge. Replace it with a charged main battery. >>Reference>> **Section 1.2, "Using the Battery"**
The speaker is silent.	The speaker may be set to "Low." Check the volume setting of the speaker. >>Reference>> **Section 3.3," Adjusting the Volume"**
The touch panel does not respond.	The coordinates on the touch panel may be misaligned. Perform touch panel correction. >>Reference>> **Section 3.5, "Correcting the Coordinates on the Touch Panel"**
The front light is dark or turns black.	The main battery may have no charge. Replace it with a charged main battery. >>Reference>> **Section 1.2, "Using the Battery"**

11 Correctly Using the iPAD

11.1 Using the main battery

- To prevent deterioration, do not store the main battery for a long time when it is fully charged. For long-term storage, remove the battery from the IPAD when it is about 50% charged and store it at room temperature.
- If the battery has not been used for a long time, recharge it.
- Be careful not to short-circuit the battery terminals with a necklace or other metallic object.
- Do not heat the battery or throw it into a fire.
- Do not leave the battery in a car exposed to sunlight or in direct sunlight.
- Do not allow the battery to become wet.
- Do not apply a strong shock to the battery. Do not drop the battery.
- Using the iPAD at low temperatures (below 50°F)
  - At low temperatures (below 50°F), the iPAD does not operate as long as it does at room temperature. In an environment of 50°F, operating time is about 70% of that at room temperature, and in an environment of 32°F, it is about 50% (new battery used).
    If operation in a low-temperature environment is possible, review charging procedures and operation.
  - In operation at low temperatures (below 50°F), replacing the battery with one that is only partially charged will result in a very short operating time. Be sure to replace the battery with a fully charged one.
  - Keep a spare battery warm until you use it by, for example, putting it in your pocket. If you warm a battery with a body warmer, be careful that the battery does not come into direct contact with the body warmer.
- If a message indicating that charging is required (battery status message) is displayed, promptly charge the battery or replace the battery with a spare battery.
- Be careful that no dust, sand, or other foreign matter enters the terminal section while you are using the iPAD. If any foreign matter gets in, completely remove it using a soft-tipped cotton swab or gauze, then repeat several times inserting the iPAD into the charger or device and then removing it.
- The iPAD may not charge if the terminals are dirty.
- Despite complete charging, the battery naturally discharges little by little as time passes. If possible, charge the battery again just before using it (within one or two days).
  Store the battery in as cool a place as possible and charge it at an ambient temperature of 50°F to 86°F. Doing so will increase the life of the battery.

11.2 Using the auxiliary battery

- Auxiliary battery alarm message
  A warning message appears in the center of the screen if the voltage of the auxiliary battery drops or the auxiliary battery is not connected. The programs and data in memory will be lost if you replace the main battery while this message is displayed.
  Immediately charge the auxiliary battery.

>>Reference>> For information about charging the auxiliary battery, see Section 1.2.4, "Charging the auxiliary battery."

11.3 Long-term storage

Store the iPAD where it will not be exposed to vibration, dust, high and low temperatures, high humidity, and direct sunlight.

- Storing the iPAD with the programs saved
  To avoid discharging of the main and auxiliary batteries, charge the main battery once every week. Without charging, the programs and data in memory will be lost.
- Storing the iPAD without the programs saved
  To store the iPAD without the programs saved, remove the main battery and completely reset the iPAD.

>>Reference>> For information about removing the battery, see Section 1.2.3," Installing and removing the main battery," and Section 1.2.4, "Charging the auxiliary battery."
For information about completely resetting the iPAD, see Section 3.7.2, "Completely resetting the iPAD."

11.4 Cleaning

- Clean the cover of the iPAD using a cloth moistened with a solution of water and neutral detergent and wrung out or a dry cloth. If you use a damp cloth, be sure to wring it out thoroughly to prevent water from getting into the iPAD, causing a malfunction.
  Do not wipe the iPAD using thinner, benzine, or other volatile solvent. Such materials can discolor the iPAD or erase printed characters.
- Wipe the display area of the iPAD using a cloth moistened with water and wrung out thoroughly or a glass wipe with a very fine texture.
- Occasionally clean the cradle interface using a dry cotton swab or gauze. If the terminals become dirty, contact may be poor, causing the IPAD to turn off or disabling normal charging and communication.

11.5 Other precautions

- Do not disassemble or modify the iPAD.
- To prevent the iPAD from malfunctioning, do not leave the iPAD, even for a short time, where it is exposed to any of the following conditions:
  - Extreme heat (for example, car in sunlight with the windows closed)
  - Direct sunlight
  - Extreme heat or cold
  - Dust
  - Strong vibration
  - Humidity
- Do not apply a strong shock to the iPAD. Do not drop the iPAD.
- Be careful not to hold the iPAD for a long time in a high-temperature environment (95°F or higher). Doing so may result in a low-temperature burn.

A Specifications

Item		Specification
Controller	CPU	Intel XScale-400MHz
	Memory	ROM: 32M bytes RAM: 64M bytes(SDRAM) FFS 32MB
	OS	Windows CE .NET
Display section	Type	3.5-inch TFT reflective color LCD
	Screen size	240 (H) × 320 (V) dots
	Display lighting	High-intensity front light
Operator section		Touch panel (resistive-film type), trigger switches (bar code scanner input), power key, function keys, set key, cursor keys, clear key, numeric keypad, × key, / key, decimal-point (.) key, cancel key, enter key, shift key, and cellular phone input mode (alphabetic/hiragana input)
Strage card		Compact flash × 1 slot (RF-LAN card)
External interfaces		Cradle I/F: USB client (for PC connection) Charge terminals
Power supply	Main-Battery	Lithium ion battery pack, 3.7 V 1700 mAh
	Operating time	About 3 hours (new battery, room temperature, wireless communication in progress for 10% of the time, scanner reading once every ten seconds, and front light on at the "dark" setting) About 7 hours (new battery, room temperature, wireless communication in progress for 10% of the time, and front light off)
	Main-Battery charging time	About 2.5 hours (unit power off, operating from the cradle) About 2.5 hours （With the battery pack charger)
	Sub-Battery charging time	About 24 hours (from the Main-Battery)
Item		**Specification**
Environmental conditions	Temperature	Operating: 0 to 40°C (non-condensing) Idle: -20 to 60°C (non-condensing)
	Relative humidity	Operating: 20 to 85% (non-condensing) Idle: 20 to 85% (non-condensing)
Scanner		JAN/EAN-13/8,UPC-A/E,NW-7,CODE39/128,Interleaved2of5 (ITF)
Audio		Speaker×1 built-in, Microphone×1 built-in Headset connector(input/output)
Magnetic card reader		JIS Ⅰ(ISO1/2), JISⅡ

External dimensions	PDA size (84 (W) ×187 (D) ×23 (H) mm)
Weight	About 340 g (battery included)

B Consumables

The following table lists the consumables that the user must replace.

Product name	Product number	Service life
Lithium ion battery for FWT3xxx (Main battery)	0644040	About 500 chargings and dischargings, or about two years

The main battery service life may be less than about 500 chargings and dischargings or two years depending on the ambient temperature and how the iPAD is used.
If the main battery requires two cycles of charging and discharge per day, service life is less than one year.

If you use the iPAD in a manner that is not standard use as specified by Fujitsu, components other than the consumables listed above may have to be replaced at the user's expense.
For more information about standard use and components that may have to be replaced, consult your maintenance representative.

C Accessories

Item	Quantity
* Lithium ion battery for FWT3xxx	1
* Strap with a stylus pen	1
* Cleaning card	1
Drip-proof cover (for magnetic card reader)	1
Operation's manual	1 (this manual)

* Supplies that can be purchased are the lithium ion battery for the FWT3XXX, strap with a stylus pen, and cleaning card (product name: Magnetic Card Reader Cleaning Card).

D Options

Product name	Model	Specification overview
Cradle	IPAD142-01	Special cradle for the FWT31Bx. Unit that accommodates the IPAD to recharge its battery. The charging time is about 3 hours. An AC adapter (FHTAC601A) is required for each cradle. An AC adapter (FHTAC601A) and a cable (CA72001-1895) are required for two cradles.
Single-pack charger	CA05951-7080	Unit that itself charges a square-type lithium ion battery. An AC adapter (FHTAC601A) is required for the charger. The charging time is about 2.5 hours.
AC adapter	FHTAC601B	AC adapter required to use a cradle
Cable	CA72001-1895	Cable that connects two cradles or connects a cradle and a single-pack charger
USB cable	FHTCB271	Cable that connects the IPAD to a PC while the IPAD is in the cradle

E Supplies

For supplies, use authentic Fujitsu CoWorCo brand name products appropriate for the iPAD.
The use of other supplies will shorten the life of IPAD parts or cause the IPAD to malfunction.

Item	Product code	Shipping unit	Remarks
Lithium ion battery for FWT3xxx	0644040	1	
Cleaning cloth for touch panel	0632320	5	For the touch panel and the bar code reader
Magnetic card reader cleaning card *	0631310	1 set	Single-side d type with a case; 10 cards per set
Magnetic card reader cleaning card (2) *	0631312	1 set	Single-side d type; 10 cards per set
Double-sided cleaning card for magnetic card reader *	0631313	1 set	Double-side d type; 2 cards per set

* Head cleaning cards that can be used for both the magnetic card reader and the IC card reader/writer. If either of these cards is used, the life of the head and cards can be extended.

F Warning Indications and Symbols

This user's manual uses warning indications and symbols to help users use the iPAD safely and to prevent personal injury and property damage.

This manual uses warning indications and symbols in the text to indicate safety conditions. The meaning of each indication and symbol is explained below.

Warning Indications

⚠WARNING Indicates a hazardous situation that could result in personal injury if the user does not perform the procedure correctly.

⚠CAUTION Indicates a hazardous situation that could result in minor or moderate personal injury if the

moderate personal injury if the user does not perform the procedure correctly. Also indicates that damage to the product or other property could occur if the user does not perform the procedure correctly.

Warning Symbols

ELECTRIC SHOCK

Indicates the possibility of injury from an electric shock.

GENERAL INHIBITION

Indicates a condition that requires caution and a specific action that must not be performed.

GENERAL CAUTION

Indicates a condition that requires general caution.

FIRE

Indicates the possibility of an electric shock or fire.

DISASSEMBLY PROHIBITED

Indicates an action that is prohibited (prohibited action).

UNPLUG THE CABLE

Indicates a required action.

G Notes on Safety

⚠WARNING

ELECTRIC SHOCK

- Do not damage the power cord when you use the AC adapter, single-pack charger, or cradle.
  Doing so may result in an electric shock or fire.

GENERAL INHIBITION

- Use only the specially designed cradle, AC adapter, and single-pack charger.
  If another item is used, differences in voltage or current can damage the iPAD.
- If the battery is not handled correctly, the iPAD may overheat, explode, or catch fire.
  Be sure to observe the following precautions:
  – Neither throw the battery into a fire nor heat it.
  – Connect the terminals correctly.
  – Do not connect the terminals using a wire or other metallic material.
  Do not carry or store the battery while wearing a metal necklace or hair pin.
  – Do not puncture the battery with a needle, hit it with a hammer, stomp on it, or otherwise apply a strong shock to it.
  – Do not disassemble or modify the battery.

CAUTION: LASER

- When using the laser scanner, do not direct the laser beam toward anyone's eyes.
  Doing so may injure the eyes.
- Do not look into the aperture of the laser scanner.
  Because a laser beam is emitted from the aperture, you may injure your eyes.

⚠WARNING

GENERAL INHIBITION

- Do not use or leave the battery near a flame, fire, stove, or other source of heat, in direct sunlight, or in a car exposed to sunlight.
- Do not put the battery in a microwave oven or other hot container.
- Charge the battery only on the special cradle or single-pack charger.
- Do not charge the battery by directly connecting it to a wall outlet or cigarette lighter in a car.
- Do not charge the battery near a flame, fire or under a hot sun.

FIRE

- If the iPAD generates heat, smoke, or an unusual smell or noise, turn off the power immediately and contact maintenance personnel.
  Failure to do so may result in an electric shock or fire.

DISASSEMBLY PROHIBITED

- Do not modify the iPAD without permission.
  Doing so may result in an electric shock or fire.

⚠CAUTION

GENERAL INHIBITION

GENERAL CAUTION

- Turn off the iPAD before cleaning it.
- Do not clean the iPAD using a damp or chemically treated cloth, and do not use thinner or other volatile chemical. Doing so may cause the iPAD to malfunction.
- Do not remove the battery without turning off the iPAD.
- Do not unplug the AC adapter or single-pack charger until charging has been completed.
  Doing so may cause the battery to be improperly charged.
- Do not apply a strong shock to the iPAD. Do not drop the iPAD.
- Although the iPAD is resistant to breakage for ordinary operations (for example, putting it on a desk), Fujitsu recommends that users use a neck strap so that the iPAD cannot be accidentally dropped.
- Do not carry the iPAD in your hip pocket.
  Sitting down with the iPAD in your hip pocket may break the display unit.
- Because the fluorescent tubes in the liquid crystal display (LCD) used in the iPAD contain mercury, dispose of the LCD in accordance with any local laws and regulations.
- Dispose of the main battery in accordance with any local laws and regulations after insulating the battery terminals with tape or other means to prevent a short circuit.

GENERAL CAUTION

- Always keep the magnetic card reader and magnetic cards clean. If dust, oil, or water gets on them, an error occurs or the magnetic head malfunctions or deteriorates.
- Do not lubricate the magnetic card reader.
- If you drop an object into the magnetic card reader slot, use tweezers or a similar means to extract it.
- Keep magnetic cards and the magnetic card reader away from magnets or magnetic objects. Magnetism will destroy data on a magnetic card.
- Always keep the IC card reader/writer and IC cards clean. If dust, oil, or water gets on them, an error occurs or the card reader/writer malfunctions or deteriorates.
- Do not lubricate the IC card reader/writer.
  (* Only the FWT31B2 accepts IC cards.)

DISASSEMBLY PROHIBITED

- Do not remove any component that is screwed on.
  Doing so may result in an electric shock, burns, or injury.

⚠CAUTION

UNPLUG THE CABLE

- For safety reasons, unplug the AC adapter and single-pack charger if they will not be used for a long time.
  Failure to do so may result in an electric shock or fire.

H Conventions Used in the Manual

Symbols

Symbol	Meaning
🔔Note🔔	Indicates a precaution or information you need to note. Be sure to read these items.
📖For reference📖	Indicates useful information.
>>Reference>>	Indicates a section to be referred to for more information.
Circled numbers (such as (1) and (2))	Indicates the steps, starting with (1), in a procedure.
➢	Indicates the result for an operation.
⌧	Indicates the end of a series of operations.

Terminology

Term	Meaning
Tap	To press once somewhere on the screen of the IPAD
Double-tap	To press twice in succession somewhere on the screen of the IPAD