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Chapter 5 Installing OS and Applications

5.1 WINDOWS XP PRE-INSTALLED MODEL

5.1.1 Configuration of Windows XP Pre-installed Model

FC-N21S of Windows XP pre-installed model has Microsoft Windows XP Professional installed at factory shipment to be automatically booted at power-on.

The parameters are previously set to the factory defaults as shown in the table below. Accordingly, you may not enter them on booting of FC-N21S.

Parameter	Factory default
Owner	FC-USER
Organization	(Not set)
Computer name	FCN21S-XXXXX

Value "XXXXX" in the computer name shows the lowest five digits of the product ID of Microsoft Windows XP Professional. For the product ID, see the Microsoft Windows XP Professional license label pasted on the bottom of FC-N21S.

For how to change the computer name, see "Specify computer and workgroup names" in the Online Help of Microsoft Windows XP Professional.

To change the owner or organization, see next subsection "5.1.1.1 Changing Owner and/or Organization by Modifying Registry" or provide re-setup for Windows XP. For the re-setup, see "l5.1.2 Re-setup of Windows XP in FC-N21S of Pre-installed Model".

For the HDD installed in FC-N21S of pre-installed model, the first and second partitions (or system and remaining areas respectively) are formatted at shipment from factory.
To change the format so as to assign the second partition (remaining area) to more than one drive, select [Start] → [Control Panel] → [Performance and Maintenance] → [Administrative Tools] → [Computer Management] → [Disk Management] after the setup is completed.

Capacity (1s HDD)	
First partition	**Second partition**
20GB (NTFS)	Standard HDD: About 40GB (NTFS)
	Wide temperature range HDD: About 20GB (NTFS)

> Note that Windows XP installed in FC-N21S is not specified as an upgrading/downgrading product by Microsoft.

5.1.1.1 Changing Owner and/or Organization by Modifying Registry

> The registry has a variety of information required to operate Windows XP.
> Changing the registry incorrectly may cause Windows XP to be started improperly. Change the registry with sufficient care.
> If Windows XP is not started or started improperly after change of the registry, reinstall Windows XP.

> Be sure to change the registry before installing applications in FC-N21S. If the registry is changed after some applications are installed, the changed registry may not be reflected on the versions of the applications.
> However, Windows XP can operate normally.
> Only symptoms such as shown by an example below may appear:
> Ex: When organization and/or owner are changed after Microsoft Excel is installed,
> - Selecting [Control Panel] → [Organization/owner in System] causes the organization and owner after registry change to be displayed.
> - The version information in the Help file of Excel indicates the organization and owner after registry change.

(1) Registry change procedure

1. Start WindowsXP.

2. Click [Start] → [Run…], type "c:\windows\regedit.exe", and click [OK].

3. Open HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion.

4. Click the following items and change the organization and/or owner.

   Registered Organization

   Registered Owner

5. Click [File] → [Exit] to exit the registry editor.

(2) Organization/owner check procedure

1. Start Windows XP.

2. Right-click [My Computer] and click [Property].

(3) Microsoft Windows XP Professional License Label (COA label)

FC-N21S of pre-installed mode has Last Known Good Configuration Microsoft Windows XP Professional license label (COA label) pasted on the bottom of FC-N21S.

The label includes some important information including "Product ID". Take sufficient care on that label so that the label may not be damaged, broken or peeled off.

> The Microsoft Windows XP Professional license label (COA label) shall not be re-issued if it is damaged, broken or peeled off.
> Note: Because the COA label is partially transparent and not laminated, it seems to get a hole or be broken. However, it does not indicate that the label is damaged. The transparent part of the label may have a unique shape due to special processing to be different from others.

5.1.2 Re-setup of Windows XP in FC-N21S of Pre-installed Model

5.1.2.1 Re-setup

Re-setup can recover the damaged system of FC-N21S to the normal state.

However, files stored in the HDD are erased. In addition, it takes much time for re-setup. Check if re-setup is absolutely required before starting the job.

(1) Situations requiring re-setup

Provide re-setup for the system in FC-N21S in the following situations:

1. Recovering system from trouble

   − At power-on, the power lamp goes on but Windows does not start.

   − One or more programs in the HDD do not operate.

   − System files in the HDD are erased unintentionally.

   − Repairing the system cannot solve problem.

   − Started Windows XP in the safe mode, but problem cannot be solved.

2. Changing settings of Windows

   − The settings of Windows are required to be recovered to the factory defaults.

3. Changing the settings of the HDD

   − The capacity of drive C is required to be changed.

   − The HDD is required to be configured with only a single partition.

> The re-setup is to return the system in FC-N21S to that in the same state at shipment from factory based on the data stored in the recovery CD-ROMs if the system is damaged.
> The re-setup is also required after the configuration of the HDD is changed. It is because formatting (initializing) the HDD causes the system to be erased.

(2) System repair procedure

The system can be repaired in either of the following two ways. The proper way is dependent on the system status. Try the simpler method first in the order shown below:

1. Repair the system by using the [Last Known Good Configuration] menu.

2. Provide the system with re-setup by using the recovery CD-ROMs.

> Notes on re-setup
> - Make a backup of data.
>   Some re-setup methods may erase all or a part of data you have created. For the re-setup methods, see "5.1.2.2 Standard and Custom Re-setups".
> - Write down the settings of FC-N21S.
>   Re-setup returns all settings including network settings to the factory defaults.
>   To use FC-N21S with the same settings as the current ones after re-setup, write down the current settings of FC-N21S.
> - Remove peripheral devices purchased separately from FC-N21S.
>   Provide re-setup under the condition that devices coming with FC-N21C are only connected to FC-N21S.
>   Peripheral devices purchased separately should be connected to FC-N21S after re-setup.
> - If a supervisor password is set, cancel the supervisor password or change the BIOS SETUP as follows:
>   Select [Security] → [Password on boot] → [Disabled].
>   For the supervisor password, see "4.4.1 Security".
> - Do not suspend re-setup.
>   After starting re-setup, be sure to complete it according to the procedure described in this guide. If suspended, restart the re-setup from the beginning.
> - Install applications purchased separately after completion of re-setup.
>   All applications purchased separately are also erased by re-setup. Install them after re-setup is completed.

5.1.2.2　Standard and Custom Re-setups

There are two re-setups, or standard and custom re-setups. The following describes five re-setup patterns.

For file systems NTFS, FAT32 and FAT16, click [Start] → [Help and Support]. (Searching with keyword such as "File System", you can view the detailed information.)

(1) Standard re-setup

Every hard disk drive in FC-N21S can be returned to the factory default. Beginners and users unfamiliar with HDD should always follow the procedure for re-setup.

(2) Custom re-setup

For re-setup of drive C only or change of the capacity of drive C, follow the procedure.

Select any of the following three procedures and go to Subsection "5.1.5 Custom Re-setup".

1. Re-setup of drive C only in the NTFS format.

Provide only drive C in the built-in HDD with re-setup in the NTFS format.

Drive D and the other drives are not formatted and the data in the drives is left as it is.
* The capacity of drive C is not changed.

2. Re-setup of entire HDD area to a single partition

Provide the entire area of the built-in HDD with re-setup to a single partition in the NTFS format. Drive C can have the maximum capacity.

Data in the built-in HDD is erased completely. Be sure to make backup copy of the data.

3. Free re-setup of HDD area (re-setup by user setting)

Provide the area of the built-in HDD with re-setup to a combination of partitions of 5GB or larger in 1GB freely.

Data in the built-in HDD is erased completely. Be sure to back up the data.

5.1.3 Repairing System

The following describes the troubleshooting procedures when the system cannot be started normally due to change of system configuration.

5.1.3.1   Repairing System by Using Configuration in the Last Normal Starting

If starting Windows XP is disabled after some system change, the problem can be solved by using the configuration in the last normal starting.

- The configuration changes made after the last normal starting are all discarded.
- If the system is started normally more than once after configuration change, the configuration before the change cannot be recovered.

To use the configuration on the last normal starting, follow the procedure below:

1. Start Windows XP being defected.

2. If message "For troubleshooting and advanced startup options for Windows, press F8." appears on the screen, press **F8**.

3. If [Windows Advanced Options Menu] appears, select [Last Known Good Configuration] and press **Enter**.

4. On the operating system selection menu, press **Enter**.

    The [Hardware Profile/Configuration Recovery Menu] dialog box appears.

    Any of the following options can be selected on the menu.

    − Hardware profile selection used at startup of this device

    − Switch configuration at previous normal startup

    − Reboot this device

    − System repair

5. To restart Windows XP in the configuration before occurrence of the problem, press **L**. Then press **Enter**.

    Windows XP is started by using the configuration at the last normal starting.

5.1.3.2   Starting Windows XP in Safe Mode

The safe mode is a specific diagnostic mode intended to allow Windows to be started normally.

Follow the procedure below to start Windows in the safe mode:

1. Start Windows XP.

2. If message "For troubleshooting and advanced startup options for Windows, press F8." appears, press **F8**.

3. Select start option "Safe Mode" and press **Enter**.

    Windows XP is started in the safe mode.

5.1.3.3   Repairing System by Using [System Restore]

If using the safe mode or the configuration on the last normal starting cannot start Windows XP normally, use [System Restore] to repair the system.

This method allows FC-N21S to be recovered to the previous state without discarding the personal data files.

To start [Restore System], click [Start] → [All Programs] → [Accessories] → [System Tools] → [System Restore].

For details, click [Start] → [Help and Support] to see the information. (You can search with keyword "system repair" for the detailed information to be viewed.)

5.1.4 Standard Re-setup

5.1.4.1 Repairing System by Using Recovery CD-ROMs

The Recovery CD-ROMs attached to FC-N21S can be used to recover the information stored in the HDD to factory defaults.

(1) Tools to be prepared

The following tools are required for re-setup by using the recovery CD-ROMs.

Prepare the following CD-ROMs attached to FC-N21S.

- Recovery CD-ROMs (WinXP)
- CD-R/RW with DVD-ROM drive (FC-CW002U)

In addition, the user name and computer name must be entered.

Define the names to be registered previously.

(2) Check items before re-setup

Be sure to return BIOS settings to the factory defaults if changed.

For how to return BIOS settings to the factory defaults, see "4.1.3 Loading the BIOS SETUP Defaults".

(3) Notes on re-setup

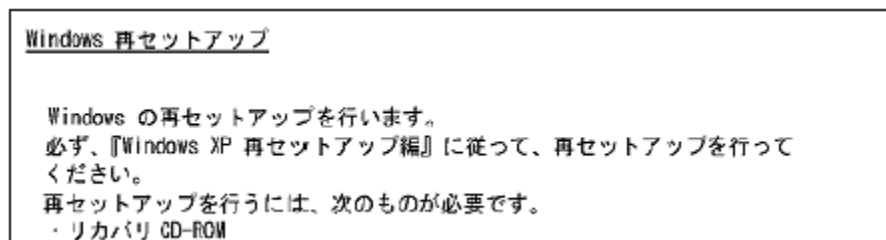- Do not connect or add peripherals including a printer or memory devices.

  Before the re-setup is completed, any peripherals including a printer and extended memory devices should never be connected to FC-N21S. If these peripherals are purchased concurrently with FC-N21S, first complete the setup of Windows XP to be followed by connections and installations of the peripherals according to the user's guides coming with the peripherals.
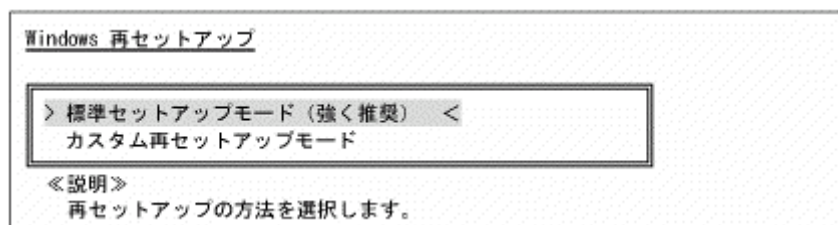
- Do not turn off the power on the way.

  Do not turn off the power in the middle of the setup. Setting the power switch to OFF or disconnecting the power cable in the middle of the setup may cause a fault to occur. If the screen seems to stop on the way, the setup program may operate. This does not indicate that the system is defected. Advance the operation according to the defined procedure without panic.

(4) System Restoration Procedure

1. Turn on the power of FC-N21S.
2. As soon as the power lamp goes on, insert "Recovery CD-ROM (WinXP) (First Disk)" into the CD-ROM drive.
3. If the following dialog box appears, press **Enter**.
4. If the following dialog box appears, select [標準再セットアップモード(強く推奨)] and press **Enter**.

```
Windows 再セットアップ

 Windows の再セットアップを行います。
 必ず、『Windows XP 再セットアップ編』に従って、再セットアップを行って
 ください。
 再セットアップを行うには、次のものが必要です。
 ・リカバリ CD-ROM
```

5. Follow the direction on the dialog box to provide re-setup.

```
Windows 再セットアップ

 > 標準セットアップモード (強く推奨)   <
   カスタム再セットアップモード

 《説明》
  再セットアップの方法を選択します。
```

6. If the following message appears in the middle of the setup, insert the CD-ROMs in the ascending order of ordinal numbers and press **Enter**.

次の番号の「再セットアップ用 CD-ROM」をセットし，Enter キーを押してください

→ "Recovery CD-ROM (WinXP) (Second Disk)"

→ "Recovery CD-ROM (WinXP) (Third Disk)"

→ "Recovery CD-ROM (WinXP) (Forth Disk)"

For the subsequent steps, follow the directions on the dialog box.

Now the HDD is completely restored to the factory defaults.

Then provide re-setup for Windows XP.

(5) Re-setup of Windows XP

If the power of FC-N21S is turned on for the first time after system restoration by using the recovery CD-ROMs, the Windows XP setup job including entry of your name is required. It takes about 30 minutes to complete the job.

1. Reboot FC-N21S after the system restoration job is completed. If the [Welcome to Microsoft Windows] screen appears, click [Next].

2. The [The End User License Agreement] screen appears. Click the scroll button to read it thoroughly.

3. After reading, click [Yes, I accept]. Then click [Next].

Clicking [No, I don't accept] disables the setup job to be started.

4. If the [Help protect your PC] dialog box appears, select [Not right now] and click [Next].

5. If the [What's your computer's name?] dialog box appears, enter any name in the name field.

– The factory default of [Computer name] is "FCN21S-XXXXX" (XXXXX: lowest five digits of product ID).

– The computer name can be changed later.

– [Computer description] is empty at shipment.

6. Click [Next].

7. If the [What's your Administrator password?] dialog box appears, enter a password in the password field.

– The password field is empty at shipment.

– The password is case sensitive.

– The password can be changed later. The password entered here must be reentered in the re-setup job. Take note of the password for remembrance.

8. Click [Next].

9. If message "Is this computer in a domain?" appears, select [Yes] or [No].

(The following describes the operation after you select [No].)

10. Click [Next].

11. Message "Checking your Internet connectivity" appears and then message "How will this computer connect to the Internet?" appears.

12. Click [Skip].

13. Message "Ready to register with Microsoft" appears.

14. Select "No, not at this time" here.

15. Click [Next].

16. If message "Who will use this computer" appears, enter a user name.

– Default user name: FC-USER

– Without entering a user name, you cannot advance to the next step.

In this case, wait until the desktop screen appears, click [Finish] on the [Introduction to Windows XP] screen and click [Yes] on the [Change System Settings Screen] screen to restart the system.

> After re-booting, the [Welcome to the Found New Hardware Wizard] dialog box may appear.
> If this occurs, provide proper settings in the following procedure:
> 1. If [Welcome to the Found New Hardware Wizard] appears, click " No, not this time " and then click [Next].
> 2. Click " Install the software automatically " and then click [Next].
>   Message " Please wait while the wizard installs the software …" appears.
> 3. If the [Completing the Found New Hardware Wizard] dialog box appears, click [Finish].
> Now the operation is completed.

Now the re-setup of Windows XP is completed.

> Because WindowsXP automatically recognizes USB keyboard and mouse, specific settings are not required.
> In use of a USB keyboard, [Standard 101/102 –Key or Microsoft Natural PS/2 Keyboard] or [PS/2 Compatible Mouse] may appear when you click [Start] → [All Programs] → [Accessories] → [System Tools] → [System Information] and select [Components] → [Problem Devices] in the [System Information] dialog box. This is a view-only problem. The USB keyboard can operate normally without any problems.

> If the keyboard or mouse is reconnected, the key layout may be set improperly.
> If so, see "(6) Notes on change to keyboard or mouse of different key layout" described below.

(6) Notes on change to keyboard or mouse of different key layout

If the current keyboard or mouse is changed to another one, the new keyboard or mouse may operate improperly. If so, change the key layout of the keyboard in the following procedure:

1. Click [Start] → [Control Panel].

2. Click [Date, Time, Language, and Regional Options] and [Regional and Language Options].

3. Click [Details…] in [Text services and input languages] of the [Language] tab.

Note: If you find the desired keyboard layout in the list of installed services, go to step 8.

Click [Add] in [Installed services].

4. Select the language of the keyboard layout to be added from the [Input language:] list.

5. If [Keyboard layout/IME:] has only a single option, click the option.

If more than one options are available, open pull-down menu [Keyboard layout/IME:] and select the desired option from the list.

6. Click [OK].

7. Click the language of the used keyboard layout from the [Default input language] list.

8. Click [OK].

9. Click [OK].

5.1.4.2   Installing Attached Applications

Install attached applications with re-setup.

For the re-setup procedure, see "5.2 Installing Attached Applications".

5.1.4.3   Providing Settings Made after Purchase Again

Any settings made after purchase are discarded by re-setup. Provide the settings again.

Reconnect peripherals purchased separately if any and provide settings for the peripherals again. Also make network setting.

In addition, reinstall applications purchased separately and having been installed if any.

5.1.5 Custom Re-setup

The HDD can be restored to specified status by using the attached Recovery CD-ROMs.

5.1.5.1 Checking Items

(1) Tools to be prepared

The following tools are required for re-setup by using the recovery CD-ROMs.

Prepare the following CD-ROMs attached to FC-N21S.

- Recovery CD-ROM (WinXP)
- CD-R/RW with DVD-ROM drive (FC-CW002U)

In addition, the user name and the computer name must be entered.

Define the names to be registered previously.

(2) Check items before re-setup

Be sure to return BIOS settings to the factory defaults if changed.

For how to return BIOS settings to the factory defaults, see "4.1.3 Loading the BIOS SETUP Defaults".

(3) Notes on re-setup

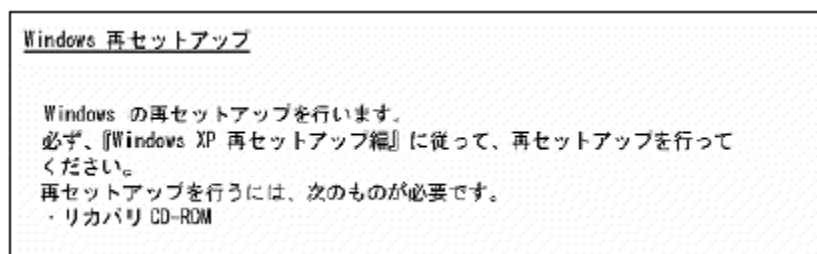- Do not connect or add peripherals including a printer or memory devices.

  Before the re-setup is completed, any peripherals including a printer and extended memory devices should never be connected to FC-N21S. If these peripherals are purchased concurrently with FC-N21S, first complete the setup of Windows XP to be followed by connections and installations of the peripherals according to the user's guides coming with the peripherals.
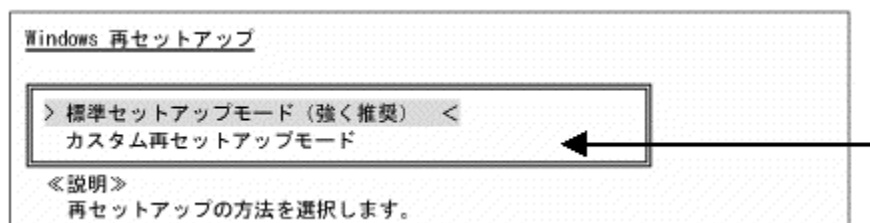
- Do not turn off the power on the way.

  Do not turn off the power in the middle of the setup. Setting the power switch to OFF or disconnecting the power cable in the middle of the setup may cause a fault to occur. If the screen seems to stop on the way, the setup program may operate. This does not indicate that the system is defected. Advance the operation according to the defined procedure without panic.

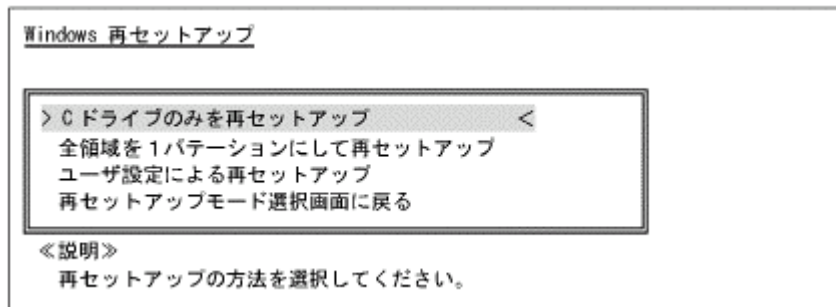### 5.1.5.2 System Restoration Procedure

1. Turn on the power of FC-N21S.
2. If the power lamp goes on, insert the first Recovery CD-ROM disk (WinXP) in the CD-ROM drive.
3. If the following dialog box appears, then press **Enter**.

```
Windows 再セットアップ


Windows の再セットアップを行います。
必ず、『Windows XP 再セットアップ編』に従って、再セットアップを行って
ください。
再セットアップを行うには、次のものが必要です。
・リカバリ CD-ROM
```

4. If the following dialog box appears, select [カスタム再セットアップモード] and press **Enter**.

```
Windows 再セットアップ


> 標準セットアップモード（強く推奨）  <
  カスタム再セットアップモード

《説明》
  再セットアップの方法を選択します。
```

5. The following dialog box appears.

```
Windows 再セットアップ

>Cドライブのみを再セットアップ         <
  全領域を1パテーションにして再セットアップ
  ユーザ設定による再セットアップ
  再セットアップモード選択画面に戻る

《説明》
  再セットアップの方法を選択してください。
```
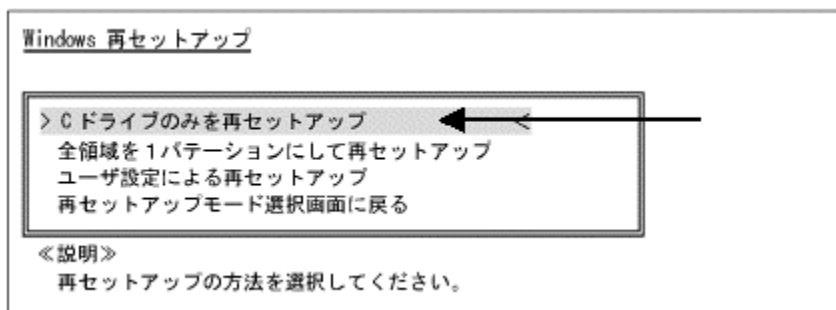
(1) [C ドライブのみを再セットアップ]

(2) [全領域を 1 パーティションにして再セットアップ]

(3) [ユーザ設定による再セットアップ]

(1) Re-setup of drive C only (NTFS)

If the HDD to be subject to re-setup has an unassigned area larger than drive C, re-setup of drive C only may be disabled.

If so, retain the unassigned area as a partition before selecting [C ドライブのみを再セットアップ].

1. If the following dialog box appears, select [C ドライブのみを再セットアップ] and press **Enter**.


```
Windows 再セットアップ

>Cドライブのみを再セットアップ         ◄    <
  全領域を1パテーションにして再セットアップ
  ユーザ設定による再セットアップ
  再セットアップモード選択画面に戻る

《説明》
  再セットアップの方法を選択してください。
```

2. If message "C ドライブに Windows XP を再セットアップします。よろしいですか？" appears on the dialog box, select [Yes] and press **Enter**.

3. If the following message appears in the middle of the setup, insert the CD-ROMs in the ascending order of ordinal numbers and press **Enter**.

次の番号の「再セットアップ用 CD-ROM」をセットし, Enter キーを押してください

→ "Recovery CD-ROM (WinXP) (Second Disk)"

→ "Recovery CD-ROM (WinXP) (Third Disk)"

→ "Recovery CD-ROM (WinXP) (Third Disk)"

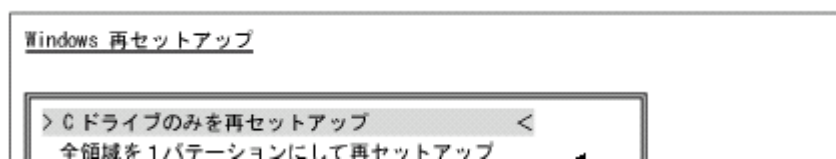For the subsequent steps, follow the directions on the dialog box.

If the [Windows XP Setup Wizard] dialog box appears after restarting, then the following operation is the same as that for the standard re-setup.

Perform the operation according to the description in "5.1.4.1 Repairing System by Using Recovery CD-ROMs".

(2) Re-setup by combining entire area into a single partition (NTFS)

Select [全領域を 1 パーティションにして再セットアップ] on the [WindowsXP 再セットアップ] dialog box and press **Enter**.

1. If the following dialog box appears, select [全領域を 1 パーティションにして再セットアップ] and press **Enter**.


```
Windows 再セットアップ

>Cドライブのみを再セットアップ         <
  全領域を1パテーションにして再セットアップ    ◄
```

3. If the following message appears in the middle of the setup, insert the CD-ROMs in the ascending order of ordinal numbers and press **Enter**.

> 次の番号の「再セットアップ用 CD-ROM」をセットし, Enter キーを押してください

→ "Recovery CD-ROM (WinXP) (Second Disk)"

→ "Recovery CD-ROM (WinXP) (Third Disk)"

→ "Recovery CD-ROM (WinXP) (Forth Disk)"

For the subsequent steps, follow the directions on the dialog box.

If the [Welcome to Microsoft Windows] dialog box appears after restarting, then the following operation is the same as that for the standard re-setup.

Perform the operation according to the description in "5.1.4.1 Repairing System by Using Recovery CD-ROMs".

(3) Re-setup with free setting of HDD area (NFTS)

Select [ユーザ設定による再セットアップ] on the [WindowsXP 再セットアップ] dialog box and press **Enter**.

1. If the following dialog box appears, select [ユーザ設定による再セットアップ] and press **Enter**.
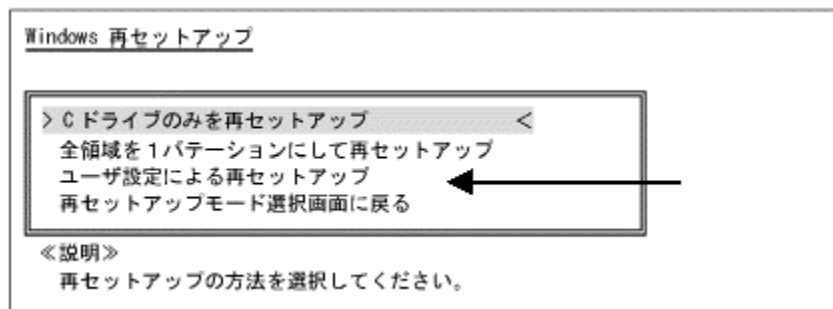
2. If message "ドライブのサイズを GB 単位で指定できます。" appears, enter the desired capacity of drive C by using the numeric keypad. The range from 5GB to 82GB can be specified. However, you cannot specify any capacity larger than the capacity of the HDD.

3. If message "この設定でよろしければ F8 キーを押してください。" appears, make sure that the specified value is displayed and press **F8**.

4. If the following message appears in the middle of the setup, insert the CD-ROMs in the ascending order of ordinal numbers and press **Enter**.

> 次の番号の「再セットアップ用 CD-ROM」をセットし, Enter キーを押してください

→ "Recovery CD-ROM (WinXP) (Second Disk)"

→ "Recovery CD-ROM (WinXP) (Third Disk)"

→ "Recovery CD-ROM (WinXP) (Forth Disk)"

For the subsequent steps, follow the directions on the dialog box.

If the [Welcome to Microsoft Windows] dialog box appears after restarting, then the following operation is the same as that for the standard re-setup.

Perform the operation according to the description in "5.1.4.1 Repairing System by Using Recovery CD-ROMs".

5.1.6 "Microsoft Windows XP Service Pack 2"

The OS installed in FC-N21S of Windows XP pre-installed model is "Microsoft Windows XP Service Pack 2" (called Service Pack 2 below).

Service Pack 2 includes a set of update programs intended to improve or correct faults and problems found after the first supply of Windows XP.

	Addition/deletion Do not delete Service Pack 2 from FC-N21S. Some device drivers are only applicable to Service Pack 2. Thus, deleting Service Pack 2 may cause some drivers to be operated improperly.

修正

	The latest and other information on Windows XP is provided on the following web site. Access the site periodically. http://www.microsoft.com/windowsxp/downloads/

5.2 INSTALLING ATTACHED APPLICATIONS

5.2.1 Fingerprint Authentication Utility

> A set of installation software is saved in drive C and thus no CD-ROM drive is required.

(1) Overview

The fingerprint authentication allows the following features to be executed:

- Logon to Windows and unlock the screen saver
- Substituting for passwords of applications (protecting important files)

(2) Supporting OSs

- Microsoft Windows XP, Japanese Ver. (SP2)
- Microsoft Windows XP, English Ver. (SP2)

(3) Installation procedure

1. Start Windows.
2. Click [Start] → [Control Panel].
3. Double-click [Add or Remove Programs].
4. Click [CD or Floppy] on the [Add new Programs] tab.
5. If message "Install Program From Floppy Disk or CD-ROM, and then click Next." appears, click [Next].
6. Click [Browse…] and change the file type to [Program].

    Specify "C:\WINXP\Fingerprint Sensor\autorun.exe" and click [Open].
7. The menu window appears. Click [Software Installation].
8. Follow the directions on the window. For details of installation, see "C:\WINXP\FingerprintSensor\doc\0411\Manual.pdf".
9. After the installation is completed, reboot FC-N21S.

    Now the Fingerprint Authentication Utility is completely installed.

(4) Usage

> To browse the following documentation file, Acrobat Reader 7.0 must be installed.

1. Start Windows.
2. Click [Start] → [Settings] → [Control Panel].
3. Double-click [Add or Remove Program].
4. Click [CD or Floppy] on the [Add new Programs] tab.
5. If message "Install Program From Floppy Disk or CD-ROM, and then click Next." appears, click [Next].
6. Click [Browse…], specify "C:\WINXP\Fingerprint Sensor\autorun.exe" and click [OK].
7. The menu dialog box appears. Click [Documentation].
8. Open "Manual.pdf" to check usages including the fingerprint registration procedure.

(5) Deletion procedure

1. Start Windows.
2. Click [Start] → [Settings] → [Control Panel].

Now the fingerprint authentication utility is removed completely.

> Data saved in the biometric device (chip for fingerprint sensor) is not erased even if the built-in HDD is erased. See "C:\WINXP\Fingerprint Sensor\doc\0411\Manual.pdf" to uninstall the fingerprint authentication utility in the proper procedure.

5.2.2 Infineon Security Platform

> A set of installation software is saved in drive C and thus no CD-ROM drive is required.

(1) Overview

Using Infineon Security Platform allows electronic mails and files to be encrypted and prohibited from being opened without authentication password.

In addition, FC-N21S is equipped with a security chip called TPM (Trusted Platform Module) in its major part to store encryption keys in the security chip. Thus, if only the HDD is withdrawn, the data in the HDD will not be read.

(2) Supporting OSs

- Microsoft Windows XP, Japanese Ver. (SP2)
- Microsoft Windows XP, English Ver. (SP2)

(3) BIOS setting procedure

Set BIOS in the following procedure.

> To use the security chip, set supervisor and user passwords to restrict accessing to the BIOS SETUP Utility.

1. After power-on of FC-N21S, the BIOS start screen (with NEC logo displayed at the center) appears. If message "Press <F2> to SETUP or Press <F12> to Network boot." appears, press **F2**.

2. After the BIOS SETUP Utility menu appears, select [Security].

3. Select [Security Chip Configuration] and press **Enter**.

4. Select [Security Chip] and press **Enter**.

5. Select [Enabled] and press **Enter**.

6. Item [Security Platform] appears. Select it and press **Enter**.

7. Select [Enabled] and press **Enter**.

8. Press **F10** to open the [Save configuration changes and exit now?] dialog box. Select [Yes] and press **Enter**. An attempt is made to restart BIOS.

9. After restarting, the [Physical Presence Operations] dialog box is opened.

10. Select [Execute] and press **Enter** to try to restart BIOS.

(4) Installation procedure

1. Start Windows.

> Just after BIOS setting, the hardware add wizard requests driver installation. However, the driver can be installed in the following procedure. you may cancel the hardware add wizard.

2. Click [Start] → [Settings] → [Control Panel].

3. Double-click [Add or Remove Program].

4. Click [CD or Floppy] on the [Add new Programs] tab.

5. If message "Install Program From Floppy Disk or CD-ROM, and then click Next." appears, click [Next].

6. Click [Browse…], specify "C:\WINXP\TPM\Setup.exe" and click [OK].

(6) Usage

For details of the features, operations and restrictions of the Infineon Security Platform, see "C:\WINXP\TPM\Readme\JP\Readme.txt".

(7) Deletion procedure

1. Start Windows.

2. Click [Start] → [Control Panel].

3. Double-click [Add or Remove Programs].

4. Click [Infineon TPM Professional Package] and [Change/Remove].

5. If the [Confirm File Deletion] dialog box appears, click [Yes].

6. Follow the directions on the dialog box to uninstall the fingerprint authentication utility.

7. After the uninstallation is completed, reboot FC-N21S.

Now the Infineon Security Platform is deleted completely.

5.2.3 FC Button Setting Tool

(1) Overview

The tablet buttons at the lower left corner of the LCD display can be assigned new features different from their original ones by using the BIOS SETUP Utility.

If any of the keys are assigned [FC button 1] and/or [FC button 2], the execution commands (or application starts) registered on the [FC Button Setup utility] dialog box can be run.

(2) Supporting OSs

- Microsoft Windows XP, Japanese Ver. (SP2)
- Microsoft Windows XP, English Ver. (SP2)

(3) Usage

To use the feature, any of the tablet buttons must be assigned [FC button 1] and [FC button 2] on the BIOS SETUP Utility.
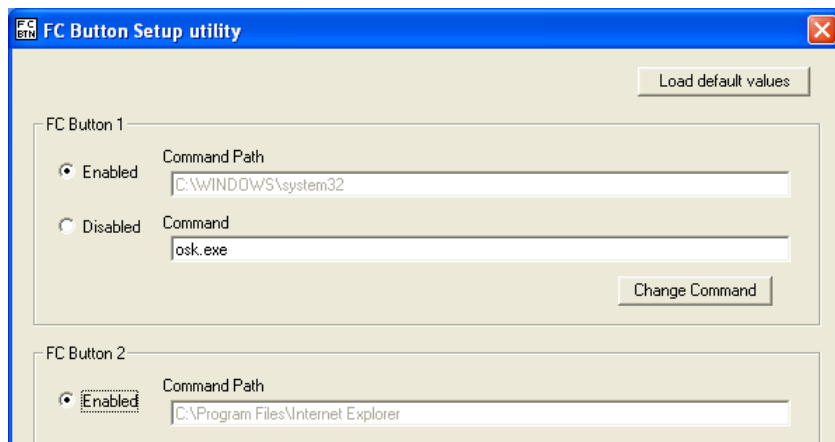
> For BIOS settings, see "4.3.4 Tablet Button Submenu".

See C:\WINXP\FCBTN\FCbtnReadme.txt for details.

(4) Start procedure

Click [Start] → [All Programs] → [FC Button Setup utility].

The [FC Button Setup utility] dialog box shown below appears. Set the buttons appropriately.

5.3   OTHER OSS AND APPLICATIONS

(1) FC-N21C of Linux pre-installed model

FC-N21S of Linux pre-installed model (delivered when you select [Linux pre-installed] on the Selection Menu) contains an accompanying CD-ROM different from that of another model.

> For use of FC-N21C of Linux pre-installed model, refer to the PDF documentation stored in attached CD-ROM "DeveloperCD".

(2) CD-R/RW with DVD-ROM drive

Option FC-CW002U (external CD-R/RW with DVD-ROM drive) contains writing tool. A DVD video replay tool is commercially available.

(3) FC-N21C of Linux pre-installed model of English version

For FC-N21C of Linux pre-installed model of English version, the re-setup procedure by using the attached recovery CD-ROM is the same as that for FC-N21C of Linux pre-installed model of Japanese version.

FC-N21C of Linux pre-installed model of English version can run the following applications among those attached to FC-N21S.

<Applications available to FC-N21C of Linux pre-installed model of English version >

- Fingerprint Authentication Utility
- Infineon Security Platform
- FC Button Setting Tool

Chapter 6 Security

6.1 SETTING PASSWORD ON BIOS SETUP UTILITY

You can set a password intended to limit users of starting the system on the BIOS SETUP Utility.

If you set a password, any user must enter the password for the following operations. This can increase the security feature:

- Starting BIOS SETUP Utility
- Starting system

6.1.1 Security by Password at Start of BIOS SETUP Utility

Setting supervisor and user passwords on the BIOS SETUP Utility can limit users of starting the system.

If you set a password, any user must enter the password for the following operations:

- Starting BIOS SETUP Utility
- Starting system.

This can increase the security feature:

Any user starting the BIOS SETUP Utility with the user password can only provide limited items with settings. This can prohibit users from changing important items if he or she is not the administrator of the specific PC.

For the password setting procedure, see "4.4.1 Security".

6.1.2 HDD Password

You can set a password for the HDD (primary master)

If a HDD password is set for a PC, the password must be entered to another PC in which this HDD is installed.

> The HDD password is intended to prevent the HDD from being used illegally in a PC other than yours. Even if a HDD password is set, entering the password is not required on booting your PC.

There are two HDD passwords, or HDD master and HDD user passwords.

The HDD master password is intended to release the HDD user password.

The HDD user password is intended to authenticate your PC and the HDD installed in the PC.

For the setting procedure, see "4.4.1 Security".

6.2 I/O LOCK FEATURE

The I/O lock disables the I/O feature, measures to interchange data with external devices, on the BIOS SETUP Utility.

> To use the I/O lock feature, set supervisor and user passwords to limit accessing to the BIOS SETUP Utility.

6.3 LOGIN PASSWORD

The login password is intended to limit users of OS.

If a login password is set, the password must be entered to login to the OS.

<Setting Procedure>

1. Click [Start] → [Control Panel].

2. Click [User Accounts] to open the dialog box.

3. Click [Change an account] and click the name of the user for which a login password is to be created.

4. Click [Create a password] to open the password setting screen.

5. Enter a password in the [Type a new password:] and [Type the new password again to confirm:] boxes and click [Create password].

> - A login password can be created only by a user having any of accounts in the local PC including guest and administrator accounts and those created for the PC.
> - To create a tip for a password, anyone using PCs can see the tips on the [Welcome] screen.
> - A user having the administrator account of a PC can create or change passwords for all users of the PC. A user having a limited account can only create or change his or her own password or create a tip of the password.
> - If a user having the administrator account of a PC changes a password of a user, then the user loses all the passwords stored for EFS encrypted files, personal certificate, and web site or network resources.

6.4 SECURITY CHIP

Setting the security chip allows electronic mails and files to be encrypted and prohibited from being opened without an authentication password.

In addition, FC-N21S is equipped with a security chip called TPM (Trusted Platform Module) in its major part to store encryption keys in the security chip. Thus, if only the HDD is withdrawn, the data in the HDD will not be read.

> To use the security chip, set supervisor and user passwords to restrict accessing to the BIOS SETUP Utility.

See "5.2.2 Infineon Security Platform" for details.

6.5 FINGERPRINT AUTHENTICATION PASSWORD

The fingerprint authentication password is intended to provide authentication by fingerprints using the built-in fingerprint sensor instead of passwords.

FC-N21S has an attached utility to allow logon to Windows, release of screen saver lock and substitution for passwords of various applications by fingerprint authentication.

For the attached utility, see "5.2.1 Fingerprint Authentication Utility".

6.6 ANTITHEFT LOCK

A commercial security cable can be used to tie FC-N21S to a desk or so. This is effective to prevent FC-N21S itself from being stolen.

The antitheft lock hole has the size of 3mm×7mm. Select a security cable fit to the hole.

> Take sufficient care for management and treatment of important data without overconfidence of the security cable.

Chapter 7 Options

7.1   EXTENDED RAM BOARDS FC-UG-M011 (256MB), FC-UG-M012 (512MB) AND FC-UG-M013 (1GB)

FC-N21S can be equipped with an extended RAM board of an option to operate more applications concurrently and/or process larger data at higher speed.

	■ Be sure to select an extended RAM board specified as an option of FC-N21S if installed.

(1) Installation procedure of extended RAM board

	■ Extended RAM boards are extremely sensitive to static electricity. Making your body charged electrostatically contact with an extended RAM board may cause the board to be damaged. Before you can handle an extended RAM board, you should discharge static electricity from your body by touching a metallic component found near you including aluminum sash and a doorknob ■ Do not make your hands contact with the connector of each extended RAM board. Failure to follow this instruction may cause a fault such as poor connection to occur. ■ Be careful not to make your hands contact with parts and soldering on each extended RAM board. ■ Trying to insert an extended RAM board into the mating connector of FC-N21S in invalid orientation may cause the board and/or the connector to be defected. Note the orientation. ■ Before installing an extended RAM board in FC-N21S, confirm that the board is available to FC-N21S.

1.   Turn off the power of FC-N21S if operated.

2.   Unplug the power cord from the AC outlet and remove the AC adapter from FC-N21S.

3.   Close the LCD display panel and turn FC-N21S upside down.

4.   Remove the battery pack from FC-N21S. See "3.4.5 Replacing Battery" for the removal procedure.

5.   Remove the screws (4) fixing the memory slot cover and remove the memory slot cover.

Memory slot cover

Insert the extended RAM board to the mating connector in FC-N21S to the depth at insertion angle of about 30°.

> ■ The extended RAM board cannot be inserted to the mating connector on FC-N21S in the reversed orientation. Check the front and rear sides of the board securely.
> ■ Hold both ends of an extended RAM board if you must handle the board.
> ■ It may be hard to insert an extended RAM board into the mating connector on FC-N21S. Push the board to the depth securely. If not, the connector may be damaged in the next step.

6. Push the board down to FC-N21S intensely until a click occurs.

Locked here

> Confirm that the board is securely locked by hooks.

7. Put the memory slot cover to the original position and drive the screws (4) to fix the cover.
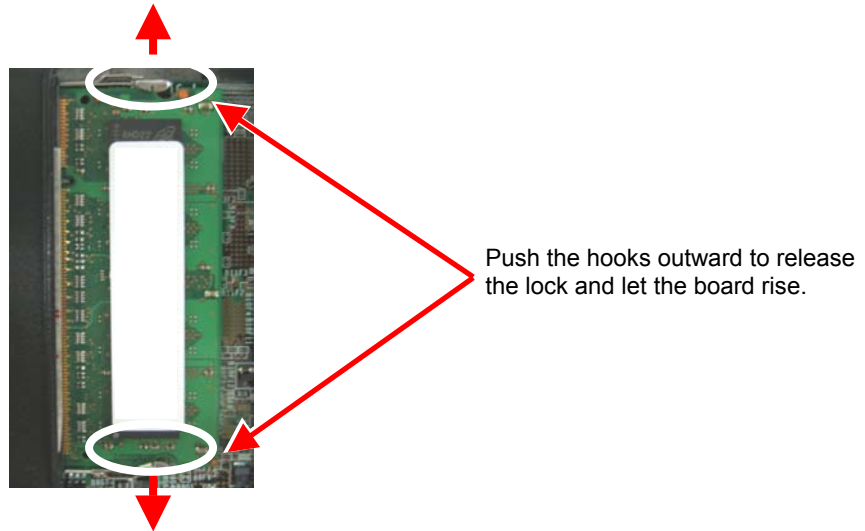
> If dust and/or dirt adhere to the silicon rubber on rear of the cover, the water-proof and dust-proof of the cover may be reduced. Wipe the silicon rubber to remove dust and dirt before installing the cover.

8. Install the battery pack in FC-N21S and connect the AC adapter to FC-N21S. See "3.4.1 Installing Battery" for the battery installation procedure.

(2) Extended RAM board removal procedure

1. Remove the memory slot cover according to steps 1 to 5 in "(1) Installation procedure of extended RAM board".

2. Push the hooks outwards to let the extended RAM board rise. Then pull out the board.

Push the hooks outward to release the lock and let the board rise.

	Extended RAM boards can be damaged easily because they are rather thin. Handle them carefully.
	■ Be careful not to make your hands contact with parts and soldering on extended RAM boards.
	■ To pull out an expended RAM board from the mating connector, hold both ends of the board.

3. Put the memory slot cover to the original position and drive the screws (4) to fix the cover.

	If dust and/or dirt adhere to the silicon rubber on rear of the cover, the water-proof and dust-proof of the cover may be reduced. Wipe the silicon rubber to remove dust and dirt before installing the cover.

4. Install the battery pack in FC-N21S and connect the AC adapter to FC-N21S.

(3) Extended RAM confirmation procedure

For Windows XP:

1. Click [Start] → [Control Panel] → [Performance and Maintenance] → [System]. Then the [System Properties] dialog box appears.

2. Check the data appearing at the lower right corner in the [General] tab. [***KB RAM] or [***MB of RAM] should appear (where "***KB" or "***MB" is the total memory capacity).

    If the memory capacity does not increase, check if the extended RAM board is installed appropriately again.

	■ Depending on the system status, the value may be smaller than the actual total capacity. However, this does not result from occurrence of an error.
	■ To use a feature in the pause state after memory extension, the empty capacity by the extended memory capacity is required in the HDD. Check the capacity of the HDD.

7.2 HARD DISK DRIVE FC-HD60KN (STANDARD)

Spare HDD FC-HD60KN can be replaced with the HDD installed in FC-N21S of standard model.

(1) Specification of HDD (standard)

Item	Specification
Total storage capacity	60GB
Number of revolutions	5,400 rpm
Average seek time	12 ms
External dimension	78(W) × 120(D) × 19(H) mm
Weight	About 120 g

(2) HDD removal procedure

> HDDs are extremely precise equipment. Note the following if used.
> - During data read/write (with the access lamp being ON), only a small shock may cause the HDD to be defected.
> - If the HDD is defected, important data may be unavailable at a time and unable to be restored. It is recommended to frequently back up important data for which the same data cannot be created twice.
> - Depending on models of HDDs, a region with no drive number assigned appears in the [Disk Management] dialog box. This is the re-setup region required for re-setup. Do not provide the region with such processing as deletion from targets of disk management.

1. Turn off the power of FC-N21S if operated.

2. Unplug the power cord from the AC outlet and remove the AC adapter from FC-N21S.

3. Close the LCD display panel and turn FC-N21S upside down.

4. Remove the battery pack from FC-N21S. See "3.4.5 Replacing Battery" for the removal procedure.

5. Remove the screws (4) fixing the disk cover and remove the disk cover.

Disk cover

7. Remove the screw (1) fixing the connector cover and remove the connector cover.

Screw for fixing connector cover

**8.** Remove the small board with cable from the connector on the HDD.

	■ Be careful sufficiently not to damage the connector and other parts by pulling out the connector at an improper angle. ■ To pull out the connector, hold both ends of the board.

(3) HDD installation procedure

1. Connect the small board with cable to the connector on a new HDD.

2. Install the connector cover and drive the screw (1) to fix the cover.

3. Put remaining cable into the space shown in the photo below and install the HDD with the take-out support pulled out.

Put remaining cable in this space.

Cable
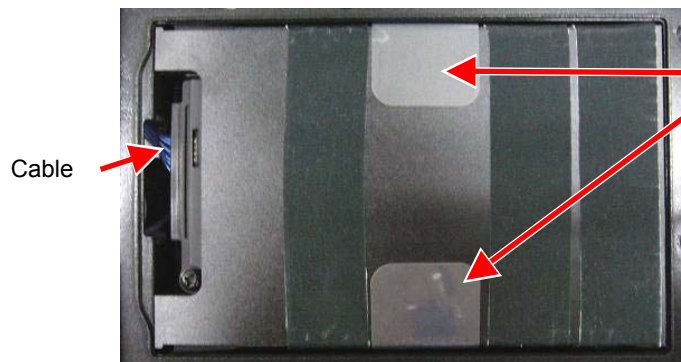
HDD take-out support

> ⚠ The HDD cannot be inserted to the mating connector on FC-N21S in the reversed orientation. Check the front and rear sides of the HDD securely.

4. Put the disk cover to the original position and drive the screws (4) to fix the cover.

> 📖 ■ Put the cover so that the HDD removal support may not be caught.
> ■ If dust and/or dirt adhere to the silicon rubber on rear of the cover, the water-proof and dust-proof of the cover may be reduced. Wipe the silicon rubber to remove dust and dirt before installing the cover.

5. Install the battery pack in FC-N21S and connect the AC adapter to FC-N21S. See "3.4.1 Installing Battery" for the battery installation procedure.

7.3　HARD DISK DRIVE FOR WIDE TEMPERATURE RANGE FC-HD40KN

The spare HDD can be replaced with the HDD installed in FC-N21S of wide temperature range HDD model. The HDD is unavailable to FC-N21S of any other models.

(1) Specification of HDD (standard)

Item	Specification
Total recording capacity	40GB
Number of revolutions	4,200rpm
Average seek time	12ms
Outer dimension (approximation)	78 (W) × 120 (D) × 19 (H) mm
Weight	About 116g
Interface	UltraATA

7.4 SPARE BATTERY FC-N011 (STANDARD TYPE)

Spare battery FC-N011 (lithium ion battery) can be replaced with the battery installed in FC-N21S (standard model).

	For battery replacement, see "3.4.5 Replacing Battery".

	If a battery of an invalid type is substituted for the old one, it may explode. Do not use FC-N011 for other than FC-N21S (standard model). For used batteries, see "3.4.6 Recycling Batteries".

(1) Specification of FC-N011

Item		Specification
Type		Lithium ion battery
Rating voltage		11.1 VDC
Capacity		5.2 Ah (initial)
Temperature	Operating (charging)	0 to 45ºC
	Operating (discharging)	–20 to 60ºC
	Storage	–20 to 60ºC (for up to 1 month)
Outside dimension		95.7 (W) × 93.1 (D) × 19.3 (H) mm (*excluding projections)
Weight		About 0.33 kg

(2) Handling FC-N011

1. Status of FC-N011 at the time of purchase

FC-N011 is not charged fully at purchase.

2. Handling of battery in use or charge

Install FC-N011 in FC-N21S or battery charger FC-N013 of an option and connect the AC adapter to FC-N21S or FC-N013. Then charging FC-N011 is started. It takes about three hours to charge FC-N011 fully.

- With the AC adapter connected to FC-N212S, the battery is still charged if the power of FC-N21S is OFF.

- Charge the battery in temperature range 5 to 40ºC. Charging the battery at a higher temperature may cause it to be deteriorated or damaged.

- It takes a longer time to charge the battery fully at a low temperature than to charge it fully at a normal temperature.

- The time taken to charge the battery fully may vary depending on conditions under which FC-N21S is used.

- At a lower temperature, FC-N21S can operate only for a shorter period.

3. Handling of battery in storage

7.5 AC ADAPTER

AC Adapter is shipped with FC-N21S. The AC adapter converts AC power to DC power to supply the DC power to FC-N21S.

> - The AC adapter is designed on the assumption that it is connected to FC-N21S. The AC adapter may be damaged if it is connected to a device other than FC-N21S.
> - In removal of the AC adapter, first pull out a plug from the mating power outlet and then the other plug from FC-N21S. Removing the plugs in the reserve order may cause the AC adapter and/or FC-N21S to be damaged.
> - Always hold the plugs of the AC adapter in its removal. Do not pull the cord.

7.5.1 AC ADAPTER FC-N012EU (For Europe)

The AC adapter can operate in the voltage range from 100 VAC to 240 VAC. The AC cord shipped with FC-N21S can be used for 240 VAC.

> - The AC adapter (FC-N012EU) and the AC cord shipped with FC-N21S are intended to be used only in the specified country.

(1) Specification of AC adapter(FC-N012EU)

Item		Specification
Temperature	Operating	5 to 35ºC
	Storage	–10 to 70ºC
Humidity		20 to 80% RH (without condensation)
Input voltage		100 to 240 VAC (±10%), 1.5 A, 50/60 Hz (±5%) (The AC cord can be used for 240 VAC.)
Output voltage		16 VDC (±5%), 3.75 A
Maximum power		60 W
Cable length		1.8 m (AC cord: about 2 m)
Outside dimension		114.5 (W) × 50.5 (D) × 28 (H) mm
Weight		About 0.4 kg (including AC cord)

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7.5.2 AC ADAPTER FC-N012US (For U.S.A)

The AC adapter can operate in the voltage range from 100 VAC to 240 VAC. However, the AC cord shipped with FC-N21S can be exclusively used for 100 VAC.

> ■ The AC adapter (FC-N012US) and the AC cord shipped with FC-N21S are intended to be used only in US.

(1) Specification of AC adapter(FC-N012US)

Item		Specification
Temperature	Operating	5 to 40ºC
	Storage	−10 to 70ºC
Humidity		5 to 95% RH (without condensation)
Input voltage		100 to 240 VAC (±10%), 1.5 A, 50/60 Hz (±5%) (The AC cord can be exclusively used for 100 VAC.)
Output voltage		16 VDC (±5%), 4.5 A
Maximum power		72 W
Cable length		1.8 m (AC cord: about 2 m)
Outside dimension		115.4 (W) × 51 (D) × 28 (H) mm
Weight		About 0.46 kg (including AC cord)

7.5.3 AC ADAPTER FC-N012AS (For Australia)

The AC adapter can operate in the voltage range from 100 VAC to 240 VAC. The AC cord shipped with FC-N21S can be used for 240 VAC.

> ■ The AC adapter (FC-N012AS) and the AC cord shipped with FC-N21S are intended to be used only in Australia.

7.6 BATTERY CHARGER FC-N013

The battery charger is an adapter intended to charge the battery in FC-N21S. For proper use, the battery charger must be combined with the AC adapter coming with FC-N21S or the car adapter of an option.

(1) Specification of battery charger

Item		Specification
Temperature	Operating	0 to 45ºC
	Storage	−20 to 70ºC
Outer dimension		145 (W) × 110 (D) × 29 (H) mm *Excluding projections (including cover and feet)
Weight		About 0.15 kg

Chapter 8 Maintenance

8.1 TROUBLESHOOTING

8.1.1 Flowchart

This section describes many solutions to troubles. If a trouble occurs, see the section to find the solution to the trouble according to the procedure below.

If a trouble occurs, first refer to the guide.

If smoke, odor or noise is generated, turn off the power immediately and pull out the plug of the power cord from AC outlet.

No

Is FC-N21S booted normally?
If the NEC Logo screen does not appear (excluding the case where BIOS is set not to display the NEC Logo screen) or message "Operating system not found" appears in FC-N21S booting, a hardware error may occur.

Booted normally

Boot FC-N21S in safe mode.
If FC-N21S is not booted normally, boot it in the safe mode to check the status and/or change some settings. For how to boot FC-N21S in the safe mode, see "5.1.3.2 Booting FC-N21S in safe mode" in "Chapter 5 Installing OS and Applications."

Not booted

Booted

Search for applicable information.
Search "8.3.3 Troubleshooting Q&A" for the situation in which a trouble occurs.

No applicable

Check hints.
If applicable actions are not found or some measures cannot resolve the symptom, see "8.3.2 Actions Taken to Solve Trouble (Tips)." The section describes tips to solve troubles.

No tips found

Take actions.
Take action according to the relevant event in "8.3.3 Troubleshooting Q&A."

Remove peripheral devices.
If the troubles cannot be solved still, turn off the power. Remove added peripheral devices (including expanded board, memory and hard disk) and check if FC-N21S operates normally.

Not soluble

Check peripheral devices.
To check if a peripheral device is available to FC-N21S, refer to the User's Guide or ask your sales agent or manufacturer.

Return system settings to original values.
Return the system settings to the factory defaults according to the description in "5.1.3 Restoring System" in "Chapter 5 Installing OS and Applications."

Not soluble

Examine applications.
To check if each application is available to the operating system or service pack you use, refer to the User's Guide or ask your sales agent or manufacturer.

Delete added applications.
Delete applications installed by you one by one to check if the trouble can be solved.

Not soluble

Reinstall OS.
Reinstall the OS according to the description in "Chapter 5 Installing OS and Applications" and check if FC-N21S operates normally. Reinstalling OS causes applications installed by you and data created by you to be erased.

Not soluble

8.1.2 Actions Taken to Solve Trouble (Tips)

Because FC-N21S uses combinations of various applications and peripherals, unexpected troubles can occur.

The following describes tips to solve troubles appropriately.

Take proper actions calmly.

Neither turn off the power nor click the mouse hastily.

If FC-N21S seems to freeze, it may only take much time to process applications.

If so, wait for a while until the processes are completed.

Write down message on screen if displayed.

Put numeric and English messages on paper because such ambiguous information can often be good tips for solving troubles.

Guess cause of trouble.

Guess which device caused the trouble among FC-N21S, a peripheral device, an application or another. The cause may not be identified. However, you can easily take proper action if identified.

If the trouble may possibly be caused by a peripheral device, remove the peripheral devices one by one and re-execute the operation in which the trouble occurred. Then you may identify the peripheral device causing the trouble.

Boot FC-N21S in safe mode

If FC-N21S is not booted normally, boot FC-N21S in the safe mode to check the status and/or change settings properly.

See "5.1.3.2 Starting Windows XP in Safe Mode" in "Chapter 5 Installing OS and Applications".

Use system information

■ System information

You can collect the system information including the configuration of FC-N21S and other related information can be collected to display the information.

The system information helps to search for the data required to solve system problems rapidly.

− Procedure of displaying [System Information] dialog box.

Click [Start] → [All Programs] → [Accessories] → [System Tools] → [System Information].

■ System restoration

You can cancel improper changes of FC-N21S to return to the default settings. See the help of Windows for details.

See Windows help.

■ Help start procedure

Click [Start] → [Help and Support] to display the [Help and Support Center] dialog box.

Trouble solving procedure:

− Search for tips by "Fixing a problem"

The following operation allows tips to be displayed to solve problems depending on situations of FC-N21S.

1. Click [Fixing a problem] in the [Help and Support Center] dialog box.

   Topics for solving problems appear.

2. Click the topic you want to see.

   The details of the selected topic appear on the right window.

3. Click an item you want to see from the list in the window.

   The causes and solutions of the trouble appear in the right window. Take actions according to the directions on the screen.

   Some items may list trouble situations on the right window. In such a case, click the applicable situation to select it and click [Next] at the bottom of the window. The possible causes and resolutions of the trouble appear on the right window.

- Search for desired items by keywords

  The following procedure allows you to specify keywords of desired items to search for tips.

  1. Enter a keyword to be checked in the [Search] field of the [Help and Support Center] dialog box.

  2. Click [→] next to the [Search] field.

     Related topics appear.

  3. Select an item from the topics to click it.

     The description of the item appears on the right window.

> Clicking [Set search options] below the [Search] field allows desired information to be retrieved from other information sources.

Search "Troubleshooting Q&A" for applicable trouble.

Read the applicable item if found.

See other guides, helps and README files.

If a trouble occurs in an application, refer to the User's Guide or help of the application. README files are often provided for applications to include important information which is not descried in respective user's guides and helps. Open the relevant README file by using a text editor such as Notepad to see the file.

Recover system settings to original.

You can return the system settings to the factory default values in the following procedure:

1. Turn on the power of FC-N21S.

2. Press **F2** on the NEC Logo screen.

   The BIOS Setup Utility Menu screen appears.

3. Press **F9**.

   The confirmation message appears.

4. Confirm that [Yes] is selected and press **Enter**.

5. Press **F10**.

   The confirmation message appears.

6. Confirm that [Yes] is selected and press **Enter**.

   For details of BIOS setup, see "Chapter 4 Setting BIOS".

Restore system.

If Windows does not start at all, see "Chapter 5 Installing OS and Applications" to restore the system.

Contact NEC.

For troubles on a peripheral, memory device or application purchased separately, contact the agent of the product.

For troubles of an application attached to FC-N21S, the agent of the application can give proper responses.

8.1.3 Troubleshooting Q&A

(1) Troubles including smoking, heat generation, noise and cable disconnection

1
- Smoke and/or odors are generated from FC-N21S.
- FC-N21S is heated too hot to make hands contact with it.
- Noises are generated from FC-N21S.
- A visible trouble appears on FC-N21S or a cable connected to FC-N21S.

→ Action Turn off the power immediately. Unplug the AC cord from the mating AC outlet, disconnect the AC adapter from FC-N21S and remove the battery from FC-N21S. Contact your service representative.

2 Noises are generated from the HDD.

→ Action During accessing to the HDD, small noises may be heard from the HDD in synchronization with blinking of the file access lamp. This is caused by certain operations in the HDD and thus does not indicate occurrence of an error.

For some other noises, take the action described in 1 above.

(2) Troubles at power-on

1 Nothing appears on the display screen.

→ Action

- When the power lamp is OFF:
  - If pressing the power button lightly is not replied by FC-N21S, press the button hard.
  - If the AC adapter is connected to FC-N21S, disconnect the adapter once and connect it again.
  - If battery power is used, check the remaining battery level and the installation of the battery in FC-N21S. For checking procedures, see "3.4.4 Checking Remaining Battery Level" and "3.4.1 Installing Battery".
- When the power lamp illuminates in green:
  - During operation, the power management feature may work to clear the screen automatically. Try to press any key to check if the screen display appears.
  - The brightness of the screen may be too low. Press **Fn** + **F7** to increase the brightness.
  - Outputting display data to external monitor may be set. Press **Fn** + **F3** to alter the display setting.
  - Reboot FC-N21S.
- A resolution which the LCD display does not support may be set. After turning off the power of FC-N21S forcibly, start Windows in the safe mode to reset the resolution.

2 FC-N21S is halted after POST(Power On Self Test).

→ Action If an error code appears on the display screen, write down the code and reboot FC-N21S.

3 Message "Operating system not found" appears.

→ Action

- Confirm that no floppy disk is inserted into the floppy disk drive (if the floppy disk drive is connected to FC-N21S). If inserted, pull out the floppy disk and reboot FC-N21S.
- If the message appears during booting from the HDD, insert bootable disk into the external 3.5-in. floppy disk drive or the external CD-R/RW with DVD-ROM drive to check the HDD status.
- Confirm that the HDD is set on the Boot Menu subordinate to the BIOS Setup Menu.

4 Message "BOOT: Couldn't find NTLDR. Please insert another disk" appears on the display screen.

→ Action

- If an attempt is made to boot FC-N21S from the floppy disk intentionally, replace the floppy disk with the bootable disk and press any key to continue booting.
- If FC-N21S is booted from the HDD, confirm that a floppy disk is

6	The power cannot be turned off. It is desired to turn off the power forcibly.	→ Action	First follow the procedure in "3.2.2.2 Turning off power". If the power cannot be turned off still, turn off the power forcibly in the following procedure.
			
			1) Press the power switch continuously for about four seconds or longer.
			
			  − If FC-N21S is set to be entered into the suspend (standby) state by the power switch, the operation may lead FC-N21S to be the suspend (standby) state. In such a case, release the finger from the power switch once and re-press the switch continuously for longer than four seconds or longer to shut down FC-N21S forcibly.
			
			  − If the power is turned off forcibly to shut down FC-N21S, data not saved will be lost.
			
			If the power cannot be turned off still, contact your service representative.

7	Windows cannot start.	→ Action	The BIOS Setup Menu may be set incorrectly. Return the settings of the BIOS Setup Menu to that at purchase according to "Chapter 4 Setting BIOS". Then turn on the power again.
8	The extended option menu of Windows appears.	→ Action	The extended option menu may appear if Windows was shut down improperly last or cannot be started normally due to some start error. Restart Windows in the safe mode according to "Chapter 5 Installing OS and Applications".
9	Message "Checking file system on" appears on the display screen.	→ Action	In the next start of Windows after illegal termination, the HDD may be checked to be valid on the way of the starting. Without errors, Windows is started normally. If not, follow the directions shown on the display screen.

(3) Battery troubles

1	The battery cannot be charged (the battery charging lamp does not illuminate in orange.)	→ Action	■ The battery is not charged in full charge status and may not be charged in nearly full charge status. Check the battery capacity. ■ Confirm that the AC adapter is connected to FC-N21S properly. ■ If the battery temperature is less than 0ºC or higher than 60ºC, charging the battery is not started. Wait until the temperature returns to be in the range from 0 to 60ºC. ■ Confirm that the battery is installed in FC-N21S properly. ■ Check if the pins on the battery are dirt.
2	The battery fully charged can operate FC-N21S only for a shorter period.	→ Action	■ Repeating incomplete recharge and discharge frequently may disable the battery to be charged fully. To solve the problem, initialize the battery (see "3.4.3 Initializing Battery" for details).
3	The battery operation time shown by the OS battery meter does not match the actual operation time.	→ Action	The actual operation time may be different from the estimated operation time depending on how FC-N21S is used. If the actual operation time is shorter extremely, initialize the battery ("3.4.3 Initializing Battery" for details).

(4) Display troubles

1 The screen is dark considerably. → |Action| Adjust the brightness by using **Fn** + **F7** or the relevant tablet button.

2 The resolution cannot be adjusted to the desired value. → |Action|
- Confirm that the video driver is installed properly.
- Check the BIOS Setup Menu to confirm that the video memory is configured properly.
- If an external monitor is used, confirm that the monitor supports the desired resolution.

3 Nothing appears on the external monitor. → |Action|
- Confirm that the power of the monitor is ON.
- Confirm that the monitor signal cable is connected properly.
- Change the selected monitor to the external one by pressing **Fn** + **F3** or through the Windows [Display] property.

4 The concurrent display feature does not operate. → |Action|
- Turn on the power of the external monitor before turning on the power of FC-N21S.
- Select the desired display option by pressing **Fn** + **F3** or through the Windows [Display] property.

5 Windows cannot be started after BIOS setting is changed. → |Action| In the next start of Windows after illegal termination, the HDD may be checked to be valid on the way of the starting. Without errors, Windows is started normally. If not, follow the directions shown on the display screen.

6 The original screen before entering into the power saving state does not appear. → |Action| Some applications or peripheral devices may operate improperly when an attempt is made to use the suspend (standby) feature. Turn off the power of FC-N21S once and on again. If the power cannot be turned off, press the power switch continuously for four seconds or longer to shut down FC-N21S forcibly. To use an application or peripheral device of such type, do not enter FC-N21S into the suspend (standby) state.

7 The command prompt (MS-DOS prompt) window appears on the full screen. → |Action| Press **Alt** + **Enter**.

8 With the command prompt (MS-DOS prompt) being active, the screen does not appear after recovery from the suspend (standby) state. → |Action| Press **Alt** + **Tab** to alter the task. Then FC-N21S operates normally.

(5) Troubles of hardware devices

1 FC-N21S does not recognize a device newly installed. → |Action|
- The devices may be configured improperly on the BIOS Setup Menu. Confirm that the used peripheral port is set to [Enabled] on the BIOS Setup Menu.
- Check if the relevant device driver should be installed.
- Check if the device requires one or more jumper and/or switch settings.
- For an external device, check if the connection cable such as a USB cable and the power cord are connected properly.
- If the external device has its own power switch, confirm that the power is turned on.

(6) Troubles of HDD

1   After power-on, FC-N21S does not recognize → Action   Confirm that the type of the HDD is configured properly on the BIOS
the HDD.   Setup Menu.

2   An error message on the HDD appears on the → Action
display screen.

- Insert the bootable disk to the external 3.5-in. floppy disk drive or the CD-R/RW with DVD-ROM drive to check the consistency of the HDD.
- The HDD may possibly be defected. Contact your service representative.

3   The HDD can operate only slowly. → Action   Data files stored in the HDD may be fragmented. Optimize the files by
using such a tool as Windows defragmenter.

4   The indicator indicating use of the HDD does → Action   Data files stored in the HDD may be fragmented. Cancel the file
not blink but remains ON.   fragmentation by using such as tool as Windows defragmenter.

5   The empty capacity in the HDD is not → Action   The empty capacity in the HDD can be increased in the following ways:
enough.

- − Delete all files in the Recycle Bin.
- − Reduce the maximum size of the Recycle Bin.
  (If the maximum size of the Recycle Bin is set to 0%, deleted files are rejected without storage in the Recycle Bin.)
- − Deletes contents in the TEMP folder.
  (Do not delete the primary working file while one or more applications are executed. Deleting the primary working file may cause applications not to operate.)
- − Delete temporary files for Internet Explorer.
- − Delete one or more installed applications.
  (Deleting applications not used at the moment allows the empty capacity in the HDD to be increased.)
- − Click [Disk Cleanup] to delete unnecessary files in the HDD.

6   The empty capacity in the HDD does not → Action   Files deleted or drugged to the Recycle Bin are not deleted from the
increase after unnecessary files are dumped   HDD immediately but stored in the Recycle Bin.
into the Recycle Bin.

To delete files stored in the Recycle Bin from the HDD, right-click the Recycle Bin icon to display the menu and click [Empty Recycle Bin] in the menu.

(7) Troubles in file storage

1   Data cannot be stored in the HDD. → Action   Check the empty HDD capacity. If not enough, increase the empty
capacity according to "Empty HDD capacity is not enough" on [Hard Disk]. Any file larger than the empty disk capacity cannot be saved.

2   Data cannot be stored in the floppy disk. → Action

- Check if the floppy disk is subjected to write-protect. If so, release the write-protect.
- Check the empty capacity of the disk. If the empty capacity is not enough, reject unnecessary files or use another floppy disk.

3   Data cannot be stored in the SD card. → Action   Check if the write-protect switch on the SD card is set to [LOCK]. If so,
release it.

(8) Troubles of keyboard, mouse and touch pad

1	The keyboard does not respond to any inputs.	→ Action	Connect an external USB keyboard to FC-N21S and check if the keyboard can operate properly. If so, the built-in keyboard cable may be defected. Contact your service representative.
2	The numerical keypad is disabled.	→ Action	Confirm that [Num Lk] is ON (the NumLk LED illuminates 1 in green).
3	The external USB keyboard and/or USB mouse do not operate.	→ Action	Check if the USB cables are connected properly.
4	The serial mouse does not operate.	→ Action	■ Confirm that the mouse cable is connected properly. ■ Connect the mouse before booting FC-N21S. ■ Confirm that the serial port is enabled on the BIOS Setup Menu.
5	The touch pad does not operate or makes responses only slowly.	→ Action	■ Check if the touch pad is dirt. ■ If operated by excess force or other than finger cushions, the touch pad may operate improperly. ■ If you touch more than one point, the touch pad does not operate normally.
6	The touch panel does not operate or the pointer operates invalidly.	→ Action	Confirm that the driver and utility software of the touch panel are installed. Calibrate the touch panel by using the utility software.

(9) Troubles of network (LAN)

1	FC-N21S cannot connect with network.	→ Action	■ The connection may be invalid. Contact your network administrator to check if FC-N21S is connected to the relevant hub through a LAN cable. ■ The setting may be invalid. For example, the protocol or the domain work group may be set improperly or the computer account may not be put on the primary domain controller. For details, ask your network administrator.
2	Only the [Whole Network] icon appears in the [My Network] or [Network Computer] dialog box.	→ Action	It may take a rather long time until the display appears. Wait for a while and click [Refresh] on the [View] menu. If the display status remains unchanged, the network may be connected improperly or network software may be set inappropriately. Check the connection and network software.
3	Only the own computer appears in the [My Network] or [Network Computer] dialog box.	→ Action	It may take a rather long time until the display appears. Wait for a while and click [Refresh] on the [View] menu. If the display status remains unchanged, check if the domain or work group to be connected matches the setting domain or work group. To see the setting domain or work group, click [Start] → [Control Panel] → [Performance and Maintenance] → [System] to display the [System Properties] dialog box and select the [Computer Name] tab on the dialog box.
4	Shared drives and/or folders are unavailable.	→ Action	■ Check if the Microsoft network share service is installed in FC-N21S by clicking [Start] → [Connect To] → [Show all connections] to display the LAN connection icon, right-clicking the icon, clicking [Properties] and checking column "This connection uses the following items:" in the [General] tab. If not, shared drives and folders are not available. To use them, install the share service. ■ Check if FC-N21S is set to access to shared drives and folders. To allow other PCs connected to the network to use drives and/or folders in FC-N21S, drives and folders to be shared should be set for share. For the purpose, right-click a drive or folder to be shared to display the menu, click [Sharing and Security ...] in the menu and check "Share this folder on the network" in the [Property] dialog box. After the setting, the drive or folder icon changes to be suit to share. ■ Check if certain access authorities are set for shared drives and folders. The owner of a shared drive or folder can set its access

(10) Troubles of wireless LAN

1   Communication is disabled.   → Action

- Press **Fn** + **F2** to alter ON/OFF of the wireless LAN feature.
  On the [Wireless Network Connection Status] dialog box, [Disable] of the wireless LAN feature may be checked.
  Click [Start] → [Connect to] → [Wireless Network Connection] to check the setting.
- Check if the power of devices to be connected are turned on according to the User's Guides of the devices.
- Confirm that the SSID (network name) is set properly. To connect to a wireless LAN access point, set the SSID to be the same as the ID of the access point.
- With data encryption, confirm that the encryption key is set correctly. Set a specific encryption key for all wireless LAN access points and PCs connected to FC-N21S.
- Check if the environment is set properly. Set the environment again if necessary.

2   Communication is disabled intermittently or the communication speed is too late.   → Action

- The wireless LAN device to be connected may be located too far from FC-N21S. Check the radio wave environment. In poor radio wave environment, make the wireless LAN device close to FC-N21S. The possible distance between FC-N21S and a wireless LAN device varies depending on device specification.
- If one or more wireless devices only conforming to IEEE802.11b exist in a range where radio wave can be radiated to a connected wireless LAN access point conforming to IEEE802.11g, the communication speed for IEEE802.11g decreases. If a wireless device only conforming to IEEE802.11b connects to another access point, only reach of radio wave to the access point influences the communication speed.
- If a microwave oven is used in an area where communication with 2.4 GHz wireless LAN device occurs, the communication speed and distance of the 2.4 GHz wireless LAN device may be reduced. It is recommended that microwave ovens are not used near 2.4 GHz wireless LAN devices.
- Concurrent communication of 2.4 GHz wireless LAN and Bluetooth devices may decrease the communication speed and/or distance of devices of each type. It is recommended not to operate either 2.4 GHz wireless LAN or Bluetooth devices or keep them away from each other.
- If more than one PC are connected to a network, increase in the number of PCs connected to a single wireless LAN access point may cause the transmission speed per PC to decrease.

3   A remote PC does not appear in [Network Computer].   → Action

- Check computer names. A PC connected to FC-N21S may have the same name. Give a unique name to FC-N21S.
- If a remote PC does not have the "File and Printer Sharing for Microsoft Network" service, the PC does not appear in the [Wireless Network Connection Properties] dialog box. Install the service in the remote PC.
- Check if the TCP/IP protocol is installed in FC-N21S. Set the IP address properly to be appropriate for the network connected.
- The surrounding radio wave status may be bad. Shorten the distance to the remote PC connected to FC-N21S and/or remove obstacles between FC-N21S and the remote PC. Then connect FC-N21S to the remote device again.
- The remote PC may be just booted. After several minutes, check the connection status again.

4   Double-clicking the icon of a remote PC in [Network Computer] cannot indicate the information on the PC.   → Action

Check if shared folders and printers exist in remote PCs. Set folders and printers to be shared on remote PCs to "Sharing and Security...".

5   Connection with an access point is cut off.   → Action   If more than one access point exist in the surrounding area, the

(12) Troubles on power management

1   FC-N21S does not enter into the suspend (standby) or pause state automatically.   → ☐ Action

- If FC-N21S is connected to another computer or a bi-directional printer accessing to FC-N21S at constant intervals, FC-N21S is not entered into the suspend (standby) or pause state automatically.
- Confirm that the timeout of the suspend (standby) or pause state is enabled.
- Check if one or more programs are executed. Abort all programs being executed if any. In addition, first cut the phone line if used before entering FC-N21S into the suspend (standby) state.
- Some applications may operate improperly if a peripheral device tries to use the power management feature. Turn off the power of FCN21S once and then on again.

  To use an application or peripheral device of such type, do not enter FC-N21S into the suspend (standby) state.

2   FC-N21S does not immediately enter into the suspend (standby) or pause state.   → ☐ Action

- In general, if FC-N21S executes some operation, wait until the operation is terminated.
- The used PC card may prohibit FC-N21S from entering into the suspend (standby) or pause state. To enter FC-N21S into either of the state, abort the communication program and remove or halt the card.
- If a file or program stored in the disk inserted in the floppy disk or CD-ROM drive connected to FC-N21S through USB is opened or executed, close the file or abort the program. Then the FC-N21S can be entered into the suspend (standby) or pause state.
- For memory extension, the empty capacity by the extended memory capacity is required in the HDD. Check the capacity of the HDD.
- If "Enable hibernation" is not checked or it is checked but the state when portable computer is closed or power button of computer is pressed is not set to the pause state, FC-N21S cannot be entered into the pause state. Make proper settings according to "3.2.2.4 Pause state and recovering from pause state".

3   FC-N21S does not resume from the suspend (standby) or pause state.   → ☐ Action

When the battery is discharged completely, FC-N21S automatically enters into the suspend (standby) or pause state. Take either of the following actions:

- − Connect the AC adapter to the FC-N21S.
- − Replace the fully discharged battery with a fully charged battery.

4   If an attempt is made to resume FC-N21S from the suspend (standby) or pause state, the screen is disturbed and the power is turned off.   → ☐ Action

If the LCD display panel is closed or the power is turned off during transition to or recovery from the suspend (standby) or pause state, FC-N21S may not be able to resume. In this case, turn on the power by using the power switch. If an error message appears, follow the direction of the message.

5   The power cannot be turned off.   → ☐ Action

If the power cannot be turned off by the procedure described in "3.2.2.2 Turning off power", an error such as application freeze may occur. Press **Ctrl** + **Alt** + **Del** to abort the application forcibly and turn off the power by the procedure described in "3.2.2.2 Turning off power".

(13) Software troubles

1   An application program operates improperly.   → ☐ Action

- Confirm that the application program is installed properly.
- If an error message appears on the display screen, refer to the documentation of the application program to search for required information.
- If FC-N21S is shut down clearly, reboot FC-N21S.

<Resetting FC-N21s>

If an error occurs to cause programs being used to hang, FC-N21S may have to be reset (rebooted).

If FC-N21S seems to hang, wait for a while. FC-N21S may provide data processing. Check the LED indicating use or no use of the HDD periodically. If the LED blinks irregularly, programs may access to the

(14) Sound troubles

1	Sound does not replay.	→ Action	■ Check if the mute feature is enabled. Click [Start] → [Control Panel] → [Sounds, Speech and Audio Devices] → [Sounds and Audio Devices] to display the [Sound and Audio Devices Properties] dialog box. If the [Mute] checkbox in the [Volume] tab of the [Sound and Audio Devices Properties] dialog box is checked, uncheck the checkbox. ■ Confirm that the volume level is not set to too low. ■ The volume may often be too low. Press **Fn** + **F9** to turn up the volume. ■ Confirm that the sound driver is installed properly. ■ Confirm that FC-N21S is not in the suspend (standby) state. ■ If external speakers are used, confirm that they are connected to FC-N21S properly.
2	Sound is replayed but distorted.	→ Action	Confirm that the volume is set to neither too high nor too low. In most cases, because the volume is set to too high, some electronic audio parts lead sound distortion.
3	The sound system fails in recording.	→ Action	Adjust the replay or record sound level.
4	An external microphone or sound device does not operate.	→ Action	■ Confirm that a microphone is connected to the mating connector on FC-N21S properly. ■ Click the speaker icon on the task bar to check the Windows volume. ■ Check the volume control of FC-N21S.

(15) Troubles of optional CD-R/W with DVD-ROM drive FC-CW002U

1	The CD-R/W with DVD-ROM drive does not read CD data.	→ Action	■ Confirm that the CD is properly put on the tray with the label facing upward. ■ Confirm that the CD is not dirt. If dirt, clean the CD with CD cleaning kit. You can procure CD cleaning kit from most computer shops. ■ Confirm that the DVD/CD-ROM driver is installed properly.
2	The CD or DVD cannot be pulled off.	→ Action	The CD/DVD is not put on the drive properly. Take out the CD/DVD manually in the following procedure: 1. Turn off the power of FC-N21S. 2. Insert a thin needle-shaped wire such as extended paper clip into the manual ejection hole on the drive and push the wire hard. Then the tray is ejected. 3. Pull out the tray completely and take out the CD/DVD.

(16) Troubles of optional floppy disk drive FC-FD002U

1	The indicator indicating that the floppy disk drive is being used remains ON.	→ Action	■ Confirm that the floppy disk is not damaged physically. ■ Confirm that the floppy disk is inserted properly.
2	Writing data to the floppy disk is disabled.	→ Action	■ Confirm that the floppy disk has already been formatted. ■ Confirm that the floppy disk is not write-protected. ■ Confirm that a proper drive is selected for writing. ■ Confirm that a sufficient empty capacity remains in the floppy disk. ■ Confirm that the floppy disk is not damaged physically.
3	Reading data from the floppy disk is disabled.	→ Action	■ Confirm that the floppy disk has already been formatted. ■ Confirm that a proper drive is selected for reading.

(17) Password troubles

1	After password entry, message "An invalid password is entered" appears.	→ Action	■ Check the password again and reenter it properly. ■ Check if the [Caps Lock] or [Num Lock] key lamp illuminates. If the [Caps Lock] or [Num Lock] key lamp illuminates, the

2	The password is forgotten.	→ Action	■ If you forget the Windows password, there is no means to find the password directly. Take any of the following actions:

2   The password is forgotten.   → Action   ■ If you forget the Windows password, there is no means to find the password directly. Take any of the following actions:

– Click to the right of the "type your password" field on the Windows logon screen to check the tip of the password.

– Logon to FC-N21S with another user account.

– Ask a person having an administrator account of FC-N21S to create a new password.

■ If you forget the supervisor password, contact your service representative.

(18) Miscellaneous

1   The date and/or clock go wrong.   → Action   Check the clock of OS and the BIOS Setup Menu to find the system time (OS) and the RTC clock (BIOS).

■ When the system time goes wrong:

The operated application software may be defected. Abort the software and set the date and time again. If the system time goes wrong still, contact your service representative.

■ When the RTC time (BIOS) goes wrong:

The power of the calendar clock built in FC-N21S is supplied by a battery. Accordingly, the calendar clock can continue operating if the power of FC-N21S is turned off. If the date and/or time go wrong after resetting, the backup battery may reduce its necessary level or a hardware error may occur. Contact your service representative.

2   It is desired to use FC-N21S in other than the specified country.   → Action   Contact your service representative.

NEC does not provide any maintenance service in countries and regions other than the specified country.

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Chapter 9 Appendices

9.1 INTERRUPT LEVELS

The table below lists interrupt levels. Interrupt levels 0 to 15 are assigned. A smaller interrupt level has a higher priority.
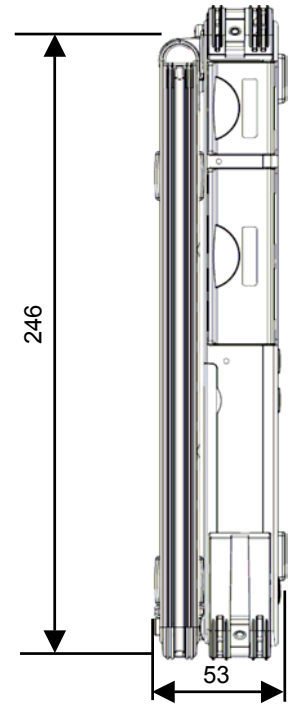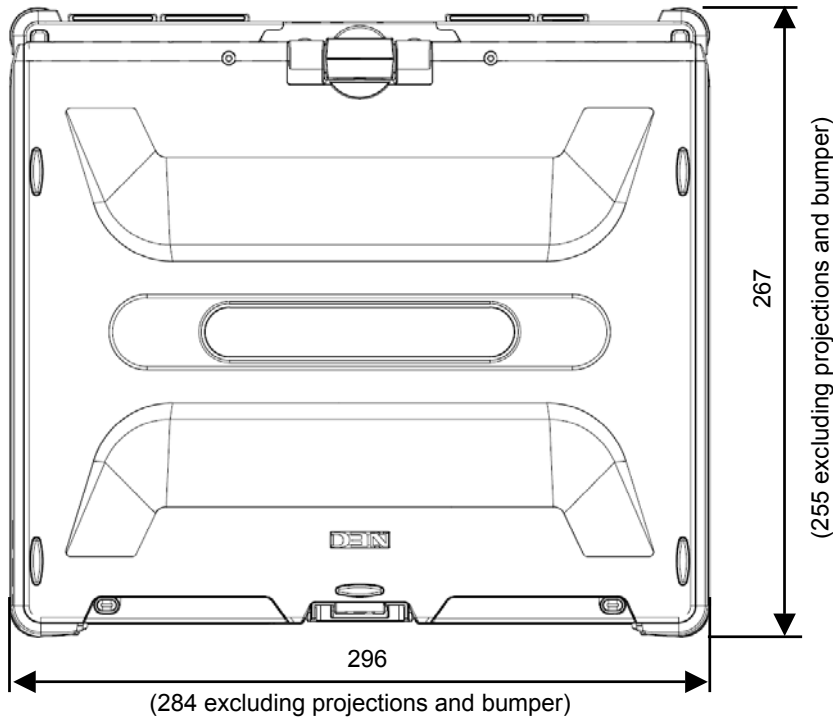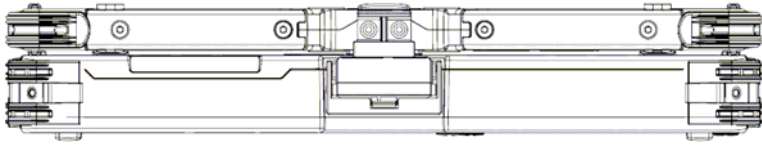
List of assignment levels

Interrupt level	Setting at shipment from factory
IRQ00	Counter/timer
IRQ01	Keyboard (PS/2)
IRQ02	Interrupt controller
IRQ03	USB
IRQ04	COM (serial port)
IRQ05	USB (connect/disconnect-proof enhanced port)/Sound/Wireless LAN/SD cards
IRQ06	(Not used)
IRQ07	(Not used)
IRQ08	System CMOS/realtime clock
IRQ09	Microsoft ACPI-Compliant System
IRQ10	Touch panel/modem/SMBus controller
IRQ11	Fingerprint sensor/LAN/PC card bus controller
IRQ12	Touch pad
IRQ13	Math coprocessor
IRQ14	Primary IDE
IRQ15	Secondary IDE

9.2 OUTSIDE DIMENSION

9.2.1 FC-N21S

(1) Body

267

(255 excluding projections and bumper)
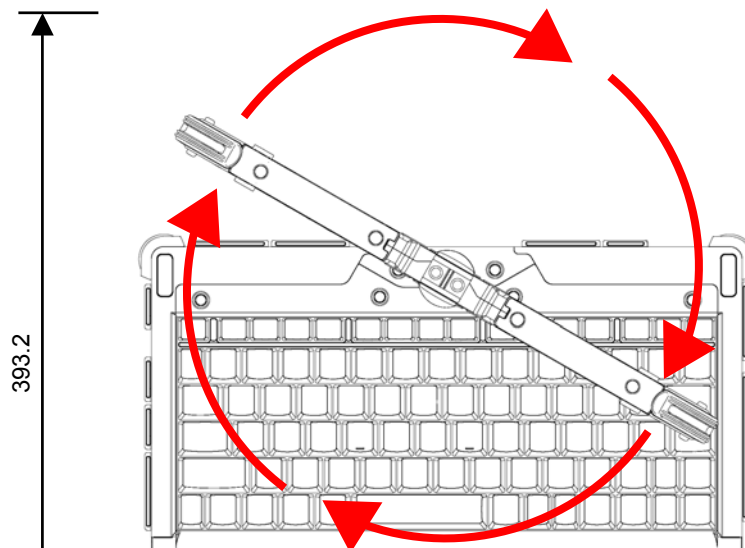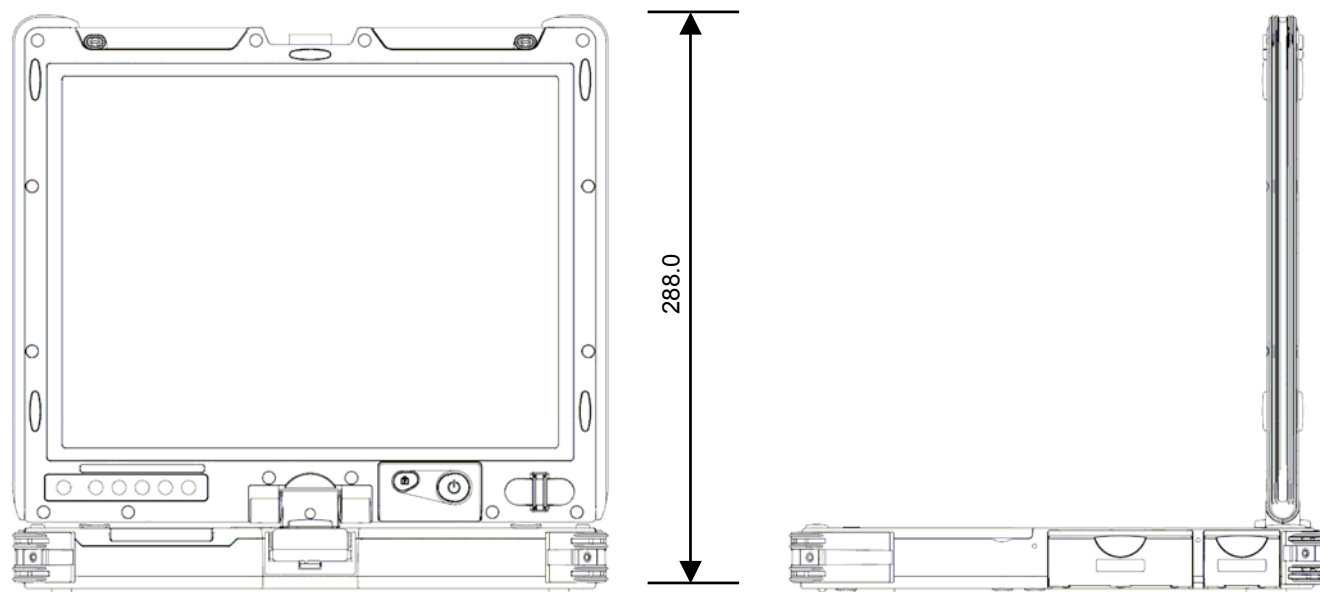
296

(284 excluding projections and bumper)

246
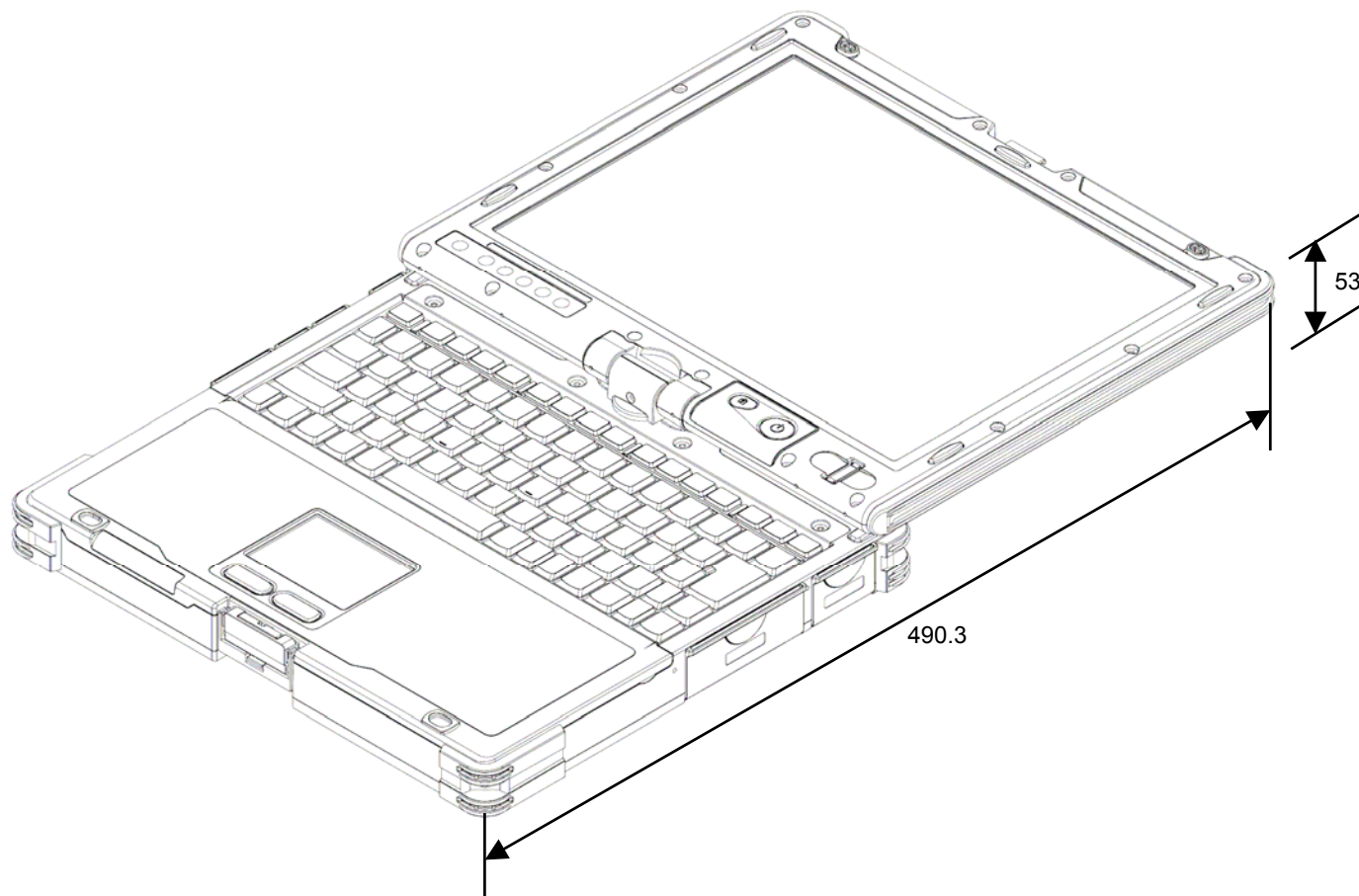
53

(48 excluding projections and bumper)

[Rotation of LCD display panel]

393.2
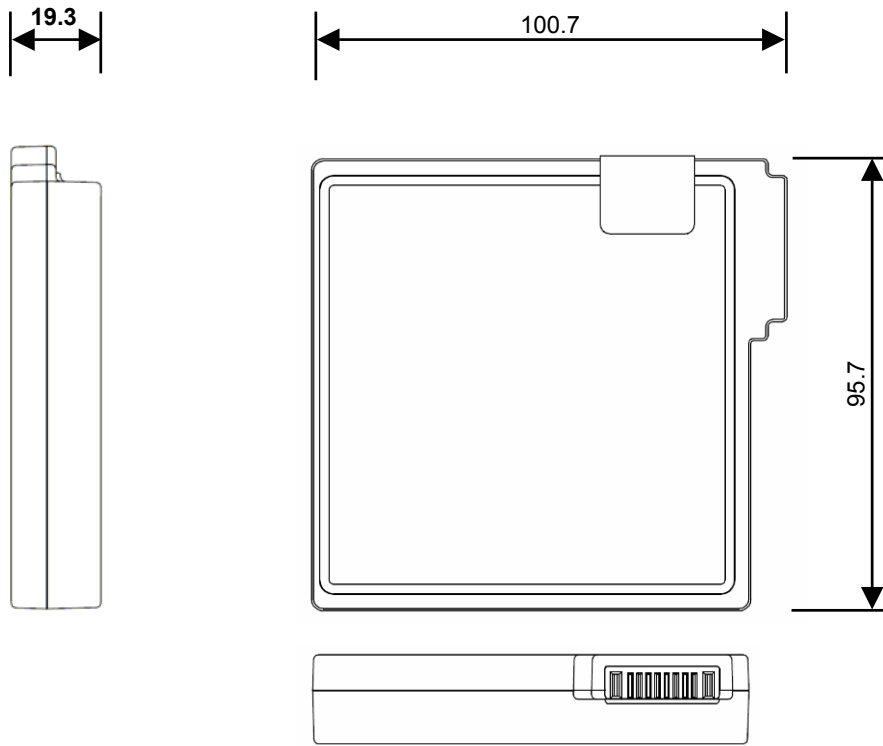
[Body with LCD display panel made upright (node type)]
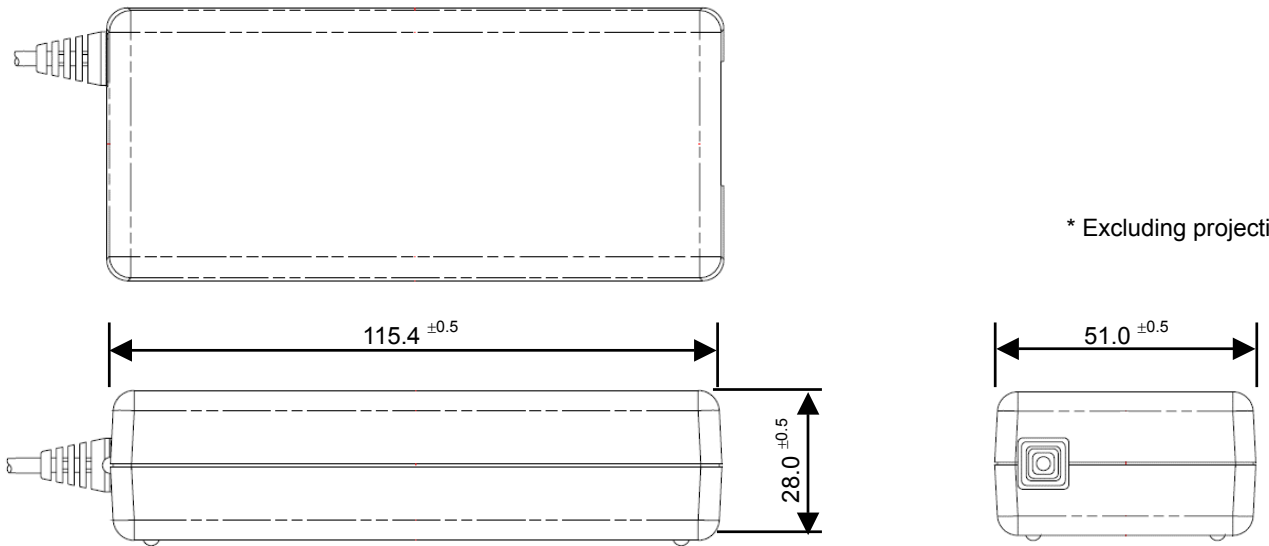
288.0

[Body with LCD display panel taken down]

53

490.3

* Excluding projections (including rubber feet and protect rubbers at 4 corners)

Unit: mm

9.2.2 Spare Battery FC-N011

19.3

100.7

95.7

Unit: mm
Weight: about 0.33 kg

9.2.3 AC Adapter FC-N012

* Excluding projections

115.4 $^{\pm 0.5}$

28.0 $^{\pm 0.5}$

51.0 $^{\pm 0.5}$

Unit: mm
Weight: about 0.46 kg

AC cable length	About 1.8 m
Power cord length	About 2 m

9.2.4 Hard Disk Drive　FC-HD60KN

120.7

77.7

18.65

Unit: mm
Weight: about 0.12 kg