INSTRUCTION MANUAL

- A preliminary draft copy of the User's Manual follows this cover page.

- The User's Manual will have the following text added to it:

"NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this 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:

. Reorient 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 to which the receiver is connected.

. Consult the dealer or an experienced radio/TV technician for help."

NOTE: Text from FCC Part 15.19(a) will be included in the production version of the user's manual.

EXHIBIT 8

DoCoMo W-CDMA and GSM/GPRS Systems

Thank You for Purchasing the "FOMA M2501 HIGH-SPEED".

Before or while using the FOMA M2501 HIGH-SPEED, be sure to thoroughly read this manual to ensure its correct use. For further information, contact the "DoCoMo Information Center" on the back page of this manual.

Treated with care, your FOMA M2501 HIGH-SPEED will be your able partner.

Before Using the FOMA M2501 HIGH-SPEED

- Because the FOMA terminal uses radio waves, it may not function in locations where it is difficult for radio waves to penetrate, such as tunnels, underground passages and some buildings; in areas where radio wave signals are weak; or out of the service area. Even when you are on a higher floor of a tall building or condominium and nothing blocks your view outside, the FOMA M2501 HIGH-SPEED may not be able to receive or transmit signals. Also, communication may be interrupted even when the signal reception level on the FOMA M2501 HIGH-SPEED is strong in a fixed location.
- Use the FOMA M2501 HIGH-SPEED in ways that do not disturb others in public places, crowded locations, or quiet.
- Because the FOMA M2501 HIGH-SPEED uses radio waves to communicate, there is a possibility that a third party intercepts communications. However, the W-CDMA and GSM/GPRS systems automatically support encoding for all calls, so even if a third party intercepts a call, the third party hears only noise.
- The FOMA terminal encodes voice communication on to digital signals and communicates via wireless. When you use the FOMA M2501 HIGH-SPEED at a location with weak radio wave signals, the transmitted digital signals may not be correctly decoded and the decoded voice may sound different from the original one.
- It is recommended that you make separate notes of the information stored in your PC and keep such notes in a safe place. DoCoMo cannot be held responsible in any way for loss of data stored in your PC.
- The FOMA M2501 HIGH-SPEED supports FOMA Plus-Area.
- The FOMA terminal can be used only via the FOMA network provided by DoCoMo and DoCoMo's roaming area.
- This FOMA terminal does not support i-mode functions (i-mode mail, connection to official i-mode sites or i-appli, etc.).
- This FOMA terminal cannot receive SMS (Short Message Service). Therefore, it is recommended that you set to reject receiving all SMS messages. For details on setting to reject all SMS, refer to "ネットワークサービス操作ガイド (Network Service Operation Guide)".

For Those Who Use the FOMA Terminal for the First Time

If this is the first time for you to use the FOMA terminal, it is recommended that you read this manual in the following order to learn basic operations.

The latest version of this manual can be downloaded from the DoCoMo Web site.

- Download the "Instruction Manual (PDF File)"
  (http://www.nttdocomo.co.jp/english/support/manual/index.html)

* The URL and the information contained in the manual are subject to change without prior notice.

How to Read/Refer to This Manual

In this manual, illustrations and symbols are used in the explanations so that you can easily understand how to use the FOMA terminal correctly.

• This manual describes operations mainly using a mouse to click on an item.

How to Refer to This Manual

By the following search methods, you can find pages where functions and services are described:

From the Index

Search from the index when you know the names of functions or services.

From the Tabs on the Front Cover

Search from the tabs printed on the front cover.

From the Contents ▶ P4

Search from the contents that categorize functions.

From Features ▶ P5

Search from the features when you want to use specific functions.

■ **Overseas Use**

• This manual refers to the "FOMA M2501 HIGH-SPEED" as the "FOMA terminal".
• Reprinting all or parts of this manual without approval of NTT DoCoMo is prohibited.
• Information contained in this manual is subject to change without prior notice.

From the Index

Search for a function name or a service name as shown below.

From the Tabs on the Front Cover

Search for the function you want to set in the order of "Front cover" → "Chapter title page" → "Description page" as shown below.

Inserted on the next proof

Utility Software

What can be done by Utility
M2501 HIGH-SPEED Utility 52

Installing
Installing the FOMA M2501 HIGH-SPEED Utility 52

Launching/Exiting
Main Screen Components 54
Launching/Exiting the FOMA M2501 HIGH-SPEED Utility 55

A section title

Launching/Exiting

Launching/Exiting the FOMA M2501 HIGH-SPEED Utility

Launching

- Log into a user account with the Administrator or PC supervisor privileges.

1 Double click the "M2501 HIGH-SPEED Utility" icon on the Desktop

The Main screen (P54) opens.

■ **If the icon is not displayed**
Click "スタート (Start)" ▶ "すべてのプログラム (All Programs)"/"プログラム (Programs)" ▶ "M2501 HIGH-SPEED" ▶ "M2501 HIGH-SPEED Utility"

Exiting

1 Click 　 (Orange) on the Main screen (P54)

The exiting confirmation screen appears.

2 Click [OK]

> **Note**
> - You cannot exit the utility under the following circumstances : (checking the specifications)
>   - While dialing or receiving/performing a call
>   - While the Redial/Received Calls/Phonebook screen is open

Phonebook

Using Phonebook

Adding

Saving Entries in Phonebook

1 Click 　 (電話帳 (Phonebook)) on the Main screen (P54)

Phonebook Screen

2 Click [追加 (Add)]

3 Perform the following steps

Name
Enter using Kanji, Hiragana, Katakana, alphanumeric or symbols.
◆ **Enter a name**
- Enter characters using the keyboard of the PC.
- Up to 16 double-byte or 32 single-byte characters can be entered.
- An entry cannot be saved to the Phonebook until this field is filled in.

Reading
Enter using double-byte katakana, single-byte alphanumeric, or single-byte symbols.
◆ **Enter a reading**
- Enter characters using the keyboard of the PC.
- A reading is entered automatically when "名前 (Name)" is entered.
- Up to 16 double-byte or 32 single-byte characters can be entered.

Phone number
Enter using single-byte alphanumeric characters.
◆ **Enter a phone number**
- Enter characters using the keyboard of the PC.
- Up to 26 characters from 0 to 9 (including #, *, and +) and up to five - (hyphens) can be entered.

4 Click [登録 (Add)]
- To save Phonebook to the PC after adding a contact, click [更新 (Refresh)] → [OK] on the Contacts screen.

Security Settings

Setting UIM PIN

You can set the PIN1 code for the UIM.
- Insert the FOMA terminal into the PC card slot before performing these steps.
- While the Security Settings screen is displayed, no operations can be performed from the Main screen. If a call arrives during the operation, the call can be answered after [閉じる (Close)] is clicked, however, the options being set will be canceled.

Entering a PIN1 Code/Changing the PIN1 Code

Default | 起動時PINコード照合 (PIN Code Verification at Start-up): 無 (No)

You can require the PIN1 code entry each time the M2501 HIGH-SPEED Utility is launched. You can also change the PIN1 code.

Operation steps

Useful information or suggestions relating to an operation

Key screen for a function. This is an image of a screen seen on the PC. Numbers, settings or characters entered are for reference only.

An item name actually shown on the screen. Some functions cannot be performed depending on operations.

Chapter index tab with function name or title.

Default settings

Page

* The above page is an example.

* Screen images and illustrations contained in this manual are for reference only. They may differ from those seen for the actual product.

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Features of the FOMA M2501 HIGH-SPEED

FOMA (Freedom Of Mobile multimedia Access) is the name of a service provided by DoCoMo based on the W-CDMA system, which is certified as one of the global standards of 3rd generation mobile communication systems (IMT-2000).

High-speed communication has a maximum of 3.6 Mbps

You can enjoy high-speed packet communication with a maximum of 3.6 Mbps for receiving and 384 Kbps for sending.
- The actual communication speed varies depending on the signal strength or surrounding communication conditions.
- DoCoMo's Internet connection service "mopera U (fee-based)" is also offered.

International Roaming

Calls or communications are available from a PC even in foreign countries that have adapted the W-CDMA network or GSM/ GPRS network systems. →P79
- A separate subscription is required for WORLD WING, DoCoMo's international roaming service.
  - * If you initially subscribed to the FOMA service before August 31, 2005 and have not subscribed to "WORLD WING", an initial subscription is required.

FOMA Plus-Area Coverage

Calls or communications are available in the FOMA Plus-Area in addition to the FOMA service areas.
- The same services are available for the FOMA service area and the FOMA plus service area.

Voice Calls/Video Calls

Voice calls or video calls can be made from a PC using the "M2501 HIGH-SPEED Utility" (for voice calls) or "DoCoMo Video Calls 2005" (for video calls) contained in the included CD-ROM. →P51

UIM Interchangeability

The same UIM can be used in more than one FOMA terminal. →P17
- Monthly basic charges and communication charges apply to the contract number of the inserted UIM.

Multiaccess

Packet communication and voice calls can be made simultaneously. →P66

Extensive Network Services

Voicemail Service (charges apply)

● A separate subscription is required. →P72

Call Forwarding Service (free of charge)

● A separate subscription is required. →P73

Call Waiting Service (charges apply)

● A separate subscription is required. →P73

Dual Network Service (charges apply)

● A separate subscription is required. →P74

Nuisance Call Barring Service (charges apply)

● A separate subscription is required. →P75

Safety Instructions (ALWAYS FOLLOW THESE DIRECTIONS)

● Before using your FOMA terminal, read these safety instructions carefully so that you can use it correctly. After reading the safety instructions, keep them in a safe place for later reference.

● These precautions are intended to protect you and others around you. Read and follow them carefully to avoid injury, damage to the product or damage to property.

■ **The signs below indicate the levels of danger or damage that may occur if the particular precautions are not observed.**

⚠ DANGER	This sign indicates that incorrect handling will almost certainly cause death or serious injury.
⚠ WARNING	This sign indicates that incorrect handling poses a risk of causing death or serious injury.
⚠ CAUTION	This sign indicates that incorrect handling poses a risk of causing injury or damage to the product or property.

■ **The following symbols indicate special warnings regarding product usage.**

🚫 Don't	**Denotes things not to do. (prohibition)**		
🚫 Do not disassemble	**Denotes not to disassemble.**	🚫 Avoid water	**Denotes not to use where it could get wet.**

❗ Do	**Denotes mandatory instructions (matter that must be complied with).**

■ **"Safety Instructions" are divided into the following four sections:**

General Precautions for the FOMA Terminal and UIM

⚠ **DANGER**

Do not disassemble or remodel the terminal and UIM.

Do not disassemble ●Fire, injury, electric shock or malfunction may result.

Do not let FOMA terminal and UIM get wet.

Avoid water ●Contact with water or other liquids may cause heating, electric shock, fire or malfunction. Take care not to use the terminal and UIM in areas where they could get wet.

Do not use or leave the FOMA terminal and UIM in places with a high temperature such as near fire or heater, or places exposed to direct sunlight or in cars under the blazing sun.

Don't

●Deformation, malfunction, heating or the deterioration of performance may result. Also, part of the case could get heated, causing bare skin burns.

⚠ **WARNING**

If odor, overheat, discoloration, or deformation is detected during use, immediately remove the FOMA terminal from card slot.

Do

●If use the FOMA terminal as they are, overheat, burst or catching fire may result.

Do not use near places such as gas stations where there is danger of fire or explosion.

Don't

●If used in dusty places or where there are flammable gases such as propane or gasoline, explosions or fire may result.

Do not throw the FOMA terminal or UIM, or subject them to severe shocks.

Don't

●Malfunction or fire may result.

Be careful not to let electro conductive materials (metal pieces, pencil leads etc.) contact with the connector terminal. Also, make sure that these are not entered into the inside of the FOMA terminal.

Don't

●Fire or other malfunctions may result from a short circuit.

Do not put the FOMA terminal or UIM in microwave ovens or other heating appliances or high pressure containers.

Don't

●The FOMA terminal or UIM may overheat, smoke or catch fire, or its circuit parts may burst.

⚠ **CAUTION**

Do

Keep out of reach of babies and infants.

●Accidental swallowing or injury may result.

Don't

Do not store the FOMA terminal or UIM in humid or dusty places, or in hot areas.

●Malfunction may result.

Do

If children use the FOMA terminal or UIM, a guardian should explain the safety instructions and correct operations. The guardian should also make sure that the instructions are followed during use.

●Injury may result.

Don't

Do not place the FOMA terminal or UIM on unstable locations such as wobbly tables or slanted locations.

●The FOMA terminal or UIM may fall, resulting in injury or malfunction.

Precautions for FOMA Terminal

⚠ **WARNING**

Do

Turn off the FOMA terminal in places where use is prohibited such as airplanes or hospitals.

●Electronic and electronic medical appliances may be adversely affected.
For use inside medical facilities, make sure that you comply with their regulations.
You may be punished for using the FOMA terminal in airplanes, which is prohibited by law.

Do

Remove the FOMA terminal from the PC card slot near high-precision electronic devices or devices using weak electronic signals.

●The FOMA terminal may possibly cause these devices to malfunction.

 * Electronic devices that may be affected:
Hearing aids, implanted cardiac pacemakers, implanted defibrillators, other medical electronic devices, fire alarms, automatic doors and other automatically controlled devices.
If you are using an implanted cardiac pacemaker, implanted defibrillator or any other electronic medical device, consult the manufacturer or retailer of the device for advice regarding possible effects from the radio waves.

Do

If lightning strikes while using the terminal outside, remove the FOMA terminal from the PC card slot immediately, and move to a safe location.

●Lightning strike and electric shock may result.

⚠ **WARNING**

🚫 Don't

Do not use the terminal while driving a vehicle.

●In accordance with the revision of the Road Traffic Law, you will be penalized for using a mobile phone during drive from November 1, 2004. Park the car in a safety place before using. Set the FOMA terminal to Public Mode or set Voice Mail Service active.

🚫 Don't

Do not put the FOMA terminal in the place where it could be affected by an expanded airbag, e.g. on the dashboard.

●If the airbag expands, the FOMA terminal could hit you and others, causing accidents such as injury and the FOMA terminal could become damaged.

⚠ **CAUTION**

❗ Do

Itching, rash or eczema may be caused depending on your physical conditions or predisposition. If an abnormality occurs, stop using the FOMA terminal immediately, and then seek medical attention.

●Metal parts are used for the following:

Part	Material
Silver colored area on the front and back	Stainless steel
Screw on the back	Steel

❗ Do

Electronic devices in some types of cars can be affected by use of the FOMA terminal.

●For safety's sake, do not use the FOMA terminal inside such cars.

🚫 Don't

Do not allow liquids such as water, or foreign materials such as metal pieces or flammable materials to get into the UIM tray on the FOMA terminal.

●Fire, electronic shock or malfunction may result.

🚫 Don't

Do not place magnetic cards or the like near the FOMA terminal.

●Information on magnetic cards such as cash cards, credit cards, telephone cards and floppy disks may be deleted.

Precautions for UIM

⚠ **CAUTION**

❗ Do

Be careful when removing the UIM (IC portion).

●Hands or fingers may be injured.

Notes on Using near Electronic Medical Equipment

■**The description below meets "Guideline on the Use of Radio-communication Equipment such as Cellular Telephones - Safeguards for Electronic Medical Equipment" by the Electromagnetic Compatibility Conference Japan.**

⚠ **WARNING**

Do

Remove the FOMA terminal from PC card slot when in crowded trains or other public places where implanted cardiac pacemaker or defibrillator wearers could be nearby.

●Signals from the FOMA terminal may affect the operation of implanted cardiac pacemakers or defibrillators.

Do

Be sure to adhere to the following regulations inside medical facilities:

●Do not bring the FOMA terminal into operating rooms (ORs), intensive care units (ICUs) or coronary care units (CCUs).

●Remove FOMA terminal from the PC card slot in hospital wards.

●Remove FOMA terminal from the PC card slot in hospital lobbies and corridors if electronic medical equipment could be nearby.

●If medical facility has specific zones where use or possession of mobile terminals is prohibited, follow those regulations.

Do

If you use an implanted cardiac pacemaker or implanted defibrillator, use the mobile terminal 22 cm or more away from an implanted cardiac pacemaker or implanted defibrillator.

●Operation of an implanted cardiac pacemaker or implanted defibrillator may be affected by radio waves.

Do

Patients using electronic medical equipment other than implanted cardiac pacemakers or implanted defibrillators (outside medical establishments for treatment at home, etc.) should check the influence of radio waves upon the equipment by consulting its manufacturer.

●Operation of electronic medical equipment may be affected by radio waves.

10

Handling and Care

General Usage Guidelines

■**Keep the FOMA terminal away from water.**
The FOMA terminal and UIM are not waterproof. Do not use the terminal in places with high humidity such as a bath or where rain may get it wet. If you carry the card close to your body, moisture from sweat may corrode the internal parts causing a malfunction. When carrying the FOMA terminal in a pocket of your clothes, sweat may corrode the inner components, causing malfunction. Note that malfunctions deemed to be caused by water are not covered by the warranty, and may be impossible to repair. Since these malfunctions are not under warranty, even when repair is possible, it will be done at the user's expense.

■**Clean the FOMA terminal with a soft, dry cloth (Glasses cloth).**
If the FOMA terminal is wiped with alcohol, paint thinner, benzine or detergent, the printing may disappear or color may fade.

■**Do not place the FOMA terminal near air conditioner outlets.**
Rapid changes in humidity can cause condensation, leading to internal corrosion and malfunction.

■**Do not place the FOMA terminal where excessive force will be applied to it.**
If FOMA terminal is inserted to a full bag, or placed in a pocket and sat on, its internal PCBs may be damaged or malfunction. Such damage is not covered by warranty.

FOMA Terminal

■**Avoid using in extremely high or low temperatures.**
The FOMA terminal should be used within a temperature range of 5 °C to 35 °C and a humidity range of ●●% to ●●%.

■**FOMA terminal may affect fixed phones, televisions or radios in use nearby. Use as far as possible from such appliances.**

■**Do not sit down when the FOMA terminal is in the back pocket of your pants. Also, do not place it at the bottom of a full bag, or where it will encounter excessive force.**
Malfunction or damage may result.

■**It is normal for the FOMA terminal to become warm during use or charging. You can continue to use it even when it is warm.**

■**Do not touch the pin on the connector or use excessive force.**
Malfunction may result.

■**Remove the FOMA terminal from a PC when moving the FOMA terminal.**
Malfunction may result by applying excessive force to the connector.

■**Put the FOMA terminal into the exclusive card case for the FOMA terminal when carrying.**

■**Take care not to drop the FOMA terminal when removing the FOMA terminal from the exclusive FOMA HIGH-SPEED terminal card case.**

■**When it is not in use, keep the FOMA M2501 in its case to keep the connector contacts clean.**
Dirty contacts can result in intermittent connections.

UIM

■**Do not use excessive force to remove the UIM.**

■**Do not put excessive force on the card when inserting it into the terminal.**

■**It is normal for the UIM to become warm during use. You can continue to use it even when it is warm.**

■**Note that NTT DoCoMo will not be liable for malfunctions occurring as the result of inserting and using a UIM with unrecommended IC card reader/writer.**

■**Always keep IC portion of the UIM clean.**

■**Clean the UIM with a soft, dry cloth (Glasses cloth).**

■**To protect the environment, please bring the old UIM to a DoCoMo sales outlet.**

■**Avoid extreme temperature.**

■**Do not scratch, touch carefully or short circuit the IC portion.**
Data loss or malfunction may result.

■**Do not drop or give shock to the UIM.**
Malfunction may result.

■**Do not bend or put heavy things on the UIM.**
Malfunction may result.

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  4,901,307 5,600,754 5,267,261 5,506,865 5,710,784 5,504,773 5,416,797
  5,568,483 5,228,054 5,778,338 5,109,390 5,490,165 5,414,796 5,544,196
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 5,657,420

Purchased Product and Accessories
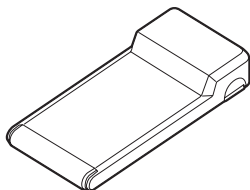
■**FOMA M2501 HIGH-SPEED
(With Warranty)**
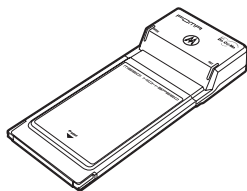
■**FOMA M2501 HIGH-SPEED CD-ROM**
- M2501 HIGH-SPEED通信設定ファイル (M2501 HIGH-SPEED Communication Configuration File)
- FOMA PC設定ソフト (FOMA PC Configuration Software)
- FirstPass PC ソフト (FirstPass PC Software)
- M2501 HIGH-SPEEDユーティリティ (M2501 HIGH-SPEED Utility)
- ドコモテレビ電話ソフト 2005 (DoCoMo Video Call Software 2005)
- FOMA パケットバイトカウンタ (FOMA Packet Byte Counter)
- FOMA M2501 HIGH-SPEED取扱説明書 （PDF形式） (Manual for FOMA M2501 HIGH-SPEED (PDF format))
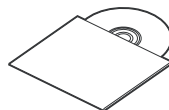
■**FOMA M2501 HIGH-SPEED Terminal
Card Case**

■**Manual for FOMA M2501 HIGH-SPEED
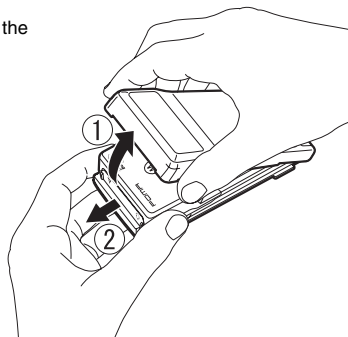(Connection Guide) (Tentative name)**
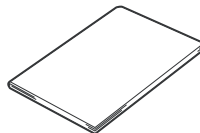
- Optional and Related Devices →P87

■**Removing the FOMA M2501 Terminal from its Case**

Hold the case as indicated in the figure on the right, open the case in the direction of ①, and pull out the terminal in the direction of ②. Do not hold the case upside down as the terminal may accidentally fall out.

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Before Using the FOMA Terminal

Names of Parts and Functions
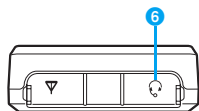
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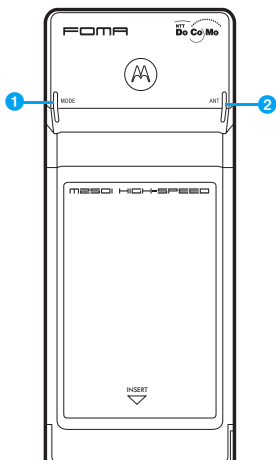
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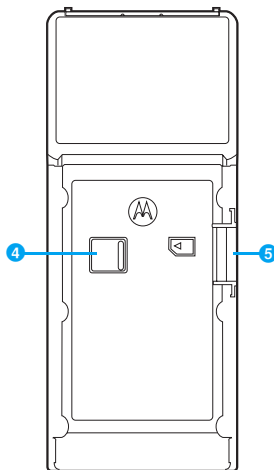
Rear

- **The antenna of the FOMA terminal is embedded in the main unit.**

❶**Mode Lamp**
- Indicates the FOMA terminal status →P17

❷**Antenna Lamp**
- Indicates signal conditions →P17

❸**PC Card Connector**
- Contacts with a PC

❹**Release Lever**
- Removes the UIM →P18

❺**FOMA Card Slot**
- Inserts/removes the UIM →P17

❻**Earphone Microphone Jack**
- Connects an earphone microphone, sold separately, for calls →P86

Lamp

❶ Mode Lamp

FOMA Terminal Status		Mode Lamp
Power off/Standby		Off
Waiting to connect to the FOMA network		Lights green
Packet communication	Sending or receiving	Flashes orange
	Communicating	Lights orange
64K data communication	Sending or receiving	Flashes green
Voice/video call	Outgoing or incoming	
64K data communication	Communicating	Lights green
Voice/video call	During a call	
Multiaccess	Sending or receiving/Outgoing or incoming	Flashes orange/green (4 times*)
	Communicating/Calling	Flashes orange/green (1 time*)

*: Approximate flashing times in about two seconds

❷ Antenna Lamp

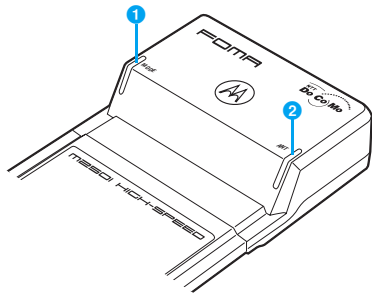| FOMA Terminal Status		Antenna Lamp
Power off		Off
Waiting to connect to the FOMA network		Lights green
Signal reception level	Three bars	Lights green
	Two bars	Flashes green
	One bar	Flashes orange
	圏外 (Out of the service area)	Lights red

FOMA Terminal Status	Antenna Lamp
The FOMA HIGH-SPEED terminal failed	Lights red
An invalid UIM is inserted	
UIM not inserted/not recognized	
A PIN Code/PUK Code must be entered	
The PIN code block is on	

UIM (FOMA Card)

The UIM is an IC card that stores personal information such as your phone number. Without the UIM inserted in the FOMA terminal, you cannot make voice calls, video calls or data communications.
For details on the UIM, refer to the instruction manual for the UIM.

Inserting/Removing the UIM

Inserting

1 **Insert the UIM in the direction shown below into the card slot on the back of the FOMA terminal**

IC
Notch
Hold the card with the gold color IC portion side down
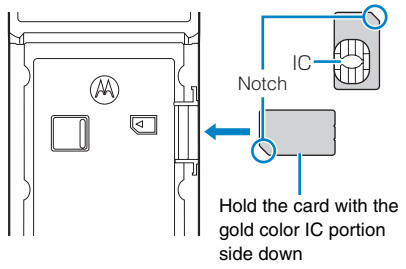
2 **Insert the UIM until the release lever slides in place**
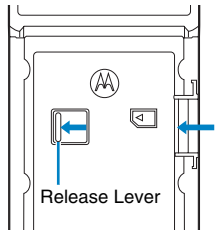
Release Lever

• Push the terminal in until the release lever reaches the above position.

Removing

1 Slide the release lever in the direction of the arrow

Release Lever
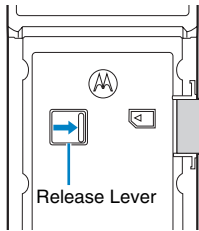
2 Remove the UIM from the card slot
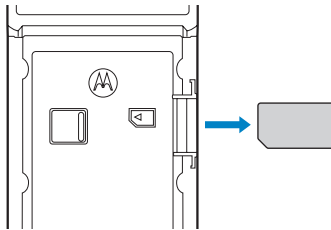
- Hold the UIM with your fingers and follow the steps to insert/remove the card. Do not use excessive force to insert the UIM to avoid damaging the card.
- Do not touch or damage the IC portion.
- Do not misplace the UIM.

UIM PINs

You can assign two PINs to the UIM, a PIN1 code and a PIN2 code. →P63
However, this FOMA terminal does not require the PIN2 code.

If PIN1 code is required to be verified at start up, packet communication/64K data communication cannot be performed. Set "PIN Code Verification at Start up" to "No" under "Security Settings" (P63) of the M2501 HIGH-SPEED Utility.

UIM Versions

There are two versions of the UIM.
The following table describes the differences:

Function	UIM (Green)	UIM (Blue)
FirstPass	Available*	Not Available
WORLD WING	Available*	Not Available

*: This FOMA terminal cannot acquire the user authentication required for FirstPass directly. After submitting the application form, downloading the user authentication or changing the PIN2 code by inserting your UIM into another FirstPass compatible FOMA terminal, re-insert the UIM into the FOMA terminal to start using it. For submitting the application form and downloading the user authentication or changing the PIN2 code, refer to the instruction manual of the FirstPass compatible FOMA terminal you use for this purpose.

Note

WORLD WING

- WORLD WING is DoCoMo's international roaming service that provides telephone and other types of communications using the same mobile phone number overseas by replacing the green UIM in a FOMA terminal or a mobile phone designed for overseas (W-CDMA or GSM systems).
  No subscription is required for WORLD WING.

  - If you subscribed to FOMA services after August 31, 2005 and have not subscribed to WORLD WING, a separate subscription is required for WORLD WING.
  - Some billing plans may not be applied to WORLD WING.

Available Communications

Packet/64K Data Communication

Packet Communication

Charges for this communication method are based on the amount of exchanged data.
You can perform data communications with a maximum of 3.6Mbps for receiving and 384Kbps for sending by using a connection that allows FOMA packet communications such as mopera U/mopera, DoCoMo's Internet connection service.

- Depending on the access point that supports W-CDMA and GSM/GPR systems in international roaming, the communication speed varies.
- The "FOMA Packet Byte Counter" contained in the included CD-ROM is available as an application.

- Communication charges become high when performing communications with large data such as browsing Web sites with many graphics or downloading data.
- The "FOMA Packet Byte Counter" can be downloaded from the DoCoMo application download Web site. http://www.nttdocomo.co.jp/support/download/index. html

64K Data Communication

Charges for this communication method are based on the duration of the connection. This method uses a connection that allows FOMA 64K data communication such as mopera U/mopera, DoCoMo's Internet connection service or allows ISDN connection supporting synchronized 64Kbps.

- Communication charges become high when connecting for a long time. Digital communication charges apply.

Usage Notes

■ **Internet Service Provider Fees**
Fees to an Internet service provider may be required to connect to the Internet. These fees are added to the FOMA service fees and are paid to your Internet service provider directly. For details on connection fees, contact your Internet service provider.
You can subscribe to mopera U/mopera, DoCoMo's Internet connection service.
To use mopera U, a separate subscription is required (charges apply). To use mopera, no subscription is required and no monthly usage fees apply.

■ **Setting the Internet Connection**
Packet communication and 64K data communication use different access points. For packet communication, use an access point compatible with packet communication, and for 64K data communication, use the FOMA 64K data communication or use an access point compatible with ISDN-synchronized 64K.
- DoPa access points cannot be connected.
- Access points for PHS 64K/32K data communication for PIAFS, etc. cannot be connected.

■ **User Authentication to Access Networks**
Depending on the access point, user authentication (ID and password) may be required to connect. If required, enter the ID and password from the dial-up network. The ID and password will be provided by the network administrator of your Internet service provider or the access point. For details, contact your provider or access point network administrator.

■ **Access Authentication for Browsing**
FirstPass (user certificate*) is required for access authentications to browse FirstPass sites. Install the FirstPass PC Software from the included CD-ROM and configure the settings.
For details, refer to "FirstPass Manual" (PDF format) contained in the included CD-ROM.
Adobe Reader (version 6.0 or later is recommended) is required to view the file.
The latest version of Adobe Reader can be downloaded from the Adobe System's Web site (separate communication charges apply).
For details, refer to the Adobe System's Web site.
*: This FOMA terminal cannot acquire the user authentication required for FirstPass directly. After submitting the application form, downloading the user authentication or changing the PIN2 code by inserting your UIM into another FirstPass compatible FOMA terminal, re-insert the UIM into the FOMA terminal to start using it. For submitting the application form and downloading the user authentication or changing the PIN2 code, refer to the instruction manual of the FirstPass-compatible FOMA terminal you use for this purpose.

■ **Requirements for Packet and 64K Data Communications**
The following conditions must be met to perform communications using the FOMA terminal. However, a connection may not be established if traffic is heavy at the base station or if radio signals are weak.
- The FOMA terminal must be in a FOMA service area.
- The access point must support FOMA packet communication for packet communication.
- The access point must support FOMA 64K data communication or ISDN connection supporting synchronized 64K communication.

- The "FirstPass PC Software" can be downloaded from the DoCoMo application download Web site. http://www.nttdocomo.co.jp/support/download/index. html

Voice Calls/Video Calls

Voice Calls

Charges for this communication method are based on the connection time.

- A connection cannot be established if the other party is out of service area or has the device powered off.
- "M2501 HIGH-SPEED Utility" contained in the included CD-ROM is available as an application.
- An audio device such as an earphone-microphone (commercially available) is required in addition to the application software in order to make voice calls. An earphone microphone with switch P001/P002 (optional) and stereo earphone microphone set P001 (optional) can be used as an audio device. →P86

> **Note**

- For details on using applications or devices, refer to their respective instruction manuals.

Video Calls

Charges for this communication method are based on the connection time.
Video calls are available between terminals compatible with DoCoMo's video calls (comply with "3G-324M[1] standardized by 3GPP[2], international standard").

*1: 3G-324M is an international standard for 3rd generation mobile video calls.
*2: 3GPP (3rd Generation Partnership Project) is a regional standardizing organization founded to develop common technology specifications for 3rd generation mobile communication systems (IMT-2000).

- Connection cannot be established if the other party's handset does not handle DoCoMo video calls or even if it does, when the handset is out of a service area or the handset power is turned off.
- This FOMA terminal does not support 32Kbps video calls.
- You can use the "DoCoMo Video Call Software 2005" contained in the included CD-ROM as an application.
- An audio device such as an earphone-microphone (commercially available) is required in addition to the software application in order to make video calls. An earphone microphone with switch P001/P002 (optional) and stereo earphone microphone set P001 (optional) can be used as the audio device. "Manual for FOMA M2501 HIGH-SPEED" →P86

> **Note**

- Digital communication charges apply for video calls.
- For details on using applications or devices, refer to their respective instruction manuals.
- "DoCoMo Video Call Software 2005" can be downloaded from the DoCoMo Video Call Software support Web site.
  http://videophonesoft.nttdocomo.co.jp/

Connecting the FOMA Terminal and a PC

Inserting

Before using the FOMA terminal for the first time, you must install the M2501 HIGH-SPEED driver following the steps in "Communication Configuration File (Driver)" (P24).

- Install the UIM to the FOMA terminal before using. →P17

1 **Turn on the PC**

2 **Hold the FOMA terminal with the label side up and slide straight into the PC card slot**
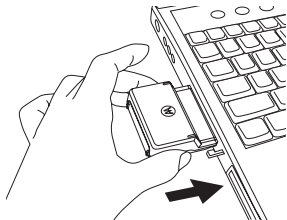
- The location of a PC card slot and the way the card is inserted vary depending on the PC.
- Insert the card all the way in the PC card slot securely.

3 **Double-click the card icon in the task tray on the Desktop**

- If "FOMA M2501 USB Host Controller" appears, the FOMA terminal is correctly installed.
- If the above name does not appear after a while, turn off your PC, verify the connection and try again.

Note

- Remove the FOMA terminal from the PC when you move the PC. Keep the FOMA M2501 terminal in its case when you carry it.
- Do not apply force to the exposed portion of the card and do not use the section as a handle while the card is inserted in the PC. Doing so may cause injury, failure or damage.
- Be aware of the remaining battery level when using a PC on its battery. The FOMA terminal operation may become unstable when the remaining battery level is low.

Removing

Disconnect the line when communicating, and remove the FOMA terminal.

1 **Double-click the card icon in the task tray**
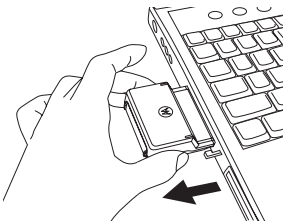

2 **Select "FOMA M2501 USB Host Controller", and click [停止 (Exit)]**

3 **Click [OK]**

4 **When a message indicating that the PC card can be removed safely, remove the FOMA terminal from PC**

Note

• Always store the removed FOMA terminal in the FOMA M2501 HIGH-SPEED terminal card case.

Setting Up

Setting Up

Install the following software from the included CD-ROM for the FOMA M2501 HIGH-SPEED terminal.

1	Installing the Communication Configuration Files

The communication configuration software (drivers) makes communication possible using the FOMA terminal.
• Windows XP →P24
• Windows 2000 →P26

↓

2	Installing the FOMA PC Configuration Software

The FOMA PC configuration software allows you set up packet communication/64K data communication using simple steps.
• Steps in Common for Windows →P31

↓

3	Configuring Communication Settings

Configure settings to establish a connection with packet communication/64K data communication.
• Setting up Packet Communication Using the Easy Settings of the PC Configuration Software →P32
• Setting up 64K Data Communication Using the Easy Settings of the PC Configuration Software →P32
• Setting up Communication without Using the PC Configuration Software →P37

↓

4	Establishing a Connection

Connect to the Internet.

Operating Environments

Use the Communication Configuration File (driver) and the FOMA PC Configuration Software under the following operational environments:

Item	Requirement
PC Main Unit	PC-AT compatible The PC must have a PC card slot of PCMCIA TYPE II.
OS	Windows 2000 Professional[1], Windows XP Professional/Home Edition[2]
Required Memory	128Mbytes or more
Hard Disk Space	50Mbytes or more available space
Display	800 x 600 pixels or more recommended

*1: Japanese Version Service Pack 4 or later
*2: Japanese Version Service Pack 1 or later

Communication Configuration File (Driver)

The Communication Configuration Files (drivers) are required to connect to the PC for the first time.

Installing

• Remove the FOMA terminal from the PC before starting the software installation.
• Log into a user account with the Administrator or PC supervisor privileges. An error will occur during installation if you log into an account without these privileges. For details on setting up Administrator or PC supervisor privileges, contact your computer manufacturer or Microsoft Corporation.

For Windows XP

1 **Start Windows and insert the FOMA M2501 HIGH-SPEED CD-ROM to the PC**

2 **Click [スタート (Start)] ▶ "ファイル名を指定して実行 (Select file name and run)"**

3 **Click [参照 (Browse)] to specify the file setup.exe, then click [OK]**

• Specify the file "<CD-ROM drive letter>:/Drivers/setup.exe" (the CD-ROM drive letter varies depending on the configuration of your PC).

4 **Verify the destination folder and click [Install]**
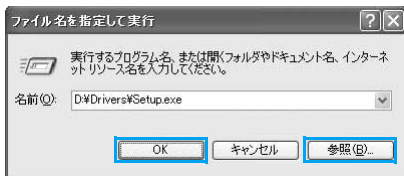
Install Driver
Ready to install M2501 datacard software.
To change the install location, click the Browse button.
C:¥Program Files¥MO¥M2501 Datacard USB Driver
Browse...
Screen to be replaced
Install   Cancel

- [Browse] : You can change the destination folder. However, you can only specify folders on a local hard disk. Other folders (on a network drive or removable media) cannot be specified.

5 **Click [続行 (Continue)]**

- This software behaves in the same way as Windows logo certified software. Click [続行 (Continue)]. This screen opens three times.

ソフトウェアのインストール
⚠
Screen to be replaced
インストールを続行した場合、システムの動作が損なわれたり、システムが不安定になるなど、重大な障害を引き起こす要因となる可能性があります。今すぐインストールを中断し、ソフトウェア ベンダに連絡してWindows ロゴの認定テストに合格したソフトウェアを入手することを、Microsoft は強く推奨します。
続行(C)   インストールの停止(S)

6 **Click [OK]**

Install Driver
Screen to be replaced
ⓘ   M2501 datacard software was installed successfully
OK

7 **Insert the FOMA terminal into the PC card slot (P21)**

8 **Select "いいえ、今回は接続しません (No, not this time)" and click [次へ (Next)]**

- Depending on your PC, this screen may not appear.

新しいハードウェアの検出ウィザード
新しいハードウェアの検索ウィザードの開始
お使いのコンピュータ、ハードウェアのインストール CD または Windows Update の Web サイトを検索して(ユーザーの了解のもと)現在のソフトウェアおよび更新されたソフトウェアを検索します。
プライバシー ポリシーを表示します。
ソフトウェア検索のため、Windows Update に接続しますか?
○はい、今回のみ接続します(Y)
○はい、今すぐおよびデバイスの接続時には毎回接続します(E)
○いいえ、今回は接続しません(T)
続行するには、[次へ] をクリックしてください。
< 戻る(B)   次へ(N) >   キャンセル
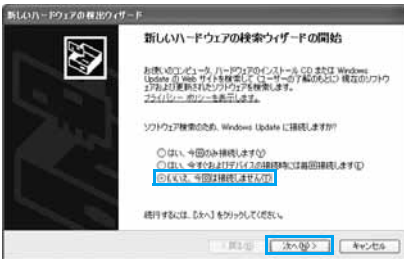
9 **Select "一覧または特定の場所からインストールする（詳細）(Install from a list or a specific location (Advanced))" and click [次へ (Next)]**

新しいハードウェアの検出ウィザード
このウィザードでは、次のハードウェアに必要なソフトウェアをインストールします:
FOMA M2501 USB Host Controller
ハードウェアに付属のインストール CD またはフロッピー ディスクがある場合は、挿入してください。
インストール方法を選んでください。
○ソフトウェアを自動的にインストールする (推奨)(I)
○一覧または特定の場所からインストールする (詳細)(S)
続行するには、[次へ] をクリックしてください。
< 戻る(B)   次へ(N) >   キャンセル
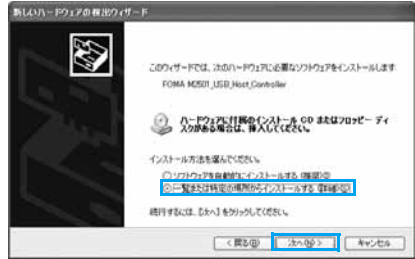
10 **Select "次の場所で最適のドライバを検索する (Search for the most suitable driver in the following place)", check "次の場所を含める (Include the following)", click [参照 (Browse)], specify the folder, and click [次へ (Next)]**

- Specify the file "<CD-ROM drive letter>:/Drivers" (the CD-ROM drive letter varies depending on the configuration of your PC). Installation starts.

新しいハードウェアの検出ウィザード
検索とインストールのオプションを選んでください。
○次の場所で最適のドライバを検索する(S)
下のチェック ボックスを使って、リムーバブル メディアやローカル パスから検索できます。検索された最適のドライバがインストールされます。
□リムーバブル メディア (フロッピー、CD-ROM など) を検索(M)
☑次の場所を含める(O)
D:¥Drivers   参照(R)
○検索しないで、インストールするドライバを選択する(D)
一覧からドライバを選択するには、このオプションを選びます。選択されたドライバは、ハードウェアに最適のものとは限りません。
< 戻る(B)   次へ(N) >   キャンセル
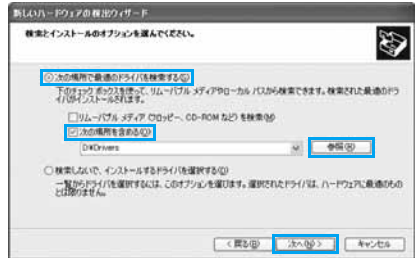
■ **If a message appears indicating that this software has not passed the Windows Logo Test to certify the compatibility with Windows XP**
- This software behaves in the same way as Windows logo certified software. Click [続行 (Continue)].

11 **Click [完了 (Done)]**

新しいハードウェアの検出ウィザード
新しいハードウェアの検索ウィザードの完了
次のハードウェアのソフトウェアのインストールが完了しました:
FOMA M2501 USB Host Controller
[完了] をクリックするとウィザードを閉じます。
< 戻る(B)   完了   キャンセル

25
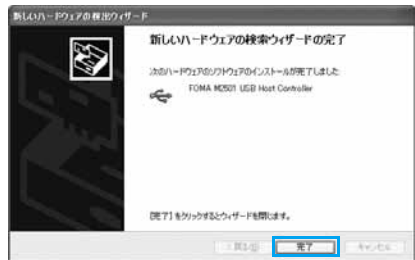
12 Install the other three drivers

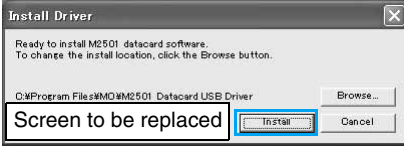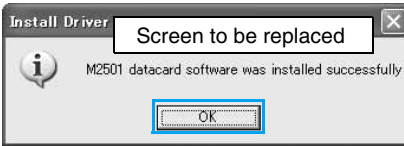Install all three drivers referring to Steps 8-11.

For Windows 2000

1 Start Windows and insert the FOMA M2501 HIGH-SPEED CD-ROM to the PC

2 Click [スタート (Start)] ▶ "ファイル名を指定して実行 (Select file name and run)"

3 Click [参照 (Browse)] to specify the file setup.exe, then click [OK]

- Specify the file "<CD-ROM drive letter>:/Drivers/setup. exe" (the CD-ROM drive letter varies depending on the configuration of your PC).

4 Verify the destination folder and click [Install]

Screen to be replaced
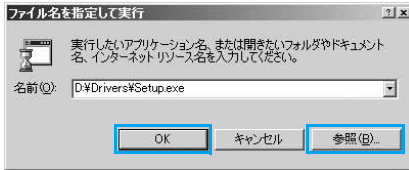
- [Browse] : You can change the destination folder. However, you can specify only folders on the local hard disk. Other folders (on a network drive or removable media) cannot be specified.

5 Click [Yes]

- Click [はい (Yes)] because this software behaves in the same way as a software with a digital signature.

Screen to be replaced

6 Click [OK]

Screen to be replaced
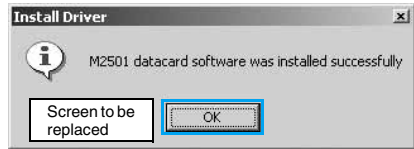
7 Insert the FOMA terminal into the PC card slot (P21)

8 Click [次へ (Next)]
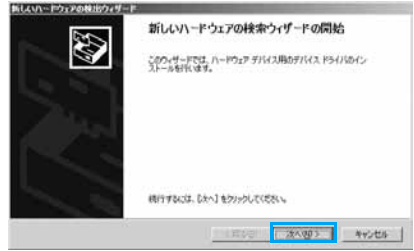
9 Select "デバイスに最適なドライバを検索する（推奨）(Search for the most suitable driver) (Recommended))" and click [次へ (Next)]

10 Check "場所を指定 (Find in)" and click [次へ (Next)]
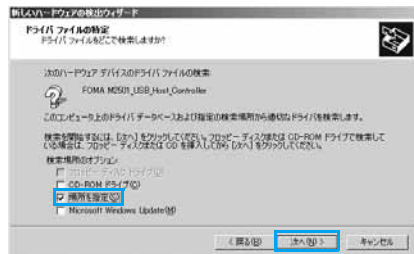
11 Click [参照 (Browse)] to specify the file, then click [OK]

- Specify the file "<CD-ROM drive letter>:/Drivers" (the CD-ROM drive letter varies depending on the configuration of your PC).
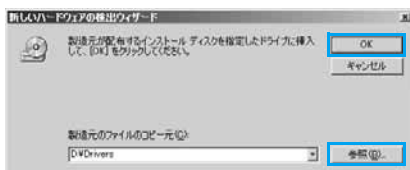
12 Verify the driver name "m2501hcd.inf" and click [次へ (Next)]

Installation starts.
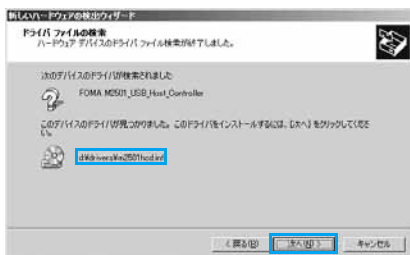
■ **If a message appears indicating that the software does not have a digital signature**
- Click [はい (Yes)] because this software behaves in the same way as a software with a digital signature.

13 Click [完了 (Done)]

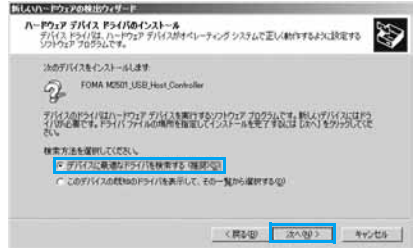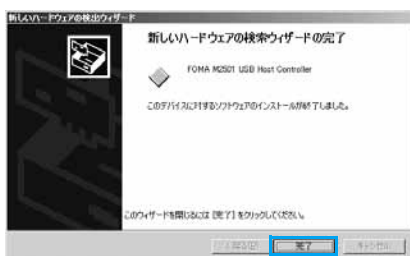**14** "新しいハードウェアが見つかりました (New hardware found)" is displayed and the other three drivers will be installed automatically

- The installation is completed when "新しいハードウェアが見つかりました (New hardware found)" message disappears.

Checking the Installed Driver

Verify that the M2501 Communication Configuration Files have been installed correctly.

---

1 Open the Windows Control Panel

■ **For Windows XP**
Click [スタート (Start)] ▶ "コントロールパネル (Control Panel)"

■ **For Windows 2000**
Click [スタート (Start)] ▶ [設定 (Settings)] ▶ "コントロールパネル (Control Panel)"

2 Open "システム (System)" in "コントロールパネル (Control Panel)"

■ **For Windows XP**
Click the "システム (System)" icon from "パフォーマンスとメンテナンス (Performance and Maintenance)"

■ **For Windows 2000**
If the "システム (System)" icon does not appear on the "コントロールパネル (Control Panel)", click "すべてのコントロールパネルのオプションを表示する (Show all Control Panel options)".

3 Open the Device Manager

■ **For Windows XP**
Click the "ハードウェア (Hardware)" tab and click [デバイスマネージャ (Device Manager)]

■ **For Windows 2000**
Click the [デバイスマネージャ (Device Manager)] tab

4 Click "モデム (Modem)" to view the installed driver name

Verify that the driver name appears under "モデム (Modem)", "ポート (Port)", "USB コントローラー (Universal Serial Bus) controller".

For Windows XP

27

Setting Up ● Installing the Driver
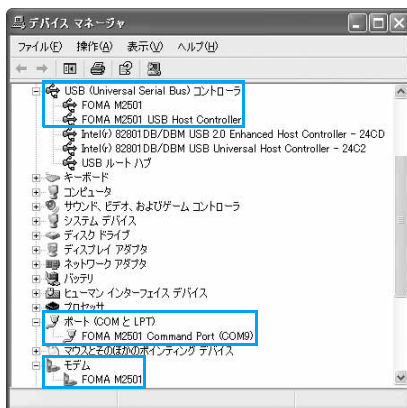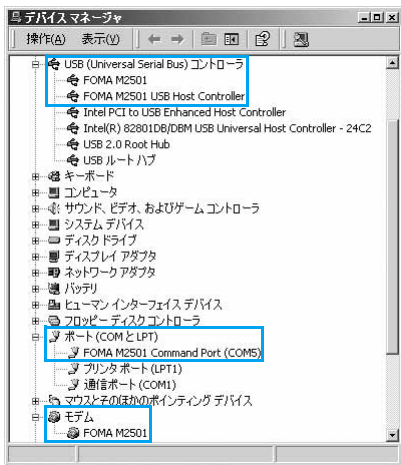
For Windows 2000

* The COM port number varies depending on the PC.

Device Name	Driver Name
Universal Serial Bus Controller/USB (Universal Serial Bus)	FOMA M2501, FOMA M2501 USB Host Controller
ポート (Port (COM/LPT))	FOMA M2501 Command Port
モデム (Modem)	FOMA M2501

Note

• To configure the access point, continue with the following.
Configuring the Access Point using the FOMA PC Configuration Software →P29
Configuring the Access Point without using the FOMA PC Configuration Software →P37

• If the driver name does not appear after performing steps to verify the driver name, follow the instructions of "Uninstalling" to delete the M2501 Communication Configuration files and re-install them.

Uninstalling

To uninstall the Communication Configuration files (drivers), perform the following steps:

• Remove the FOMA terminal from the PC before starting the software uninstallation.

• Log into a user account with the Administrator or PC supervisor privileges. An error will occur during uninstallation if you log into an account without these privileges. For details on setting up Administrator or PC supervisor privileges, contact your computer manufacturer or Microsoft Corporation.

1 **Start "プログラム (アプリケーション)の追加と削除 (Add or Remove Programs (Applications))" from Windows**

■ **For Windows XP**
Click [スタート (Start)] ▶ "コントロールパネル (Control Panel)" ▶ "プログラムの追加と削除 (Add or Remove Programs)" icon

■ **For Windows 2000**
Click [スタート (Start)] ▶ "設定 (Settings)" ▶ "コントロールパネル (Control Panel)" ▶ "アプリケーションの追加と削除 (Add or Remove Applications)" icon

2 **Select "M2501 Datacard USB Driver (Tentative Name)" and click [変更と削除 (Change/Remove)]**

Select "M2501 Datacard USB Driver"

Click here

3 **Click [Uninstall]**

Screen to be replaced
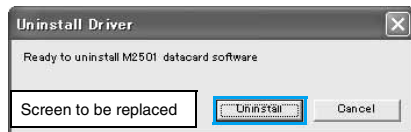
4 **Click [OK]**
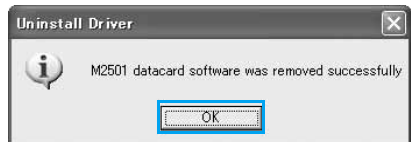
5 **Click [はい (Yes)] to restart Windows**
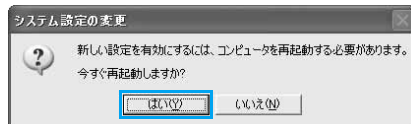
Configuring Communication Using the FOMA PC Configuration Software

FOMA PC Configuration Software

Installing the FOMA PC Configuration Software

Verifying that the FOMA terminal is Recognized Correctly by the PC

Installing

Configuring Communication Settings

Specifying the Communication Port

Selecting "Packet Communication" from Easy Settings

Using "mopera U" or "mopera" as an access point

Using another provider as an access point

Selecting "64K Data Communication" from Easy Settings

Using "mopera U" or "mopera" as an access point

Using another provider as an access point

Start Communicating

Disconnecting

Uninstalling the FOMA PC Configuration Software

Before Uninstalling

Uninstalling

W-TCP Settings

Role of W-TCP Software

Setting and Deleting Optimization

For Windows XP

For Windows 2000

Configuring Access Points (APN)

Adding/Editing/Deleting Access Points

Saving to a File

Reading from a File

Reading Access Point (APN) Information from the FOMA Terminal

Writing Access Point (APN) to the FOMA Terminal

Creating a Dial-up Connection

Setting Up

Configuring Access Points (APN)

Dial-up Network Settings

Setting Packet Communication

Verifying the COM Port Number

For Windows XP

For Windows 2000

Configuring Access Points (APN)

Setting Display/Hide Caller ID

Configuring a Dial-up Network in Windows XP

Configuring a Dial-up Network in Windows 2000

Setting 64K Data Communication

Connecting Using Dial-up

Disconnecting

Using FirstPass PC

The FirstPass PC Software allows you to access to sites supporting FirstPass from the Web browser on a PC by using the user authentication obtained from another FOMA terminal that supports FirstPass.

- This FOMA terminal cannot directly obtain the user authentication required for FirstPass. After submitting the application form, downloading the user authentication or changing the PIN2 code by inserting your UIM into another FirstPass compatible FOMA terminal, re-insert the UIM into the FOMA terminal to start using it. For submitting the application form and downloading the user authentication or changing the PIN2 code, refer to the instruction manual of the FirstPass compatible FOMA terminal you use for this purpose.

Note When Installing FirstPass PC Software

Operating Environments

Use the FirstPass PC software in the following operating environments:

Item	Requirement
PC Main Unit	PC-AT Compatible The PC must have a PC card slot of PCMCIA TYPE II.
OS	Windows 2000 Professional*1, Windows XP Professional/Home Edition*2
Required Memory	Windows 2000 Professional : Required 32M ups Windows XP*2 : Required 128M ups
Hard Disk Space	10Mbyte or More Available Space
Browser	Internet Explore 5.5 ups Internet Explorer 6.0 for Windows XP or higher

*1: Japanese Version Service Pack 4 or later
*2: Japanese Version Service Pack 1 or later

> **Note**
> - Required memory or available hard disk space may vary depending on your system.
> - Depending on the operating environment, the software may not work. DoCoMo does not respond to any inquiries about the use, guarantee proper operation, nor is responsible for proper operation under operating environments other than the above.
> - DoCoMo does not guarantee the operation under the supported OS if the OS is changed through upgrade.

Before Installing

Before installing the FirstPass PC Configuration software, read the "FirstPass Manual" (in PDF format) in the "FirstPass PC Soft" folder contained in the included CD-ROM. Adobe Reader (version 6.0 or later is recommended) is required to view the file. The latest version of Adobe Reader can be downloaded from the Adobe System's Web site (separate communication charges apply).
For details, visit the Adobe System's Web site.

Installing

1 Start Windows and insert the FOMA M2501 HIGH-SPEED CD-ROM to the PC

2 Click [スタート (Start)] ▶ "ファイル名を指定して実行 (Select file name and run)"

3 Click [参照 (Browse)], specify "< CD-ROM ドライブ名> CD-ROM drive letter>:¥FirstPassPCSoft¥FirstPassPCSetup.exe", and click [OK]

Continue the installation following the instructions in the "FirstPass Manual" (in PDF format) in the "FirstPass PC Soft" folder contained in the included CD-ROM.

- The CD-ROM drive letter varies depending on the configuration of your PC.

Uninstalling

1 Start "プログラム (アプリケーション)の追加と削除 (Add or Remove Programs Applications)" from Windows

■ **For Windows XP**
Click [スタート (Start)] ▶ "コントロールパネル (Control Panel)" ▶ "プログラムの追加と削除 (Add or Remove Programs)" icon

■ **For Windows 2000**
Click [スタート (Start)] ▶ "コントロールパネル (Control Panel)" ▶ "アプリケーションの追加と削除 (Add or Remove Applications)" icon

**2 Select "FirstPass PC Soft" and click [変更と削除 (Change/Remove)]**

Continue the uninstallation following the instructions in the "FirstPassManual" (in PDF format) in the "FirstPass PC Soft" folder contained in the included CD-ROM.

AT Commands

AT commands are used to check the FOMA terminal function settings or status using a PC. Usually, the communication software issues AT commands so that you do not need to be concerned about them. Use AT commands if you want to control the FOMA terminal in your own way.

Format of AT Commands

AT commands should be entered on the Terminal Mode screen of the communication software. Use only single-byte alphanumeric characters.

<Example>

ATD＊99＊＊＊1#↵

```
                    ┌─ Hard Return
                    │
            ┌───────┴─ Parameter : Content of the
            │                      command
    ┌───────┴──────── Command Name
```

- An AT command must be entered on a single line including parameters (numbers and symbols) following the command. On the Terminal Mode screen of the communication software, one line is from the first character to the previous character of ↵. Up to XX characters (including "AT" and ↵) can be entered.

Note

- In the Terminal mode, a PC functions as a communication terminal. Characters entered from the keyboard are sent to a line connected to a communication port.

Switching between On-line Data Mode and On-line Command Mode

Following two methods are available to switch between on-line data mode and on-line command mode on the FOMA terminal:

- Enter the "+++" command or the code set to "S2" register. →See the right column
- When "AT&D1" is set, set the ER signal of the serial (COM) port to OFF

Enter "ATO↵" to switch from the on-line command mode to the on-line data mode.

■ Saving the Settings

Settings by AT commands are initialized when the FOMA terminal power is turned off and turned on again except: APN settings set by the AT+CGDCONT command, QoS settings by AT+CGEQMIN/AT+CGEQREQ command, setting to show or hide the packet communication number by AT＊DGPIR command, and settings to restrict notifying the Caller ID by AT+CLIR command. Settings set by commands with [&W] can be saved by entering [AT&W↵] after configuring the settings. Any other values set by other commands with [&W] are also saved at the same time. These values can be restored by entering "ATZ↵" even after the FOMA terminal power was turned off and turned on again.

AT Command List

The following AT commands can be used on the FOMA M2501 HIGH-SPEED.

- [&F] : A command to initialize settings used as AT&F command.
- [&W] : A command to save settings used as AT&W command. ATZ command can restore set values.
- [?] [=?] : The current settings appear when adding "?" at the end of the command, and the effective range of the current settings appear when adding "=?" at the end of the command.

AT Command	Overview	Parameters/Description	Command Examples
AT￥S	Show the command settings and S register.	—	AT￥S OK
AT￥V\<n\>	Select whether to use the extended result code at connection.	n=0 (default) : The extended result code is not used. n=1 : The extended result code is used.	AT￥V0 OK
AT%V	Display the version of the FOMA terminal.	—	AT%V Ver1.00 OK
AT&C\<n\> [&F] [&W]	Set the operating conditions of the circuit CD for DTE.	n=0 : Always keeps line CD signal ON. n=1 (default) : CD changes depending on the other party's modem status.	AT&C1 OK
AT&D\<n\> [&F] [&W]	Set the operation performed when circuit ER signal received from DTE is switched from ON to OFF.	n=0 : Ignore ER signals (Always regard as ON) n=1 : On-line command mode starts when ER signals change from ON to OFF. n=2 (default) : Off-line mode starts when ER signals change from ON to OFF.	AT&D1 OK
AT&E\<n\> [&F] [&W]	Select the specification to show the connection speed.	n=0 : Show the communication speed for wireless segment. n=1 (default) : Show the communication speed between the PC and FOMA terminal.	AT&E0 OK
AT&F\<n\>	Reset the FOMA terminal AT command set values to factory defaults. If executed during a communication, the line is disconnected.	Only n=0 can be set (skippable)	—
AT&S\<n\> [&] [&W]	Set the control of DR (data set ready) signals output by the FOMA terminal.	n=0 (default) : Set DR signals always to ON. n=1 : Set DR signals to ON when the line is connected.	AT&S0 OK
AT&W\<n\>	Write the current setting values to the FOMA terminal.	Only n=0 can be specified (can be skipped)	—

AT Command	Overview	Parameters/Description	Command Examples
AT＊DANTE	Show the signal strength at the FOMA terminal.	=0 : Out of service area =1 : One antenna bar =2 : Two antenna bars =3 : Three antenna bars	AT＊DANTE ＊DANTE : 3 OK AT＊DANTE=? ＊DANTE : (0-3) OK (Show the range of values that can be displayed)
AT＊DGPIR=<n> [?] [=?]	The setting of this command becomes valid when a call is dialed. 184/186 can also be added to the APN number even for the setting in a dial-up network.	n=0 (default) : Use APN as it is. n=1 : Add "184" to APN (always hide). n=2 : Add "186" to APN (always show).	AT＊DGPIR=0 OK
AT＊DRPW	Show an indicator of the received radio signal power at the FOMA terminal. (0 : lowest - 75 : highest value)	—	AT＊DRPW ＊DRPW : 0 OK
+++	Switch the FOMA terminal from the on-line data mode to on-line command mode.	This command is not applicable to the connection using packet communication.	(Online Data Mode) +++ (Unable to see the display) OK
AT+CBST [&F] [&W] [?] [=?]	Set the bearer (communication type) service.	AT+CBST=<speed>, <name>,<ce> speed=116 : 64K data communication. speed=134 : Video calls 64K name=1 : data circuit synchronous. ce=0 : transparent.	AT+CBST=11 6, 1, 0
AT+CEER	Display the reason for disconnection of the previous connection.	"Reasons for Disconnection" →P50	AT+CEER +CEER : ●● OK
AT+CGDCONT [?] [=?]	Set APN when sending Packet communication.	→P49	→P49
AT+CGEQMIN [?] [=?]	Register criteria value for determining if QoS (Quality of Service) sent from network when Packet communication is established, is acceptable or not.	AT+CGEQMIN= [Parameters] →P49	→P49
AT+CGEQREQ [?] [=?]	Set QoS (Quality of Service) to request for the network when Packet communication is established.	AT+CGEQREQ= [Parameters] →P49	→P49
AT+CGMR	Display the version of the FOMA terminal (16-digit number).	—	AT+CGMR 1234512345 123456 OK

AT Command	Overview	Parameters/Description	Command Examples
AT+CGREG=<n> [&F] [&W] [?] [=?]	Set whether to be notified of the network registration status.	n=0 (default) : Do not notify. n=1 : Notify when outside and inside the service area is changed. Execute "AT+CGREG?" then appears as "+CGREG : <n>,<start>". n : Setting value. start=0 : Outside the packet service area. start=1 : Inside the packet service area. start=4 : Unknown. start=5 : Inside the packet service area (while roaming).	AT+CGREG=1 OK
AT+CGSN	Display the serial number of the FOMA terminal (15-digit number).	—	AT+CGSN 1234567890 12345 OK
AT+CLCK	Lock applications (checking the specifications).	(checking the specifications)	(checking the specifications)
AT+CLIP=n [&F] [&W] [?] [=?]	When a phone number with sub-address is received, the call is rejected.	(checking the specifications)	AT+CLIP=0 OK
AT+CLIR=<n> [?] [=?]	Set whether to send the Caller ID when making 64K data communication/video calls.	n=0 : In accord with the CLIR service subscription. n=1 : Do not send. n=2 (default) : Send. When "AT+CLIR?" is executed appear in the format of "+CLIR : <n>,<m>". m=0 : CLIR is not running. (Always send). m=1 : CLIR is running. (Always hide). m=2 : Unknown. m=3 : CLIR temporary mode (Default for hide). m=4 : CLIR temporary mode (Default for show).	AT+CLIR=0 OK
AT+CMEE=<n> [&F] [&W] [?] [=?]	Set the error report format of the FOMA terminal.	n=0 (default) : Display "ERROR". n=1 : Display in the format of "+CMEE ERROR : xxxx" (where xxxx are numbers). n=2 : Display in the format of "+CMEE ERROR : xxxx" (where xxxx are text).	AT+CMEE=0 OK

AT Command	Overview	Parameters/Description	Command Examples
AT+CNUM	Display the own number of the FOMA terminal.	Executing "AT+CNUM" displays in the format of "+CNUM : <number>, <type>" number : phone number type=129 : Excluding the international access code+ type=145 : Including the international access code+	AT+CNUM +CNUM;,+819 012345678", 145 OK
AT+CPAS [?] [=?]	Display FOMA terminal state.	Executing "AT+CPAS?" displays in the format of "+CPAS : <n>". n=0 : Available to set AT commands. n=1 : Unavailable to set AT commands. n=2 : Unknown (Response to AT commands is not guaranteed). n=3 : Available to set AT commands even during incoming. n=4 : Available to set AT commands even during a call.	AT+CPAS? +CPAS : 0 OK AT+CPAS=? +CPAS : (0,2,3,4) OK
AT+CPIN="pin"/ AT+CPIN="puk", "pin" [?]	Command to enter the PIN1 code or PUK code for UIM.	Enter the PIN1 code or PUK code for "pin". Execute "AT+CPIN?" then "+CPIN : <n>" is displayed. n=READY : Authenticated. n=SIM PIN : Waiting for input. n=SIM PUK : Waiting for PUK code entry. n=ERROR : Locked.	(+CPIN : SIM PIN status) AT+CPIN="1234" OK (+CPIN : SIM PUK status) AT+CPIN="12345678", "1234" OK
AT+CPWD	Change the UIM password. (checking the specifications)	(checking the specifications)	(checking the specifications)
AT+CR=<n> [&F] [&W] [?] [=?]	Set whether to display the bearer (communication type) before "CONNECT" is displayed when 64K data communication or GSM dial up data communication is connected.	n=0 (default) : Hide. n=1 : Display in the format of "+CR : <serv>". serv=GPRS : Packet communication. serv=SYNC : 64K data communication. serv=AV64K : Video calls.	AT+CR=1 OK ATD＊99＊＊＊1# +CR : GPRS CONNECT
AT+CRC=<n> [&F] [&W] [?] [=?]	Set to use extend result code for incoming connection.	n=0 (default) : Not to use +CRING. n=1 : Use +CRING, <type> Executing "AT+CRC?" displays in the format of "+CRING : <type>". +CRING : GPRS"PPP",,, <APN> (When PPP packets are sent or received)	AT+CRC=0 OK

AT Command	Overview	Parameters/Description	Command Examples
AT+CREG=<n> [&F] [&W] [?] [=?]	Set whether to show Out of service area or in the service area.	n=0 (default) : Hide n=1 : Show Enter "AT+CREG?" then it is shown in the format of "+CERG : <n>, <start>" start=0 : Out of the service area of 64K data. communication/video calls start=1 : Inside of the service area of 64K data. communication/video calls start=4 : Unknown. start=5 : Inside of the service area of 64K data communication/video calls (while roaming).	AT+CREG=1 OK
AT+GMI	Display the manufacturer of the FOMA terminal.	—	AT+GMI +GMI : "Motorola CE, Copyright 2006" OK (checking the specifications)
AT+GMM	Display the name of the FOMA terminal.	—	AT+GMM +GMM : "GSM900","GSM1800", "GSM1900", "WCDMA","MODEL= M2501 HIGH-SPEED" OK (checking the specifications)
AT+GMR	Display FOMA terminal's version.	—	AT+GMR +GMR : "M2501 HIGH-SPEED_ 12_34.56.78" OK
AT+IFC=<n>, <m> [&F] [&W] [?] [=?]	Set the local flow control method between the PC and the FOMA terminal.	n : DCE by DTE control n=0 : No flow control. n=1 : XON/XOFF control. n=2 (default) : RS/CS (RTS/ CTS) flow control. m : DTE by DCE control. m=0 : No flow control. m=1 : XON/XOFF control. m=2 (default) : RS/CS (RTS/ CTS) flow control.	AT+IFC=2,2 OK
AT+WS46=<n> [&F] [&W] [?] [=?]	Set the wireless network to be used by the FOMA terminal when dialing.	n=12 : GSM n=22 : 3G (WCDMA) n=25 : Auto switch	AT+WS46? 25 OK
ATA	The FOMA terminal processes the incoming according to the receiving mode.	—	RING ATA CONNECT
A/	Retry a command just before performing.	—	A/ OK

Setting Up

AT Command List

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AT Command	Overview	Parameters/Description	Command Examples
ATD	Start packet communication or 64K data communication.	Packet communication : ATD＊99＊＊＊<cid># <cid> X to X : +CGDCONT 64K data communication : ATD <phone number>	Packet communication : ATD＊99＊＊＊1# CONNECT 64K data communication : ATD XXXXXXXXX CONNECT
ATE <n> [&F] [&W]	Set whether to echo back the text sent from a PC.	n=0 : Not to echo back. n=1 (default) : Echo back.	ATE1 OK
ATH <n>	Disconnect packet communication or 64K data communication.	n=0 : Disconnect line (can be skipped).	(In communication) +++ ATH OK
ATI <n>	Display the confirmation code.	n=0 : Display "NTT DoCoMo". n=1 : Display the name of the FOMA terminal (same as +GMN). n=2 : Display the FOMA terminal version (same as +GMR). n=3 : Display "OK". n=4 : Display the details of a function, that can be controlled by DTE, in 0 - 15. →P48	ATI0 NTT DoCoMo OK
ATM	Set the monitor speaker mode. (checking the specifications)	(checking the specifications)	ATM0 OK
ATO	Switch from On-line command mode to Off-line command mode during communication.	—	ATO CONNECT
ATQ <n> [&F] [&W]	Set whether to display the result code on a PC.	n=0 (default) : Show result codes. n=1 : Hide result codes.	ATQ0 OK ATQ1 (OK is not displayed)
ATS0=<n> [&F] [&W] [?]	Set number of rings until FOMA terminal receives connection automatically.	n=0 (default) : No auto receive is performed. n=1 to 255 : Number of rings.	ATS0=0 OK
ATS2=<n> [&F] [?]	Set the escape character.	n=0 to 127 (default n=43) : If set to n=127, the escape process becomes invalid.	ATS2=43 OK
ATS3=<n> [&F] [?]	Set the return character (CR) to recognize the end of AT command text string.	n=13 (default) : only n=13 can be specified.	ATS3=13 OK
ATS4=<n> [&F] [?]	Set the line feed character. It is positioned next to the return character (CR) if displaying the result code in alphanumeric characters.	Only n=10 (default) can be specified.	ATS4=10 OK
ATS5=<n> [&F] [?]	Set the back space character (BS) to delete the last character in the input buffer while AT commands are entered.	Only n=8 (default) can be specified.	ATS5=8 OK

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AT Command	Overview	Parameters/Description	Command Examples
ATS6=<n> [&F] [?]	Set the pause time (in seconds) until dialing. When this command is used, the register is set but does not operate.	n=2 to 10 (Default n=5)	ATS6=5 OK
ATS7=<n> [&F] [&W] [?]	Set the maximum waiting time (in seconds) from the starting of packet communication or 64K data communication until the connection is established.	n=1 to 255 (default n=60) : However, the values between 121 to 255 are regarded as 120.	ATS7=60 OK
ATS8=<n> [&F] [?]	Set the pause time (in seconds) until comma dialing. When this command is used, the register is set, but the pause time remains 3 seconds.	n=0 : Does not pause n=1 to 255 (default n=3) :	ATS8=3 OK
ATS10=<n> [&F] [&W] [?]	Set the delay time (1/10 seconds) of auto disconnect. When this command is used, the register is set, but does not operate.	n=1 to 255 (Default n=1)	ATS10=1 OK
ATS30=<n> [&F] [?]	Set the timeout (in minutes) before communication is disconnected if there is no data exchange during 64K data communication.	n=0 (Default) : Does not disconnect. n=1 to 255 : Time (in minutes) before disconnection.	ATS30=0 OK
ATS103=<n> [&F] [?]	In 64K data communication, set the delimiter when dialing with a destination sub-address.	n=0 : ＊ (Asterisk). n=1 (Default) : / (Slash). n=2 : ¥ or back slash.	ATS103=0 OK
ATS104=<n> [&F] [?]	In 64K data communication, set the delimiter when dialing with an originating sub-address.	n=0 : # (Sharp). n=1 (Default) : % (Percent). n=2 : & (and).	ATS104=0 OK
ATV<n> [&F] [&W]	Set the display method of the result code.	n=0 : Display in numeric characters. n=1 (Default) : Display in text.	ATV1 OK
ATX<n> [&F] [&W]	Set to detect the busy tone and dial tone, and to display the communication speed.	n=0 : Not to detect busy tones, not to detect dial tones, not to display speed. n=1 : Not to detect busy tones, not to detect dial tones, display speed. n=2 : Not to detect busy tones, detect dial tones, not to display speed. n=3 : Detect busy tones, not to detect dial tones, display speed. n=4 (Default) : Detect busy tones, detect dial tones, display speed.	ATX1 OK

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