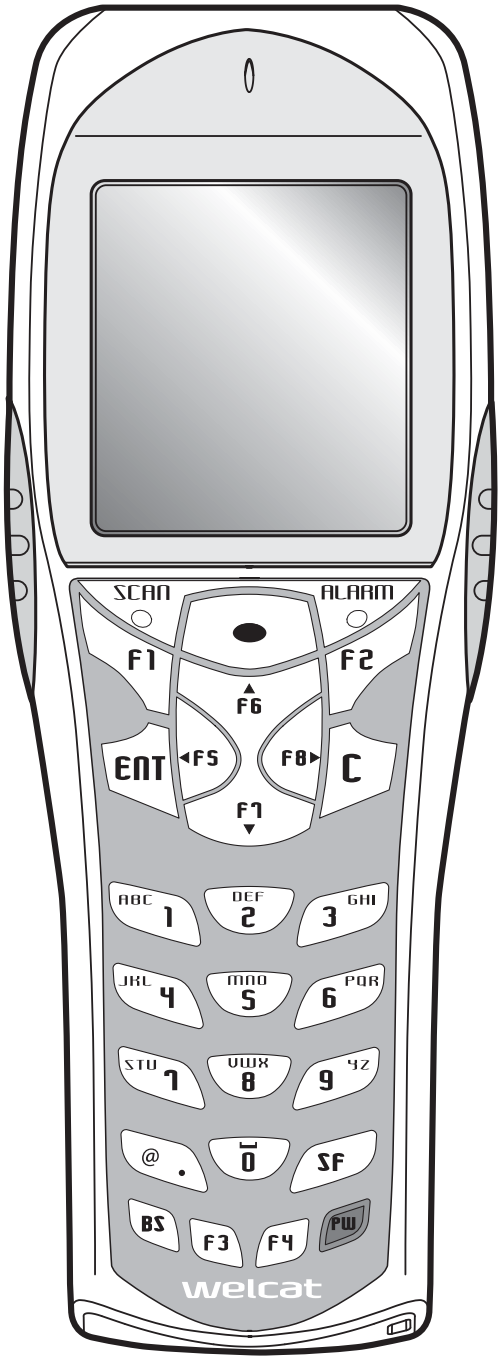
welcat
Over the Wave

GTX-100

User's Manual

Wireless Handy Terminal
GTX-100
Hardware/SystemMenu



China Regulations

This product is based on a Chinese SRRC rule.

1.Do not change frequency without permission, and increase the transmission of a message output.(include the installation of a high frequency amplifier out of a rule)

2.For the Occupied, do not give the interference that is harmful to the other legal radio broadcasting stations.

When harmful interference occurred, stop use promptly, and reopen after removing interference.

3.When using low power wireless telegraphy facilities, bear the interference from the other legal radio broadcasting stations, or interfered with industry, science, radiation of medical facilities.

4.Do not use it in the vicinity of an airport and an airport.

Trademarks

-Microsoft, Windows, and Visual Basic are the U.S. Microsoft Corporation's registered trademarks or the trademarks in the U.S. or other countries.

-Bluetooth is the registered trademark of Bluetooth SIG, Inc. and Welcat, Inc is using it based on the license.

-The program "UBQ-WLAN" developed by Canon i-tech,Inc. is equipped in this product.

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-The decoder of MPEG Layer-3 audio is equipped in this product.

-The decoding technology of MP3 is used based on the license from Fraunhofer IIS and Thomson.

-The bit-mapped font developed by Ricoh Company,Ltd. is equipped in this product.

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SAFETY PRECAUTIONS

- Be sure to read these precautions before using this product in order to insure safe operation of the equipment.
- Keep this User's Manual on hand for future reference whenever you may need it.

Strict observance of these warning and caution indications are MUST for preventing accidents which could result in bodily injury and substantial property damage. Make sure you fully understand all definitions of these terms and related symbols given below, before you proceed to the text itself.

⚠Danger

This symbol indicates an item that can result in death or serious personal injury if ignored and emergency of warning when dangerously generated is high.

⚠Warning

This symbol indicates an item that can result in death or serious personal injury if ignored.

⚠Caution

This symbol indicates an item that can result in serious personal injury or material damage if ignored.

Meaning of Symbols

A diagonal line through a circle indicates something you should not do

A black circle indicates something you must do.

A triangle inside indicates something you should be careful about.

Observe strictly

Observe the display of the danger that the manufacturer of the personal computer and peripherals used is directing and warning and attention strictly when you use the product.

About GTX-100, Battery pack(GTB-1)

⚠Danger

Only use the specified our peripherals.

Peripherals for GTX-100 :
- Battery pack (GTB-1)
- Single charger (GTC-1) option
- Multi charger (GTC-2) option

Do not place or use the products in the hot places such as a fire side, a stove side, under the burning sun, etc.

Doing so could cause battery –rupture or leakage of battery fluid and resulting in a fire, burn, bodily injury, or serious damage to property.

Do not place products in a microwave oven and a high-pressure container, etc.

Doing so could cause battery –rupture or leakage of battery fluid and resulting in a fire, burn, bodily injury, or serious damage to property.

Do not heat products, nor put into fire .

Doing so could cause battery –rupture or leakage of battery fluid and resulting in a fire, burn, bodily injury, or serious damage to property.

Do not stare into laser beam. Do not aim the laser at a person's eye.

The laser beam emitted through the reading window is harmful to the eyes.

⚠Warning

Stop the charge, when the charge is not completed, even if it exceeds predetermined charge time.

Doing so could cause battery –rupture or leakage of battery fluid and resulting in a fire, burn, bodily injury, or serious damage to property.

Do not place or use products in high humid or dusty areas.

Doing so could cause battery –rupture or leakage of battery fluid and resulting in a fire, burn, bodily injury, or serious damage to property.

When heating, smoking, a nasty smell, etc. occur, turn off the power supply and remove the battery.

When it continues using it, it will become the cause of generation of heat and firing.
In a battery cartridge, it also becomes the cause of a liquid spill and a burst further.

Do not attempt disassemble or modify products.

Doing so could cause battery –rupture or leakage of battery fluid and resulting in a fire, burn, bodily injury, or serious damage to property.

Prevent from touching a part of your body, such as a hand and a finger to the terminals of a battery, the battery contacts / charge contacts of a main body, and the external aerial connection terminal.

It may become the cause of an electric shock, injury, failure, and malfunction.

Do not bring close to chemicals.

Do not use and keep it near chemicals or in the place which chemicals touch.

It becomes accidents, such as an electric shock and a fire, or the cause of failure.

Do not short-circuit or solder neither the battery terminals, nor the battery contacts / charge contacts of a main body.

Doing so could cause battery –rupture or leakage of battery fluid and resulting in a fire, burn, bodily injury, or serious damage to property.

Do not connect reversely the positive and negative polarity terminals of a battery, and do not charge it in that condition.

Doing so could cause battery –rupture or leakage of battery fluid and resulting in a fire, burn, bodily injury, or serious damage to property.

⚠Caution

Do not place or charge the battery in the hot places such as a fire side, a stove side, under the burning sun, etc.

Doing so could cause battery –rupture or leakage of battery fluid and resulting in a fire, burn, bodily injury, or serious damage to property.

Do not put it in an unstable place.

Apparatus drops or falls down and it causes an injury and a failure of the apparatus.

Do not put it in the place which an infant's hand reaches.

It becomes cause, such as an injury.

This product is not developed, not intended, not permitted to use this product for the equipment, (atomic energy control, aircraft flight control, air traffic control, mass transport control, life support system, and weapon control systems, hereinafter "High Safety Required Use"), whose failure could threaten directly human life or affect human body.

Welcat, Inc assumes no liability whatsoever for damages arising from use of this product by the user in concerned High Safety Required Use applications.

About GTX-100

⚠Warning

Be careful not to hook a strap when carrying the terminal.

If strap is caught in an obstacle, it could cause injury or accident.

Do not use this product near the electric device which processes highly precise control and a weak signal.

It may influence electric devices (such as medical treatment electric device, fire alarm, automatic door, other automatic control apparatus, etc.) to generate malfunction etc.

Do not put a foreign substance into the inside of a main body.

When a foreign substance or a liquid go into the inside of the main body, stop use, and inform the store of purchase.

When it is then used, it will become accidents, such as an electric shock and a fire, or the cause of failure.

⚠Caution

Use it detaching as far as possible from the apparatus which emits noise, such as a computer, a fluorescent light and a microwave oven.

There is a case where it becomes impossible to communicate normally under the influence of the noise.

Be sure to hold it in your hand and operate it.

When you operate it in the condition to put it on a charger or on a floor or on a desk, it will become failure of the apparatus or the cause of malfunction.

Do not give the high impact.

Do not drop, do not throw out, and do not beat the main body. It becomes malfunction of the main body, and the cause of failure.

Do not put in in water, and sprinkle water by strong power.

If water will gets into the terminal, resulting in failure, fire or electrical shock.

Do not use and keep it in a place with a possibility that the strong magnetic fields near a magnet, a speaker, and the cathode-ray tube etc. may occur.

It becomes malfunction of the main body, and the cause of failure.

About Battery pack(GTB-1)

Li-ion

About used battery pack(GTB-1)

The rechargeable lithium-ion battery (Battery pack GTB-1) is used for the GTX-100

A rechargeable lithium-ion battery is a small secondary battery with which a duty of recovery and recycling is imposed on the apparatus maker who uses the batteries and on the battery maker by the "Law for Promotion of Effective Utilization of Resources".

Our company performs the recovery and the recycling of used small secondary batteries as a member of the limited liability middle corporation JBRC (Japan Portable Rechargeable Battery Recycling Center).

Do not throw away the used battery which is worn-out together with common garbage.Please inform our company and ask about the recovery.

⚠Danger

If battery fluid gets in your eyes, wash it out with clean water and contact a physician immediately.

If it is left, there is fear of loss of eyesight.

Do not heat the battery pack, nor put into fire

Doing so could cause the batteries to break, generate heat, rupture or burn.

Do not put the battery pack to water and seawater, etc.

Doing so could cause the batteries to break, generate heat, rupture or burn.

⚠Warning

Do not use the battery if leakage, change of color or shape, or other abnormalities occur.

Doing so could cause fire, burn, bodily injury, or serious damage to property. If it brings close to fire, this cause ignition in leakage of battery fluid.

Do not stick a nail, do not strike with a hammer, or do not trample.

Doing so could cause the batteries to break, generate heat, rupture or burn.

Laser safety standard

This product is based on the safety-standards (JIS C 6802) class 2 of a laser product.

Maximum output: 1mW
Wavelength: 650±10nm

Although, in the class 2, eyes are protected by the dislike-reaction, such as blink, do not look into the laser light or do not put directly the laser light into your eye.

Caution	Do not perform the use which is not in accordance with the user's manual, and do not disassemble the product. It may cause exposure to dangerous laser radiation.

LCD

Although a small difference is sometimes in a backlight color or brightness between products, this is the dispersion by the property of liquid crystal, and is not defective product.

Laser Safety

This product using the laser comply with US 21CFR1040.10.
This equipment is certified as a Class 2 laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. This means that the equipment does not produce hazardous laser radiation.

FDA Regulations

U.S. Food and Drug Administration (FDA) has implemented regulations for laser products manufactured on and after August 2, 1976. Compliance is mandatory for products marketed in the United States. The labels on the product indicate compliance with the FDA regulations and must be attached to laser products marketed in the United States.

Caution:

Do not look into the laser beam source through the reading window or point the reading window towards the eyes. The laser beam emitted through the reading window is harmful to the eyes.

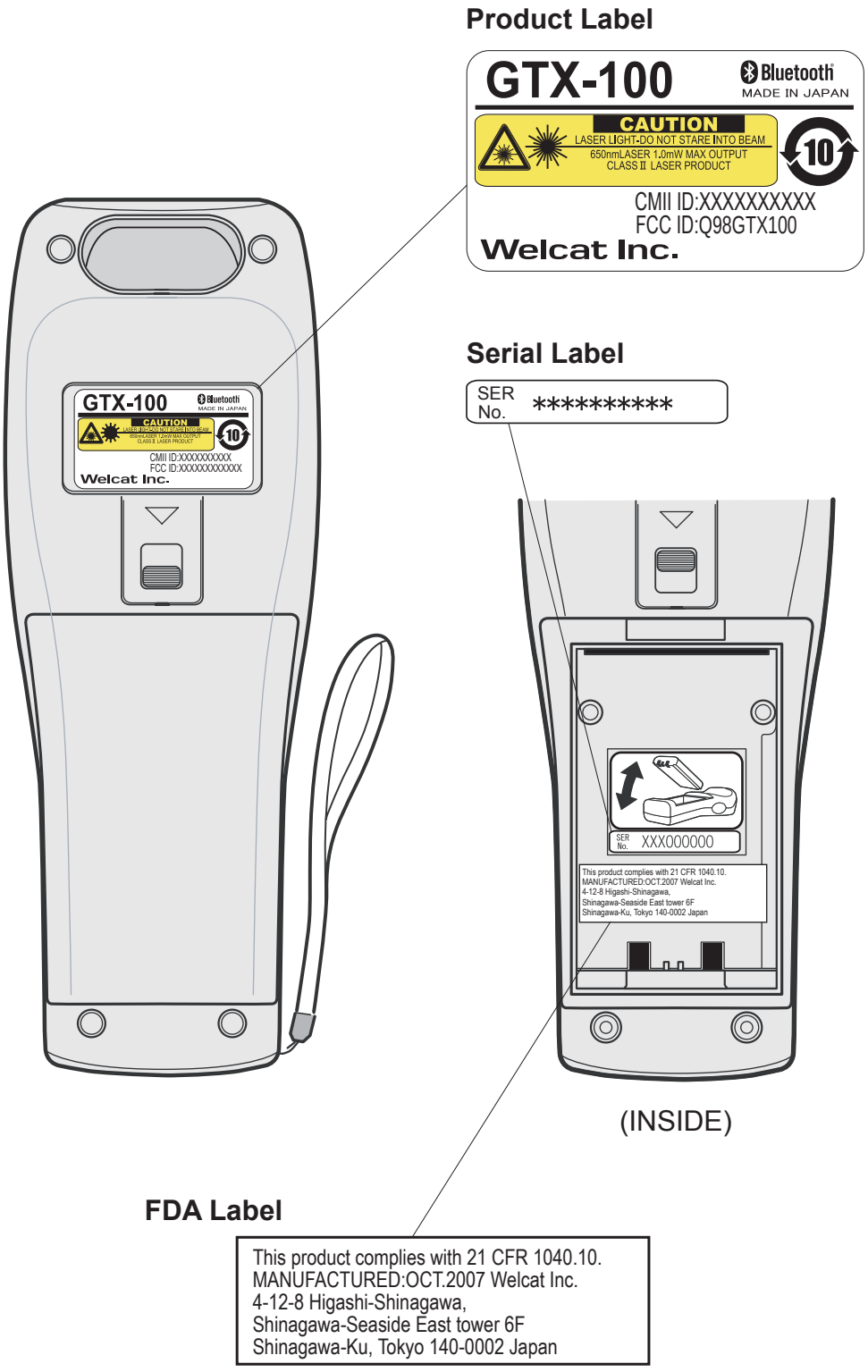
Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous invisible radiation exposure.

Class 2 laser scanners use a low power, visible light diode. As with any very bright light source, such as the sun, the user should avoid staring directly into the light beam.

Momentary exposure to a Class 2 laser is not known to be harmful.

Laser warning labels

GTX-100
Labels



US Regulations

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

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.

Warning:

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End-users must follow the specific operating instructions for satisfying RF exposure compliance.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The GTX-100 has been tested and found to comply with the Federal Communications Commission (FCC) guidelines on radilo frequency energy (RF) exposures.

The maximum SAR levels tested for the GTX-100 has been shown to be 0.344 W/kg (1gram average) at body.

Caution about radio wave.

Please stop using this product in the following conditions. Moreover, be sure to read the (P.iii) of " SAFETY PRECAUTIONS " before use.

- Do not use this product near the person wearing a cardiac pacemaker, or near the medical equipment using. It causes electromagnetic interference to medical equipment. There is danger of human life.
- Do not use this product near microwave oven. Interference occurs in the radio communications of this product by the radio wave which leaks from the microwave oven.

In the operating frequency band of this apparatus, industry of microwave oven etc., science, equipment for medical treatments, the premises radio station (radio station which requires the license) for movable body identification used in the manufacture line of a factory etc., and a specified low power radio station (radio station which does not require the license) are also operating.

1. Confirm that the premises radio station and specified low power radio station for movable body identification are not operated near the place before using this apparatus.
2. When the radio wave interference occurs at the premises radio station for movable body identification system from this apparatus ,change operating frequency promptly or stop emission of radio wave, after that action, please inform our sales department, and please consult about disposal for interference avoidance etc. (for example, installation of a partition) etc.

Caution

3. In addition, when the instance of radio wave interference occurs at the specified low power radio station for movable body identification etc. from this apparatus, or when what is troubled by something occurs, please inquire with our sales department.

The feature of the WLAN communication is as follows.

Operating frequency band	bandwidth 2.4GHz
Band modulation method	DS-SS OFDM
Assumption interference distance	40m or less
Propriety of frequency change	It means that it can avoid the operating frequency band of movable body identification apparatus by using all bandwidth.

The feature of the Bluetooth communication is as follows.

Operating frequency band	bandwidth 2.4GHz
Band modulation method	FH-SS
Assumption interference distance	10m or less
Propriety of frequency change	It uses all bandwidth and avoidance of

		the operating frequency band of movable body identification apparatus is impossible.

Caution

1. This equipment contains the radio apparatus which received the Technical Regulations Conformity Certification based on the Radio Law.
2. Disassembly or touching the inside of this apparatus is prohibited by the Radio Law, and it may be punished with the law. In the case of failure, please entrust check and adjustment of the inside to the store of purchase.
3. This apparatus can be used only in Japan. Since radio wave standards differ overseas, it cannot be used.

Caution about security at the time of wireless LAN product operation

< Important matter about customer's right (privacy protection)! >

Because exchanging information between personal computers etc. via radio access points in wireless LAN which uses a radio wave instead of using LAN cables, the wireless LAN has an advantage that in case it is inside the range the radio wave can reach, LAN connection is freely possible.
On the other hand, because the radio wave can reach to all places through obstacles (wall etc.) , within a certain range, when a setup about security is omitted, the following problems may occur.

- The contents of communication may try to be stolen.
  A malicious third person intercepts radio wave intentionally.
  - Personal information such as ID, password or credit card number
  - The contents of e-mail

  Etc. may be tried to steal.

- To be invaded unjustly.
  A malicious third person accesses without permission to the network of an individual or company.
  - To pick up personal information and confidential information (leak of information)
  - To personate a specific person, and communicates, and send unjust information (spoofing)
  - To rewrite and send the intercepted contents of communication (alterations)
  - To send computer virus etc. and destroy data and system (destruction)

  Etc. action may be done.

Caution

Because the wireless LAN terminal, the wireless LAN card, and the radio access points originally have the method of security for dealing with these problems, when you use a wireless LAN product, executing the setup about security can reduce a possibility that these problems will occur.

Immediately after purchase, the condition is that the setup about security of the wireless LAN equipment may not be performed.
Therefore, by the customer, in order to reduce a possibility of the generating security problem, before using the wireless LAN terminal, wireless LAN card, and wireless LAN access point, be sure to execute all setup about security of wireless LAN equipment according to a manual.
In addition, on the specification of wireless LAN, because security setup may be broken by a special method, please use it after understanding.
About a setup of security etc., when you cannot deal with it by the customer side, please inquire with our sales department.

Our company recommends you to understand enough the occurring problem when using the product without a customer side security setup, then perform security setup in your judgment and responsibility, and use the product.

Our company cannot take the responsibility to what kind of trouble (damage) generated without the customer side security setup in your judgment and responsibility.

Note

Refer to the following about security setup of this product.

①SSID Setup (P.3-22)

②Security Setup (P.3-24)

③MAC address (P.3-34)

used when using the MAC Address filtering function of a wireless LAN access point.

Contents

Introduction

Thank you very much for purchasing our wireless handy “GTX-100.”
This user manual explains the hardware and the system program of the GTX-100.
We hope the GTX-100 will help you improve efficiency of your business.

Enclosed items

- GTX-100 1
- Battery pack(GTB-1) 1
- Hand Strap..... 1
- Manual CD-ROM(GID-009)..... *

  * Attached in exclusive package.

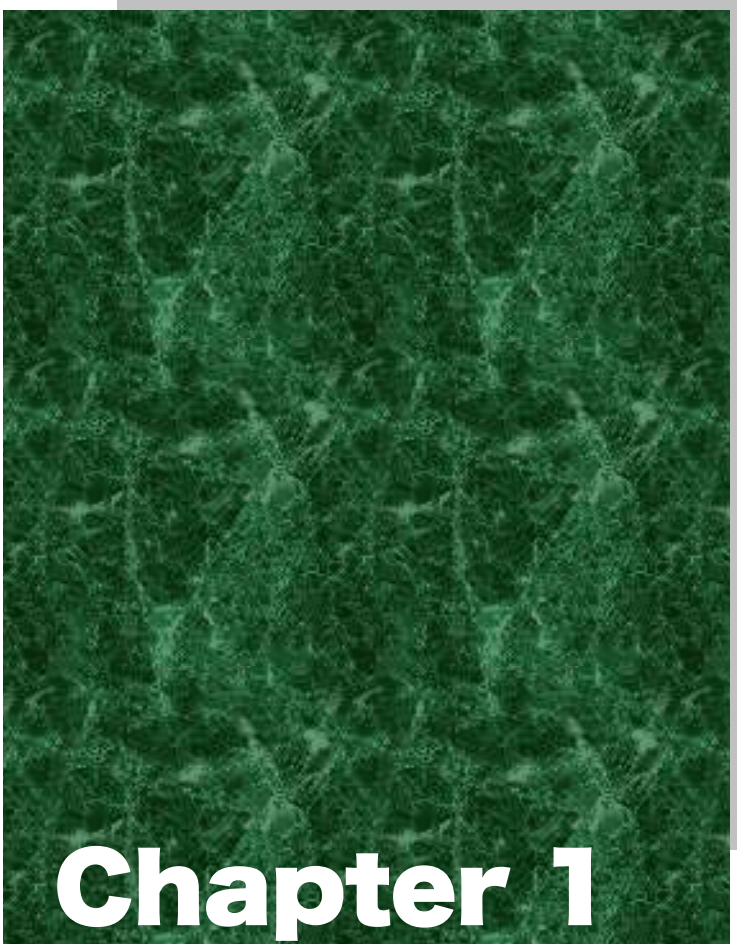
Optional Extras

- Dust protection cover(DC-001)
- Anti-shock cover(DC-002)
- Access point(our recomended equipment)
- Single Charger(GTC-1)
- Multi Charger(GTC-2)
- BluePorter(WLF-001) - Bluetooth file transferring utility.
- WebGlider-X(WBG-001W) - Integrated middleware package for web applications.
- Handy 5250(HTN-5250A) - 5250 Emulator for handy terminals.

Notational Information

Note	Indicates a note you can refer to.
Caution	Indicates a caution.
"GTX-100" "Terminal"	Wireless LAN Terminal, Wireless Hand-held Terminal GTX-100.
Access point	The wireless communication interface to allow data to be sent between the GTX-100 and a PC connected to an Ethernet communicating via TCP/IP. Please use our recommended equipment based on the IEEE802.11b/g WLAN standard.
WLAN	Wireless LAN
System Program	The OS stored in the GTX-100.
System Menu	A function of the system program.
WebGlider-X browser	The browser operates as an application of the terminal when web based system is configured by using "WebGlider-X".
WebGlider-X	"WebGlider-X" is an integrated middleware package for web applications (WBG-001W). Please purchase separately if needed.
BluePorter	Utility software for executing file Transfer using Bluetooth communication between the PC and the terminal. Please purchase separately if needed.
F Drive	The storage area for storing application, database, and master files. etc. The application data downloaded from the host computer will be stored in F drive.
S Drive	Used for the storage area to store a temporary file during the application is running.
Battery pack	"GTB-1"
Backup battery	The battery to perform a temporary saving the built in clock data and files when the battery pack is removed or the power becomes short.
Scan key	Used when scanning a barcode.
Local device	Bluetooth device during operation is running. When the GTX-100 is in operation, "Local device" means the GTX-100.
Remote device	Bluetooth device to which the local device is connected.
Default device	The Bluetooth device setup as default among the registered Remote device list in the System Menu. In the System Menu always this default device is connected to.

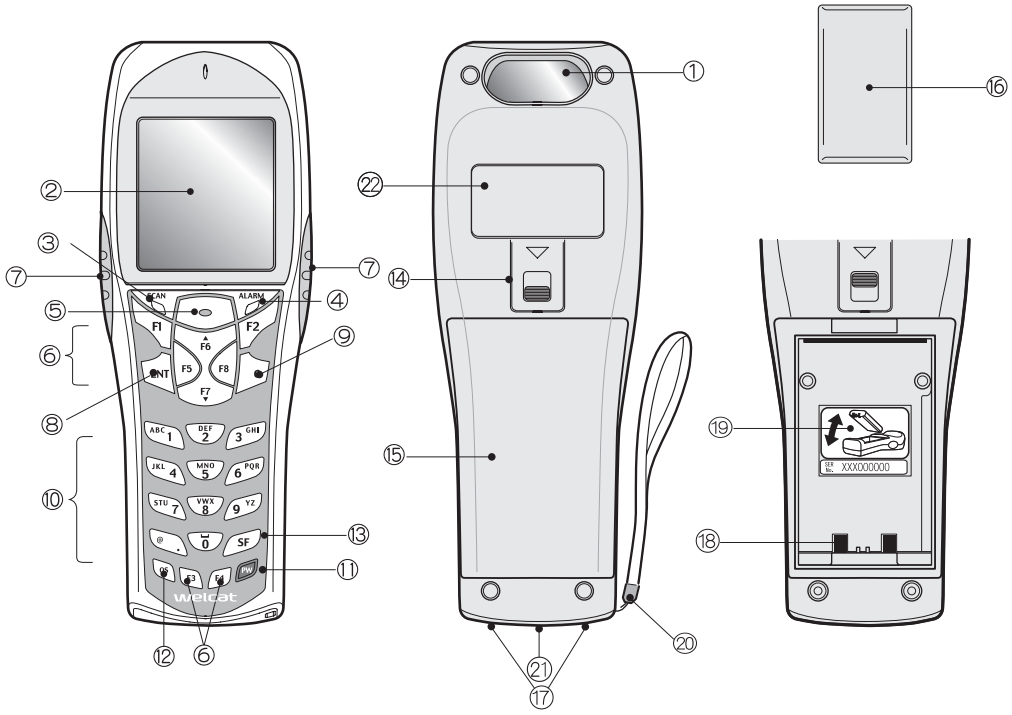
Manual Contents



Chapter 1

Hardware

1-1 Part Names



1. Barcode window
   The opening from where the Barcode is read. As the laser light is irradiated, be sure NOT to look into the window.
2. LCD (Liquid Crystal Display)
   Data, characters and images are displayed on the LCD.
3. SCAN LED (LED Indicator)
   If a barcode is read correctly, the light will turn green.
   While the battery is being charged, the light will turn ON red. When the battery charging is completed, it will turn ON green.
4. ALARM LED
   Shows the status of Wireless Communications. Shows the status of wireless communications with the access point and the status of EAP authentication processing (P.1-13).
5. Scan Key
   Press this key to read a Barcode.
6. Function Keys(F1 to F8)
   Used for changing functions and cursor operation.
7. F9 key, F10 key
   Used for changing functions and cursor operation. Leftward by F9 key, Rightward by F10 key, when using this key to scan a barcode, support by the software is required.
8. ENT key (Enter Key)
   Press this key to confirm and to execute the entered data or operation.
9. Ⓒ key (Cancellation Key)
   Used to return to the previous screen, or deleted all the characters entered.
10. Numeric Keys (⓪ to ⑨, ⊙)
    Used to input assigned numeric, characters, or, select the corresponding item in the Menu.

11. ⓅⓌkey (Power Switch)
12. ⒷⓈkey (back space key)
    Deletes the last character entered.
13. ⓈⒻkey (Shift key).
    Used to switch to the character input mode, or special functions can be accessed by pressing this key together with other keys.
14. Battery Cover Lock Lever
    Move the lever to the direction of an arrow to lock. Be sure to keep it locked when using it.
15. Battery Cover
    Always attach the battery cover while in use.
16. Battery Pack
    After purchasing, be sure to charge the battery pack before you use. Be careful not to have the Charging terminal jack attached with dust or dirt. When dust or dirt is attached, remove it with a swab etc.
17. Charging jack
    Be careful not to have the Charging terminal jack attached with dust or dirt. When dust or dirt is attached, remove it with a swab etc.
18. Battery electrode
    Be careful not to have the Battery electrode attached with dust or dirt. When dust or dirt is attached, remove it with a swab etc.
19. Serial number seal
    The seal is attached that carries serial number and a description about the direction to which remove/install the battery pack.
20. Hand Strap
21. Speaker Hole
22. Product plate
    Product name, manufacturer and the laser alarm etc. are described.
23. Laser warning sticker
    A warning associated with the use of laser beams is printed on this sticker.

1-2 Preparation before Use

Please carry out following preparations before using the GTX-100

- Battery Pack GTB-1
  The battery pack is required in order to use the GTX-100. The battery pack should be charged before use, attached correctly and locked with the battery cover.
- Isn't the barcode window dirty?
  If the barcode window is dirty, a barcode cannot be scanned correctly. When dirty, please wipe lightly with a soft cloth etc.
- Isn't charging terminal dirty?
  If the charging terminal is covered with dust or dirt, charging error or failure may occur. When dirty, please remove the dust or dirt by using a swab etc.

1-2-1 Equipment Connections

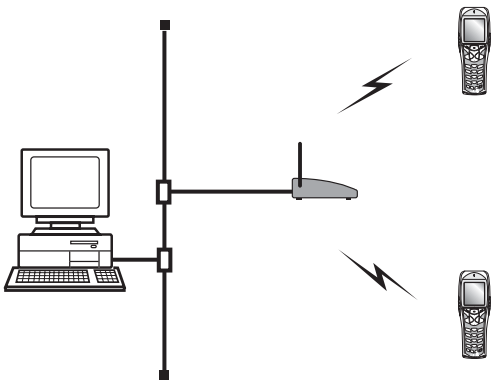
Data entered can be transmitted from the GTX-100 to a host computer or the GTX-100 can receive data from a host computer.
The following are the Methods for connecting to a host computer. Preparations required depend on the application environment.

In the case of WLAN communication	P.1-8

The GTX-100 communicates via wireless LAN communication to a host computer through an access point, which is connected to the Ethernet LAN.

■Purchased Separately
Access Point (our recommended product)
Ethernet cables, HUB

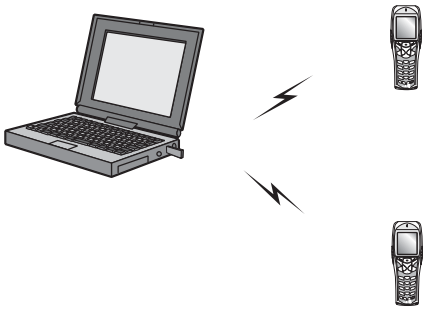
For details about setting up a wireless network, refer to the Access point Manual and the document.



In the case of Bluetooth communication	P.1-9

The GTX-100 communicates via Bluetooth communication to a host computer through USB adapter, which is connected to the USB port of the host computer.

■Purchased Separately
Transfer Utility "BluePorter" (Bluetooth USB adapter is included.)



1-2-2 Additional Software

In the case where you want to create a system for data communication between the GTX-100 and a host computer or build a system using theGTX-100 browser, the following software is required.
For details of the System configuration, please refer to the online Manual attached to respective software.

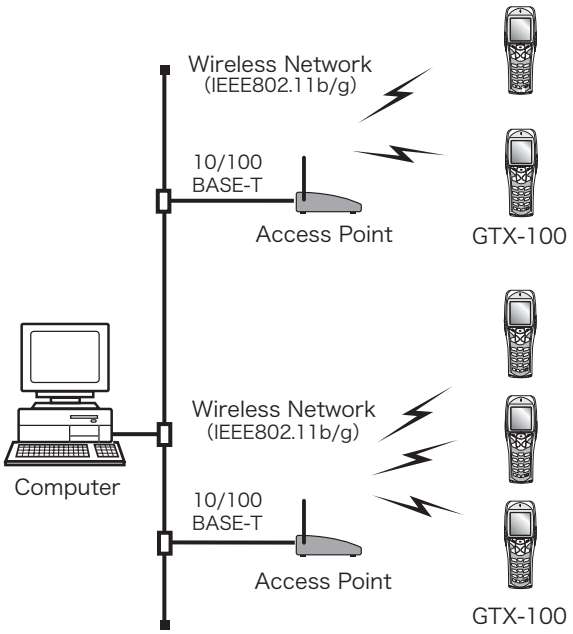
Software name	Preparation/Use
Web based integrated middleware package WebGlider-X	The WebGlider-X software is required when building a Web based wireless system using the WebGlider-X Browser. Please install the "WebGlider-X" package on a computer and setup the communication environment, before performing data communication between the computer and the "WebGlider-X" browser.
5250 Emulator for handy terminal Handy5250	The Handy 5250 software is required when creating a system to connect to an AS/400 host via the 5250 emulation environment. Please purchase separately if needed. Before using, install the Handy 5250 setup utility, which will allow the setup of the communication environment.
Transfer utility Blue Porter	The Blue Porter is utility software to perform File Transfer for Bluetooth communication. Please purchase separately if needed. Before using, installing the driver software and the Bluetooth USB adapter setups are required.

1-3 Wireless Communications

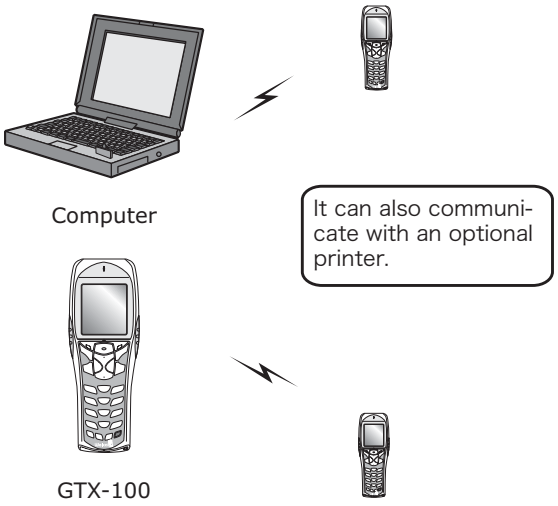
■Wireless function of the GTX-100

The GTX-100 is a handy terminal network system incorporating a wireless communication system. The Barcode terminal is small, lightweight and excels in portability. It is also suitable for moving around the work place, operating remotely from the computer while collecting Barcode data.

The GTX-100 's wireless communication system is based on WLAN and Bluetooth methods. WLAN conforms to the WLAN standard, IEEE802.11b/g. The maximum possible wireless transmission speed is approximately 54Mbps, enabling the indoor wireless communication up to 75m distance. Bluetooth conforms to the Bluetooth Specification ver1.2, enabling up to 10m communications. Transmission and reception of scanned Barcode data or files can be performed in real time through the wireless network.



Network example (WLAN communication)



Network example (Bluetooth communication)

■WLAN Communications

The wireless communication system is based on the IEEE802.11b/g standard, which is generally used in Wireless Local Area Networks (WLAN). In almost all cases, wireless communication can be performed if the access point used is based on the IEEE802.11b/g standard, however, please use our recommended product to perform a stable communication.

> **Caution** As for this product, only the infrastructure mode is supported. It does not support ad-hoc mode.

■The role of an access point

An access point provides a wireless service area to a terminal (GTX-100) and acts as a local bridge, which performs packet transmission between the cabled LAN and wireless network.

Each terminal has a unique IP address, which allows direct Ethernet LAN connection through an access point. This allows TCP/IP communication between the computer and the terminal.

> **Caution** Please use our recommended access points. For information on manufactures and part numbers of the recommended access points, refer to our catalog or contact our sales department.

1-3-1 Preparations for Data Communication

For data communication between a computer and the GTX-100, perform the following setup.

■WLAN communications

	Item	Description	Reference page
1.	SSID Setup	Set the SSID (or ESSID) of the GTX-100 to the same as that of the access point. GTX-100 includes an AP search function that will acquire and set up the SSID of an available access point.	P.3-22
2.	Security Setup	Make the security settings to the same as the access point.	P.3-24
3.	TCP/IP Setup	Set the TCP/IP address to allow communication with a computer via the Ethernet LAN.	P.3-35
4.	FTP Setup	Make the FTP settings to allow wireless file transfer. The FTP settings corresponds to the "WebGlider -X" FTP server or general FTP server settings.	P.3-38
5.	DHCP Setup	Make the DHCP settings when using the DHCP client function. This corresponds to the "WebGlider-X" DHCP server.	P.3-36
6.	DNS setting	Make the DNS settings in the case where the DNS is used for name resolution. Whether or not the DNS is used depends on the application.	P.3-41

Items mean:

Using the DHCP client function on the computer side (P.3-36), all configurations are performed at the same time. When you use the DHCP client function, "WebGlider-X " is required.

> **Caution** Since setting the "1. SSID Setup" and "2. Security Setup" using the DHCP client function creates a security weak point, please do not use this function whenever possible.

■Bluetooth communication

	Item	Description	Reference pages
1.	Terminal ID setup	ID number for Identification to each GTX-100. "BluePorter" and "WebGlider-X" identifies the terminal using this ID.	P.3-57
2.	Bluetooth device setup	The setup of registrations to connect required for communication, and Security etc.	P.3-63

1-3-2 Data-Communication Method

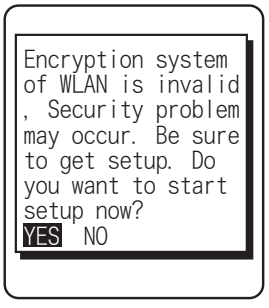
Once the equipment has been setup, data communication can be performed using the following procedures.

■In the case of WLAN communications

The procedure for performing WLAN communications is as follows.

Operational Procedure

1. Connect the access point to the Ethernet LAN, then setup the access point so that it can communicate with a host computer.
   At this point, be sure to perform Security setup.
2. In order to enable the Security setup of 1. , Restart the access point. (Some access points do not require restarting.)
3. Turn ON the GTX-100 and setup the WLAN and TCP/IP from the System Menu. At this point, be sure to perform Security setup.
   When the GTX-100 is started up without Security setup, the warning screen "NO WLAN Security " is displayed.



   Though it is possible to make this warning screen being not displayed, this is not recommended for Security reason. Please set this screen if there is no special reason for not displaying it.
4. From System menu, set up TCP/IP. (P.3-35)
5. When setup is complete, first perform the Ping test toward the IP address of the access point, then toward the IP address of the computer.

6. Setup FTP to transmit and receive a file.
   ・See P.3-53 for transmitting a file to a host computer from the GTX-100.
   ・See P.3-46 for receiving a file from a host computer to the GTX-100.

> **Caution** In the case using the DHCP function (P.3-36), "WebGlider-X" is required separately.

■In the case of Bluetooth communication

The procedure to perform Bluetooth communication is as follows.

Operational Procedure

1. Starting up the host computer in which "BluePorter" is installed.
2. Connect the Bluetooth USB adapter to the USB port of the computer.
3. Starting up the "BluePorter", and perform the setup required for transmission or reception of files.
4. Turn ON the GTX-100, perform setup for connection and so on.
5. Perform transmission or reception file.
   ・See P.3-53 for transmitting a file to a host computer from the GTX-100.
   ・See P.3-46 for receiving a file from a host computer to the GTX-100.

1-4 Product Specifications

CPU		32 bit RISC CPU
OS		μITRON
Memory	ROM	16MB(including12MB for file area) Download file has 6MB max .In case the extension is "wav" or "out", the download file has 5MB max.
	RAM	16MB(including 6MB for file area)
Scanner	Codes scanned	NW-7, CODE39, JAN-13/8(add-on: enabled), UPC-A/E, Industrial 2of5, ITF, CODE93, CODE128, EAN128, RSS-14 (Stack: enabled), RSS Limited, RSS Expanded[*4]
	Number digits scanned	MAX 74 digits (data digits)
	Scanning width	MAX 360mm
	Light source	Red light semiconductor laser
	Laser class	Class2 (JIS C 6802)
	MAX output	1mW
	Wavelength	650±10nm
	Scanning speed	100scanning/ seconds
	PCS	0.45 or more (reflectance space and margin: 70% or more)
	Resolution	0.127mm
LED	SCAN LED	Green / Red / Orange
	ALARM LED	Orange (which illuminates when out of range)
LCD	Display element	FSTN dot matrix
	Display size dots	132(W)×128(H)
	Display Characters (Kanji)	10 chracters×10 lines (12dot font) 8 chracters×8 lines (16dot font)
	Display Characters (Single-byte characters)	20 chracters×10 lines (12dot font) 16 chracters×8 lines (16dot font)
	Display area	38(W)×44(H) mm
	Display Characters	JIS level-1 kanji set, JIS level-2 kanji set, ANK, Symbols, external characters. (Wide, tall and quad characters are enabled)
	Contrast adjustment	8 levels
	Backlight	White LED (Luminosity adjustable)
Speaker		Beep sound, audio, play via speaker. At the time of scanning, various kinds of Error (can be specified by the user)
Vibrator		Vibrated at the time of scanning, various kinds of Error (can be specified by the user)
Key Input part	Keys	27
Size		58(W)×162(D)×40(H) mm Grip part45 (W)×26(H) mm
Weight		Approximately 204g(battery pack included)

Cradle charging function			Enabled (However the environment during charging conforms to charger's temperature specification)		
Power	Main Battery		Lithium-ion battery		
	Backup Battery		Lithium-ion battery (Maintenance free)		
Operating environment	Working temperature		-5 to 50°C		
	Working humidity		20 to 80% (non condensing)		
	Storage temperature		-10 to 60°C		
	Storage humidity		10 to 90% (non condensing)		
	Drip-proof / Dust-proof		IEC IP54		
	Drop impact proof		1.5m (onto concrete)[*5]		
	Illumination conditions		Artificial light up to 4,000lx Sunlight up to 80,000lx		
Continuous operation time			Approximately 24 hours Setup conditions: scan once in 20 seconds WLAN transmission or reception		
Clock function			Year (4 digits) Month/Date/Hour/Minute/Second With automatic leap year compensation, With timer function		
Wireless part	Bluetooth	Specification	Bluetooth Specification Ver1.2		
		Communication Method	Spread spectrum (frequency hopping)		
		Frequency	2.4GHz band		
		Communication rate	MAX 921.6kbps		
		Transmission power class	Class2		
		Antenna	Built in the body		
		Communication distance	MAX 10m [*6]		
	WLAN	Standards	IEEE802.11b/g		
		Communication Method	DSSS, OFDM		
		Frequency	2.4GHz Band		
		Antenna power output	Less than 10mW/MHz		
		Transmission rate	OFDM:54/48/36/24/18/12/9/6 Mbps DSSS:11/5.5/2/1 Mbps		
		Number of channels	11		
		Security		Authentication	Encryption
			WEP(40/128)	OPEN, SHARED	WEP(40/128)
			WPA-PSK(compartible)	PSK	TKIP
			WPA2-PSK(compartible)		CCMP(AES)
			WPA(compartible)	EAP-TLS,	TKIP

			WPA(compartible)	EAP-TEAP-MSC, HAPv2	CCMP(AES)
		Antenna	Built in the body		
		Transmission range	Indoors：MAX 75m, outdoors：MAX 200m		
Management function			SNMP agent		
Support MIB			MIB-II (RFC1213), Welcat Enterprise MIB		

*4 The RSS Expanded Stacked specification is supported only partially. Please consult our sales department for details.

*5 This is a test value, not a guaranteed value.

*6 To ensure stable and reliable communication, we recommend that you use the terminal at a distance within two meters from the Bluetooth USB adapter with no obstacles in between.

NOTE: You may use Bluetooth and Wireless LAN function simultaneously and it is guaranteed to make no malfunction on the normal use.

■Display of ALARM LED during wireless communications

The state and meaning of the alarm LED during wireless communications are as follows.

LED state	Meaning
OFF	Communication with an access point is possible. Or no communication is currently taking place.
Blinking	Continuous blinking during EAP authentication (P.3-29)
ON	Communication with an access point has been attempted but synchronization with the access point cannot be achieved. When the barcode scanner goes out of sync with the access point, the LED will turn ON.

■SCAN LED Display during terminal charging

SCAN LED status and Meaning during terminal charging is as follows.

LED status	Meaning
Red ON	Performing terminal charging.
Green ON	Charging terminal has normally completed.
OFF	During terminal charging, an Error occurred.

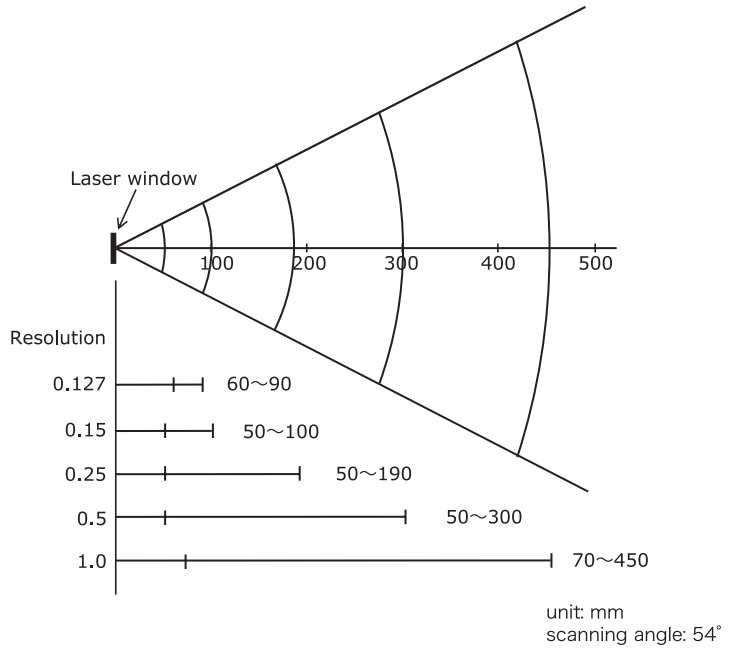
1-5 Scanning Specifications

■Laser light irradiation angle

The angle of the laser light irradiated from the GTX-100 is 54 degrees.

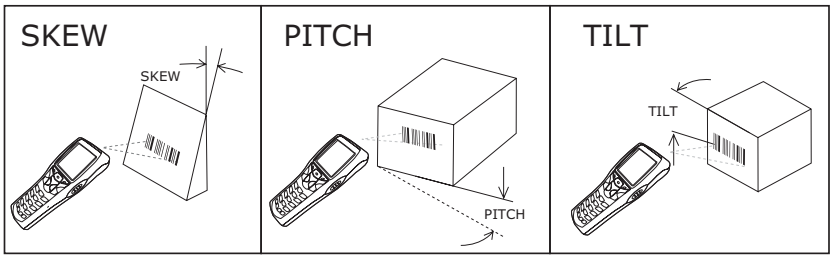
■Scanning Depth

The range across which a Barcode can be scanned is called a "scanning depth."
The scanning depth for the GTX-100 is as shown in the figure below.



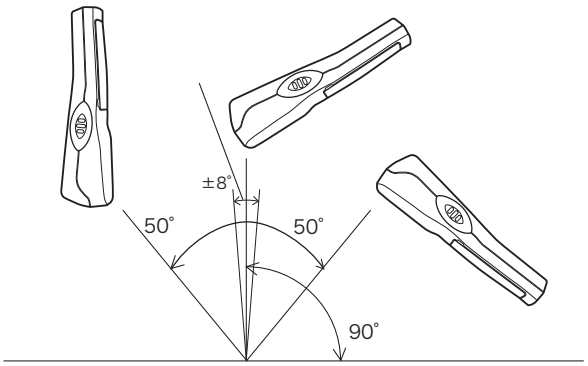
■Inclination of a Barcode and the angle with which it can be read

The following are the three kinds of a Barcode inclination



●Skew

Scanning is possible up t o 50°perpendicular to the upper and lower sides of a Barcode.

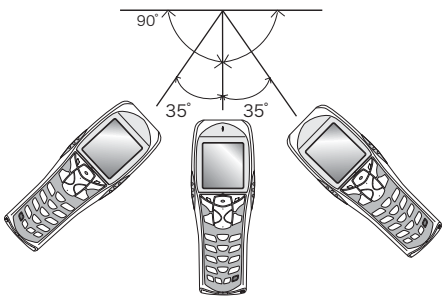


Caution

The range of ±8º around a vertical line from the front face of a bar code is the “Dead Zone” caused by the specular reflection; poor or erroneous scanning or other negative effects may occur within this range. In particular, special care is required when scanning barcodes with high surface reflection. When scanning such a barcode, you can avoid a scanning error by changing the scanning angle, changing the material of the barcode label and some other measures. Change the angle if you cannot read the barcode and scan it again.

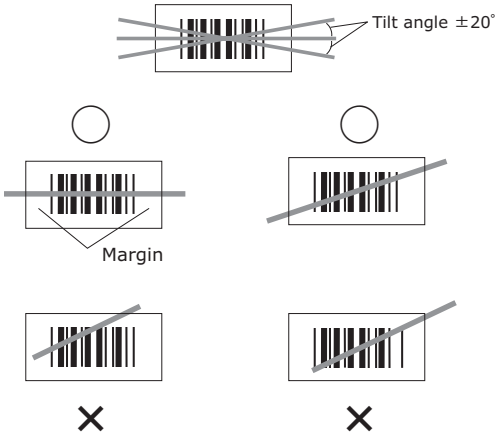
●Pitch

Scanning is possible up to 35° perpendicular to the right and left of a Barcode.



●Tilt

The Tilt is the angle with which the laser light irradiates the Barcode.



Caution

The laser light should always cross the whole label. Irradiating only part of a barcode as shown in the illustrations marked with "×" may cause erroneous scanning results. Some margins are required on both the left and right sides of a barcode. Scanning may become poor if there are any characters or ruled lines in the margins.

Note

Measurement Condition is as follows.

- 110mm from the head of the Laser scanner module.
- Used label
  At the time of measurement of pitch angle, skew angle, dead zone : PCS=0.9, Resolution=0.25mm, 9 digits Code39, Narrow/Wide ratio=1:2.5, margin=10mm
  At the time of measurement of tilt angle : PCS=0.9, Resolution=0.26mm, 13 digits JAN, margin=10mm

1-6 Charging Specification

1-6-1 Charging the Battery Pack

GTX-100 allows charging with a battery pack installed on the terminal by using dedicated charger (GTC-1/GTC-2). Though the operation can be performed in this status, but be sure to avoid the key operation lest it may fall or cause poor contact with the charging terminal.

1-6-2 Charging Method using Single Charger (GTC-1)

When the GTX-100 and the battery pack are set at the same time, the GTX-100 charging has a priority. After the GTX-100 charging completed, the battery pack charging starts.

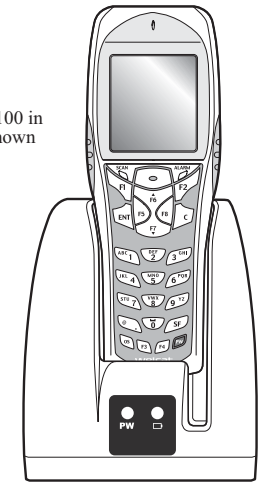
The chargers can be connected by using the joint enclosed in the Single Charger (GTC-1). (Limited to single Charger). However carrying them as connected gives a large load on the joint fixed part, take care in handling. When more than four chargers are connected, please use the Multi Charger (GTC-2).

■Charging with the battery pack attached to the GTX-100

During charging, the SCAN LED on the GTX-100 will turn ON red, when charging completed turn ON green. Charging time is approximately 2.5 hours.

Take notes to the direction of the GTX-100 when set it on the charger.

Place the GTX-100 in the charger as shown below.



During charging	SCAN LED red turn ON,
Charging complete	SCAN LED green turn ON,
Charging Error	SCAN LED turn OFF,

Caution

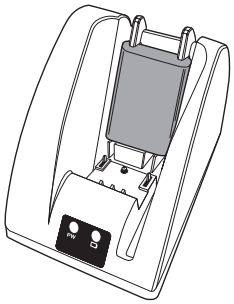
In case an error occurred during charging in the state of running on, the screen on the right will be displayed for 5 seconds, and then the power will turn OFF.

```
[ Charge Alert ]

Charge Error!!
Shutdown. . .
```

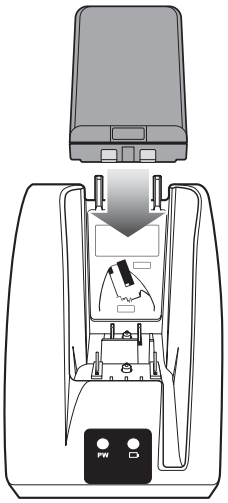
■Charging the Battery Pack alone

During charging, the Battery charging LED in the upper part of battery mark on the front of the charger turns ON red, while charging has completed it turns ON green. Charging will be completed in approximately 2.5 hours.



During Charging	Battery charging LED red turn ON
Charging complete	Battery charging LED green turn ON
Charging Error	Battery charging LED turn OFF,

Please take care for the direction of the battery pack when you set it on the charger.



Place the battery pack in the charger, as it should turn a label side to the back, and should set a electrodes downward.

1-6-3 Charging Method using Multi Charger (GTC-2)

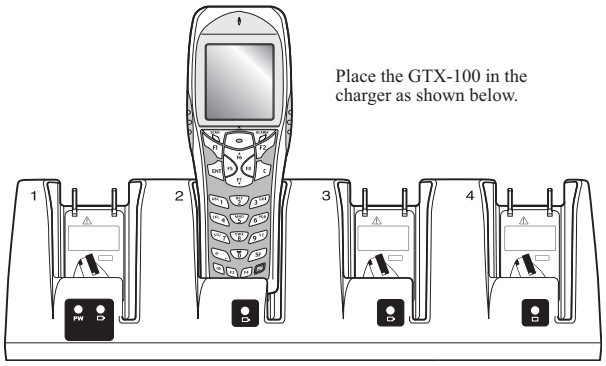
The Multi Charger (GTC-2) allows charging many batteries simultaneously. In the GTX-100 and the battery pack which are set in the same number as that of the Multi Charger, the GTX-100 charging has the priority; the battery pack charging starts automatically after the GTX-100 charging has completed.

■Charging the battery pack attached to the terminal.

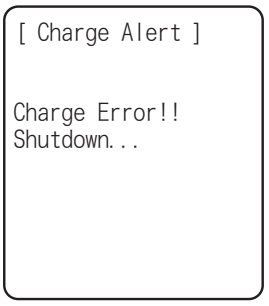
During charging the SCAN LED on the GTX-100 terminal will turn ON red, when charging completes turn ON green. Charging time is approximately 2.5 hours.

Take notes to the direction of the GTX-100 when set it on the charger.

During charging	SCAN LED red turn ON
Charging complete	SCAN LED green turn ON
Charging Error	SCAN LED turn OFF,



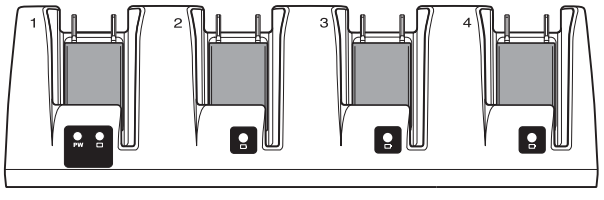
Caution When error occurred during charging in the state of running on, the power will turn OFF displaying the screen on the right for 5 seconds.



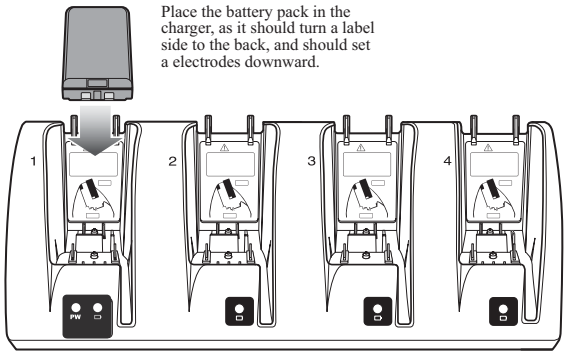
■Charging a battery pack alone

While charging, the LED on the upper part of the mark on each battery turns ON red, and when charging completes, it turns ON green. Charging time is approximately 2.5 hours.

During charging	Battery charging LED red turn ON
Charging complete	Battery charging LED green turn ON
Charging Error	Battery charging LED turn OFF,



When setting battery on the charger, please take notes to the direction of the battery pack.



Caution	When charging Error occurred, charge it again. If the error occurs repeatedly, remove the battery and contact our sales department. Take care not to use the battery that the error occurred.

1-7 Battery pack (GTB-1)

1-7-1 Charging the Battery Pack

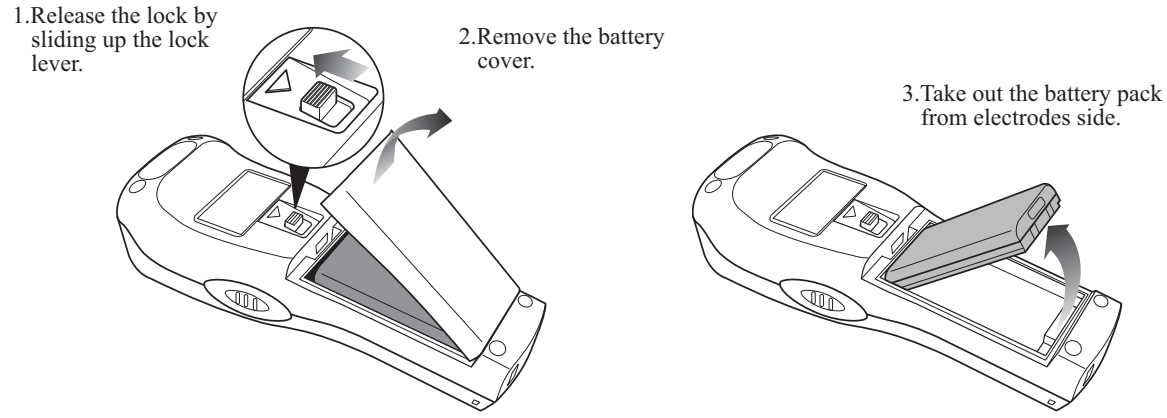
Be sure to follow the precautions below when handling the battery pack.

- After purchasing, be sure to fully charge the battery pack before using.
- Be sure to shut off the power before removing the battery pack. If the battery pack is removed during operation, the data file in the S drive may be corrupted.
- Be sure not to touch the electrodes with your hand, and avoid dust on the electrodes. Otherwise this may cause poor contact with the battery pack and the GTX-100.
- When dirty, wipe clean with a dry soft cloth.
- When installing and removing the battery pack, use a desk or other appropriate surface as the working table so that it cannot fall onto you feet.
- Be sure to attach the battery cover and lock it before use.

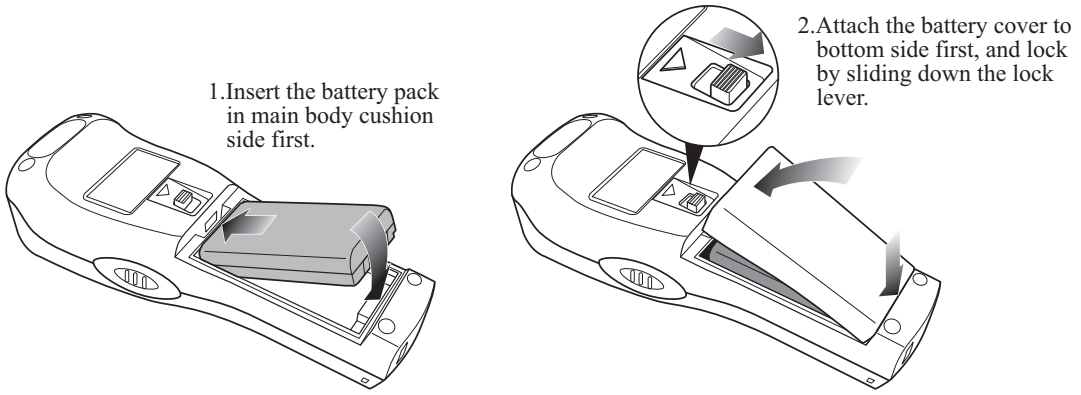
1-7-2 Installing and Removing a Battery

A packing material to protect the water immersion is attached to the Battery cover. When installing the Battery cover, please confirm if the dust or dirt NOT attached to the packing or the packing inserted correctly. If the dust or dirt is attached, wipe it softly with dry clean cloth.

■Removing the Battery Pack



■Installing the Battery Pack



1-7-3 Replacing the Worn out Battery Pack

A battery pack is an expendable item. Even if the battery pack is used correctly, it will deteriorate gradually in the course of being charged and discharged repeatedly.

If the usage time is becoming shorter even after charging for the specified charging time, please replace the existing battery pack with a new one.

1-7-4 Cautions about Cleaning of Electrodes

When the operational time has become shorter or it is having trouble starting, poor contact between electrodes because of dirt, may be the cause instead of a degrading battery. If this is the case, cleaning both the battery electrodes and the main body electrodes will improve this condition.

●Methods for cleaning the electrodes

Please wipe the dirty electrodes with a clean dry soft cloth, a swab, etc. Never rub the electrodes with an unclean cloth, fingers or a hard object. Wipe the electrodes lightly, especially the main body electrodes, else they may get scratched or deformed.

1-7-5 Charging the Backup Battery

This section describes the Method for charging the backup battery.

Operational Procedure

1. Put the GTX-100 (with no battery pack installed) and one fully charged battery pack at a handy place.
2. Install the GTX-100 with the battery pack. The charging process for the backup battery will then be started. If the Backup Battery has completely been discharged, do not remove the battery pack for at least two days after the start of the charging process.

1-8 Memory Backup Period (Battery for backup)

GTX-100 has two drive areas to store the file: F drive (Non-volatile) and S drive (Volatile). The application data download from host computer is stored in F drive, so the data won't be lost even if the battery pack has worn out. (Refer "2-1-1 Data Storage" "■Information about the data storage (drive configuration)" See P.2-2).

■Memory Back Up by battery pack

Battery	Battery pack
Use	The operation by GTX-100
Charging time	Charging the battery by using a Dedicated charger, Approximately 2.5 hours to complete charging.
Backup Period	The data storage period with a full charged battery pack attached is as follows. ・ The data in S drive and resume (suspended) information： Approximately 25 days
Notes in Use	When the battery pack is removed during operation, the data in the S drive and resume information will be lost. When temporary storage is performed, be sure to press the ⓅⓌkey to power off, and then remove the battery pack. Refer to "1-10 Resume function"(P.1-26) for resume function. If such an operation as removing a battery pack each time the terminal is not used (the memory back up by the back up battery is applied), the backup period will get extremely shortened in approximately half a year. In this case, the replacement of the backup battery is necessary (paid) therefore please attach the battery pack except for changing the battery.

■Memory Back up by backup battery

Battery	Battery for Backup
Use	The Clock data built in GTX-100 is kept. In addition, The data in the S drive is saved only for a certain period while replacing batteries etc. When resume function setup is enabled, the resume information is stored.
Charging time	Approximately 2 days after fully charged battery pack is attached to the GTX-100.
Backup period	Data storage period after removing the battery after Normal termination[*1] is as follows. ・ S drive data and resume information (when resume function is enabled)：Approximately 15 hours ・ Built in clock data：Approximately 6 months Data storage period after terminating by Mothball Menu[*2] is as follows. ・ Built in clock data：Approximately 1 Year (with or without battery pack)
Notes in Use	For details of prolonged storage of the terminal, please refer to"1-9 Not use in long time" (P.1-25). The data lost due to the worn out of the battery for back up will not be restored. Be sure to save the data other than the temporary one in the F drive.

[*1] Normal termination：The termination method after pressing the ⓅⓌkey remove the battery pack.

[*2] Termination by Mothball ：The method to terminate to select mothball from the System menu.

Caution

The Memory backup time varies depending on the surrounding environment. For example, backup time will be drastically reduced in temperature below 0°C and over 40°C and more. It is recommended to use the battery at room temperature.

1-9 Not use in long time

■Not use in long time (the terminal)

If you do not use the terminal for a long period (more than 6 months), it is recommended to setup the terminal to Mothball, the power will soon turn off.

By Mothball setup, though the data in the S drive and resume information will disappear, the built in clock data will be kept, thus saving the consumption of the battery. About setup method, refer to "

3-15-6 Mothball"(P.3-84) for the Setup method of Mothball.

■Not use in long time (the battery) for Battery

When you do not use the battery for an extended period of time, setup the terminal to Mothball and removing the battery to keep it in a cool spot charged about 50%. When you do not use it for one month or more, remove the battery pack and keep it at room temperature.

The battery may deteriorate rapidly by over discharging or under high temperature.

1-10 Resume function

The GTX-100 supports resume function, from System menu, setup, the behavior of the power on by the Ⓟkey. For setup method, see "3-8-3 Resume (resume function)"(P.3-17).

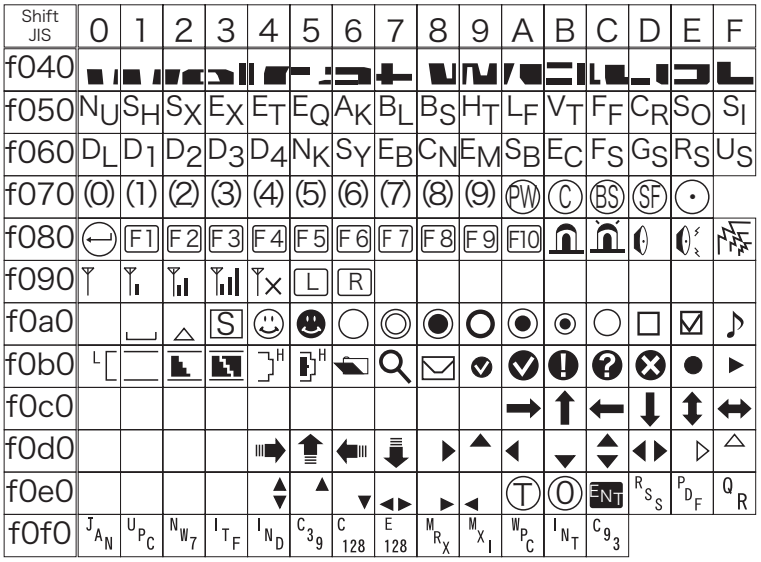
Resume function enabled	After pressing Ⓟkey to turn off the GTX-100 and start up with the Ⓟkey, the processing resumes what was executed immediately before the power off.
Resume function disabled	After pressing Ⓟkey to turn off the GTX-100 and start up with the Ⓟkey, the processing always starts from the first stage.

Caution Please be informed that when the battery pack is removed during the operation of the terminal, the program will be executed from the beginning regardless whether the resume function is enabled or disabled.

Caution Please be informed that when the back up battery is consumed, the program will be executed from the beginning regardless whether the Resume function is enabled or disabled. With regard to charging the battery for backup, please refer to "1-7-5 Charging the Backup Battery"(P.1-22).

1-11 Screen Output Characters

■Welcat specific Double-byte characters



■Single-byte characters

Upper / Lower	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0		╬		0	@	P	‘	p	⏠		␣	ー	タ	ミ		
1	╔		!	1	A	Q	a	q			｡	ア	チ	ム		
2	╗	↕	”	2	B	R	b	r			「	イ	ツ	メ		
3	╚		#	3	C	S	c	s			」	ウ	テ	モ		
4	╝	▨	$	4	D	T	d	t			、	エ	ト	ヤ		
5	╠	╩	%	5	E	U	e	u			・	オ	ナ	ユ		
6	═	╦	&	6	F	V	f	v			ヲ	カ	ニ	ヨ		
7	↓	╣	’	7	G	W	g	w			ァ	キ	ヌ	ラ		
8			(	8	H	X	h	x			ィ	ク	ネ	リ		
9	○	╬	)	9	I	Y	i	y			ゥ	ケ	ノ	ル		
A		▨	*	:	J	Z	j	z			ェ	コ	ハ	レ		
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Chapter 2

Software

2-1 GTX-100 Software

The GTX-100 Software consists of the following two types.

System program	Controls the basic operation of the GTX-100. It is equivalent to an OS (operating system) of a personal computer, and is preinstalled in the GTX-100. The System Menu, which sets the basic parameters for operation and performs various verifications, is a part of the system program.
Application program	Used for user operations processing. This program is mainly used for scanning Barcodes, data transmission to a computer, etc. If you purchase "WebGlider-X", you can easily combine it with the WebGlider-X Browser to build a Web based system. If you purchase "Handy5250", it allows you 5250 emulation and configures the handy terminal system with high reliability of AS/400 host computer.

Note

Refer to "Chapter 3 System Menu" (P.3-2) for detailed information about the System Menu.

For information about "WebGlider-X," see the online manual included with the product package.

2-1-1 Data Storage

■Information about the data storage (drive configuration)

The GTX-100 has two drives for storing data. The S Drive and the F Drive.

Drive	Data Retention	Use	Maximum Capacity
F drive	●Non-volatile memory The contents of this drive will be retained after the backup battery is discharged.	Used to store all files, such as application, the database master files and normal data files, etc.	64 files
S drive	●Volatile Memory Once the battery pack is suddenly removed during operation or the backup battery is discharged the contents of the drive will be lost.	S Drive Used to store temporary files when an application is running on.	64 files

When the F Drive receives a file, the S Drive receives the file first then moves it to the F Drive.

In case where the F Drive receives a file, confirm that there is enough storage space on both the S Drive and F drive beforehand.

When receiving files if there is a file with identical name on the S drive, the old file will be erased.

■File Naming

The file names used by the GTX-100 are subject to the following restrictions.

File name length	A file name allowed to enter is up to 31byte long, including extension.
Characters that can be used.	Characters can be composed of as any combination of the following characters. ・ Alphabet(A to Z) ・ Numbers (0 to 9) ・ Symbols(!#%&'()@^_{}~.) ・ Single-byte space
Other restrictions	A space, or, "."(Period) is prohibited to use at the head of the file name.

■About extensions

The GTX-100 recognizes files through extensions.

".OUT"	Recognizes as an application.
".WAV" ".MP3" ".SFL"	Recognizes as audio data. Subject to format restrictions for the WAV file and MP3 file that can be played on GTX-100. (P.3-49) SFL is a system original style text file. (P.3-49)
".BMP"	Recognizes as a Bitmap image. The bitmap file displayed on GTX-100 is subject to format restrictions. (P.3-49)

■The files generated by the system and application

A part of the System program and application program of the GTX-100 create a temporary file and a file to save the setup value. If these files could not be generated for such reasons that there are too many files, or no space in the drive etc., each program fails to work normally.

System program generates a registry file in the F drive to save the Setup value of the System menu. Four files are created in this case, however, this is a hidden file and not displayed in the System menu.

By using WebGlider-X browser following files are created in the S drive during HTTP communication.
Since a file with the same name is overwritten, be sure to use a different name than the following file names.

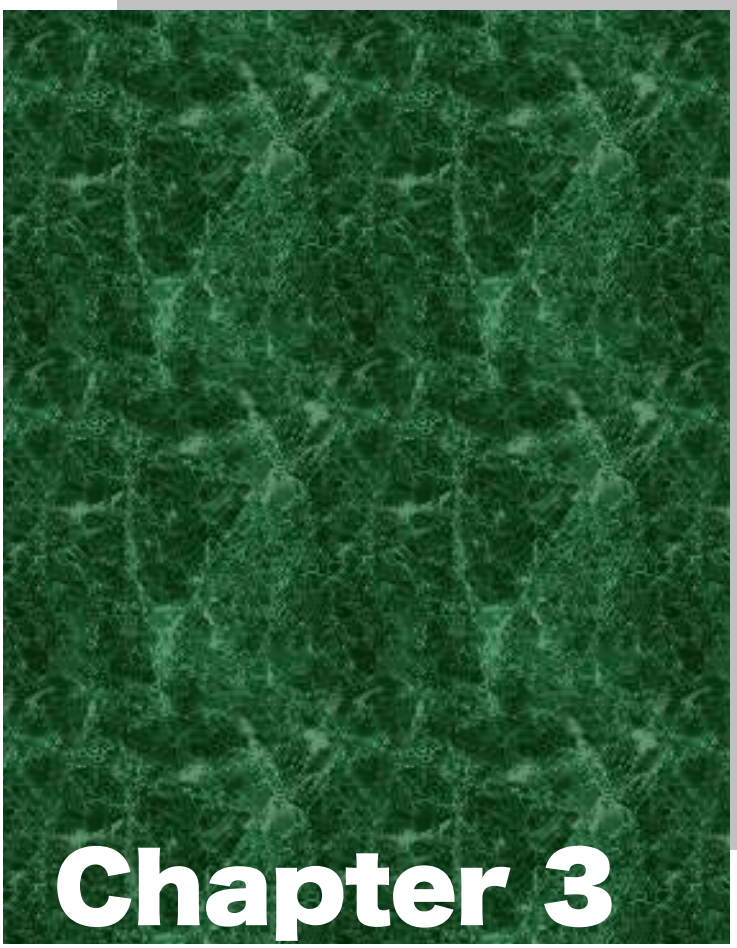
- HTTP.LOG
- HTTPTEMP (with no extension)
- HEADTEMP (with no extension)

When an application is programming, and SQLite Library is used, a temporary file will be created in the S drive during database operation. The file name will be created randomly to avoid overlapping with the existing file.

2-2 System menu

Through the System Menu, you can make the GTX-100 fundamental operation settings, install the application program and transmit data files, etc.

Refer to "Chapter 3 System Menu" (P.3-2) for details about the System Menu.



System menu

3-1 Introduction

The System menu is a part of the system program, which is preinstalled in the GTX-100 as one of the functions that comprise the operating system. It also provides a platform for installing application programs and performing environmental setup for the whole system.

This chapter describes how to set up the GTX-100 and perform various verification checks, with primary focus on how to use the "System menu."

3-2 Save the System Parameter

3-2-1 Registry

The system parameters that are set up in the System menu are called "Registry".

In addition, as these registry files are not displayed in the System menu as these are hidden files. As the registry is saved in the F drive, it will be not erased even though the back up battery is worn out.

Registry is classified into five categories as below.

User Registry	General set up value. Most part of the items setup in the System menu creates the User Registry.
Security Registry	Security related setup value such as WEP key and SSID etc.
Unique Registry	Setup value unique to the terminal such as IP address and terminal ID, which generally does not overlap to the other terminals.
System Registry	Using a unique setup value used by the GTX-100.The execution of Setup or reference from the System menu is not enabled.
Device Registry	This is the item such as Battery level or radio signal level that is to refer the parameter that changes in real time during the operation of the terminal. The setup value that belongs to this device registry can only be referred to, but unable to setup.

The four registries except for Device registry are saved in an independent file respectively. For this reason there are four files are always stored in the F drive of GTX-100. As the registry is stored in the F drive, it will be not erased even if the battery is disconnected.

The Device registry is not saved in a file, as it varies according to the operation status of the terminal.

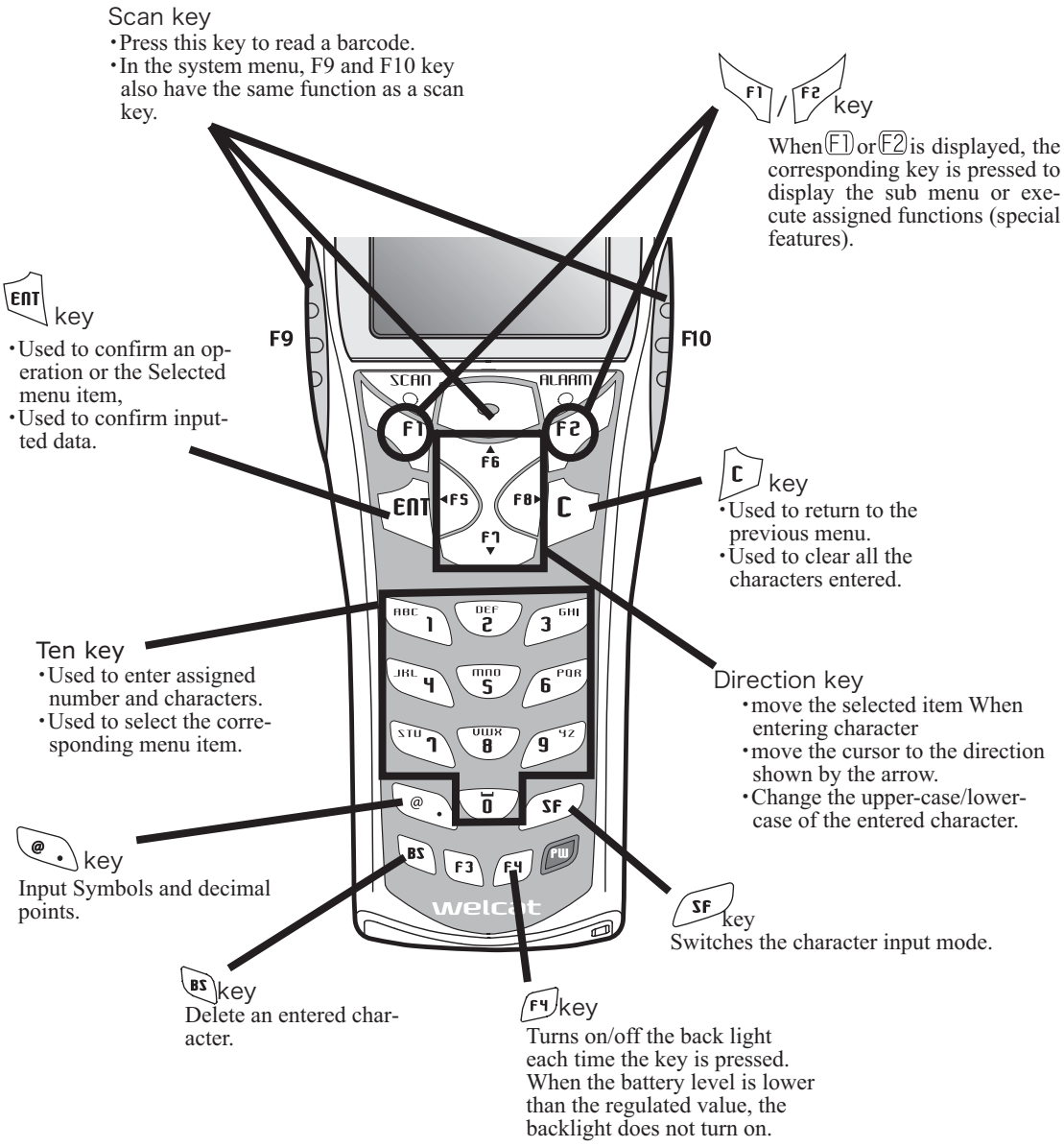
Please refer to "Appendix. A-1 System menu Factory Settings"(P.A-2) with regards to what menu the setup value belongs to.

The Clone (P.3-80) allows the other terminal to copy the registry and duplicate the terminal with the same setup as that of the original.

By using "initialize" Menu (P.3-78), the registry will be erased, restoring the terminal to the status of Factory Setup.

3-3 Key Names and Functions

This Chapter explains about keys and functions used in the System menu.
In this Manual each key is described as follows.



■Assigned key character list

Key	Numeric input mode	Alphabet input mode
	1	ABC
	2	DEF
	3	GHI
	4	JKL
	5	MNO
	6	PQR
	7	STU
	8	VWX
	9	YZ
	0	␣(space)
	・	$-+/%:#@&

3-4 System Menu Operations

Here explains the Standard Operation Method of the System menu.

■Select the target item from the menu

●Selecting a Menu Item

Selected item becomes highlighted (colors reversed= selected).

Move the cursor either by pressing ⓪ to ⑨ key, which corresponds to the item, or, by using the direction (F5 to F8) key.

●confirm the selected item

Press the ENT key, and, confirm the selected item.

The behavior after confirmation differs according to the item.

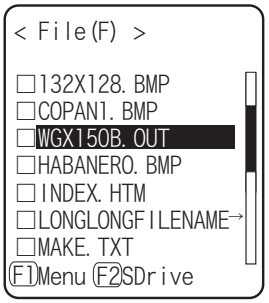
- Execute the corresponding function
- Show the decision [Yes] or [No] (check box)
- Next Menu is displayed.
- Sub menu is displayed.

●Cancel Selecting

Press the Ⓒ key, to return to the previous operation.

●Screen display

When the items in the Menu are not housed in a screen, the scroll bar for vertical direction is displayed on the right of the screen. In addition, when the item name exceeds 1 line, the tail of the item name is displayed being converted in "→ "



■Input Barcode data

●Barcode Scanning

Press the scan key and irradiates the laser to scan a barcode.

The irradiation time of the laser and scanning behavior are set up with trigger mode. In addition, Barcode test menu is not subject to trigger mode.

●Barcode scanning condition

The Barcode that can be scanned in the data input mode is as follows.

NW-7, CODE39, JAN13/8, UPC-A/E, Industrial 2of5, ITF, CODE93, CODE128, RSS-14, RSS Limited

■Input by the key

●Switching the Character Input mode

GTX-100 allows inputting characters using numeric keys and ⊙ key.

The character allowed to enter is Numeric, Alphabet (upper-case/lower-case) and Symbols, changing input modes according to the character to enter.*1

・"Numeric input mode"
Numeric and decimal point are allowed to enter.

・"Alphabet input mode"
Alphabet (upper-case/lower-case) and Symbols are allowed to enter.

Each time the Ⓢ key is pressed, the input mode changes。*1

●Numeric input

Make the character input mode to numeric input mode(cursor: ■(rectangle)).

Press Ⓘ to ⑨ key, and input corresponding numeric. Press the ⊙ key, and input decimal point.

●Alphabet input

Make the character input mode to alphabet input mode(cursor：__(under bar)).

Press ① to ⑨ key, and input the assigned alphabet.

When an assigned Alphabet on the same key is continuously entered, press the F8 key to move the cursor, and input the next alphabet.

Press the F6 / F7 key, and alphabet at the cursor position changes ;Upper-case character ⇔ Lower-case character.*2

●Input the symbol

Make the character input mode to alphabet input mode(cursor: _ (under bar)).

Press the Ⓘ key, or ⊙ key, and input the assigned symbol.

When an assigned symbol on the same key is continuously entered, press the F8 key to move the cursor, and input the next symbol.

When the cursor is at the end of the entered data, press the F8 key, and a space is inserted to the right of the cursor.*2

●Confirm the entered data.

Press the ENT key.

●Delete the character*3

Press the Ⓑ key, and delete the character at the cursor by 1 character.

Press the Ⓒ key, and delete all characters.

●Cancel the input

In such an item that deleting characters is not allowed (refer to *3), press the Ⓒ key, and stop the input immediately. In such an item that deleting characters is allowed, after deleting all characters entered and press the Ⓒ key.

●Others

When the input characters are filled over the field length, the cursor returns to the top.

*1 The item that the kind of characters allowed to enter is restricted (example：terminal ID is numeric only)cannot change the Input mode.

*2 The Characters allowed to enter may be restricted according to the item.

*3 In the item of which format to enter is fixed(example：IP address) the character cannot be deleted. In this Manual the Input Format fixed items are shown with the icon in the right.

■Other operations

●Returning to the previous menu.

Press the Ⓒ key.

●Check box operation

By applying or removing checks in the square box, making the item selected/not selected. Each time the ENT key is pressed, the status of Select /Not Select switches.

Each time the ENT key is pressed ,[Yes]/[No] switches.

The check box is also applied when selecting many items at the same time.

●Radio buttun operation

The item the inside of the small circle is dotted shows that it is currently enabled.

Radio button is used to select one item from many items.

●Message box operation

When two buttons are displayed in the lower part of the box; [Yes]/[No] etc., press ① or, ② key, or select the button by using the direction (F5 to F8) key (Highlighted), and then press the ENT key to confirm. Press the Ⓒ key to select the right button.

In such a case with one button like "OK", press the ENT key or Ⓒ key.

●Level meter operation.

Setup value adjustment by stages.

Move the slider Up and Down by F6/F7 key. And then, press the ENT key to confirm the level value.

Press the Ⓒ key to cancel setup.

●Turning ON/ OFF the backlight.

Each time by pressing the F4 key, the backlight turns ON/ OFF. However in case the battery level is less than the regulated value, the backlight does not turn ON.

●Accessing to the Sub menu or function.

When F1 or F2 is displayed in the lower part of the screen, press the corresponding key to display the Sub menu or execute the function.

●Modifying the indicator when operating

The indicator (buzzer/audio/vibrator/LED) that works when operating allows itself to be modified to user's original setup. With regard to the modification Method, please refer to"■Indicator function"(P.3-71).

By modifying this setup users' are allowed to create their original indicator easily.

In addition, there are some operations that the indicator is not applied.

3-5 Battery Level

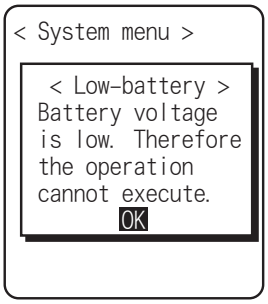
When the battery level of the battery pack lowered, operation is restricted or the power may turn OFF.

●Checking the current battery level

From the System menu, select"8:Manage", and then "1:Battery level".

●Restricted operation when the battery level is low.

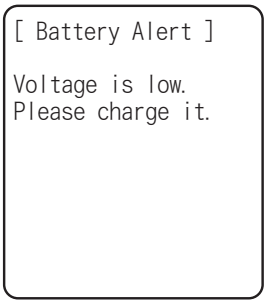
Some operations of the System menu are restricted, when the voltage level is less than the regulation level (the level differs according to the operation) at the time of execution.




In this Manual, the operation that will be restricted is shown with the icon.

●Battery Alert

The Display below and the buzzer inform the user of the battery shortage.



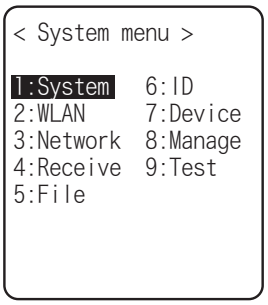
Approximately after 5 seconds, the power is forcibly turned OFF.

3-6 Starting the System Menu

3-6-1 How to Start the System menu

Operational Procedure

1. Once the GTX-100 has been correctly installed with a battery pack and if the current state is OFF, press the Ⓟ key for approximately 1 second. The power will turn ON and the System menu will be started.
2. The System menu is displayed immediately after the opening screen.



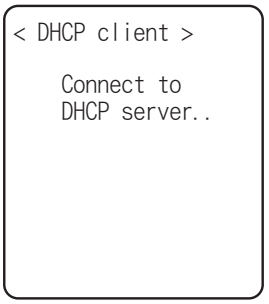
If an application is set for " Auto execute" (P.3-15), hold down the scan key (excluding F9 and F10), and then press the Ⓟ key to start the System menu.

3-6-2 Executing a DHCP Request

If the "■Startup type"(P3-37)is setup at[application boot], [System menu boot], the DHCP request will be executed every time of booting.

If the system is in the state where wireless communications with an access point is possible and if the DHCP server and FTP server of the "WebGlider-X " Network Manager have been started, the various environmental setting values and specified files will be downloaded to the GTX-100 and automatic setup will be perform via the TCP/IP network.

After the DHCP request has been executed, the applications set for "Auto execute" if any, will start. (P.3-15)



3-6-3 Starting State for Wireless LAN Operation

Immediately after starting, the GTX-100's wireless LAN communication unit is set to a resumed state. If the wireless communications related menu is selected immediately after starting, the GTX-100 will be ready for communication within 0.5 to 1 second.

3-6-4 Executing Setup Wizard

At the initial startup of the terminal, the setup wizard is executed to perform the minimum setup of the request for communication between the terminal and the server.

Select either[Yes]or [No].

Select [Yes], then the wizard will be executed to perform the setup of WLAN and TCP/IP.

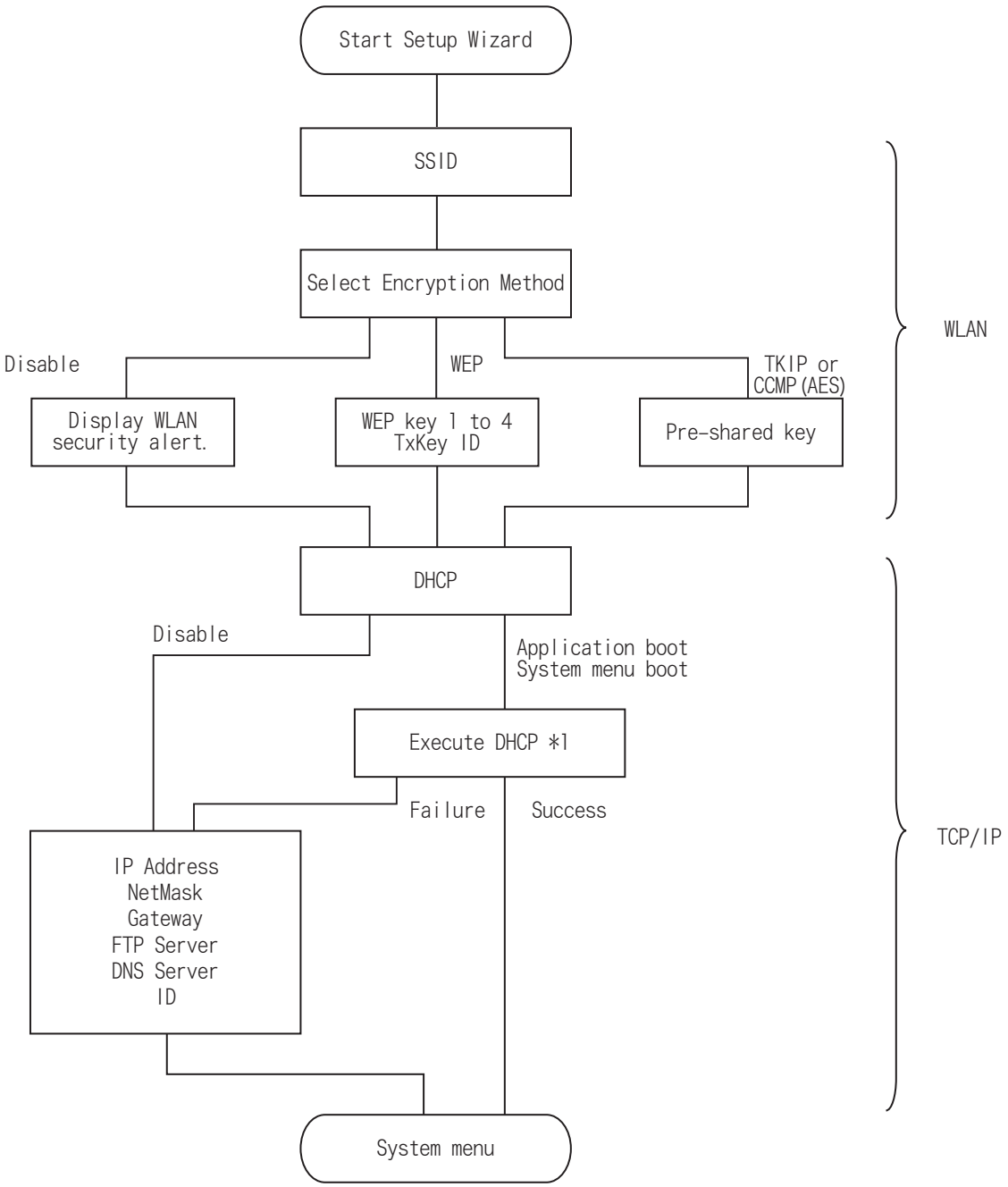
Select [No], then the System menu will start up.

When selecting [No] to skip the Setup Wizard, or, completing the setup to the last moment by executing Setup Wizard, the Setup Wizard will not startup from next time and after.

Note

Each item to be entered in the Setup Wizard can be set up each by each in the System menu. In addition, Setup Wizard can be arbitrarily executed from the System menu (P.3-85).

With the Setup Wizard, each item is setup respectively according to the flow of the following Chart. The accompanying item differs by the branch of the selection.

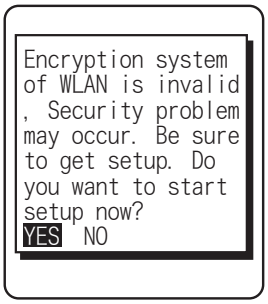


*1 This is only performed by Wizard Execute when starting up the terminal. When "Wizard Execute" is performed from the System menu (P.3-85). It returns to the System menu without executing DHCP.

Caution WLAN authentication method is not allowed to setup by the wizard. Especially EAP certification requires receiving the files such as Certificate etc., complicating the setup, please perform the setup manually.

3-6-5 WLAN Security Alert

When the WLAN Encryption Method is disabled, the dialog to alert the setup is displayed at the time of starting up.

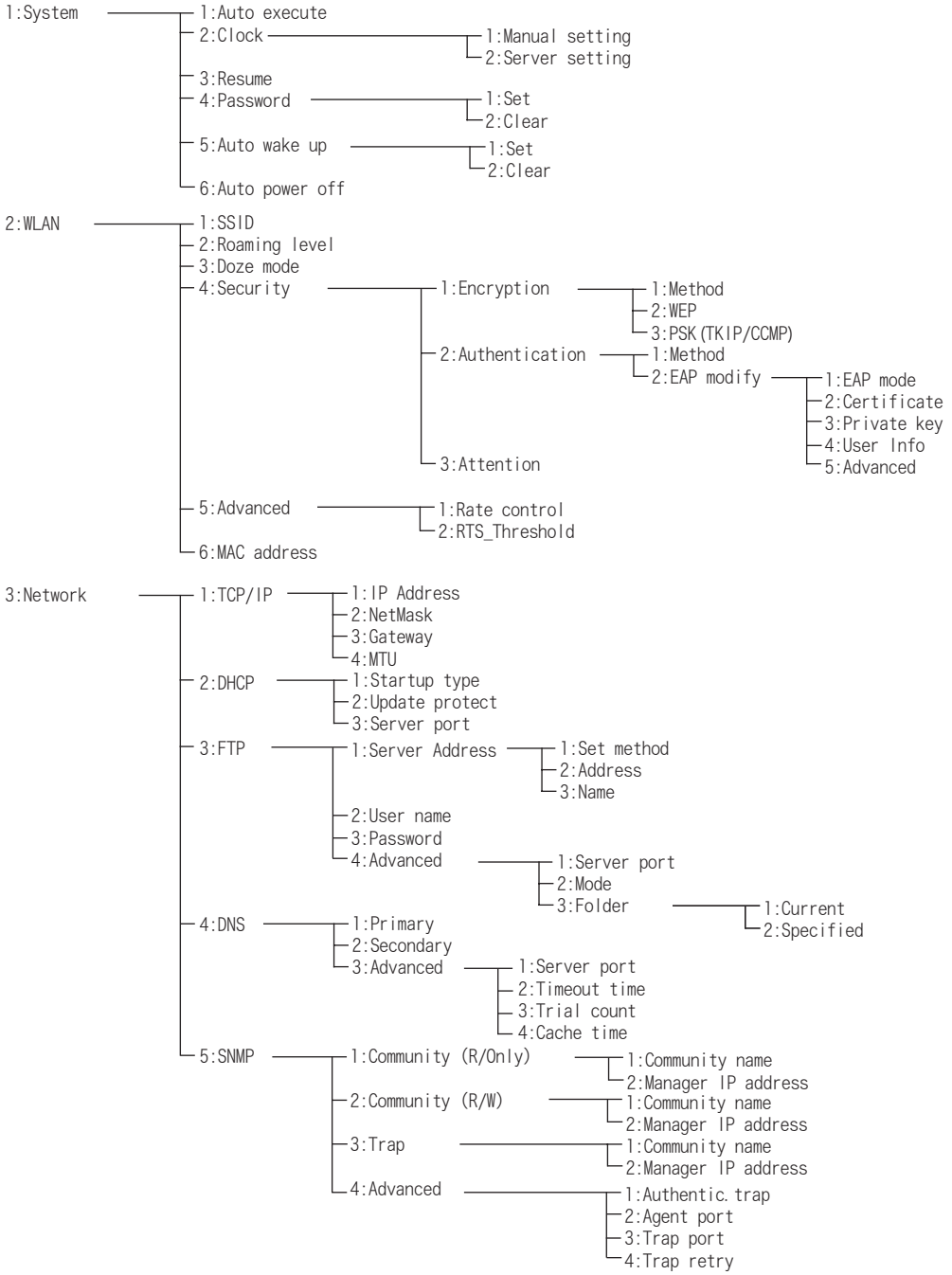


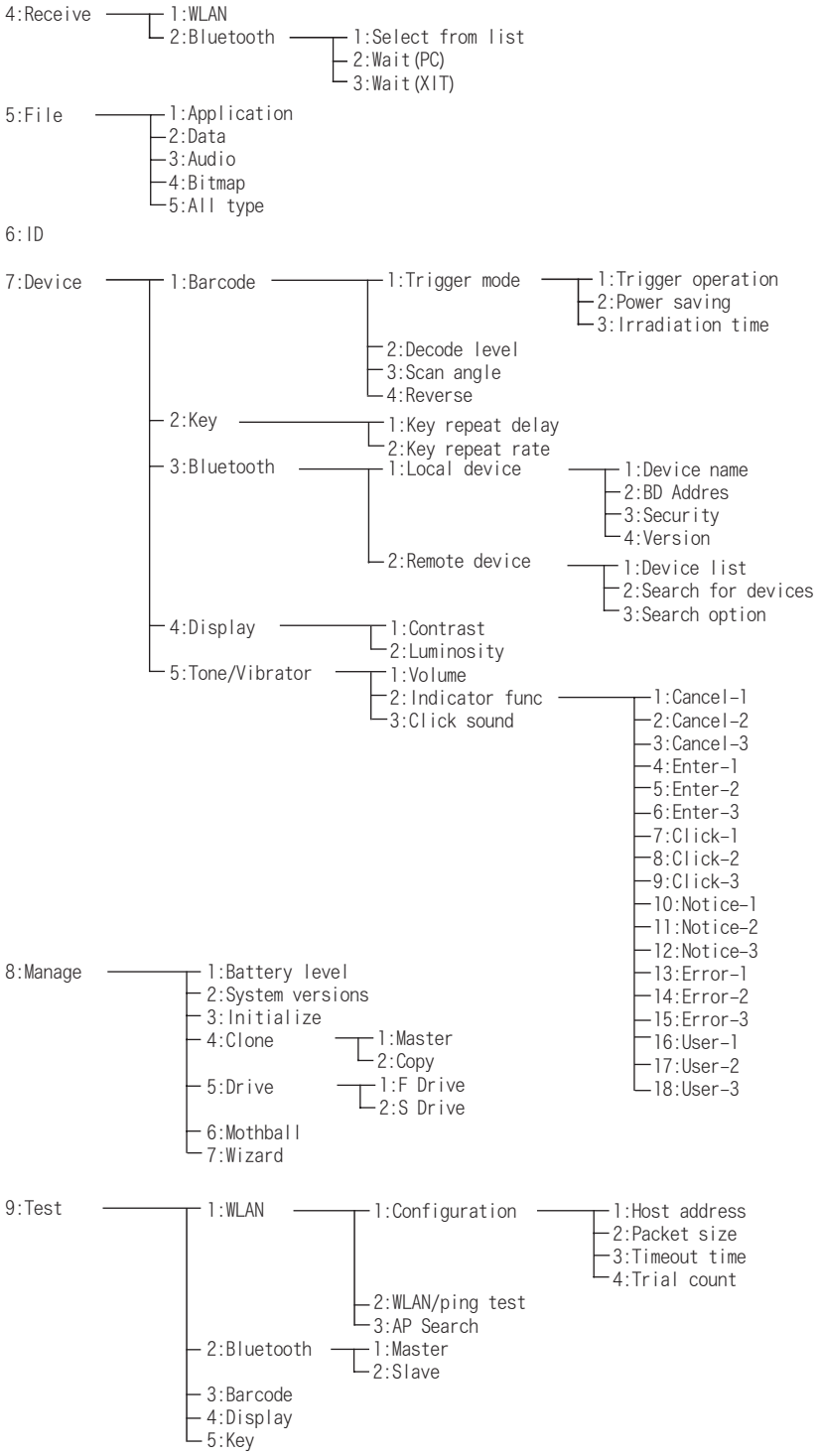
Select either from [Yes] or [No]
Select [Yes], moves to "2:WLAN". Select [No], System menu is displayed.

When the resume is enabled, this dialog is not displayed.

3-7 System Menu List

System menu is configured as a structural architecture that is classified for respective functions.





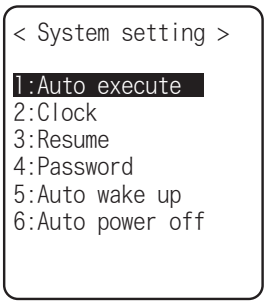
Note Please refer to the "System menu Factory Settings" (Appendix A-2) for information about the System menu factory settings.

3-8 System Setup Menu

The setup for convenient functions to facilitate your GTX-100.

Operational Procedure

1. From System menu, select "1:System".



Select the item to setup.

- Auto execute
- Clock
- Resume
- Password
- Auto wake up
- Auto power off

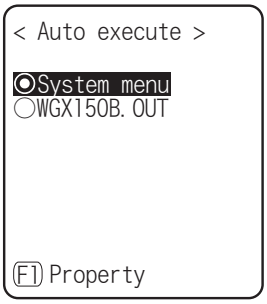
3-8-1 Setting the programs for Automatic Launch

You can set programs to launch automatically when the power is turned ON. In the factory settings, the System menu is set to launch automatically. When the DHCP function is enabled, these settings can be made automatically.

> **Caution** In the case to have the DHCP function enabled, refer to the "WebGlider-X" Manual for details

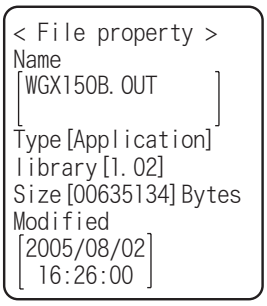
Operational Procedure

1. From the System Setting Menu, select "1:Auto execute".



From the list, select "System menu" or "application program".

The current program name is displayed with dotted radio button.



Press the F1 key, and information related to the Selected application program is displayed.

Press the Ⓒ key, and return to the previous Menu.

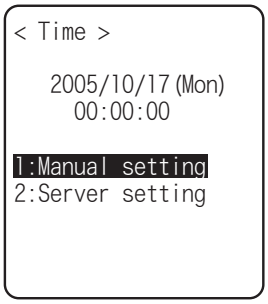
3-8-2 Clock

This function is to confirm the current time, and set up the time.
In addition to Manual Setup, setting up the clock via the "Server Setting" to adjust the time of the terminal to that of the host computer is possible, when the DHCP function is enabled.

■Current Time

Operational Procedure

1. From the System Setup Menu, select "2:Clock"



Current Time is displayed.

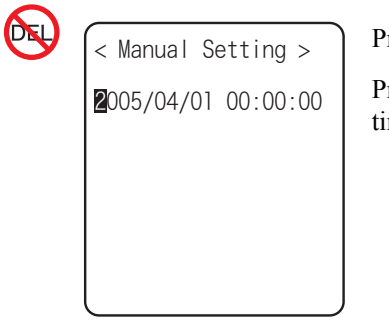
Select the item to setup.

- Manual setting
- Server setting

■Manual setting

Operational Procedure

1. Input the time data.



Press the ENT key, and confirm the time.

Press the Ⓒ key to cancel setting and return to current time.

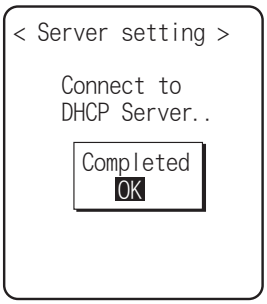
■Server setting

Server setting, confirm the following beforehand.

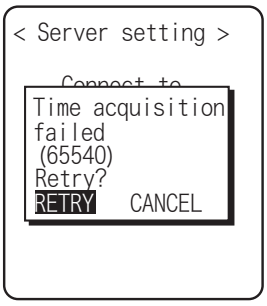
- WLAN communication setup(SSID, Security etc.) between the terminal and the access point is correctly setup.
- The power of the access point and the host computer is ON.
- The access point and the host computer is correctly setup and connected.
- The access point is normally operating.
- DHCP server of the "WebGlider-X" Network manager is running.

Operational Procedure

1. Receiving the time data from the DHCP of "WebGlider-X" Network Manager.



Press ENT key or Ⓒ key to return to check the current time.



When receiving is failed, the screen on the left is displayed.

[Select RETRY], to receive the Time data from the server again.

Select [CANCEL], or Press the Ⓒ key to cancel setup and return to Current time.

3-8-3 Resume (resume function)

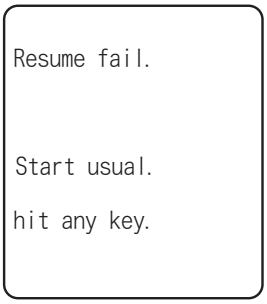
The GTX-100 supports a resume function. The resume function can be enabled through the System menu and if selected, the next time the key is pressed on the GTX-100, the resume function will be used. Resume mode ON after the GTX-100 is powered OFF, the next time the key is pressed, it will resume operation where it was just before the power was turned OFF. For details of the resume function, please refer to the "1-10 Resume function"(P.1-26).

Operational Procedure

●Resume mode ON

After the GTX-100 is powered OFF, the next time the Ⓟ key is pressed, it will resume operation where it was just before the power was turned OFF. (Power ON, pressing the Ⓟ key while pressing the scan key to cancel resume mode)

●Resume Fail



Resume setup will fail when the power OFF by removing the battery and without pressing the Ⓟ key.

●Resume mode OFF

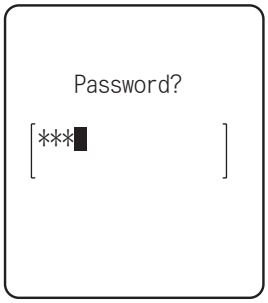
After the GTX-100 is powered OFF, the next time the Ⓟⓦ key is pressed, it will begin operation from the start.

When the application is setup to " Auto Execute", the assigned application will startup.

> **Caution** In the case where the battery is disconnected while the power is ON, the operation will begin from the start regardless of the resume mode settings. In order to enable the resume function, turn ON/OFF the power by pressing the key. However, even when the resume function is enabled, the process will be performed from the beginning if the Network DHCP setting "■Startup type" (P.3-37) is set to "Application boot" or "System menu boot."

3-8-4 Password

The password to avoid unnecessary running on of the System menu will be setup. By setting a password, the third person other than the system administrator unable to confirm or modify the setup contents.



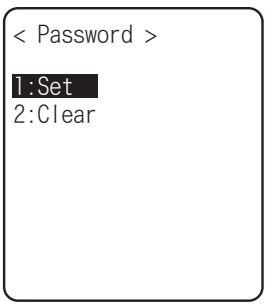
In case a password is setup, the password confirmation will be performed at the time of starting up of the System menu. The System menu will not start up unless the password is entered.

However, when the power OFF by pressing the Ⓟⓦ key, with resume function enabled, while System menu is displayed, the password check will not performed when the terminal will restart from the System menu.

> **Caution** Be sure to take notes of the encryption number, and keep it so that you may not forget it. In case you forget the number, please contact our sales department.

Operational Procedure

1. From the System setup, select "4:Password".



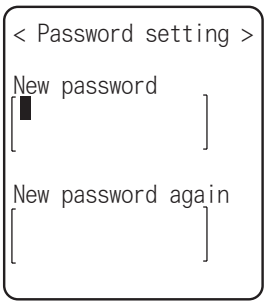
Select the item to setup.

- Set
- Clear

■Password setting

Operational Procedure

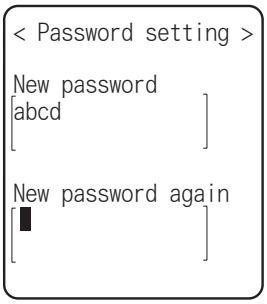
1. Input a new password.



Password should be alphanumeric characters from 4 to 30, Upper-case character/Lower-case character are distinguished.

Input a new password, then, press the ENT key.

2. Input the password again.

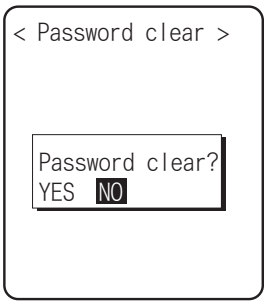


After the password is entered, confirm by pressing the ENT key.

■Clearing a Password

Operational Procedure

1. From the confirmation dialog, select[Yes].



The setup password is erased.

Select [No], or press the Ⓒ key, and clear to stop.

3-8-5 Auto wake up

Auto wake up is a function to start up the terminal automatically according to the preset schedule. By combining Auto wake up and DHCP Execute running on, which allow the application and the master file automatically updated before starting operation.

> **Caution** Auto wake up function is enabled only when the terminal is closed by the ⓅⓌ key. The terminal will not start up, even at the preset Auto wake up time, when after replacing the battery or forced termination due to a low battery.

■Schedule confirmation

Operational Procedure

1. From the System setup, select "5:Auto wake up".

Currently setup schedule is displayed.

Select the item to setup.

- Set
- Clear

■Schedule setting

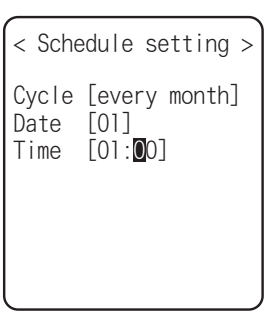
Operational Procedure

1. Select Schedule accrual cycle.

Selected from among every day (time is specified), every week (week and time are specified), and every month (date and time are specified). Date is set from "01" to "31", time for 24 hours style. When setting has completed, then return to Schedule confirmation.

Press the Ⓒ key to stop setting and return to Schedule confirmation.

DEL



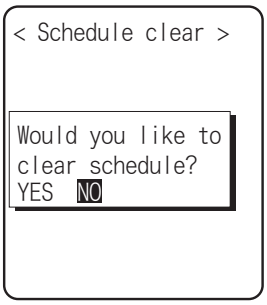
Input the time in 24 hour-style (00:00 to 23：59).

Thus complete the setup, and return to Schedule confirmation.

■Schedule Clearing

Operational Procedure

1. From the confirmation dialog, select[Yes].



The setup Schedule is erased.

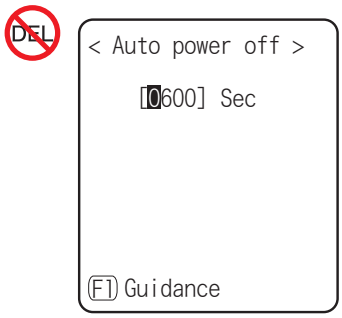
Select [No], or Press the Ⓒ key to stop clearing.

3-8-6 Auto power off

Auto power off is a function to make the power OFF automatically when there is no operation performed for a certain period.

Operational Procedure

1. From the System setup, then select "6:Auto power off".



Input the Auto power off time.

The time allowed to setup is from 0060 seconds to 3600 seconds. In addition, when set to 0000 seconds, the Auto power off is disabled.

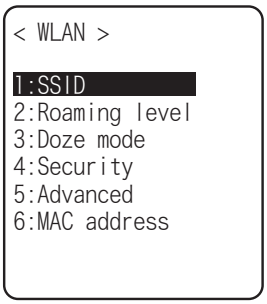
Press the F1 key, and, setup value related guidance is displayed.

3-9 WLAN Menu

Wireless LAN related setup is performed.

Operational Procedure

1. From the System menu, select "2:WLAN".



Select the item to setup.

- SSID
- Roaming level
- Doze mode
- Security
- Advanced
- MAC address

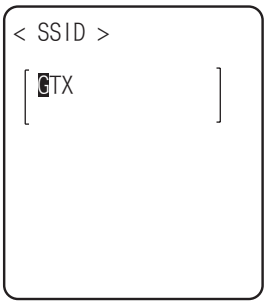
3-9-1 SSID

SSID setup. The characters allowed to enter are single-byte alphanumeric characters whose number should be up to 32, and Upper-case character/Lower-case character is distinguished.

When DHCP function is enabled, automatic setup is possible, but this is not recommended as security problems may occur.

Operational Procedure

1. From the WLAN, select "1:SSID".



Input the SSID.

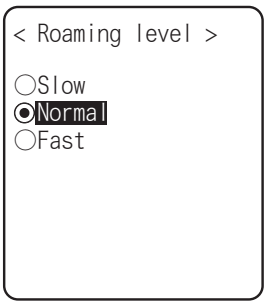
SSID should be in alphanumeric character up to 32 characters, and Upper-case character/Lower-case character distinguished.

3-9-2 Roaming level

Roaming means a function, which switches the access point by choosing the access point with stronger radio signal when the terminal moves. The roaming level created as the judgment value to judge whether to perform the switching. When DHCP function is enabled, automatic setting is possible. The roaming is performs only between the access points with identical SSID.

Operational Procedure

1. From the WLAN, select "2:Roaming level".



Slow roaming is difficult to perform.
Normal
Fast roaming is easy to perform.

3-9-3 Doze mode

The time during which the WLAN switches into Doze mode after transmission finished.

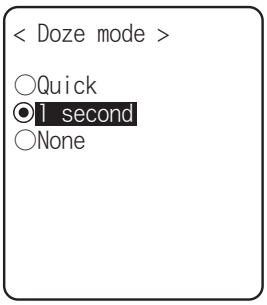
The shorter this time is the less consumption of the battery pack becomes, however, the responsiveness of WLAN decreases.

When DHCP function is enabled, automatic setting is also possible. The WLAN response time varies according to the beacon cycle and DTIM setting of the access point.

For details about the beacon and DTIM, please refer to the access point's Manual.

Operational Procedure

1. From the WLAN, select "3:Doze mode".



Select the item to setup.

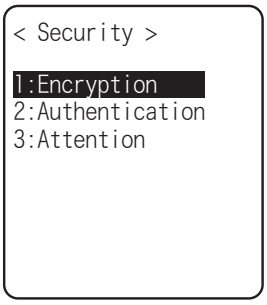
> **Caution** In the case to have the DHCP function enabled, please refer to the "WebGlider-X" Manual for details

3-9-4 Security

Security related setting of WLAN is performed.

Operational Procedure

1. From the WLAN menu, select "4:Security".



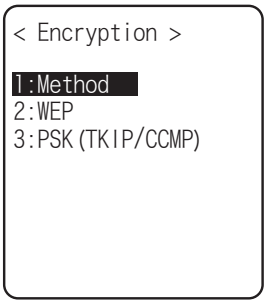
Select the item to setup.

- Encryption
- Authentication
- Attention

■Encryption

Operational Procedure

1. Select the item to setup.

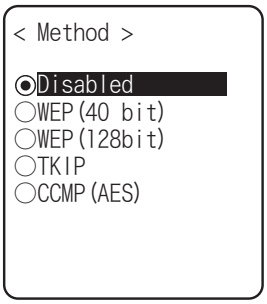


- Method
- WEP
- PSK(TKIP/CCMP)

●Method

Operational Procedure

1. Select the item to setup.



Select the item to setup.

> **Caution** In the Authentication Method using "EAP"(P.3-28), communication cannot be performed when "Disabled", "WEP (40bit)" or "WEP (128bit)" is setup.

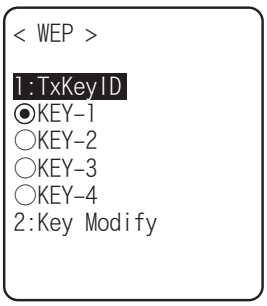
●WEP(Wired Equivalent Privacy)

Since IEEE802.11b/g is a general wireless standard, it may be easily intercepted by a third person. The danger of data being intercepted between an access point and a terminal (GTX-100) is avoidable by using WEP, which is the standard of encryption of wireless communication.

GTX-100 is compliant with two kinds of WEP keys (common key), "40 bits (also called 64 bits)" and "128 bits."

Operational Procedure

1. Select the item to setup.



From the sub menu, select the item to setup.

・TxKey_ID

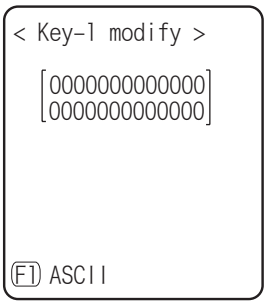
Select the ID used for transmission from KEY1- KEY4 set in the next paragraph " KEY setup." This becomes effective if the WEP settings are set to other than "Disabled."

> **Caution** Communication is possible only if the contents of both the WEP key of selected Tx KEY_ID and the access point WEP key are the same, and if the contents of both the Transmit KEY WEP key set on the access point and the terminal's WEP key are the same. For example, when the Tx KEY_ID of a terminal is set to "2," the contents of the terminal WEP key 2 and the contents of the access point WEP key 2 need to be the same. On the other hand, when an access point Transmit key is set to "3," the contents of the access point WEP key 3 and the contents of the terminal WEP key 3 need to be the same.

・KEY Setup

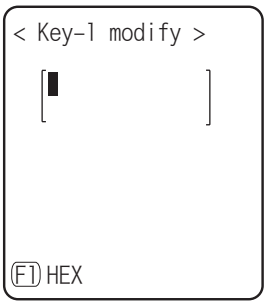
You need to set the contents of each WEP key (1, 2, 3, 4).
You can set a WEP key in either HEX string format (0 to 9 and A to F) or ASCII string format. Use the [F1] key to toggle between these formats. If the trigger key is pressed, the setup can be done by scanning a barcode.

・ HEX string (default)



When “40 bits” is selected, the key length is fixed at 10 characters. When “128 bits” is selected, the key length is fixed at 26 characters. The number of characters that are actually input is always 26. Therefore, when “40 bits” is selected, only the first 10 characters of the 26 characters are used.

・ ASCII string

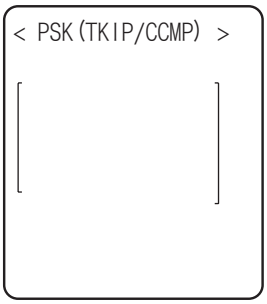


When “40 bits” is selected, the key length is fixed at 5 characters. When “128 bits” is selected, the key length is fixed at 13 characters. The number of characters that are actually input is always 13. Therefore, when “40 bits” is selected, only the first 5 characters of the 13 characters are used. Blank is recognized as a space (0 × 20).

Caution

Each WEP key setup can be overwritten but cannot be edited.
On entering the KEY setup screen, it displays "00000." for security purposes.

●PSK(TKIP/CCMP)



If you select PSK (TKIP/CCMP) as an encryption mechanism, you need to enter an encryption key. Specify the same encryption key as the access point.

When setting an encryption key in ASCII format, enter 8 to 63 characters. When setting an encryption key in hexadecimal format, enter 64 characters.

When using PSK (TKIP/CCMP), specify “Open” as the authentication method (P.3-28).

Security Function

The GTX-100 incorporates WPA and WPA2 as the WLAN security function.

■WPA (WPA-PSK) and WPA2 (WPA2-PSK)

· WPA (Wi-Fi Protected Access)
WPA is a security standard publicized in December 2002 by the Wi-Fi Alliance, an industry organization which verifies the interconnectivity of wireless LANs. WPA was developed as a provisional subset of the IEEE802.11i standard until IEEE802.11i is popularized. IEEE802.1X (EAP) is employed as an authentication method and TKIP, which improved the drawbacks of WEP, as an encryption mechanism.

· WPA2 and IEEE802.11i
IEEE802.11i is a wireless LAN security standard established by IEEE in June 2004. This standard uses IEEE802.1X (EAP) and the AES encryption mechanism.
WPA2 conforms to IEEE802.11i, in contrast to WPA, which was a temporary standard until IEEE802.11i is established.

· PSK
PSK is an abbreviation of "Pre-Shared Key." You need to set the same encryption key to the access point and the terminal before you set up a wireless connection between them. The encryption key must be managed carefully to prevent any possible leakage to any third party. In this sense, the key set for WEP is also a PSK.

· WPA-PSK and WPA2-PSK
WPA and WPA2 support a PSK mechanism as a simplified authentication method, because these standards require infrastructural cost and technology, such as electronic certificates and RADIUS servers to implement IEEE802.1X (EAP) authentication.
The PSK mechanism performs simplified authentication by setting on the terminal the same Pre-Shared Key (PSK) as the access point and communicates with the access point using the specified encryption mechanism (TKIP/CCMP (AES)). This mechanism does not use the PSK directly as an encryption key. Rather, it generates a temporary key using random numbers every time a connection is established between an access point and the terminal or at regular intervals. This process requires an additional time," causing a delay of few seconds at every wireless connection with an access point when compared with "no encryption" or "WEP mechanism" configurations.

■Encryption scheme

The GTX-100 uses an encryption scheme as described below:

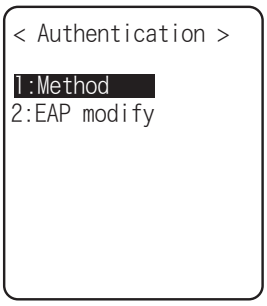
· TKIP
TKIP is part of the IEEE802.11i wireless LAN encryption standard and stands for "Temporal Key Integrity Protocol," an encryption protocol which uses temporary keys. This function overcomes the vulnerability of WEP while utilizing the same encryption algorithm RC4 as is used in WEP. Instead of directly encrypting a temporary key using RC4, TKIP performs the key-mixing procedure in two phases to encrypt each packet using a different key.

· AES
AES is an encryption standard developed for use by the U.S. government and uses an algorithm called "Rijndael." While AES satisfies two important requirements, safety and speed, it requires new hardware-based processing because it uses a completely different encryption algorithm from WEP or TKIP.

· CCMP
CCMP (Counter mode with CBC-MAC Protocol) is a tamper detection protocol used in AES. CCMP detects tamper events using the CBC-MAC (Cipher-Block Message Authentication Code) mechanism. WPA2 (IEEE802.11i) requires the use of the CCMP mechanism.

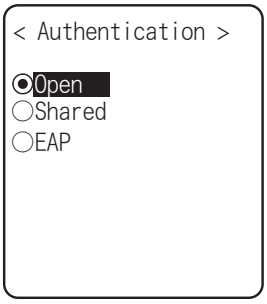
■Authentication

Operational Procedure



Select the item to setup.

●Method



- Open

  "Open Authentication" system.
  If an authentication request frame from a terminal (GTX-100) is received, an access point will reply with an authentication response frame, which will permit data communications.
  When WEP is valid, authentication is possible but data communications cannot be performed if both WEP keys do not match.

- Shared

  "Shared Key Authentication" system.
  If a terminal performs an authentication request, an access point will transmit a non-encrypted identity request authentication text character string (hereinafter called as "challenge code"). Then, the terminal replies a challenge code encrypted using the WEP key. The access point decrypts the challenge code via the WEP key and checks to see if it is the same as the transmitted challenge code and if the same, permits authentication.

- EAP

  "EAP"(IEEE802.1X) Authentication system.
  If this authentication method is used, Certificate, Private key, user information setting etc. is needed. There is a limitation also in the environment (Certification Authority (CA), authentication (RADIUS) server etc.) that can be used. Therefore, when using the "EAP" authentication method, please contact our sales department.

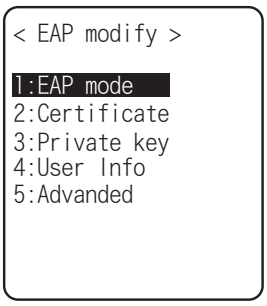
Caution If the challenge code before and after encryption is intercepted by a third person, the WEP key is easily determined. The "Shared Key Authentication" system thus creates a security weak point and should not be used whenever possible.

Note Some access points do not disclose their authentication type. In this case, please try "Open Authentication," and if connection is impossible, try "Shared Key Authentication."

●EAP setup

When using the EAP (IEEE802.1X) authentication, the required items are set.

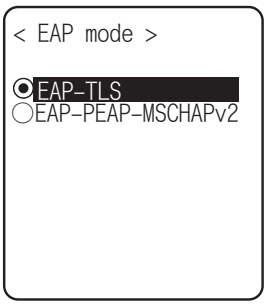
After setup, perform the "wireless/ping test" (P.3-88), and confirm that the communication by EAP authentication is enabled.



Select the item to setup.

Operational Procedure

1. Select the mode.



・EAP-TLS

Server certificate for server authentication, and client certificate for client authentication are the necessary authentication method.

The necessary items for setting is as follows.

- ・CA root certificate
- ・Client certificate
- ・Private key
- ・User name

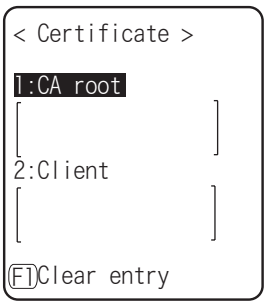
・EAP-PEAP-MSCHAPv2

Server certificate for server authentication, while user name, password for client authentication are the necessary authentication Method.

The necessary items for setting is as follows.

- ・CA root Certificate
- ・User name
- ・Password

2. Certificate file is setup.
   Each certificate file is received via FTP (P.3-38) or Bluetooth (P.3-63).

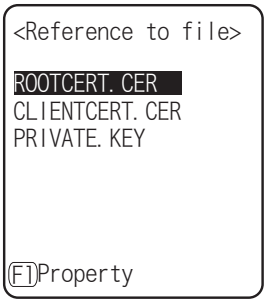


・CA root certificate(file)

The CA root certificate issued by the server certificate agency required for server authentication. This does not support the layered chain of certificate. Press the F1 key to clear.

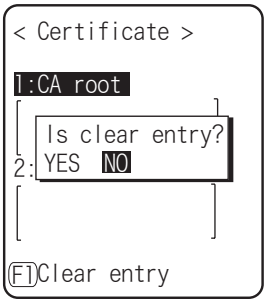
・Client certificate(file)

Client certificate is necessary for client authentication.
Press the F1 key to clear.



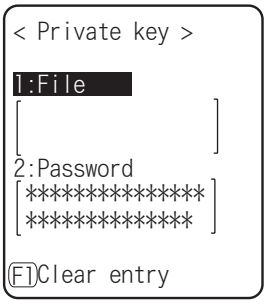
Select from received files.

(Press the F1 key to refer the file Properties.)



Press the F1 key to clear the setup contents.

3. Private key setting.
   Private key(file) is received via FTP (P.3-38), or Bluetooth (P.3-63).



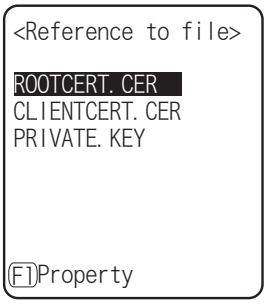
・File

Private key is in contrast to the client Open key included in the client certificate. This private key is very important for security reason. Encryption should be made on the private key file, and manage so that the password is not known to the third person.

・Password

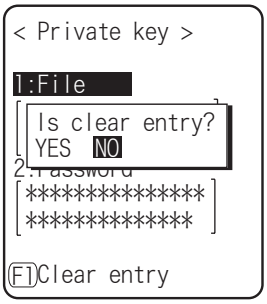
Single-byte alphanumeric characters from 0 to 31 characters Upper-case character/Lower-case characters distinguished for setup.

For security purpose, the input password after entered is converted and displayed as the hidden character (*).



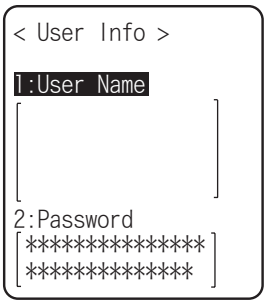
Select from the received files.

(Press the F1 key to refer the file properties.)



Press the F1 key to clear the setup contents.

4. Set up user information.



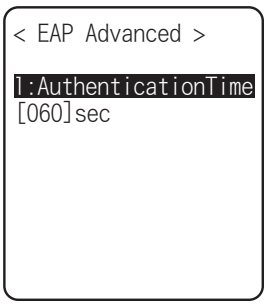
・User Name

User name is used for authentication.
From 62 single-byte alphanumeric characters, it is set by distinguishing Upper-case character/Lower-case character.

・Password

Password is used for authentication
From 0 to 31 single-byte alphanumeric characters, it is set by distinguishing Upper-case character/Lower-case character. For security purpose, the entered password is displayed being converted as a hidden character" *".

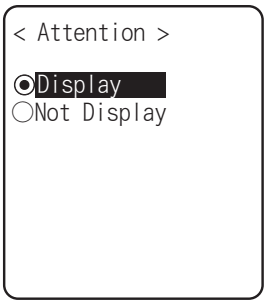
5. Setup the detail. This setup usually is not modified.



・At starting up authentication Time out

When WLAN start up, it waits the authentication to complete up to the second setup here.
possible setup value :15 to 120 seconds

■Attention



The default is set to "Display".

In the case when the terminal is started up without WLAN security setting, "WLAN Security setting" attention screen is displayed. By setting this attention to OFF, this message is not displayed at starting up even when WLAN security setting is disabled.

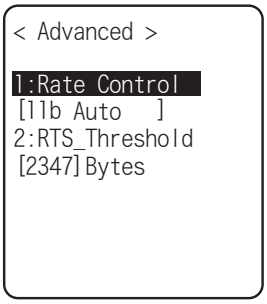
Caution It is not recommended to set this Attention to setting to OFF, for security reason. Be sure to perform security setting when using WLAN communication.

3-9-5 Advanced

WLAN communication Advanced setting

Operational Procedure

1. From the WLAN, select "5：Advanced".



Select the item to set.

●Transmission speed

Set the transmission speed. Automatic setup is possible when the DHCP function (P.3-36) is enabled. Any of the settings shown in the table below can be selected. Please keep in mind that if you fix at a higher communication speed, the transmission range will become shorter.

Speed setting	Description	Connectivity depending on speed setting on access point side[*1]		
		11b/g Both	11b Only	11g Only
11b Auto (default)	The transmission speed is automatically varied as appropriate, depending on the distance between the terminal and the access point. The speed is within the range defined in IEEE802.11b (11, 5.5, 2 or 1 Mbps).	○	○	×
11bg Auto	The transmission speed is automatically varied as appropriate, depending on the distance between the terminal and the access point.	△	○	◎
11g Auto	The transmission speed is automatically varied as appropriate, depending on the distance between the terminal and the access point. The speed is within the range defined in IEEE802.11g (54, 48, 36, 24, 18, 12, 9 or 6 Mbps).	△	○	◎
11g 6 or 9M	The transmission speed is varied between 9 Mbps and 6 Mbps automatically according to the distance between the terminal and the access point.	△	○	◎
1M	The transmission speed is fixed at 1 Mbps.	○	○	×
2M	The transmission speed is fixed at 2 Mbps.	○	○	×
1 or 2M	The transmission speed is automatically varied between 1 Mbps and 2 Mbps only.	○	○	×
5.5M	The transmission speed is fixed at 5.5 Mbps.	○	○	×
11M	The transmission speed is fixed at 11 Mbps.	○	○	×

[*1]: Speed setting on the access point side and connectivity

◎: Connection is possible. Priority is given to the 11g speed, and high-speed communications are possible.

○: Connection is possible. Communications are performed at the 11b speed.

△: Connection is possible. The throughput will be reduced due to 11b/g negotiation.

×: Connection is not possible.

●RTS Threshold

This determines whether an RTS packet is transmitted before transmission of a data packet. When the size of a data packet is larger than the set value, an RTS packet is transmitted, and RTS-CTS control is performed. When a large number of terminals are connected to the same access point, or terminals cannot detect each other because they are dispersed remotely even if detection of an access point is possible, RTS-CTS control becomes effective. Although RTS-CTS control is effective in this case, the throughput reduces. Usually set it to the default value (2347 bytes).

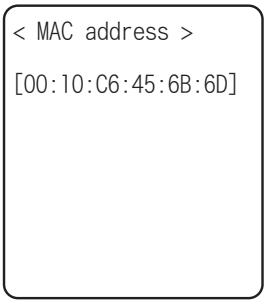
- Setting range：0 to 2347 bytes

3-9-6 MAC address

MAC address (hardware unique address) is displayed. MAC address cannot be changed.

Operational Procedure

1. From the WLAN, select "6：MAC address".

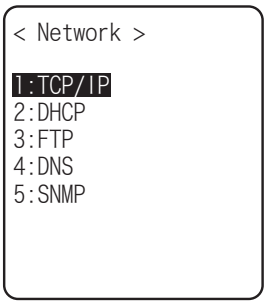


3-10 Network Menu

Network related setting such as TCP/IP.

Operational Procedure

1. From the System menu, select "3:Network".



Select the item to setup.

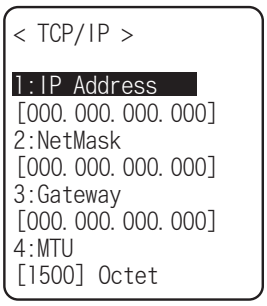
- TCP/IP
- DHCP
- FTP
- DNS
- SNMP

3-10-1 TCP/IP

Set an IP address and other details for TCP/IP communications. Automatic setup is possible when the DHCP function is enabled.

Operational Procedure

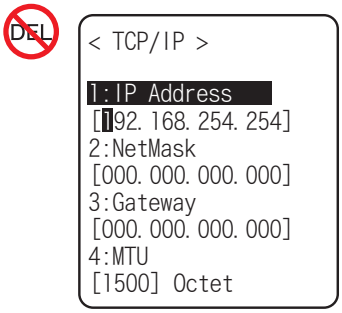
1. From the Network, select "1:TCP/IP".



Current setting contents are displayed.

Select the item to setup.

2. Input the address.



Input the number from 000 to 255 to the field segmented by the period (example：192.168.254.254).

* The Display is an example of "IP address". "NetMask" and "Gateway" is operated in the same way.

・IP address

Set the IP address assigned by the network administrator. Set a unique IP address to each of the GTX-100 terminals connected to the same network.

・NetMask (Subnet mask)

Set the subnet mask assigned by the network administrator. Since a subnet mask specifies which network you belong to, it should set up along with the IP address.

・Gateway (Default gateway)

Set the address of the default gateway. Setup is required when connecting to a different network through a router.

・ MTU

The maximum length of IP packet. 1500 octets (bytes) is common for Ethernet. In such cases as being used over the routers, this value should be modified according to the communication media. Please ask the network administrator about the value settings for different items.

Caution When the status of the IP address is [000.000.000.000],the WLAN communication is unable to be executed.

Caution Please ask the network administrator about the value settings for different items.

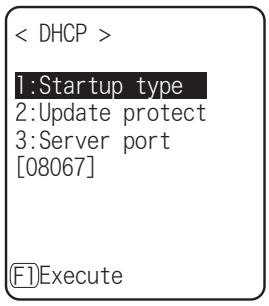
From the "Startup type" of DHCP setting (P.3-37), in case either "Application boot" or "System menu boot" is selected, the value except for MTU can only be confirmed but unable to be modified.

3-10-2 DHCP

Set the DHCP client function that is used for automatic setup of TCP/IP and various set items.

Operational Procedure

1. From the Network menu, select "2:DHCP."



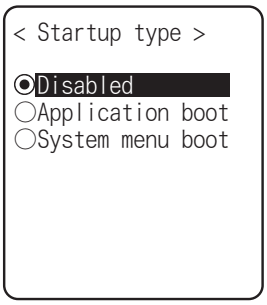
Select the item to setup.

- Startup type
- Update protect
- Server port

■Startup type

Operational Procedure

1. Select the item to setup.



- Disabled (Factory setup)
  DHCP is not executed when the terminal started up.
- Application boot
  DHCP is executed before the application is executed.
  The application file is selected from <System menu>[1:System], and then[2:Auto execute], DHCP function is executed before application , after the terminal started up. In addition, when the application is started up from <File menu>, DHCP is not executed.
- System menu boot
  DHCP is executed before System menu is started up. The System menu is selected from <System menu>[1:System], and then[1:Auto execute], DHCP function is executed before System menu is started up , after the terminal started up.

■Update protect

Following information unique to the terminal is setup so as not to be modified, before executing DHCP function.

- IP address
- NetMask
- Gateway
- ID

> **Caution** In the case when the check is applied to IP address (IP address update is prohibited), the IP address, which has set up at the terminal, is not modified. Be sure to use confirming that the there is no host with the same IP address on the Network.

■Server port number

DHCP server port is setup (Factory setup：08067).

If you do not execute the automatic setup, which is unique to the GTX-100, and want to use existing server only to perform the assigning of IP address, the value is modified (the well known port is 67).

> **Note** The port number of the DHCP server of "WebGlider-X" Network manager is 08067 as default. This is to avoid a competition with other DHCP servers working in the same network.

■Execute

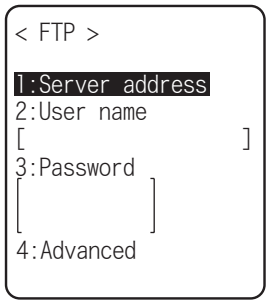
Press the F1 key, and, DHCP is executed immediately, regardless of "Startup type"(P.3-37).

3-10-3 FTP

Set up for using the FTP client function, as described below. Automatic setup is possible when the DHCP function is enabled.

Operational Procedure

1. From the Network, select "3:FTP".



Select the item to setup.

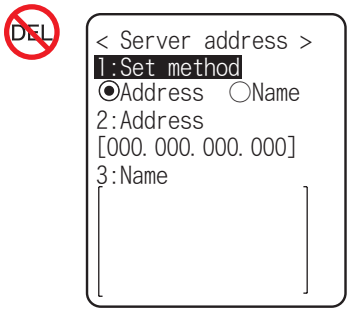
- Server address
- User name
- Password
- Advanced

■Server address

Set up the host name for FTP server.

Operational Procedure

1. Select from either IP, or, URL.



- Address
  The IP address setup at 2:Address" is set as FTP server.
- Name
  The host specified at "3: Name" is set as FTP server.
  The host name can not contain the space character.

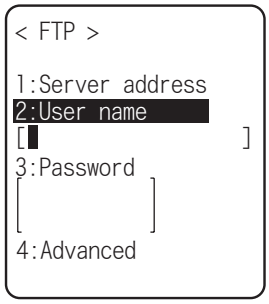
> **Caution** When using "Name", please perform the DNS setup (P.3-41)."

■User name

Specify the FTP server login user name using up to 18 alphanumeric characters, and upper-case/lower-case should be distinguished.

Operational Procedure

1. Input the User name.



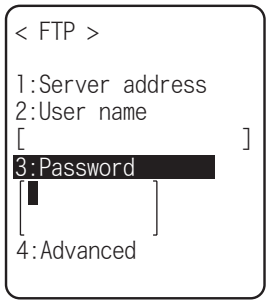
User name should not include the space.

■Password

Specify the FTP server login password using up to 20 alphanumeric characters, and upper-case/lower-case should be distinguished.

Operational Procedure

1. Input the Password.

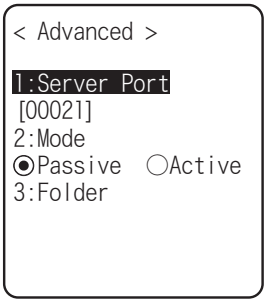


The Password is converted to a hidden character (*) and is displayed for security purpose.

Password should not include the space.

■Advanced

Operational Procedure

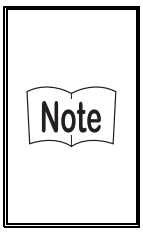


●Server port

Specify FTP server control port number. The well-known port is 21.

●Mode

The default is Passive mode. If the FTP server does not support Passive mode, change it to the Active mode.

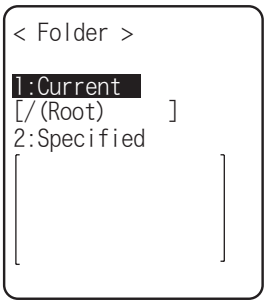


There is a function to reject the connection from outside the Firewall to inside in the Firewall set up. If this function is enabled, the FTP communication cannot be performed in the Active mode. By using Passive mode, the communication between the FTP server over the Firewall.

●Folder

・Current

/(root)
In some FTP server, the User name folder is specified as root folder.
/(user name)
The folder in the root folder with the same as the user name of the FTP server is specified as the current folder. If FTP function (file transmission or reception) is executed without setting the user name, the error screen appears.



/(Specified)
The relative path setup at the "specified folder" which is to be explained later becomes the current folder.

・Specified

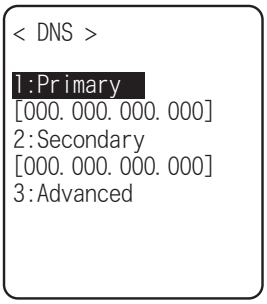
When selected "/(Specified)" in the folder above, the character string setup here are added to the FTP method "CWD". As the setup character string communicates directly by FTP communication, please setup the corresponding character string to the server.
(Example) "dir1/dir2/dir3"
The specified folder cannot include the space.

3-10-4 DNS

Set the DNS server address, as described below. Automatic setup is possible when the DHCP function (P.3-36) is enabled.

Operational Procedure

1. From the Network, select "4:DNS".



2. Select the item to setup.

●Primary

Set the IP address for the Primary server.

●Secondary

Set the IP address for the Secondary server.

●Advanced

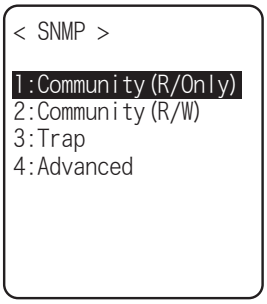
- Server port
  Specify the control port number for the DNS server. The well-known port is 53.
- Time out time
  Setup range is from 1 to 99 seconds. Set the response packet waiting time.
- Trial count
  When 0 is set, only one packet is transmitted without RETRY.
- Cache time
  Setup range is from 0 to 9999 min. When 0 is setup, the cache function is disabled. The MAX value allowed to enter to the cache table is 8. When the entered number is over the MAX value, a new entry will be performed after discarding the old entry.

3-10-5 SNMP

Make the various SNMP settings. Automatic setup is possible when the DHCP function (P.3-36) is enabled.

Operational Procedure

1. From the Network, select "5:SNMP".

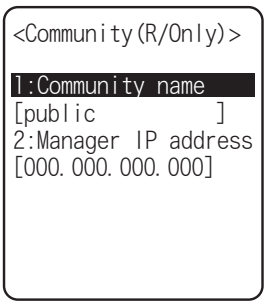


Select the item to setup.

- Community(R/Only) setting
- Community(R/W) Setup
- Trap
- Advanced

■Community(R/Only) setting

Operational Procedure



1. Input the community name and the manager IP address.

●Community name

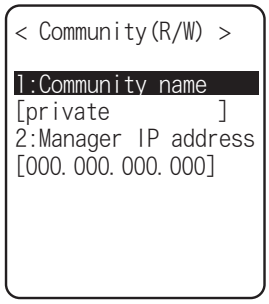
The operations permitted for a community name are read only. GET and GET-NEXT requests are supported under a community name. When a SET request is sent using a community name, an authentication trap is transmitted. A community name can be specified using a maximum of 16 alphanumeric characters.

●Manager IP address

Set the SNMP manager's IP address, which permits the use of the community name set under the "Community name" option. If "000.000.000.000" is set as the IP address, this community name is permitted on all the SNMP managers.

■Community(R/W) Setup

Operational Procedure



1. Input the community name and the manager IP address.

●Community name

The operations permitted for the community name are "Read-Write".

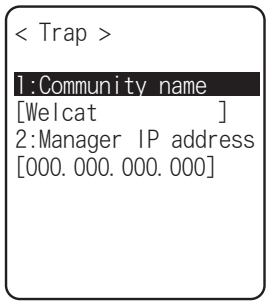
GET, GET-NEXT and SET request are supported under a community name. The community name can be specified using a maximum of 16 alphanumeric characters.

●Manager IP address

Set the SNMP manager's IP address, which permits The use of the community name set under the [community name]option. If "000.000.000.000" is set as the SNMP manager's IP address, this community name is permitted on all the SNMP managers.

■Trap setting

Operational Procedure



1. Input a community name and a manager IP address.

●Community name

Set a community name for the Trap. A community name can be specified using a maximum of 16 alphanumeric characters.

●Manager IP Address

Set the SNMP manager's IP address to which the Trap should be transmitted. Trap is not transmitted if the IP address of "000.000.000.000" has been set.

■Advanced

Operational Procedure

```
< Advanced >

1:Authentic. Trap
☐Send
2:Agent port
[00161]
3:Trap port
[00162]
4:Trap retry
[1]
```

●Authentic. trap

Set the action of authentication trap to either "send" or "don't send" when access is recognized except from the community name and SNMP manager's IP address set in "1: Community (R/Only)" and "2: Community (R/W)." This Trap is sent to the SNMP manager, which is set in "2:Target address."

●Agent port

The port number to communicate with SNMP manager. The well-known port is 161.

●Trap port

The port number to transmit the Trap. The well-known port is 162.

●Trap retry

The number of times Trap transmission retrial.

■About SNMP

- GTX-100 can be managed by using Our "WebGlider-X"(WBG-001W).
- SNMP-PDU(Protocol Data Unit) conforms to SNMPv1.
- GTX-100supports the management of the objects in the following MIB group.

[1.3.6.1.2.1.1]	MIB2-System
[1.3.6.1.2.1.2]	MIB2-Interfaces
[1.3.6.1.2.1.4]	MIB2-IP
[1.3.6.1.2.1.5]	MIB2-ICMP
[1.3.6.1.2.1.6]	MIB2-TCP
[1.3.6.1.2.1.7]	MIB2-UDP
[1.3.6.1.2.1.11]	MIB2-SNMP
[1.3.6.1.4.1.12392]	Welcat Enterprise MIB

Welcat Enterprise MIB is described by ASN.1 format.
Welcat Enterprise MIB is included in the optional "WebGlider-X". (About details, please contact our sales department.)

●Supported Traps

Cold Start	Cold Start Transmitted after MIB is initialized and the communications starts. MIB is initialized when the GTX-100 has been turned ON using the PW key. Note that MIB is not initialized when the GTX-100 has been turned ON in the resume mode.
Warm Start	Warm Start Transmitted when communication starts except Cold Start.*1
Link up	Link up Transmitted when GTX-100 synchronizes with an access point. However, a Link Up is not transmitted when the GTX-100 synchronizes with an access point for the first time (When a Cold Start or a Warm Start is transmitted). When the GTX-100 newly enters a service area of an access point and synchronizes, or when it synchronizes with a new access point while roaming, a Link Up is transmitted (in the same timing as signal SIGRFU_INSYNC).
Link down	Link down Transmitted when the communication ends. However, it is not transmitted when the GTX-100 is outside the service area of an access point.
Authentication	Transmitted when a third person tries to access the GTX-100 with an invalid community. This authentication trap is sent to the IP address set through the System menu "Trap Manager IP address" (P.3-43). However, this is transmitted only when the value "send" is set through the System menu "Illegal access Trap" (P.3-44).

*1 MIB is not initialized even if the " GTX-100 " setup corresponding to MIB (IP address, subnet mask, default gateway, etc.) has been changed. In this case, a Warm Start is transmitted instead of a Cold Start. When initializing MIB, restart the terminal.

3-11 Receiving Menu

Receiving files via WLAN, or Bluetooth. The GTX-100 can receive files transmitted from a host computer via WLAN, or Bluetooth.
Before receiving a file, please check the following. The received files are all created in the F drive.

●WLAN

- The communication setting (IP address, SSID, WEP etc.) between the GTX-100 and the Access point are correctly set up.
- The power of the access point and host computer is ON.
- The access point and host computer is correctly setup or connected.
- The access point is normally operating.
- FTP server is running on the host computer.
- FTP setup (host name, user name etc.) of GTX-100 is correctly setup.

●Bluetooth(Receiving side is the host computer)

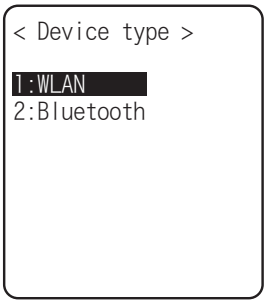
- The power of the host computer is ON.
- The "BluePorter(WLF-001:optional)" on the host computer is started up.
- The default device of GTX-100 is setup on the host computer at the receiving side. (only in the case selected from the file list)

●Bluetooth(Receiving side is GTX-100)

- Wait only is enabled.
- The default device of GTX-100 is setup on the GTX-100 at the receiving side.

Operational Procedure

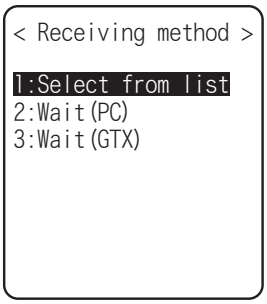
1. From the System menu, select "4:Receive".



Select the device to use.

- WLAN → 3.
- Bluetooth → 2.

2. Selecting receiving method.

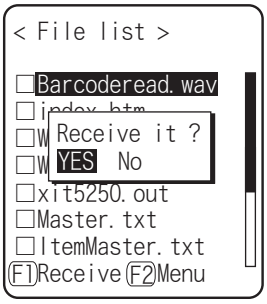


Select "1: Select from list " to obtain the file list from the transmission side. The receiver side can select the file to receive from the list.

Select "2:Wait(PC)" or "3:Wait(GTX)", then get into receiving waiting status immediately. If it is the transmission from the host computer select "2:Wait(PC)", when it is from GTX, Select "3:Wait(GTX)". The receiving file depends on the transmission side.

- 1 : Select from the file list→ 3
- 2 : Wait(PC), 3 : Wait(GTX)→ 4.

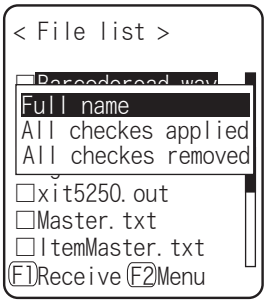
3. Acquire the file list, and select receiving file.



Apply checks to the check box of the receiving file.

Press the F1 key, and Receiving Confirmation dialog is displayed. In this case, if there is no file that the check is applied, Selected file is received. Select from[Yes][No].

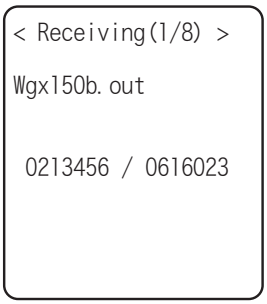
In addition, Press the Ⓒ key, and [No] is selected.



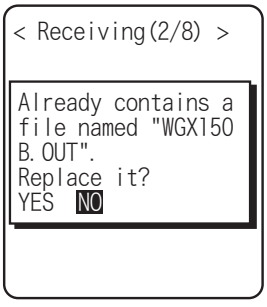
Press the F2 key, and Sub menu to operate the file lists displayed.

- "Full name"
  Selected file name is displayed.
- "All checks applied"
  Apply checks to all the check boxes of the file list.
- "All checks removed"
  Remove checks from all the check boxes of the file list.

4. Receiving start.



Receiving status is displayed.

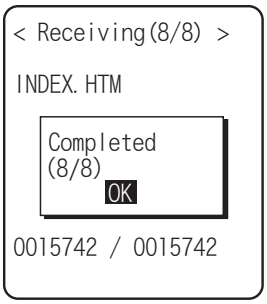


When there is a same file name as that of receiving file, overwriting confirmation dialog is displayed.

Select[Yes]or [No].

In addition, press the Ⓒ key, and [No] is selected.

5. Receiving is completed.



When many files are checked,"(the number of success/ the number of checked)" is displayed in the Message box.

Press the ENT key, or Ⓒ key.

3-12 File Menu

By searching the targeted file, varieties of operations such as transmission and Deletion are performed.

Select the file for operation from the classified file list in each drive.

The files are recognized by the extensions (3 characters following after the period of the file name), and classified as below.

Extension	Kind of a file
OUT	Application
WAV, MP3, SFL	Audio
BMP	Bitmap
Others	Data

Operation is that can be executed are as follows. There are operations that are related to some specific files and the operation enabled in all files.

Operation	About
Execute[*1]	Starting up the application. Only the application files can be operated.
Play[*1*3]	Play audio file. Only audio files can be operated.
Viewer[*2]	Bitmap images displayed. Only bitmap files can be operated.
Properties	Various kind of properties related to the file are displayed.
Upload	Uploading a file.
Delete	Deleting a file.
Test	Check if a file is broken or not.
All checks applied.	Apply checks on all check boxes in the file list.
All checks removed	Remove all checks of the check box in the list.

[*1] The file in the S drive Operation is disabled.

[*2] Supported Bitmap file is as follows.

Format	Windows Bitmap monochrome image
Size	132×128 pixel fixed

[*3] Supported audio file is as follows.

Extension	WAV
Format	Windows Standard WAVE Format
Audio sampling rate	8000/11025/16000/22050/44100/48000[Hz]
Channels	Monaural
Audio samples size	16bit
Audio style	PCM

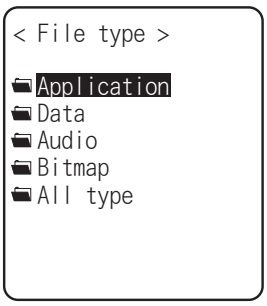
Extension	MP3
Format	MPEG-1 Audio Layer-3
Audio sampling rate	44100/48000[Hz]

Bit rate	32/40/48/56/64/80/96/112/128/160/192/224/256/320(kbps)
Channels	Monaural/Stereo

Extension	SFL
Format	Audio file list (text style)
MAX items	32
Explanation	By using SFL file, many audios and files can be played continuously. In the file list, the file name is cited by line feeding to the MAX 32 items. The cited audio file should be stored in the terminal beforehand. The file names written in the file list are all played only once. When an Error occurred during playing, the audio file play will stop and will not play any more. It is impossible to cite other SFL file inside the SFL file.
Description example	ALARM_MELODY.WAV(Changing line) LOCATION_3F_2.WAV(Changing line) SHIP_ERROR.WAV

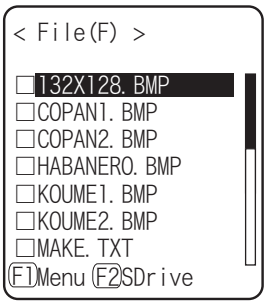
Operational Procedure

1. From the System menu, select "5:file ".



Select the kind of the file for Operation. Select "All types ", regardless of the kind of the file all files stored in the drives targeted.

2. Selecting a drive.

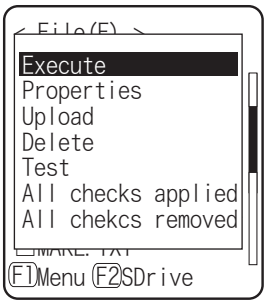


F Drive becomes the current drive.

When there is no file stored in the F Drive, S Drive will be the current drive.

Each time by pressing the F2 key, the current drive changes.

3. File operation.



File alone check box operation (apply checks /remove checks) is performed by the ENT key.

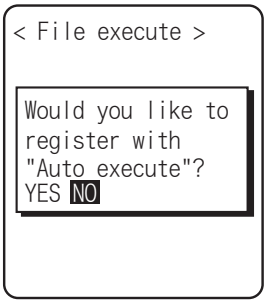
For other operation, press the F1 key, From the Sub menu, Select the Operation.

- Execute
- Play
- Viewer
- Properties
- Upload
- Delete
- Test
- All checks applied
- All checks removed

■Execute

Operational Procedure

1. From the Sub menu, select "Execute".



Regardless of check box status, Selected application is executed.

When an SFL file application to be executed is not registered in the Automatic Launch, register confirmation dialog is displayed.

In addition, Press the Ⓒ key, and [No] is selected.

After selecting, execute the program. To end the application, perform the operation specified for each application. After termination, whether the System menu is displayed again or, the power of the terminal turns off is depends on the application.

When the battery lost its power, the alarm appears and the power of the terminal turns OFF. If you want to stop the application by force, press the PW key continuously for 10 seconds while it is running.

■Play

Operational Procedure

1. From the sub menu, select "Play".

Regardless of the check box status, Selected audio file plays.

Press the Ⓒ key to stop and playing.

■Viewer

Operational Procedure

1. From the Sub menu, select "Viewer".

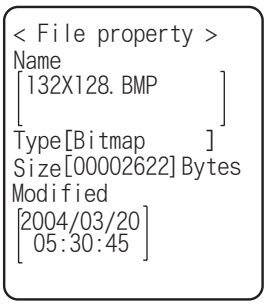
Regardless of the check box status, Selected bitmap file is displayed.

Press any key to return to the previous operation.

■Properties

Operational Procedure

1. From the Sub menu, select "Properties".



Regardless of the check box status, Selected file's properties are displayed.

Following properties are displayed.

- File name
- File type
- File size
- Last modified
- Library version(application only)

Press any key, to return to the previous operation.

■Upload

When uploading, please check the following beforehand.

●WLAN

- The communication setting (IP address, SSID, WEP etc.) between the GTX-100 and the Access point are correctly set up.
- The power of the access point and host computer is ON.
- The access point and host computer is correctly setup or connected.
- The access point is normally operating.
- FTP server is running on the host computer.
- FTP setup (host name, user name etc.) of GTX-100 is correctly setup.

●Bluetooth(Receiving side is the host computer)

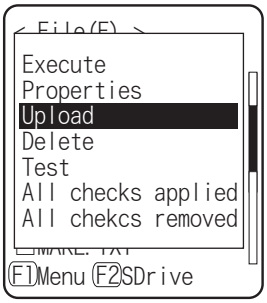
- The power of the host computer is ON.
- The "BluePorter(WLF-001:optional)" on the host computer is started up.
- The default device of GTX-100 is setup on the host computer at the receiving side.

●Bluetooth(Receiving side is GTX-100)

- The default device of GTX-100 is setup on the GTX-100 at the receiving side.

Operational Procedure

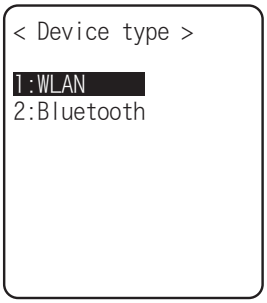
1. From the sub menu, select "Upload".



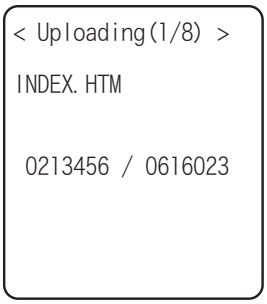
Upload the file with whose check box is checked.

However, when there is no file whose check box is checked, Selected file is uploaded.

2. Select the device to use.

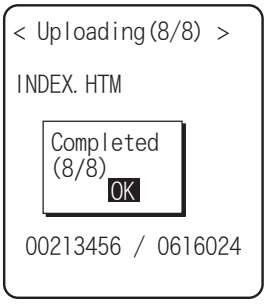


3. Upload start.



Upload status is displayed.

4. Upload is completed.



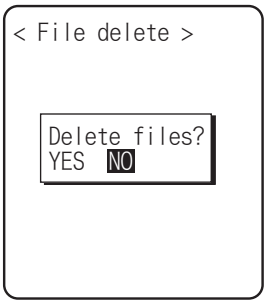
When many files are checked, (the number of upload success / the number of checked items)" is displayed in the "Message box".

Press the ENT key, or Ⓒ key.

■Delete

Operational Procedure

1. From the sub menu, select "Delete".



Delete the file whose check box is checked.

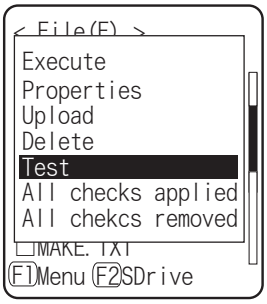
However, if there is no checked file, Selected file is deleted.

Confirmation dialog is displayed. Select[Yes]or [No].

In addition, Press the Ⓒ key, and [No] is selected.

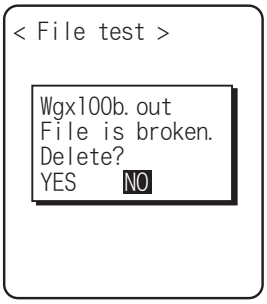
■Test

Operational Procedure



Test the file whose check box is checked.

However, if there is no checked file, Selected file is tested.



When the tested file is broken, file delete confirmation dialog is displayed. Select[Yes][No].

In addition, press the Ⓒ key, and [No] is selected.

When[Yes]is selected, the file is deleted immediately.

When [No] is selected, nothing will be performed.

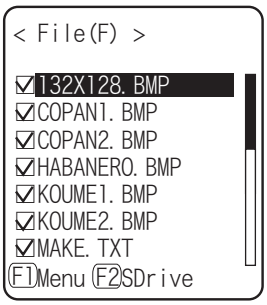
After the Select, restart the next file testing.

> **Caution** If the broken file is used as it is, an unexpected accident such as the application's running out of control and so on. It is strongly recommended to delete the broken file.

■All checks applied

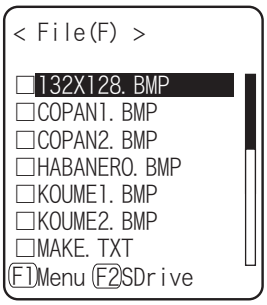
Operational Procedure

1. From the Sub menu, select "All checks applied".



Check all the check boxes.

■All checks removed



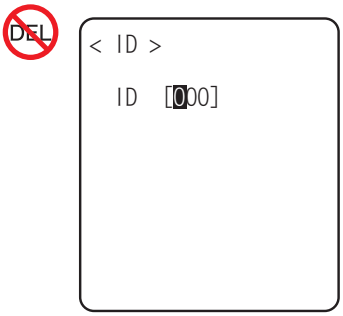
Remove the check from all the check boxes.

3-13 ID Menu

Setup the ID number for identification. Setup the unique number for each terminal. When DHCP function is enabled automatic setup is also possible.

Operational Procedure

1. From the System menu, select "6:ID".



Input the terminal ID.

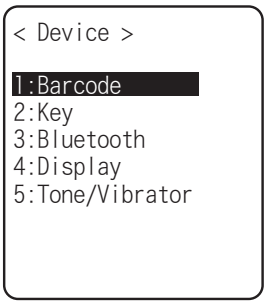
The number of ID allowed to set is from 000 to 999.

3-14 Device Menu

Setup the hardware device such as Barcode and key. The Device Menu is further classified for each devices.

Operational Procedure

1. From the System menu, select "7:device".



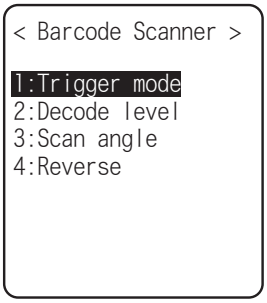
Select the item to setup.

- Barcode
- Key
- Bluetooth
- Display
- Tone/Vibrator

3-14-1 Barcode

Operational Procedure

1. From the Device Menu, select "1:Barcode".



Select the item to setup.

- Trigger mode
- Decode level
- Scan angle
- Reverse

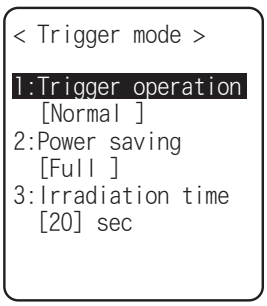
■Trigger mode

This mode is used to setup the operational condition of the laser scanner on the System menu or the GTX-100 browser.

This setup is only enabled with the application using "Trigger mode" for barcode scanning. WebGlider-X browser is one of the applications using trigger mode.

Operational Procedure

1. Select the item to setup.



Select the item to setup.

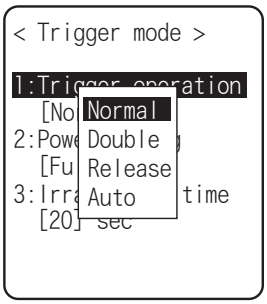
- Trigger operation
- Power saving
- Irradiation time

●Trigger operation

Setup the operation of the scan key and the irradiation pattern of the laser. A barcode can be scanned when the irradiation of the laser is turned ON

Operational Procedure

1. From the sub menu, select the item.



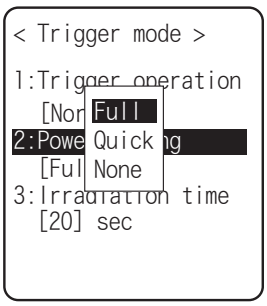
- Normal
  Press the scan key, and the laser irradiates.
- Double
  Press the scan key, and the laser blinks. Press again, the laser irradiates.
- Release
  Press the scan key, and the laser blinks , release the scan key, the laser irradiates.
- Auto
  Regardless of scan key operation, the laser irradiates automatically.

●Power saving

Setup for saving the power consumption when scanning.

Operational Procedure

1. From the sub menu, select the item.



- Full

  When a Barcode is scanned the laser stops automatically and the power supply to the scanner part stops as well. The consumed power gets small, but it takes time to start the next scanning.

- Quick

  When a Barcode is scanned the laser stops automatically but the power supply to the scanner part continues as well. The consumed power is large compared to the Full, but it can perform the next scanning smoothly.

- None

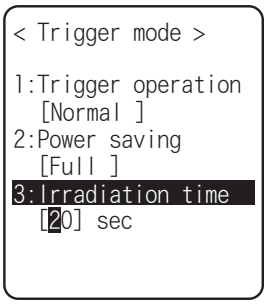
  Power saving mode is not used.

●Irradiation time

Setup the time to turn OFF the laser automatically.

Operational Procedure

DEL 1. Input the time.



The time allowed to setup is from 00 to 60 seconds.

In addition, when 00 second is setup, the laser keeps irradiating without stop.

■Decode level

Setup the permissible range of the Barcode scanning.

When the Decode level is set to "strict", the barcode label checked strictly.

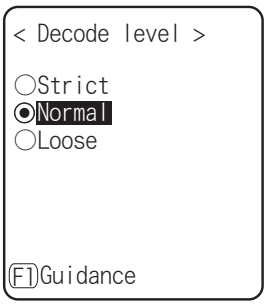
For this reason the label of poor quality get difficult to scan, but the possibility of miss scanning becomes low.

On the other hand, when the Decode level is set to "loose", the barcode label of comparatively poor quality can be scanned, but the possibility of miss scanning becomes high.

Be sure to check the digit number, data etc in the check digit of the software when the "loose" is set.

Operational Procedure

1. Decode level Adjustment.



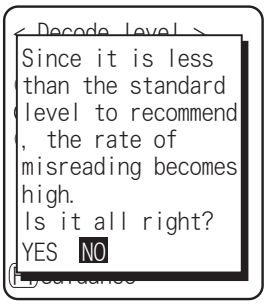
The level can be adjusted to 3 stages, "Strict", " Normal", and “Loose".

The relationship between level value and easiness for scanning is as follows.

The scan level and miss scanning level are proportionate.

Level value	Scan (miss scanning) rate
Strict	Strict (difficult to miss scan)
Normal	↑ ↓
Loose	Loose (easy to miss scan)

Press the F1 key, and the guidance for setup value is displayed.



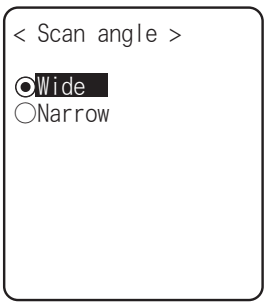
When the level is going to setup to "loose", the guidance for attention about miss scanning is displayed. Select[Yes][No].In addition, press the Ⓒ key, to select [No].

■Scanning angle

Setup the irradiation angle of the laser.

Operational Procedure

1. Select from either Wide or Narrow.



- Wide(default)
  The irradiation angle of the laser widens.
- Narrow
  The irradiation angle of the laser becomes narrow.

■Reverse

Scan setup of White/ black Reversed Barcode

Operational Procedure

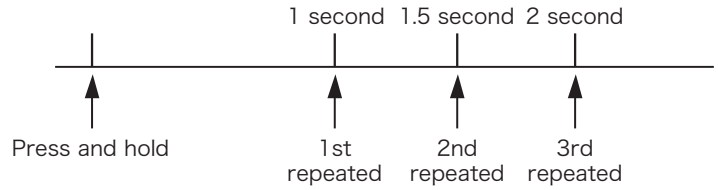
1. Select from either Prohibition, or, Permission.

- Prohibition (default)
  Normally, the barcode with black bar and white space only scanned.
- Permission
  The barcode with reversed white and black of bar and space only scanned .

3-14-2 Key

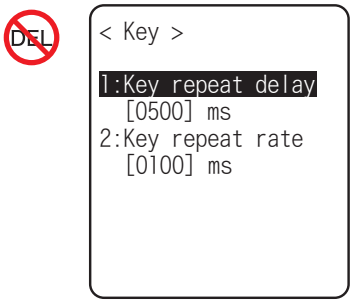
Press and hold the direction (F5 to F8) key, the direction key is allowed to enter itself repeatedly.
The time (Key repeat delay): From the time when the press and hold started until it get into the first repeated entering, and the time (Key repeat rate): until the entering repeated.

(example) repeat delay:1 second, repeat rate:500milli seconds



Operational Procedure

1. From the Device menu, select "2: key".



Current setup contents are displayed.

Setup allowed time is from 0100 to 1000milli seconds.

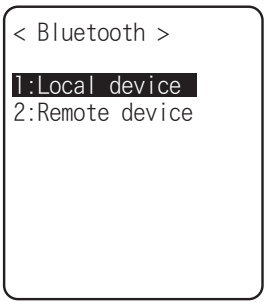
In addition, when 0000milli seconds setup repeated entering is prohibited.

Press the F1 key, and, the guidance is for setup value is displayed.

3-14-3 Bluetooth

Operational Procedure

1. From the Device menu, select "3:Bluetooth".



Select the item to setup.

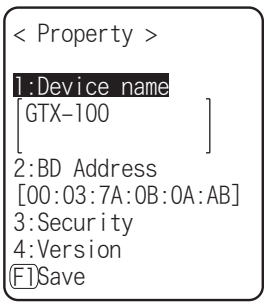
- Local device
- Remote device

■Local device

Local device setup.

Operational Procedure

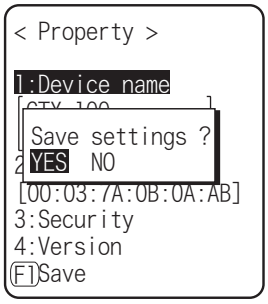
1. Select the item to setup.



- Device name
- Security
- Version

As "BD Address" is fixed, setup contents cannot be changed.

> **Caution** Only during the local device setting, the search from the Remote device is search is accepted. In other case, the search is not accepted.



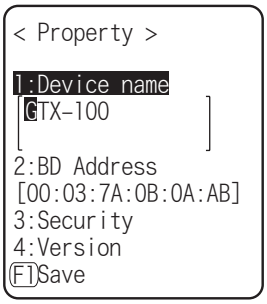
The setup contents in each item are not saves as it is. In order to save the setup contents, press the F1 key or Ⓒ key, and select [Yes] in the Save confirmation dialog.

In addition, Press the Ⓒ key, and [No] is selected.

●Device name

Operational Procedure

1. Input the name of the Bluetooth device.



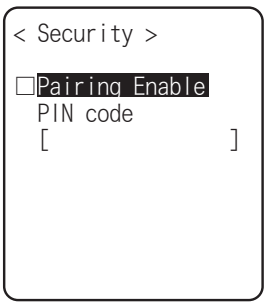
For device name, the alphanumeric characters MAX 30 characters, and the Upper-case character/Lower-case character is distinguished.

●Security

Perform the authentication related setup when connecting.

Operational Procedure

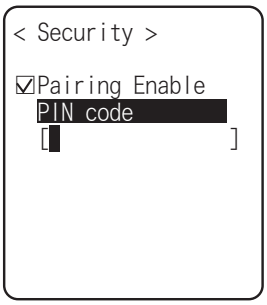
1. Operate the check box to enable the authentication.



When a check box is checked, the authentication is performed in case the local device received connect request from a Remote device.

Only the Remote device with enabled authentication will be permitted to connect.

2. PIN code setup



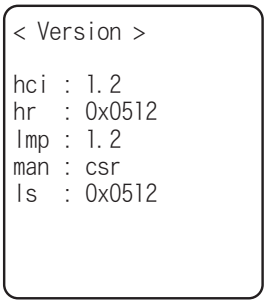
PIN (Personal Identification Number) code is a password used for authentication. For this code, characters (A to Z, a to z, 0 to 9, Symbols) and MAX 16 digits can be entered.

As a security measure, entered PIN code is displayed being converted into a hidden character (*).

●Version

Operational Procedure

1. Check the firmware version of the built in Bluetooth device.



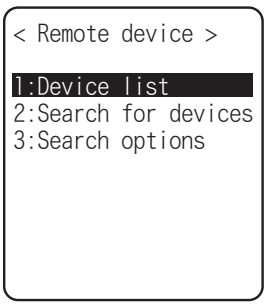
Press the Ⓒ key, to return to the previous operation.

■Remote device

Remote device setup.

Operational Procedure

1. Select the item to setup.



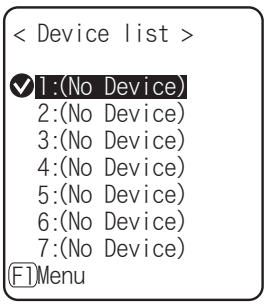
- Device list
- Search for devices
- Serch options

●Device list

Remote device properties to connect can be registered MAX 7 items. Once registered beforehand, you don't have to set the device properties for each connection.

Operational Procedure

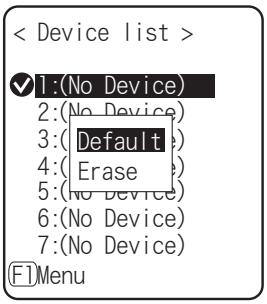
1. Select the item number to register



Select the item number, setup the device properties in order.

When device properties have already registered, the device name is displayed to the right of the item number. When the device is not registered, [(No Device)] is displayed to the right of the item number. (Recognized as registered when the device name is of 1 character more, and the BD address is other than "00:00:00:00:00:00").

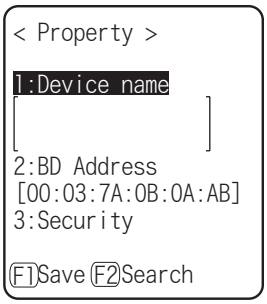
The device whose item number is displayed with ✔ to its left is a default device. In the System menu when connecting via Bluetooth, default device is connected to.



Press the F1 key, and sub menu is displayed.

- "Default"
  Selected device to register is setup as a default device.
- "Erase"
  Erase the registered device properties.

2. Select the item to setup.



- Device name
- BD Address
- Security

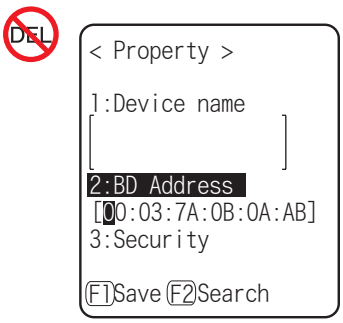
The operation procedure of device name for security is same as that of the local device.

F2 Press the F2 key to search the Remote device. To setup the detected Remote devices the registered device is also possible.

●BD Address

Operational Procedure

1. Input the BD Address.



BD address is a device unique hardware address.

It is the fixed length of 16 digit character (0 to 9, A to F) 12 digits.

●Device search

Searches the Remote device. To setup the detected Remote device as the registered device is also possible.

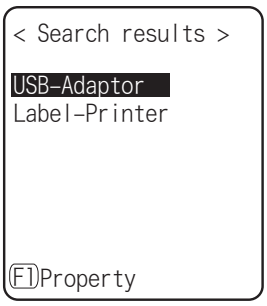
> **Caution** When you want to include the other GTX-100 as the target of device search, it is necessary to set the targeted terminal to "Local Device Setup".

Operational Procedure

1. Search start.

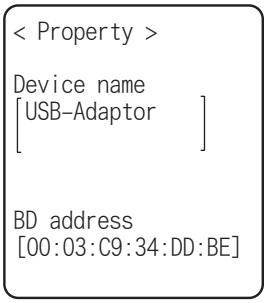
Press the Ⓒ key, and search to stop.

2. The search result list is displayed.



The device name list of the detected remote device is displayed.

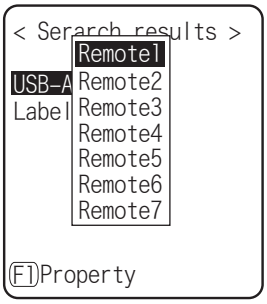
> **Caution** The device name that can be detected is limited to alphanumeric characters. Be sure not to use the Kana-Kanji as the device name of the host computer.



Press the F1 key, and Selected Remote device's device name and BD address are displayed.

Press the Ⓒ key, to return to the previous operation.

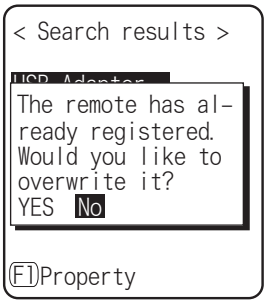
3. Select detected remote device.



Press the ENT key, and Selected Remote device's device name, BD address are displayed.

Press the Ⓒ key to return to the previous operation.

4. Select the registered number of the registered device.



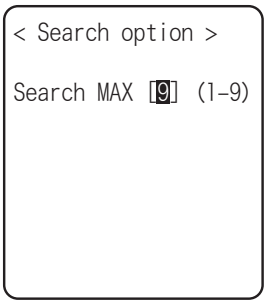
When the already registered number is selected, overwriting confirmation dialog is displayed. Select [Yes][No]. In addition, press the Ⓒ key, and [No] is selected.

●Search option

Set the upper limit of the number of Remote devices detected by device search.

Operational Procedure

1. Input the number of devices for search.



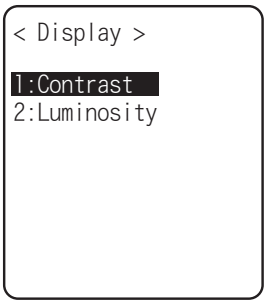
The number of devices allowed to setup is from 1 to 9.

The more the number of devices for search is the longer the search time becomes.

3-14-4 Display

Operational Procedure

1. From the Device, select "4:Display".



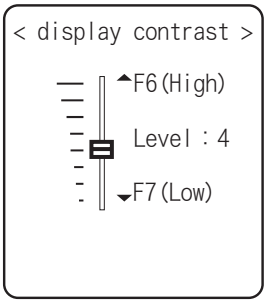
Select the item to setup.

- Contrast
- Luminosity

■Contrast

Operational Procedure

1. Display Contrast Adjustment.



The contrast of the display can be adjusted from 1 to 8.

Press the F6 key for Up, F7 key for Down, then the slider moves.

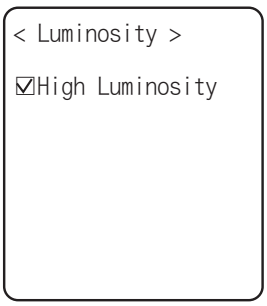
The contrast changes in real time in line with the slider's upward and downward movement, the status of the contrast level can be checked immediately. The relationship between level value and contrast is as follows.

Level value	Contrast
8	High (thick)
↕	↕
1	Low (thin)

■Backlight luminosity

Operational Procedure

1. Operate the check box to set high luminosity.



When check is applied the luminosity when the backlight ON becomes high luminosity.

However, in that case check the consumed power becomes large compared to the status when the check is removed (standard luminosity).

When starts the setup the backlight turns ON automatically, the luminosity changes in real time according to the status of the check.

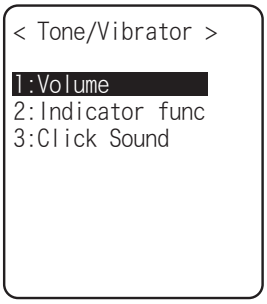
However, when the battery level is less than the regulated value, the backlight will not turn ON.

3-14-5 Tone/Vibrator

Setup the device such as Sound, LED and Vibrator to alert the worker's attention.

Operational Procedure

1. From the Device, select "5:Tone/Vibrator".



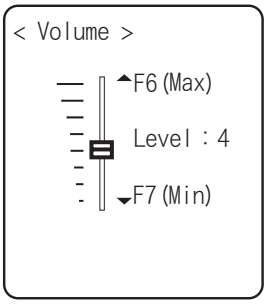
Select the item to setup.

- Volume
- Indicator func
- Click sound

■Volume

Operational Procedure

1. Adjust Speaker volume.



It is adjustable from 1 to 8. F6 key for Up, F7 key for Down to move the slider.

As the sound volume changes in real time in line with the Up and Down movement of the slider, the status of the level value can be checked immediately.

The relationship between the level value and sound volume is as follows.

Level value	Sound volume
8	Max
↕	↕
1	Min

Set to 1, if no sound is desired.

■Indicator function

Indicator means the combination of four devices (buzzer/audio /vibrator/LED) that is used to alert the worker's attention.

By using this indicator allows the worker to know the current status more intuitively. What indicator is used in what situation is set up by the application. In addition, in the System menu, the "pattern 3" indicator for each case will be applied.

For example,

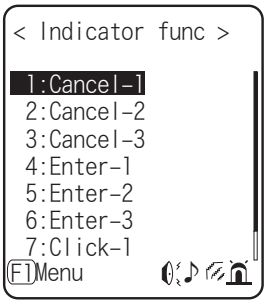
- When confirmed, one high tone sounds somewhat short and the LED green turns ON.
- When an error occurred, vibrating the Vibrator, beep a low-pitch sound three times and turn ON the green LED.

And so on, the terminal allows the user varieties of setting according to the user's working environment.

There are 5 scenes that represent working such as pressing the key (click) and confirming etc. And one user's scene, these 6scenes are provided with three patterns respectively.

Operational Procedure

1. Select the indicator to set.



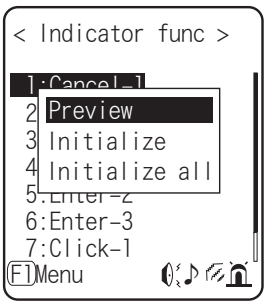
The icon to show the setup status of the indicator is displayed in right of the lower part on the display.

: Buzzer is setup.

: Audio is setup.

: Vibrator is setup.

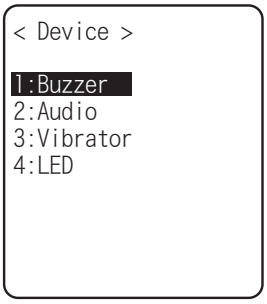
: LED is setup.



Press the F1 key, and sub menu is displayed.

- "Preview"
  Current indicator can be experienced.
- "Initialize"
  Select pattern setup contents are discarded to return to the initial value.
- "Initialize all "
  Discarding all setup patterns of all scenes and return to the initial value.

2. Select the device to setup.



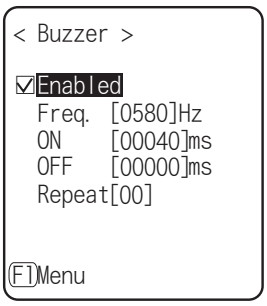
After selecting device, setup the operational condition of the device in order.

●Operational condition of a device

In the operation condition, there are two kinds, one is common to all devices and the other is unique to the device.

Operational Procedure

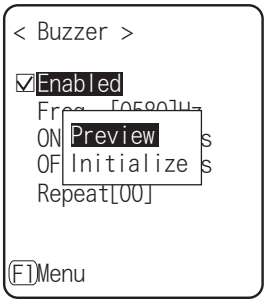
1. Enable check box operation (common to all devices).



The switch to turn ON/OFF the operation of the device.

When checked, the device operates, and when the check is removed the device does not operate unconditional to other setups.

This setup is displayed as an icon.

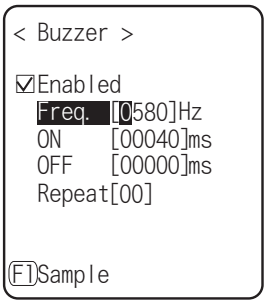


Press the F1 key, and sub menu is displayed.

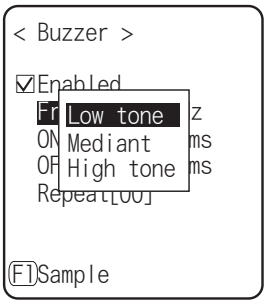
- "Preview"
  Current indicator can be experienced
- "Initialize all "
  Discarding setup contents of the pattern and return to the initial value.

In addition, when the F1 Menu is displayed in the left of the lower part of the display, the operation procedure is common to all the operational condition of devices.

2. Input the frequency (buzzer only)



Setting range is from 0000 to 9999Hz.

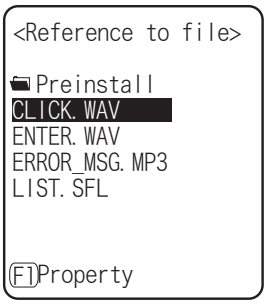


The contents of the function key guidance displayed in the left of the lower part of the display changes during the frequency is entered.

Press the F1 key, and sub menu of the frequency samples are displayed.

Fine-tuning the value based on the samples facilitates the setup.

3. Selecting a file name (audio only).



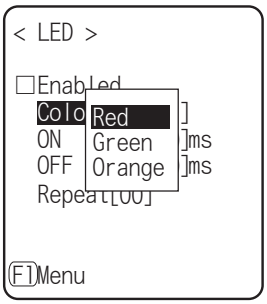
Select the audio file from the file list.

Press the F1 key, and properties related to the selected file is displayed.

Select the "built in audio ". The audio file list that is stored beforehand in the system area of the terminal is displayed.

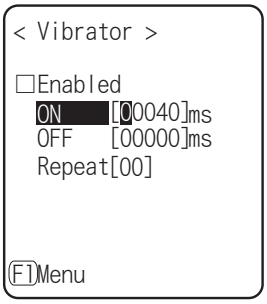
> **Caution** When an extension specifies the MP3 or SFL file on the indicator, will not be played by the application unless the Library linked on the application is Ver.1.10 or later.

4. Color Select (LED only).



From sub menu, select the item.

5. Input the ON time (buzzer/Vibrator/LED).

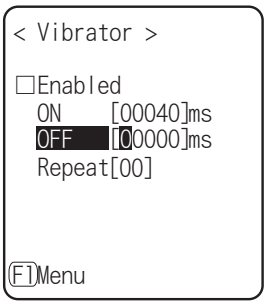


Operation time of the device for one performance.

Setting range I from 00000 to 99999milli seconds.

If 00000milli second is setup the device keeps operating.

6. Input the OFF time (buzzer/Vibrator/LED).

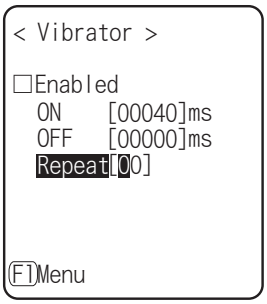


OFF time of the device for one performance.

The setup range is from00000 to 99999milli seconds.

If 00000milli second is setup the operation stops after the period specified by ON time (milli seconds).

7. Input the number of times to repeat (Common to all devices).



The number of times to repeat the operation on and off.

The setup range is from 00 to 99.

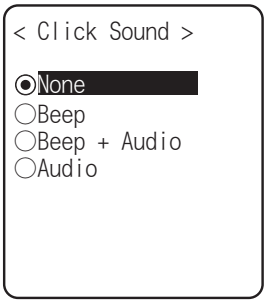
If 00 is set, it repeats until the device is operated.

■Click Sound

Setup whether to play the sound or not when the key at the terminal is pressed. The sound can be selected from "Single Beep sound" and "Numeric read out audio ". Click sound is played immediately when the key is pressed. When a sound played by application or indicator, the latter sound interrupt the previous sound. According to the timing, the interruption makes the sound somewhat mixed.

Operational Procedure

1. Select the sound pattern played when the key is pressed.



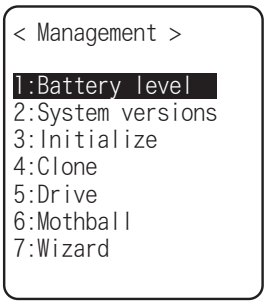
- None (default)
  Key Click sound is not played.
- Beep
  For all keys the beep sound is played when any key is pressed.
- Beep + Audio
  When numeric keys are pressed the numeric is called out in audio (in Japanese). When other key is pressed Beep sound is played.
- Audio
  Only when the numeric keys are pressed numeric is called out in audio. When other keys are pressed, no sound is played.

3-15 Manage Menu

Checking the standard properties of GTX-100 and improvement and maintenance of the performance.

Operational Procedure

1. Select the item to setup.



Select the item to setup.

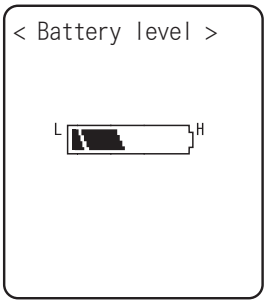
- Battery level
- System versions
- Initialize
- Clone
- Drive
- Mothball
- Wizard

3-15-1 Battery level

Check the Battery level of the battery pack. Just look at the Battery level as a reminder.

Operational Procedure

1. From the Management select "1:Battery level".



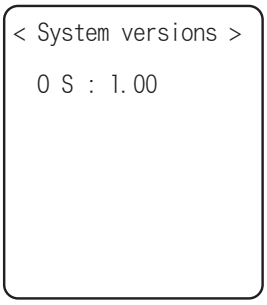
Battery level is displayed in 6 stages.

3-15-2 System versions

The handy terminal system program (OS) version is displayed.

Operational Procedure

1. From the Management, select "2:System versions".



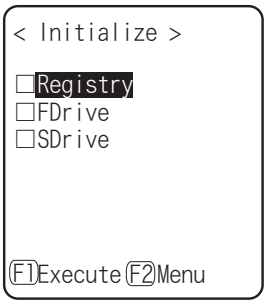
OS version is displayed.

3-15-3 Initialize

Initializing the Registry and the drive.
When the initialization is performed, the setup contents will return to the Factory setup and all files will be deleted. When you perform the initialization take deepest cares with this understanding.

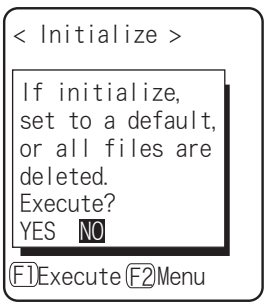
Operational Procedure

1. From the Management, select "3:initialize".



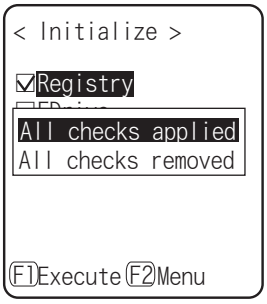
Check the item that you want to initialize.

If no item is checked, initialization cannot be executed.



Press the F1 key, and execute confirmation dialog is displayed.

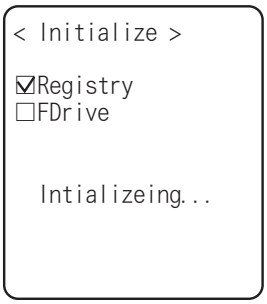
Select [Yes] or [No]. In addition, press the Ⓒ key, and [No] is selected.



Press the F2 key, and sub menu is displayed.

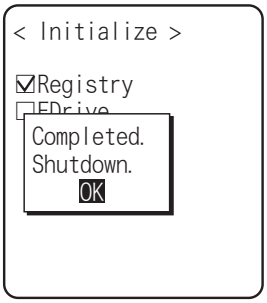
- "All checks applied"
  Apply checks to all check boxes.
- "All checks removed "
  Remove all checks from the check boxes.

2. Initialization start.



The checked items are initialized in order.

3. Initialization is completed.



Press the ENT key, or Ⓒ key.

When the Registry is initialized, turn off the power.

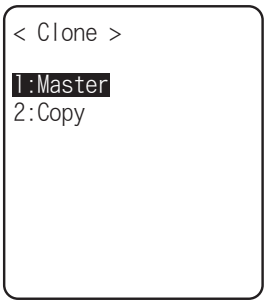
Caution When initializing the Registry, if there is no file in the F drive, the F drive will be initialized automatically with or without check.

3-15-4 Clone

Copying the contents on the Registry and F drive of the other GTX-100, duplication is created.

Operational Procedure

1. From the Management, select "4:Clone".



In the case of to copy GTX-100, select "1:Master ".

In the case of to be duplicated on GTX-100, select "2:Copy".

- Master
- Copy

Caution

When you perform the cloning take deepest care with understanding the following items.

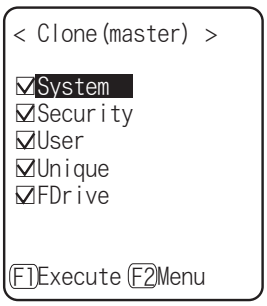
- Copy terminal performs initialization inside the Copy terminal before Receiving the data from the Master terminal. For this reason when Clone is failed, the setup value will return to the Factory setup or all files will be deleted.
- As the Copy terminal performs initialization at first, and it may take time to get into the state that the clone can be performed.
- When transferring registry and file from the Master terminal, perform cloning after confirming that the Copy terminal is in the condition to be able to perform the "Clone"

■Master

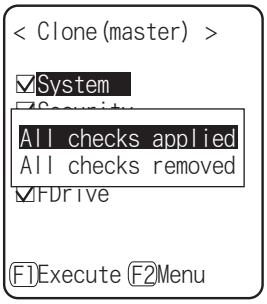
Setup the "Copy GTX-100" on the default device of the Master beforehand

Operational Procedure

1. Select the item to clone.



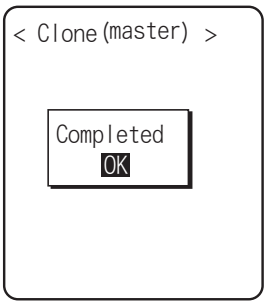
After confirming that the Copy terminal is in the condition to be able to "Clone", press the F1 key to start Clone.



Press the F2 key, and sub menu is displayed.

- "All checks applied."
  Apply checks to all check boxes.
- "All checks removed "
  Remove all checks from check boxes.

2. Clone is completed.

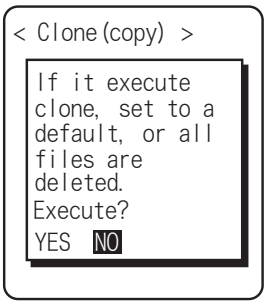


Press the ENT key or Ⓒ key.

■Copy

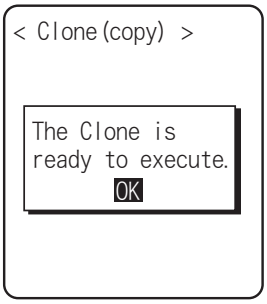
Operational Procedure

1. Initializing itself.



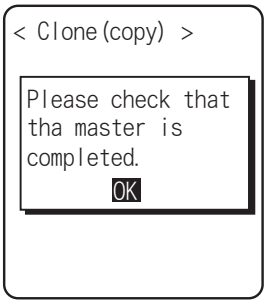
Execute confirmation dialog is displayed. Select from either [Yes] or [No]. In addition, press the Ⓒ key, and [No] is selected.

2. It is in the state the Clone is enabled.



Press the ENT key or Ⓒ key to start Clone.

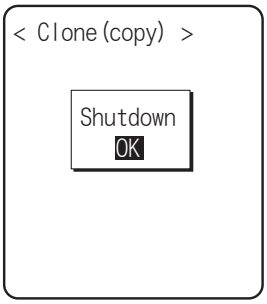
3. Confirm master display.



At the Copy terminal side, it cannot confirm that the Clone has completed, be sure to confirm that the transfer has completed on the display at the Master file. If the transfer from the Master file has not completes, execute the Clone again.

Press the ENT key or Ⓒ key.

4. Turn OFF the power.



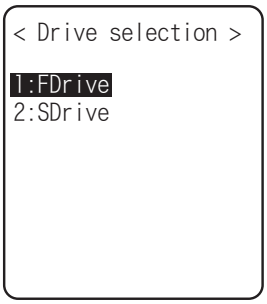
Press the ENT key or Ⓒ key.

3-15-5 Drive

Confirmation of various properties and maintenance for the drive is performed.

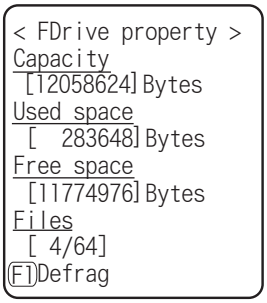
Operational Procedure

1. From the Management, select "5:Drive".



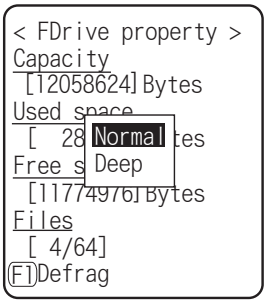
Selecting a drive.

2. The properties of the drive are displayed.



Following properties is displayed.

- Capacity
- Used space
- Free space
- Files(Used number/Max number)



F drive can be optimized by performing defrag.

Press the F1 key, and a dialog is displayed.

- "Normal"
  The unnecessary area generated in the process of writing and/or deleting files is physically deleted.
- "Deep"
  In addition to normal execute, rearranging the acquired free area to a continuous area.
  It takes some seconds to some 10 seconds to complete Deep Execute depending on the status of the drive. Usually, Normal Execute is recommended.

Note

Writing or deleting files repeatedly in the F drive may cause the free space to be fragmented over time, ultimately making it impossible to store a large program file. Defragmentation is a process that reduces the amount of fragmentation and reclaims fragmented space into a continuous space.

Defragmentation is usually not required because the system program maintains the F drive in a clean state by performing defragmentation automatically at each file update. However, if you tend to update files or perform other affecting actions frequently, fragmentation may progress rapidly, soon making the free space inadequate. If the F drive information indicates that the free space is very small relative to the total capacity and the space in use, we recommend that you perform “deep” defragmentation to create sufficient free space.

While the system program is performing defragmentation automatically, it may require a longer time for file update or other actions, this is not an abnormal condition.

Caution

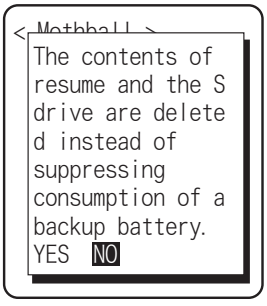
When the battery pack is removed in the course of defrag, a file or the System program may be corrupted. Never remove the battery pack during defrag.

3-15-6 Mothball

Setup to suppress the consumption of the battery when the GTX-100 is not used for a long period.

Operational Procedure

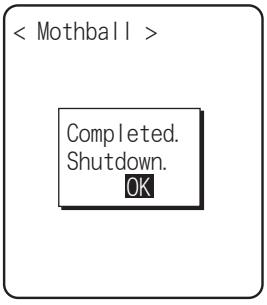
1. From the Management, select "6:Mothball".



Execute confirmation dialog is displayed. Select [Yes] or [No].

Then, press the Ⓒ key, and [No] is selected.

2. Preparation for prolonged storage is complete.



Press the ENT key or Ⓒ key.

Turn OFF the Power.

3-15-7 Wizard

The wizard executed at the initial boot of the terminal can be called back again. In order to perform communication between the terminal and the server, the minimum necessary setting is enabled.

Operational Procedure

1. From the Management, select "7:Wizard".

Select [Yes] or [No].

Select [Yes], then perform the setup of WLAN and perform the TCP/IP setup to execute the wizard. Select [No] to return to the previous screen.

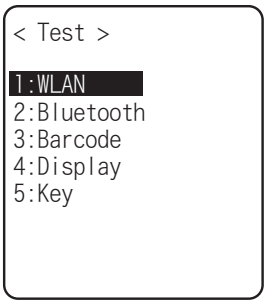
See"3-6-4 Executing Setup Wizard"(P.3-10), for details.

3-16 Test Menu

Hardware device test.

Operational Procedure

1. From the System menu, select "9:Test".



Select the item to setup.

- WLAN
- Bluetooth
- Barcode
- Display
- Key

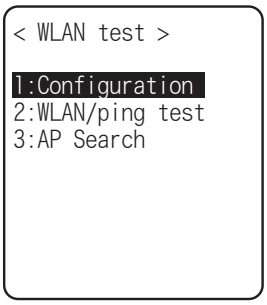
2. Select target device.

3-16-1 WLAN

Test for Wireless Communications and the test for IP Network communication.

Operational Procedure

1. From the test, select "1:WLAN".

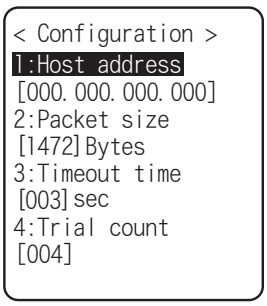


■Configuration

Setup the execute condition of the ping command. Wireless test is performed by ping.

Operational Procedure

1. Select "1:Configuration".



●Host address

Specifies the IP address of the targeted device to confirm the communication.

● Packet size (default 1472 bytes)

Select the size of the data packet (in bytes) to be transmitted.
permissible value ：32, 64, 128, 256, 512, 1024, 1472

●Time out time (default 3 seconds)

Time out time is setup by 1 seconds unit.
permissible value ：1 to 255 seconds

●Trial count (default 4 times)

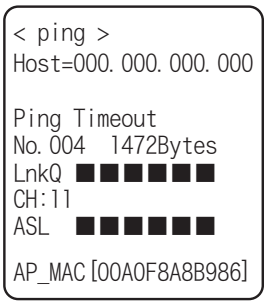
Set the number of attempts that can be made at transmitting the ping.
Setup enabled value :1 to 255 times
When 0 is specified, transmission of the ping command will continue until the Ⓒ key is pressed.

■WLAN/ping test

WLAN test is performed by executing the ping command. The ping packet is continuously transmitted to the Host IP address setup at "Configuration". Displayed contents are the result of ping command, the MAC address of the synchronized access point, communication quality (LinkQ), the received radio signal strength(ASL), applied channels and displayed.

Operational Procedure

1. Select "2:WLAN/ping test".



<1st line> The title of this test.

<2nd line> Host IP address to be communication tested

<4th line> The result is displayed.
When succeeded
Result time is displayed. (Unit: msec)
Time out
"ping Timeout" is displayed.
When interrupted by the Ⓒ key
"stopped" is displayed.

<5th line > Transmitted packet number(counted up one by one) and packet size.

<6th line> LinkQ indicator is displayed.
LinkQ (means the communication quality to the access point) is displayed.

<7th line> Synchronized channel are displayed.

<8th line> ASL indicator
ASL (means the strength of the radio signal received from the access point) is displayed.

<10th line> MAC address of the access point while wireless communications is displayed.

Note To get the stable enough communication performance it is recommended that the indicator should be LinkQ 4 or more.

Note In the case of EAP authentication or PSK(TKIP/CCMP), an error message is displayed when authentication is failed.

Caution The LinkQ in the 6th line and the ASL indicator on the 8th line do not show the strength of the radio signal correctly, just have this as a remindar of the communication status.

■AP Search

To search the access point matches the SSID setup on the terminal.
When the SSID of the terminal is setup to "ANY", it is possible to search all the access points around there.

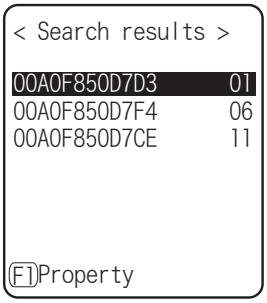
> **Caution** This is only performed when the setup at the access point, is set up as respond to "ANY". From security's point of view, the response to "ANY" may be disabled.

Displayed contents as a result of searching are MAC address, channel, SSID.

Operational Procedure

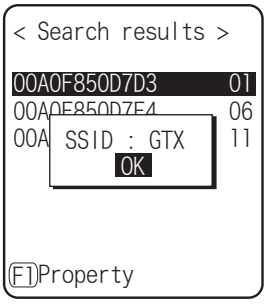
1. Select "3:AP Search".

2. The result of searching is displayed after several seconds to some ten seconds.

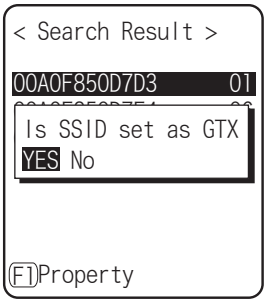


<1st line>	The title of the test result.
<3rd line or after>	The MAC address of the detected access point and the channel number.
<10th line>	The key guidance that displays SSID.

3. Press the F1 key, and the SSID set up at the selected access point is displayed.



4. Select an access point, the confirmation screen is displayed to set the SSID setup on the access point to the terminal. Confirmation screen is displayed to allow the SSID setup on the access point to the terminal.



3-16-2 Bluetooth

By using other terminal and Bluetooth, one to one communication is performed.

Operational Procedure

1. From the Test, select "2:Bluetooth".

Select the connecting method with Bluetooth device.

Master has the leadership on connection, and the Slave obey the Master's direction.

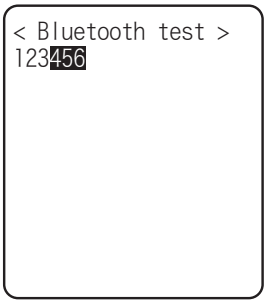
The connection only performed between Master and Slave.

In addition, Master and Slave are only temporary relationship on the connecting stage.

After the connection the relationship between the Master and Slave will be dissolved.

> **Caution** Before executing Bluetooth communication, the master device should be set up as a Default Device on the slave device (or a terminal). With regard to the setting method of the terminal, please refer to "■Remote device"(P.3-66).

2. Communication test start.



Press the key, upload the corresponding key data and display on the screen (local echo) at the same time.

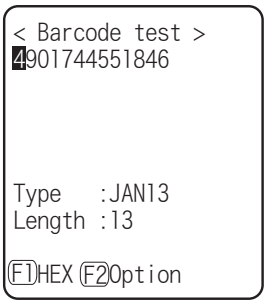
When the data is received, it appears highlighted on the display.

3-16-3 Barcode

Barcode scanning test perform.
In addition, this barcode scanning test is not subject to trigger mode.

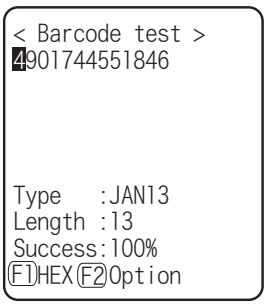
Operational Procedure

1. From the test menu, select "3:Barcode".



Barcode is scanned in a normal scanning mode.

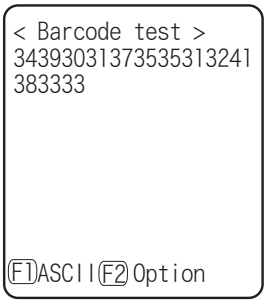
The scanned Barcode, the kind of Barcode, and the digit number are displayed.



Press and hold the scan key for 1 second to get into the continual scan mode.

While the scan key is pressed, the laser irradiates, and continues scanning the barcodes. Release the scan key to return to the ordinary scan mode.

In addition to the scanned Barcode, the kind of Barcode, and the digit number, scan success rate is also displayed.

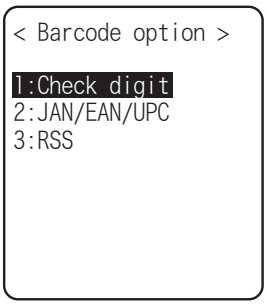


Press the F1 key to convert the character code to display.

- "ASCII" (default)
  displayed in ASCII Character code.
- "HEX"
  displayed in hexadecimal number. For example 16 digit converted from "5"to"35", "m" to "6D", 1 character is displayed as 16 digit positive 2 characters.

Each time by pressing the F1 key, the display switches.

■Barcode Option



Press the F2 key to allow setting varieties of barcode options.

In addition, this setup only enabled during the barcode testing.

●Check digit

Setup whether to check the check digit.

- [Check Enable] is set to OFF (default)
  The check of check digit is disabled.
- [Check Enable] is set to ON
  The check of check digit is enabled.

●JAN/EAN/UPC

Setup the scanning condition of add-on code of JAN/EAN/UPC.

- Ignore Add-on (default)
  Add-on code scanning disabled.
- Read all
  Both can be scanned unconditional whether add-on code is added.
- Read Add-on only
  JAN/EAN/UPC with add-on code only can be scanned.

●RSS

Setup the scanning condition of RSS Stacked.

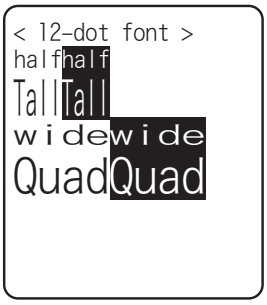
- Prohibition (default)
  RSS stacked scanning is disabled.
- Permission
  Scanning RSS Stacked is enabled.

3-16-4 Display

Display test.

Operational Procedure

1. From the Test, select "4:Display".



Test the function of LCD. When test starts the backlight turns ON automatically. However, when the Battery level is low it does not turn ON.

Each time by pressing the key except for the ⓅⓌ key, 4 kinds of display contents switches like slides.

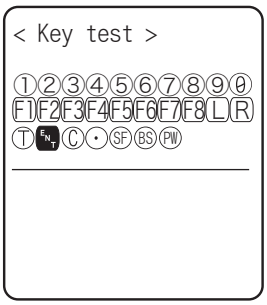
1. 12 dot font-various double width character
   ↓
2. 16 dot font-various double width character
   ↓
3. The display is highlighted from four corners to the center(the key does not work until the Display is Highlighted entirely)
   ↓
4. Welcat logo

When all the display ends, the backlight turns OFF to return to the previous operation.

3-16-5 Key

The key input test are performed with the indicator(buzzer/vibrator/LED/audio play) tests.

Operational Procedure



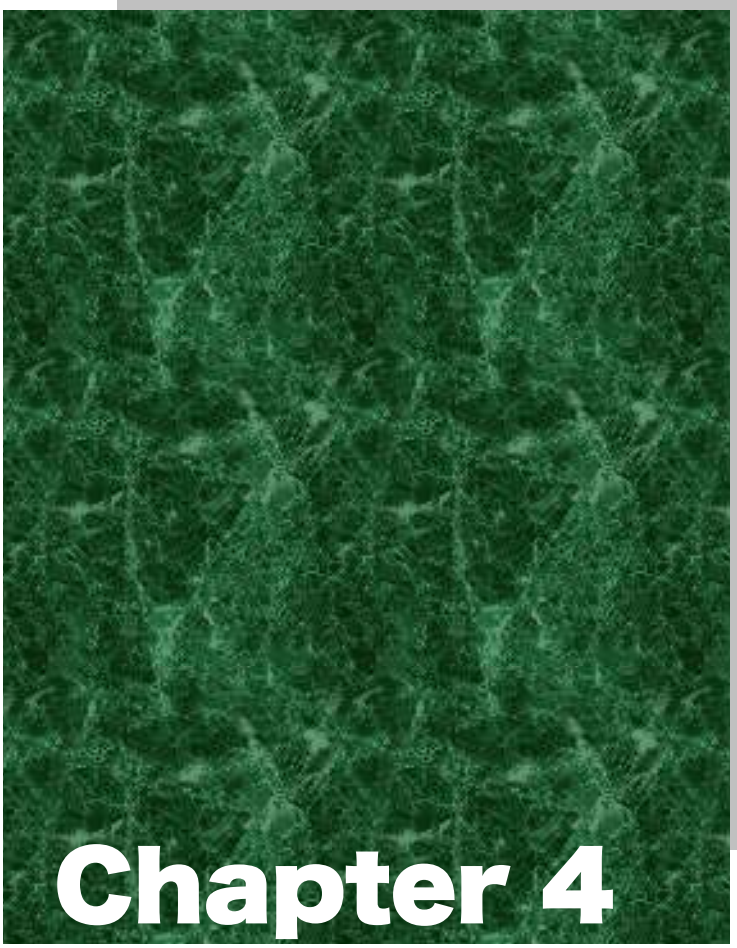
Press the key, and display the icon on the partition of the center got Highlighted (ENT key only reversed), and the icon corresponds to the key appears under the partition line (local eco). And the indicator corresponding to each key operates.

The indicator assigned to each key is as follows.

Key	Buzzer	Vibrator	LED	Audio play
⓪ to ⑨ , ⊙	○	×	Green (SCAN)	×
ENT , Ⓒ , BS , SF , PW	○	×	Red (ALRAM)	×
Scan key (Ⓣ, F9, F10)	×	○	Orange (SCAN)	×
F1	×	×	Red (SCAN)	Sound
F2	×	×	Red (SCAN)	Voice (Japanese)
F3	×	×	Red (SCAN)	Voice (Japanese)
F4	×	×	Red (SCAN)	Voice (Japanese)
F5	×	×	Red (SCAN)	Voice (Japanese)
F6	×	×	Red (SCAN)	Voice (Japanese)
F7	×	×	Red (SCAN)	Voice (Japanese)
F8	×	×	Red (SCAN)	Voice (Japanese)

The test will end when either the Ⓒ key is pressed twice, or all keys are pressed.

Such operations as power off by PW key or backlight adjustment by F4 key are enabled until all tests have finished.



FAQ (Frequently Asked Questions)

4-1 FAQ

FAQ (Frequently Asked Questions)
This chapter lists frequently asked questions, problems and operations that need to be performed to solve problems, and reference pages for items in this manual.

Q: The power does not turn ON.

- ■ Is the battery pack equipped correctly?----(P.1-4)
- ■ Is the battery pack charged?----(P.1-21)
- ■ Aren't the battery pack electrodes dirty?----(P.1-22)

Q: Nothing is displayed on the screen.

- ■ Is the battery pack equipped correctly?----(P.1-4)
- ■ Is the battery pack charged?----(P.1-21)
- ■ Aren't the battery pack electrodes dirty?----(P.1-22)

<In the case where the items mentioned above have been checked and the problem is still unsolved>

Please start the system menu using the following Method.

1. Remove the battery pack
2. Wait 10 seconds. Install the battery pack
3. Hold down the scan key then press the ⓅⓌ key.

Q: After not using for a while, the power is shut OFF.

- ■ Is the battery pack charged?----(P.1-21)
- ■ Hasn't the Auto-power-off function been set to start??----(P.3-21)

Q: It cannot charge.

- ■ Has the terminal been equipped with the charger correctly?
- ■ Has the charger been equipped with the battery pack correctly?
  Please refer to "1-6 Charging Specification"(P.1-17).

Q: The System Menu does not start.

■ Is the "application" set to "Auto execute"?----(P.3-15)

From the System menu, select "1：System setup", and then select "1:Auto execute" to set the System menu for automatic launch.

■ To force the launch of the System Menu, hold the scan key then press the key.----(P.3-9)

Q: How do I change the application, which starts when the power is turned ON?

From the System Menu, select "1:System", then "1:Auto execute " to set the desired application for automatic launch. ----(P.3-15)

Q: How do I start another application?

From the System Menu"5：File", select "2：Application " then select "Execute" from "Sub Menu" to run.----(P.3-51)

Q: The Barcode is not scanned successfully.

■ Does the scanned Barcode meet the Barcode settings set in the application?

Some application settings prohibit a specific kind of Barcode from being scanned.

■ Isn't a specular reflection occurring?----(P.1-15)

■ Is scanning distance correct?----(P.1-14)

■ Isn't the filter of the Barcode sensor dirty?

If the filter of the Barcode sensor is dirty, the Barcode may not be scanned correctly. Please wipe the filter with a dry soft cloth.

■ Is the barcode of good quality?

If the barcode quality is bad, it may not scanned correctly, change the setting of the decode level and scan again.

Q: How do I check the free area of a drive?

From the System Menu, select "8:Manage" , then Select "5：drive" to check the drive----(P.3-83)

Q: I cannot perform wireless data communications.

■ Is the access point connected to the Ethernet LAN?

If the LAN cable has fallen out or a link is not established, some access points do not perform wireless communications.

<When the ALARM LED lights ON>

■ Is terminal SSID setting the same as the access point SSID settings?----(P.3-22)

Please set the access point SSID and terminal SSID the same.

When the terminal SSID is set to "ANY" (blank), it may be unable to connect because of the access point functions. Refer to the access point manual for more information.

■Is the authentication setup correct?----(P.3-28)

Please set the access point Authentication System and terminal Authentication System settings the same.

If in "SHARED" mode, please check the WEP settings.

<When ALARM LED turns off or blinks>

■ Are the WEP settings the same?

Are the WEP keys the same? ("Null," "40bits," "128bits")

Do the WEP's Tx KEY_ID and the WEP key match? (P.3-25)

■ Doesn't an access point with a same channel or interfering channel exist?

In the case where a non-interfering channel is set, a maximum of 4 access points can be used in the one area.

■Isn't the wireless transmission being interfered by an obstacle?

Please check whether there is no equipment, such as a microwave oven or other WLANs etc, which can cause interference.

Also, since a computer may act as a noise generation source, move the access point and terminal away from the computer (1m or more).

■ Aren't there any problems with the TCP/IP settings (IP address etc)?----(P.3-35)

Check it to see if the terminal can connect to the computer by using the ping command etc.

Q: I cannot perform Bluetooth communication.

■ Has the Remote device to be connected set as default device?----(P.3-66)

■ Are the Remote device to be connected and the Security setting identical?----(P.3-64)

■ Has the Remote device to be connected setup correctly?

・Does the Power turn ON?

・Is the connecting enabled?

■ Is the connecting procedure correct?

・Connect the PC and GTX-100 (P.1-9)

・Communication between the GTX-100 terminals (P.3-46～46)

・Bluetooth Clone (P.3-80)

・Bluetooth Test (P.3-90)

Q: Can I use at the same time both WLAN and Bluetooth in the same environment and on the same terminal?

You can use WLAN and Bluetooth at the same time, however the communication may be delayed due to mutual interference between wirelesses.

Q: "Writing Failed" was displayed during transmission or reception of a file.

■ This message is displayed when there is little space left on the F Drive.

Create some free space on the F drive by deleting unnecessary files then start again. If the free space after deleting files is still too small to accommodate the file you want to store in the F drive, you will have to perform defragmentation to reclaim fragmented space.---(P.3-83)

Q: "Time Out" was displayed during transmission or reception of a file.

This may be displayed after a fixed period of time has passed while in the transmission or reception waiting state.

■ Is the communication software running on the host computer?----(P.1-5)

■ Is the communication settings made correctly?----(P.1-5)

■ Are the GTX-100 and the host computer connected correctly?----(P.1-8)

■ Does the host computer have enough resources?

When applications other than the communication software are being used, the computer may run out of resources and cause the file transmission and reception to fail. Close as many applications not needed for communication as possible, and then try again.

Q: "Connection Failed" was displayed during transmission or reception of a file.

■ Have the communication setup for wireless communications and the network setup been performed correctly?----(P.1-8)

■ Is the FTP server running on the host computer?

■ Are the access point (our recommended item) and computer connected correctly through the LAN circuit?----(P.1-8)

■ Have the FTP settings been made correctly? ----(P.3-38)

■ Has the BluePorter running on the host computer?

■ Is it connected to the other remote device than the targeted remote device?

■ Is the setup of the remote device and the security identical?

■ Has the terminal ID and Remote device been setup correctly?

Q: I want to perform the setup of the terminal IP address etc. at a time from a computer.

Automatic setup of a terminal can be performed by using the DHCP server function of the " WebGlider-X "

Q: Starting an application or transmission/reception of a file cannot be performed.

When the voltage level of the battery pack is low, the GTX-100 is unable to handle some functions.
Is the battery pack charged? ----(P.3-77)

Q: I suspect that the file is corrupt.

Either delete the file, or transmit the file to the host computer to recover the data. ----(P.3-52～3-55)

Q: "System Error" was displayed and after pressing a key, the power turned OFF.

This is displayed when a system program is not able to specify the cause of an error. Possible causes include failures in hardware, system program or application, external factors like strong static electricity, and user errors. If a system error message is displayed, the power will be shut off if ⓅⓌ key is pressed. At the next startup, GTX-100 tries to restore as much as possible.
Please turn ON the power again.

Appendix. A

System Menu Factory Settings List

Appendix. A-1 System menu Factory Settings

Parameters	Possible Setting Range	Factory Settings
Auto execute	System menu or application	System menu
Resume	Enable, Disable	Disable
Password	Alphanumeric characters from 4 to 30, Upper-case character/Lower-case character are distinguished.	
Auto wake up	Specify any among “Month”, ”Week”, and ”Day”	
Auto power off	0000, or 0060 to 3600(seconds)	0600 (seconds)
SSID	Alphanumeric characters up to 32, Upper-case character/Lower-case character are distinguished.	GTX
Roaming level	Slow, Normal, Fast	Normal
Doze mode	Quick, 1 second, None	1 second
Encryption Method	Disabled, WEP(40Bit), WEP(128Bit), TKIP, CCMP(AES)	Disabled
WEP Tx keyID	KEY-1, KEY-2, KEY-3, KEY-4	KEY-1
WEP key setting	Setting the contents of each WEP key (1, 2, 3, 4). Characters which can be used are "0" - "9", "A" - "F" and "a" - "f." When a 40 bits is Selected for "WEP," the WEP is a fixed 10 characters. When 128 bits is selected, it is a fixed 26 characters.	
PSK(TKIP/CCMP)	In ASCII characters, input the characters from 8 to 63. By 16 digit number, input up to 64 characters.	
Authentication Method	Open, Shared, EAP	Open
EAP mode	EAP-TLS, EAP-PEAP-MSCHAPv2	EAP-TLS
CA root Certificate	Select a file	
Client Certificate	Select a file	
Private key (File)	Select a file	
Private key (Password)	Alphanumeric characters up to 31, Upper-case character/Lower-case character are distinguished.	
WLAN authentication user name	Alphanumeric characters up to 62, Upper-case character/Lower-case character are distinguished.	
WLAN authentication Password	Alphanumeric characters up to 31, Upper-case character/Lower-case character are distinguished.	
At starting up authentication Time out	15 to 120	60 seconds
Attention	Display, Not Display	Display
Rate control	11b Auto, 11bg Auto, 11g Auto, 11g 6 or 9M, 1Mbps, 2Mbps, 1Mbps or 2Mbps	Auto
RTS_Threshold	0000 to 2347	2347(bytes)

Parameters	Possible Setting Range	Factory Settings
IP address	Any value of IP address style	000.000.000.000
NetMask	Any value of IP address style	000.000.000.000
Gateway	Any value of IP address style	000.000.000.000
MTU	0064 to 1500	1500(octets)
DHCP Startup type	Disabled, Application boot, System menu boot	Disabled
DHCP Update protect	IP address, NetMask, Gateway, ID (The plural can be selected)	Not selected
DHCP Server port	00001 to 65534	08067
FTP Server address Method	Address, Name	Address
FTP Address	Any value of IP address style	000.000.000.000
FTP Name	Alphanumeric and symbol characters up to 62, Upper-case character/Lower-case character are distinguished.	
FTP User name	Alphanumeric and symbol characters up to 18, Upper-case character/Lower-case character are distinguished.	
FTP Password	Alphanumeric and symbol characters up to 20, Upper-case character/Lower-case character are distinguished.	
FTP Server port	00001 to 65534	00021
FTP Mode	Passive, Active	Passive
FTP Current folder	/(Root), /(User name), /(Specified)	/(Root)
FTP Specified folder	Alphanumeric characters up to 62, Upper-case /Lower-case distinguished	
DNS Primary	Any value of IP address style	000.000.000.000
DNS Secondary	Any value of IP address style	000.000.000.000
DNS Server port	00001 to 65534	00053
DNS Time out time	01 to 99	03(seconds)
DNS Trial count	0 to 9	1
Cache time	0000 to 9999	0003(min)
SNMP Community(R/Only) Community name	Alphanumeric characters up to 16, Upper-case /Lower-case distinguished	public
SNMP Community(R/Only) Manager IP address	Any value of IP address style	000.000.000.000
SNMP Community(R/W) Community name	Alphanumeric characters up to 16, Upper-case /Lower-case distinguished	private
SNMP Community(R/W) Manager IP address	Any value of IP address style	000.000.000.000
SNMP Trap Community name	Alphanumeric characters up to 16, Upper-case /Lower-case distinguished	Welcat
SNMP Trap Manager IP address	Any value of IP address style	000.000.000.000

Parameters	Possible Setting Range	Factory Settings
SNMP Authentication Trap	Send, Not send	Not send
SNMP Agent port	00001 to 65534	00161
SNMP Trapport	00001 to 65534	00162
ID	000 to 999	000
Barcode Trigger operation	Normal, Double, Release, Auto	Normal
Barcode Power saving	Full, Quick, None	Full
Barcode Irradiation time	00 to 60	20 (seconds)
Barcode Decode level	Loose, Normal, Strict	Normal
Key repeat delay	0000 or, from 0100 to 1000	0500(milliseconds)
Key repeat rate	0000 or, from 0100 to 1000	0100(milliseconds)
Bluetooth local device Device name	Alphanumeric and symbol characters up to 30, Upper-case /Lower-case distinguished	GTX-100
Bluetooth local device Pairing	Enable, Disable	Disable
Bluetooth local device PIN code	16 digit characters (0 to 9, A to F) up to 16	
Bluetooth Remote device 1 to 7 device name	Alphanumeric and symbol characters up to 30, Upper-case /Lower-case distinguished	No name
Bluetooth Remote device 1 to 7 BD address	16 digit characters (0 to 9, A to F) up to 12	00:00:00:00:00:00
Bluetooth Remote device 1 to 7 Pairing	Enable, Disable	Disable
Bluetooth Remote device 1 to 7 PIN code	16 digit characters (0 to 9, A to F) up to 16	
Bluetooth Remote device sear-choption	1 to 9	9
Display contrast	Level 1 to 8	Level 4
Backlight Luminosity	High, Low	High
Volume	Level 1 to 8	Level 8
Click Sound	None, Beep, Beep + Audio, Audio	None

Appendix. B

Sample Barcode

Appendix. B-1 Sample Barcode

■JAN13

■JAN8

■UPC-E

■CODE39(C/D)

(notes) It is not likely to be able to read because of low printing quality (Expansion, Reduction, Dirt, etc.).

■CODE39(No C/D)

■NW-7(C/D)

■NW-7(No C/D)

■NW-7(HEX)

(notes) It is not likely to be able to read because of low printing quality (Expansion, Reduction, Dirt, etc.).

■ITF(C/D)

■ITF(No C/D)

■ITF(Standard ITF-14)

■ITF(Extended ITF-16)

(notes) It is not likely to be able to read because of low printing quality (Expansion, Reduction, Dirt, etc.).

■ITF(Add on version ITF-6)

■CODE128(Code set A)

■CODE128(Code set B)

■CODE128(Code set C)

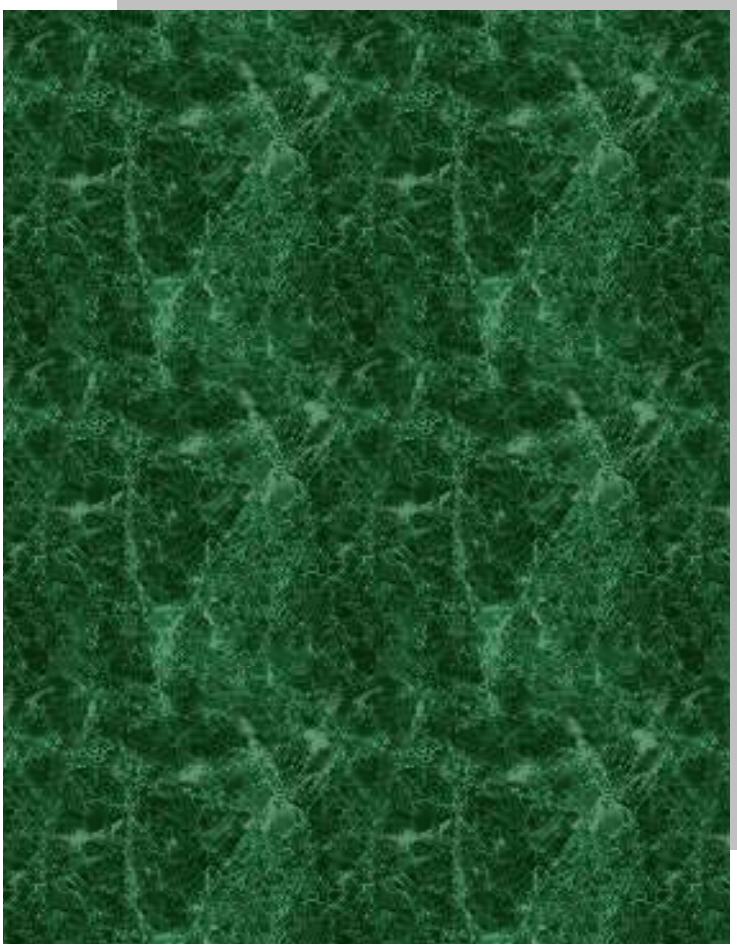
(notes) It is not likely to be able to read because of low printing quality (Expansion, Reduction, Dirt, etc.).

■EAN128(Code set A)

■EAN128(Code set B)

■EAN128(Code set C)

(notes) It is not likely to be able to read because of low printing quality (Expansion, Reduction, Dirt, etc.).



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Wireless Handy Terminal
GTX-100
Hardware/System Menu

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