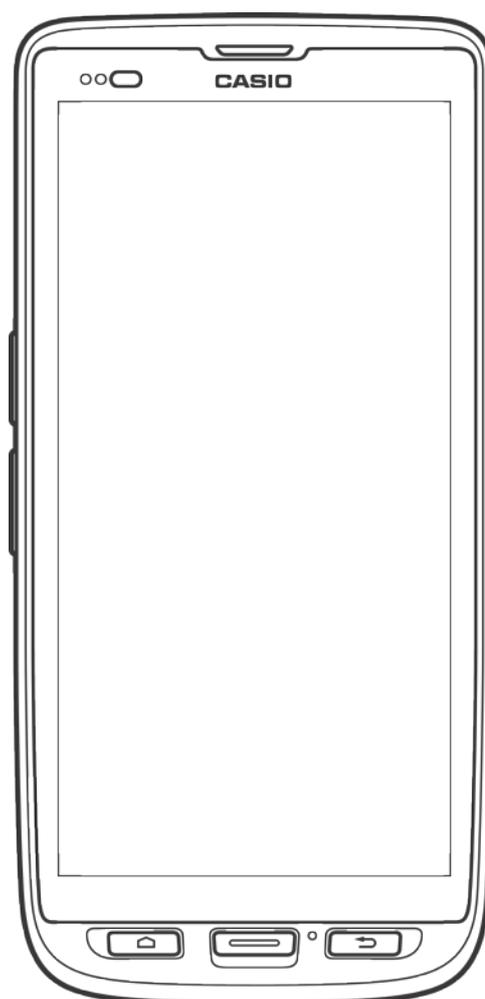


ET-L10 Series

Software Manual

This manual describes software of the ET-L10 and specifications of installed applications.



Cautions

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1. Preface

The features and specifications described in this manual give an overview of the functional detailed specifications of the ET-L10.

2. Basic Functions

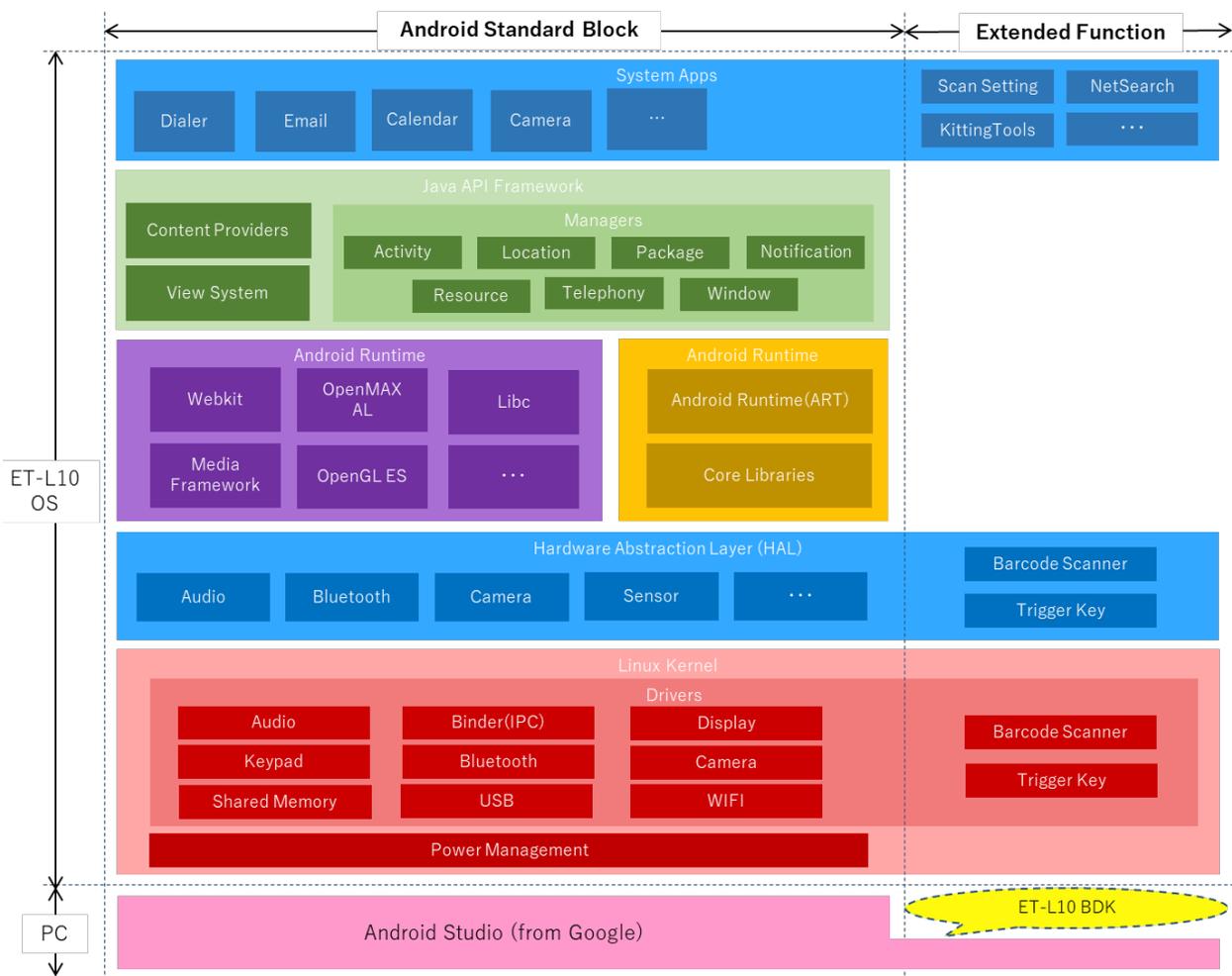
2.1 Android 9

The ET-L10 is equipped with Android 9.

2.1.1 Software Architecture

The software architecture of the ET-L10 is shown below. The ET-L10 has CASIO extended functions for business such as barcode scanner and trigger key, in addition to Android standard function.

Applications that use the Android standard function can be developed with Android Studio (Android SDK). And controlling the CASIO extended function, refer to "Barcode Scanner Control Manual".



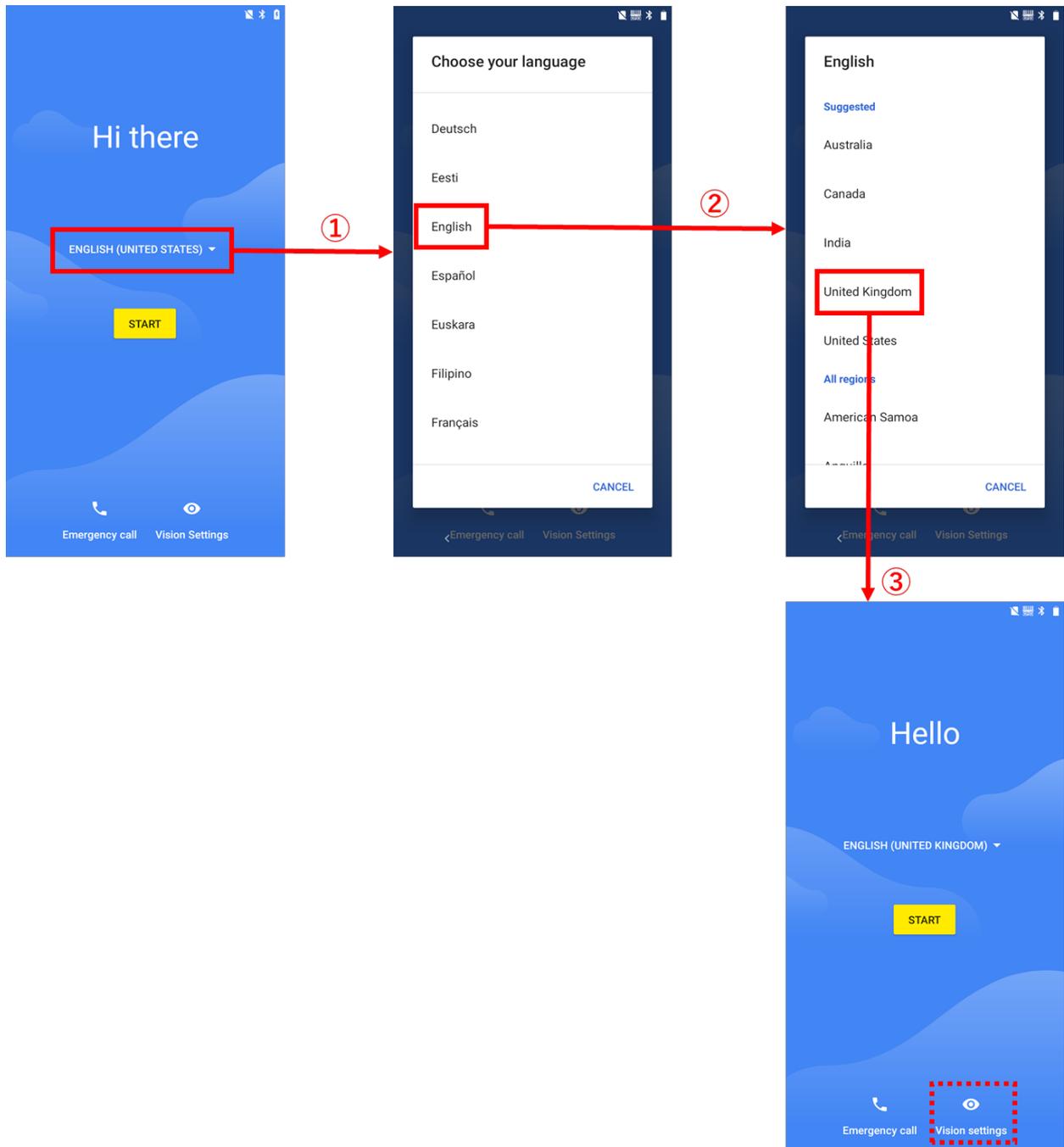
2.1.2 Languages

The ET-L10 supports these languages.

繁體中文	Gàidhlig	Kölsch	Schwiizertüütsch	ئۇيغۇرچە
简体中文	Galego	Koyra ciini	Sena	اردو
粵語	Gikuyu	Koyraboro senni	Shqip	اوزبیک (عربی)
Afrikaans	Hausa	Kreol morisien	Shwòŋò ngiemboon	پښتو
Aghem	Hibena	Kyivunjo	Slovenčina	پنجابی (عربی)
Akan	Hornjoserbšćina	Lakǎól'iyapi	Slovenščina	العربية
Anarâškielâ	Hrvatski	Latviešu	Soomaali	فارسی
Azərbaycan (latin)	'Ōlelo Hawai'i	Lea fakatonga	Srpski (latinica)	مازرونی
Bamanakan	Ichibemba	Lëtzebuergesch	Suomi	ተ.።.፳.፭.፻፶፫
Bosanski (latinica)	Igbo	Lietuvių	Svenska	አማርኛ
Brezhoneg	Ikirundi	Lingála	Tamaziyt n laṭlaṣ	कोंकणी
Bàsàà	Indonesia	Luganda	Taqbaylit	नेपाली
Català	Ishisangu	Luluhia	Tasawaq senni	बड़ो
Čeština	IsiNdebele	Maa	Thok Nath	मराठी
Chimakonde	IsiZulu	Magyar	Tiếng Việt	हिन्दी
ChiShona	Íslenska	Makua	Tshiluba	অসমীয়া
Cymraeg	Italiano	Malagasy	Türkçe	বাংলা
Dansk	Joola	Malti	Walser	ਪੰਜਾਬੀ (ਗੁਰਮੁਖੀ)
Davvisámegiella	Kabuverdianu	Melayu	Zarmaciine	ગુજરાતી
Deutsch	Kako	Meta'	Ελληνικά	ଓଡ଼ିଆ
Dholuo	Kalaallisut	Nda'a	Азәрбајҹан (Кирил)	தமிழ்
Dolnoserbšćina	Kalenjin	Nederlands	Беларуская	ತೆಲುಗು
Duálá	Kernewek	Norsk bokmål	Босански (ћирилица)	ಕನ್ನಡ
Èdè Yorùbá	Khoekhoegowab	Nuasue	Български	മലയാളം
Eesti	Kĩembu	Nynorsk	Ирон	සිංහල
Ekegusii	Kihorombo	O'zbek (lotin)	Кыргызча	ไทย
English	Kikamba	Olusoga	Қазақ тілі	ລາວ
Español	Kimachame	Oromoo	Македонски	ବିଦ୍‌ਯ
Euskara	Kĩmĩrũ	Polski	Монгол	ᠮᠣᠩᠭᠣᠯ
Euegbe	Kinyarwanda	Português	Нохчийн	မြန်မာ
Ewondo	Kipare	Pulaar	Русский	ইং
Filipino	Kiruwa	Rikpa	Саха тыла	ᠱᠠᠬᠤ ᠲᠤᠯᠠ
Føroyskt	Kísampur	Română	Српски (ћирилица)	한국어
Français	Kishambaa	Rukiga	Ўзбекча (Кирил)	Ўзбек
Frysk	Kiswahili	Rumantsch	Українська	日本語 (日本)
Furlan	Kitaita	Runasimi	ქართული	
Gaeilge	Kiteso	Runyankore	Հայերեն	
Gaelg	Kĩlaangi	Sängö	תּוֹרָע	

2.1.3 Startup

In the factory default state, the language selection screen is displayed in English (UNITED STATES). In AOSP (Chinese) model, skip this section.



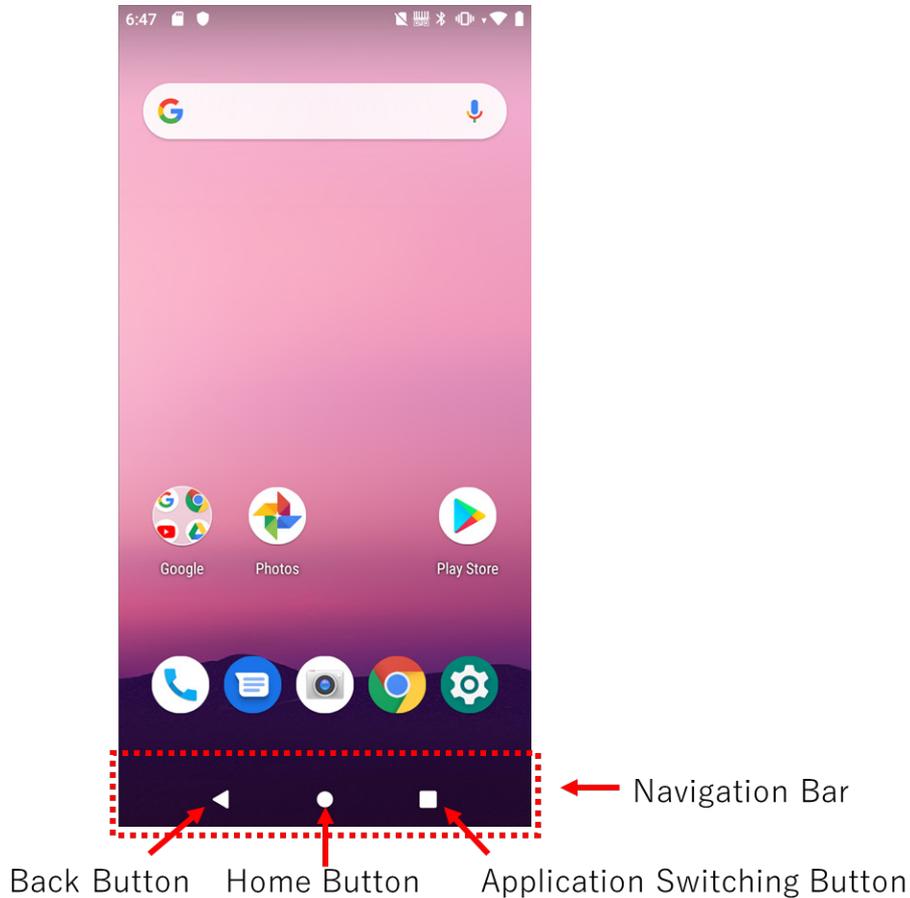
When ① is pressed, a list of selectable languages is displayed, so select the language to use. This ensures that the initial settings after that will be displayed in the language selected.

Cautions!

Can change the visual settings when touch the [Vision Settings]. These settings can be changed in [Settings] -> [Accessibility] later.

2.1.4 Navigation bar

The area displaying navigation buttons (back button, home button, application switching button) is called the Navigation bar. The ET-L10 displays a navigation bar at the bottom of the screen like a smartphone.



Button	Function
	Back button Touch to go back to the previous screen, or to close a dialog box, options menu, the notification panel, etc. The hardware "Back key" below the display has same function.
	Home button From any application or screen, touch to return to the Home screen. Touch and hold to open "Google Assistant". In AOSP (Chinese) model, not launch "Google Assistant". The hardware "Home key" below the display has same function.
	Application Switching button Touch to switch to the recent used applications. Pushing the hardware "Home key" twice has same function.

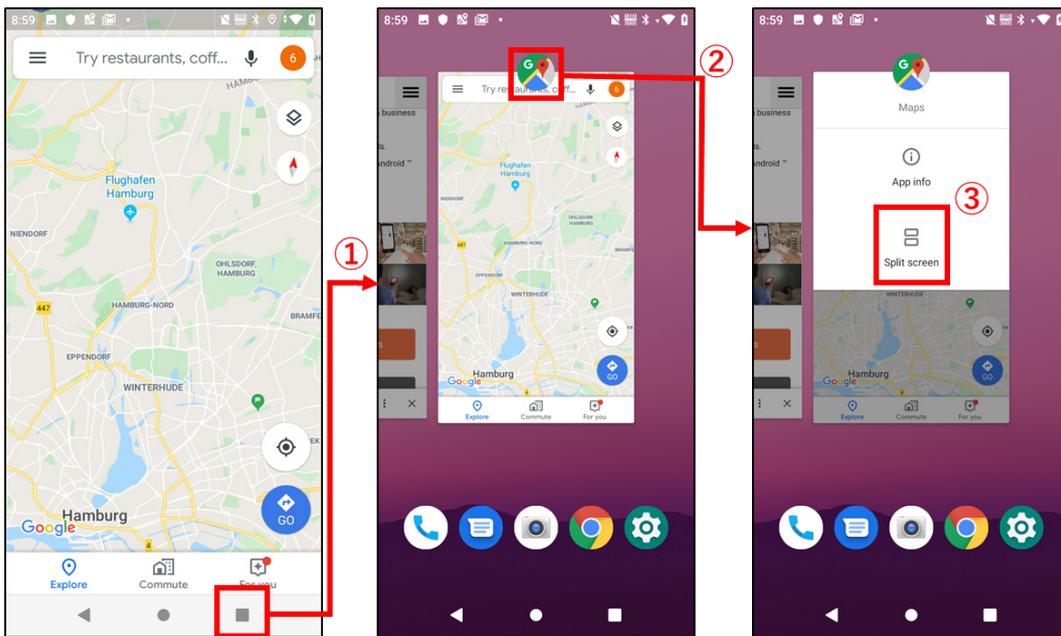
2.1.5 Split screen

Split screen is a function that displays two applications simultaneously.

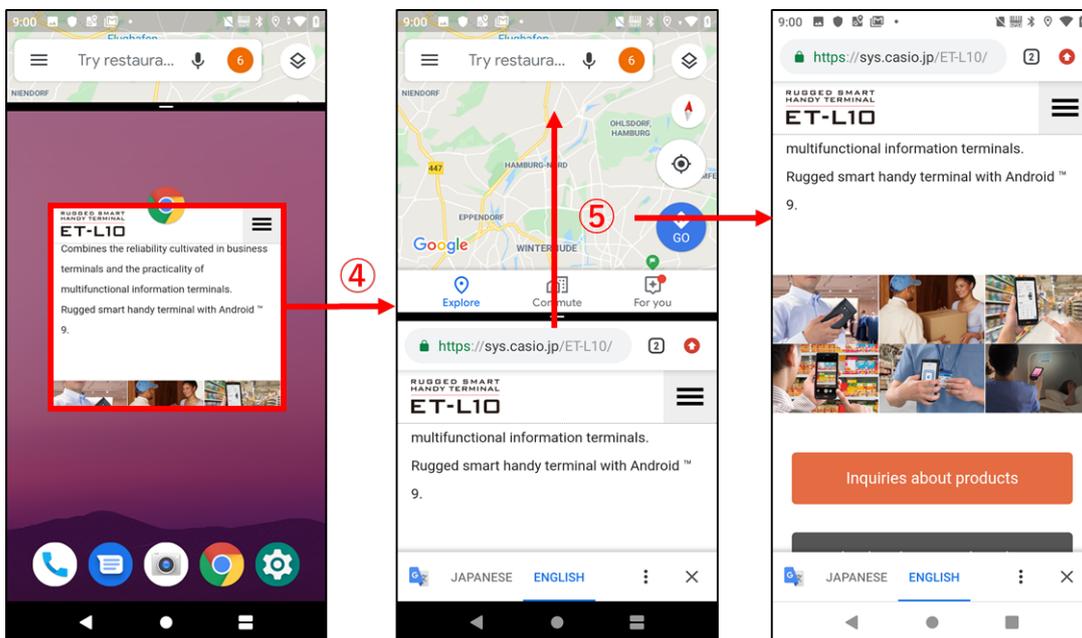
To execute the split screen, by touching the icon to use from the application list by pressing the application switching button.

To cancel, swipe up or down the border of the split screen.

- ① Touch the application switching button.
- ② Touch the icon of the application which you want to display on the split screen.
- ③ Touch the "Split screen".

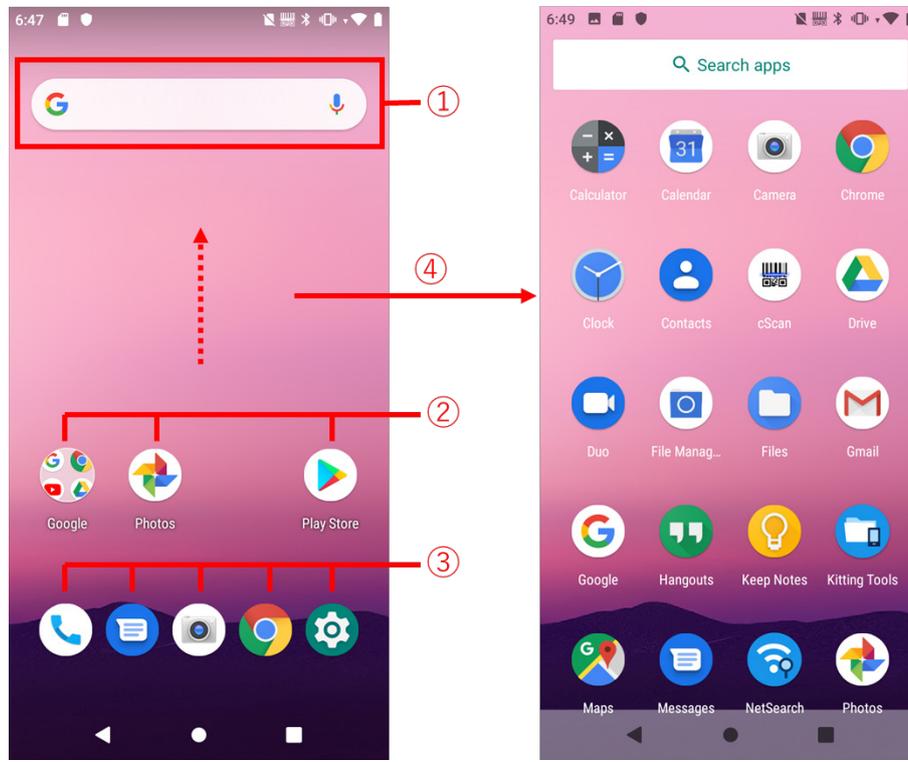


- ④ Touch the other application which you want to display on the split screen.
- ⑤ If you want to cancel the split screen mode, swipe the border line on the screen.



2.1.6 Home screen

When turn on the ET-L10, the lock screen will be displayed. Sliding this lock screen will bring up the home screen for selecting and starting the application. Also, move to the Home screen by pressing Home button or Home Key.



- ① Search panel (Not displayed on AOSP (Chinese) model)
- ② Shortcut
- ③ Favorite tray
- ④ Application list

Swipe up any where on the home screen to display the application list.

2.1.7 Status bar and icons

A bar with icons at the top of the screen is called a status bar. The status bar displays various "Status icons" indicating the status of the system, and "Notification icon" indicating the notification to the operator.



- ① Status icons
- ② Notification icons

Status icons

	GPRS connected		Battery is low
	EDGE connected		Battery is very low
	3G connected		GPS is on
	4G connected		Alarm is set
	No signal		Bluetooth is on
	Signal strength		Connected to a Bluetooth device
	Roaming		Speakerphone is on
	WLAN connected		No SIM card inserted
	Airplane mode		Vibrator mode / mute
	Battery is charging		Microphone is mute
	Battery is full		Barcode scanner is enabled
	Battery is partially drained		

Notification icons

	New Gmail™ message ※1		Missed call
	New Gmail™ messages ※1		Connected to VPN
	New text or multimedia message		More notifications are hidden
	Problem with SMS or MMS delivery		microSD is mounted
	Screenshot saved		Notify application update ※1

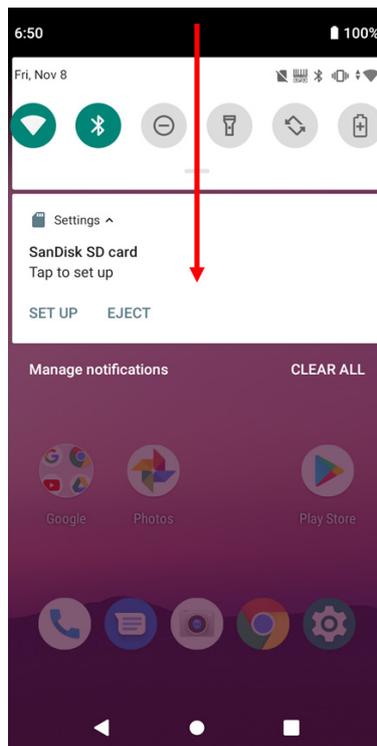
※1 Not displayed on AOSP (Chinese) model.

2.1.8 Notification panel and Quick setting panel

Drag the status bar downward to open the notification panel. Drag further downward in this state to open the quick setting panel.

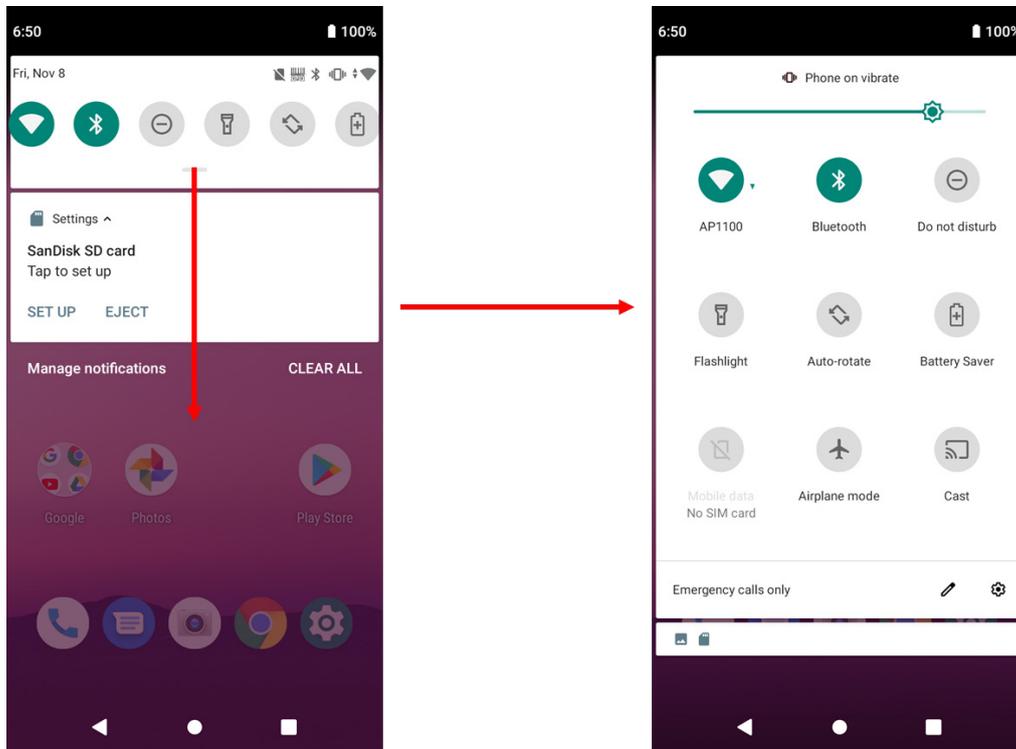
Notification panel

Notification panel uses to read details of the notification. Touch the status bar and drag it downward to open it.



Quick setting panel

Quick setting panel provides easy access to settings. Touch the notification panel and drag downward to open the quick setting panel. By touching the icon displayed on the quick setting panel, you can enable / disable the function and change the mode.



2.1.9 Media format

The ET-L10 carries all encoders and decoders supported by standard Android 9. For detail, refer to the Android official website such as "Android Developers".

Audio

Supported audio encoders and decoders are as follows.

Format	Encoder	Decoder	Container Formats
AAC LC	Yes	Yes	3GPP (.3gp) MPEG-4 (.mp4, .m4a) ADTS raw AAC (.aac) MPEG-TS (.ts)
HE-AACv1 (AAC+)	Yes	Yes	
HE-AACv2 (enhanced AAC+)		Yes	
AAC ELD (enhanced low delay AAC)	Yes	Yes	
AMR-NB	Yes	Yes	3GPP (.3gp)
AMR-WB	Yes	Yes	3GPP (.3gp)
FLAC	Yes	Yes	FLAC (.flac) only
GSM		Yes	GSM(.gsm)
MIDI		Yes	Type 0 and 1 (.mid, .xmf, .mxmf) RTTTL/RTX (.rtttl, .rtx) OTA (.ota) iMelody (.imy)
MP3		Yes	MP3 (.mp3)
Opus		Yes	Matroska (.mkv)
PCM/WAVE	Yes	Yes	WAVE (.wav)
Vorbis		Yes	Ogg (.ogg) Matroska (.mkv)

Libraries related to this function are as follows. For details of the Android standard library, refer to the Android official website such as "Android Developers".

Android Standard library

android.media

This class provides various interfaces related to audio and video.

android.media.MediaPlayer

This class plays audio / video / still images.

Image

Encoders and decoders of supported images are as follows.

Format	Encoder	Decoder	Container Formats
BMP		Yes	BMP (.bmp)
GIF		Yes	GIF (.gif)
JPEG	Yes	Yes	JPEG (.jpg)
PNG	Yes	Yes	PNG (.png)
WebP	Yes	Yes	WebP (.webp)
HEIF		Yes	HEIF (.heic, .heif)

Libraries related to this function are as follows. For details of the Android standard library, refer to the Android official website such as "Android Developers".

Android standard library

android.media

This class provides various interfaces related to audio and video.

android.media.MediaPlayer

This class plays audio / video / still images.

Video

Encoders and decoders of supported videos are as follows.

Format	Encoder	Decoder	Container Formats
H.263	Yes	Yes	3GPP (.3gp) MPEG-4 (.mp4)
H.264 AVC Baseline Profile (BP)	Yes	Yes	3GPP (.3gp) MPEG-4 (.mp4) MPEG-TS (.ts)
H.264 AVC Main Profile (MP)	Yes	Yes	
H.265 HEVC		Yes	MPEG-4 (.mp4)
MPEG-4 SP		Yes	3GPP (.3gp)
VP8	Yes	Yes	WebM (.webm) Matroska (.mkv)
VP9		Yes	WebM (.webm) Matroska (.mkv)

Libraries related to this function are as follows. For details of the Android standard library, refer to the Android official website such as "Android Developers".

Android standard library

android.media

This class provides various interfaces related to audio and video.

android.media.MediaPlayer

This class plays audio / video / still images.

android.widget.VideoView

This class plays video.

2.2 Power management

2.2.1 Power status

The ET-L10 has following power states. The change of state from 4 to 1 is called "BOOT", and the state change from 2 or 3 to 1 is called "RESUME".

No	State	Display	RAM	CPU	Description
1	ON	ON	ON	ON	Terminal is in operation
2	Early suspend	OFF	ON	ON	Only the screen is OFF.
3	Suspend (Sleep)	OFF	ON	OFF	Nearly all devices except RAM are in OFF state. OS and applications remain in RAM, but application programs are stopped except some.
4	OFF (Shutdown)	OFF	OFF	OFF	All devices are in the OFF state.

2.2.2 Suspend and Resume

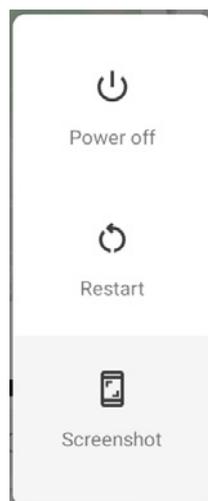
When the device is in ON state, short pressing power key suspends the device.

Conversely, when the device is in Suspend or Early Suspend state, pressing immediately power key resumes the device.

2.2.3 Power on / off

When the device is in the OFF state, to turn it on, power key must be pressed for several seconds.

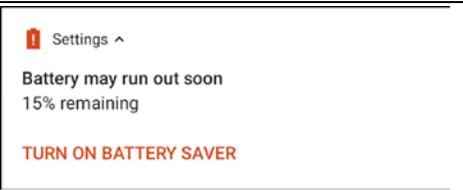
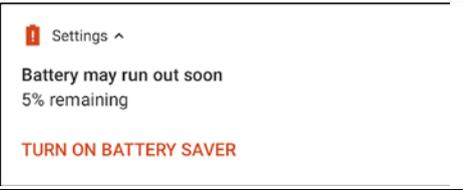
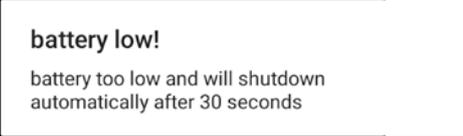
Press and hold the power key for 1 second, then power menu pops up. If select "Power off", it goes into OFF (Shutdown) state. Also, this operation is called as "Shutdown".



2.2.4 Remaining battery level and Operation restriction

The table below summarizes the relationship between remaining battery level, notification, and operation restriction.

For example, if the remaining battery level is 20% or less, "the battery level is low" notification is issued. When the battery level drops below 10%, the LED will change to blinking orange. Also, a notification of "The battery is very low" is issued and LED lights and cameras are disabled.

Remaining battery level	Status	Notification (LED)	Notification (Notification)	Operation restriction
100%	Full charge	Lit green	none	none
99% - 16%	Regular use	OFF	none	none
15% - 6%	Battery low warning (Low)	Blinking red		none
5% -	Very low warning (Critical)	Blinking red		none
0%	Empty	Blinking red		Shutdown after 30 seconds
16% - 100%	Charging (Over Critical)	Lit red	none	none
- 15%	Charging (Critical)	Blinking red	none	none

The table below summarizes the relationship between remaining battery level and battery icon.

Remaining battery level	Icon
100% - 16%	
15% - 6%	
10% -	
Unknown	
Charginig (32% - 100%)	
Charging (- 31%)	

2.2.5 Reset and Restart

Try reset (restart) when the ET-L10 stops functioning properly due to an erroneous operation etc. There are two ways to reset the ET-L10.

Resetting with the reset switch can cause inconsistency of the file. Therefore, if you want to restart the terminal, recommend that try 1 first. If the ET-L10 still does not restart, please try 2.

1. Press the power key for 1 second and select "Restart" from the pop-up power menu.
2. Press and hold the power key for 12 seconds.

2.3 Storage management

2.3.1 Partition

The ET-L10 has a 16GB eMMC (Embedded MultiMediaCard).

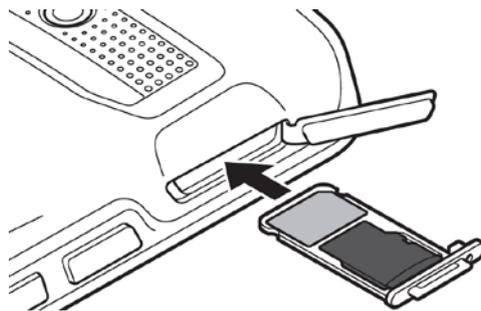
The inside of the eMMC is divided into a boot area to be used at booting, a system area used by the OS, and a user area to be used as Internal Storage.

boot area: Approx. 100MB
System area: Approx. 6GB
User area: Approx. 9GB

2.3.2 External storage

microSD Card

A microSD card can be used as an external storage. It supports microSD and microSDXC.



Be sure to insert / remove a microSD card in shutdown state (refer to "2.2.3 Power on / off (p.16)"). Insert it with the contact terminal face down.

When removing, follow the procedure below.

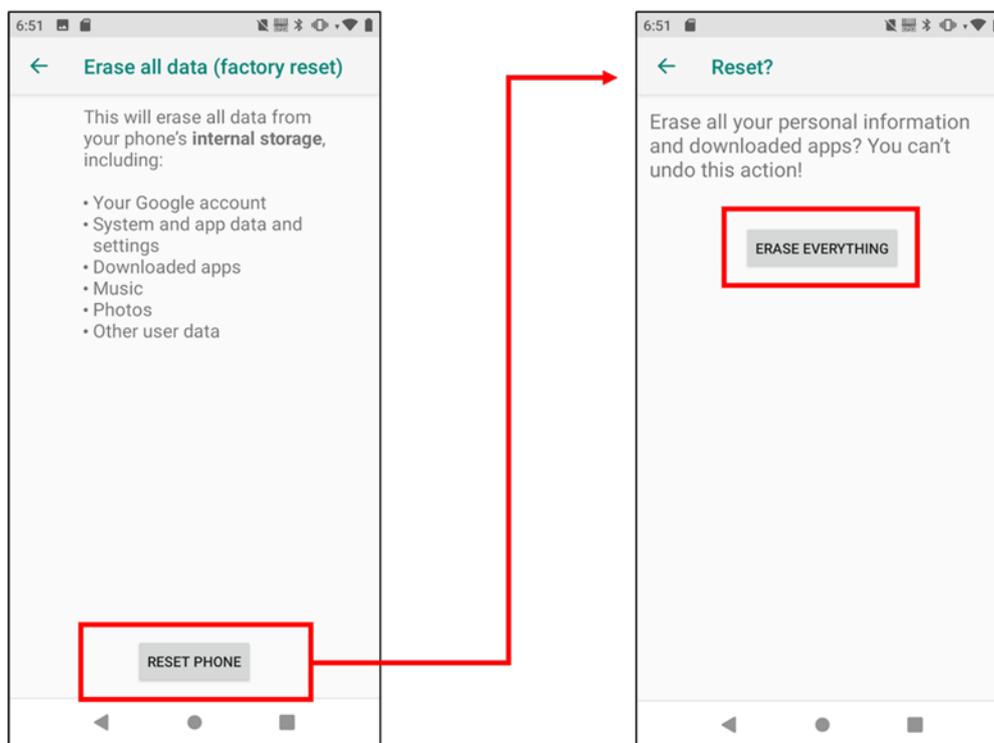
- ① Unmount the microSD card by touching the eject button  on the [Settings] -> [Storage]
- ② Shutdown the device
- ③ Remove the nanoSIM/microSD card slot and remove the microSD card

Specification

Mount point	Storage
/storage/emulated/0	Internal storage
/storage/XXXX-XXXX	microSD card XXXX-XXXX is determined by the inserted microSD and the timing of insertion. To access the file on the microSD by application, use the Android API such as "DocumentFile" class, not specify the mount point name.

2.3.3 Factory reset

To initialize the ET-L10, use [Settings] -> [System] -> [Reset options] -> [Erase all data (factory reset)].



Since this operation erases all data in the terminal, please be careful not to accidentally erase important data.

Cautions!

When reset the device, the calendar will also be reset on January 1st. However, the year of that depends on the timing of reset, and it does not necessarily become a fixed value.

2.4 Display

2.4.1 Specification

Type	TFT
LCD Size	5.7 inch
number of dots	W 720 x H 1440
Color	16 M Colors
Backlight	LED backlight

2.4.2 Detect the resolution

To obtain the screen resolution from the application program, use `DisplayMetrics`. For details of the Android `DisplayMetrics`, refer to the Android official website such as "Android Developers".

```
DisplayMetrics metrics = new DisplayMetrics();  
getWindowManager().getDefaultDisplay().getMetrics(metrics);
```

2.5 Touch panel

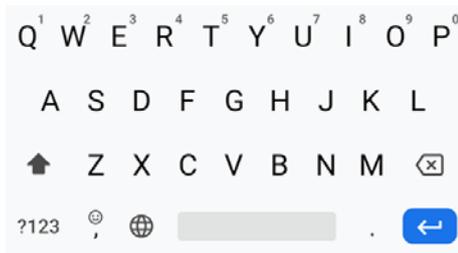
The ET-L10 equips with a pressure sensitive touch panel. Define terms related to touch panel operation as follows.

<p>Touch</p> 	<p>It means touching the screen. Used to access the application.</p>
<p>Touch and Hold</p> 	<p>It means to keep touching the screen.</p>
<p>Drag</p> 	<p>It means moving from the touch and hold state while touching the screen. Use it to move the object to another position by moving it while it is in contact.</p>
<p>Slide / Swipe</p> 	<p>It means moving from the touch state while touching the screen. It is used to scroll application screens, images, WEB pages, etc. (Slide operation for releasing the lock screen is especially called swipe.) The device also supports one finger zoom (Messaging, Browser, Email, Camera and Gallery) by double tapping the screen then sliding with one finger to zoom in/out).</p>
<p>Flick</p> 	<p>It means moving quickly away from the screen from the state of the touch.</p>
<p>Pinching / Spread</p> 	<p>Touch and hold the screen with two fingers to enlarge or reduce the object on the screen.</p>

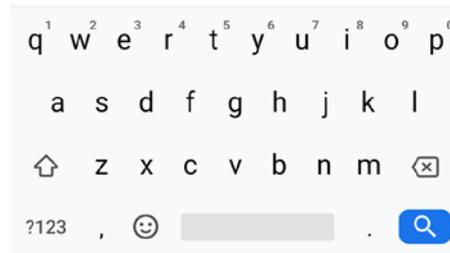
2.6 Keyboard

2.6.1 Software Keyboard

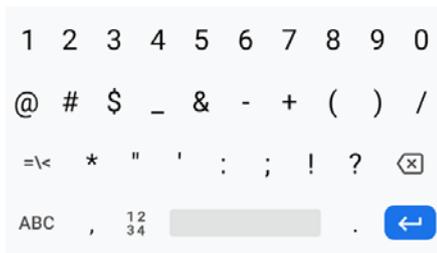
Software keyboard is what Android 9 standard supports.



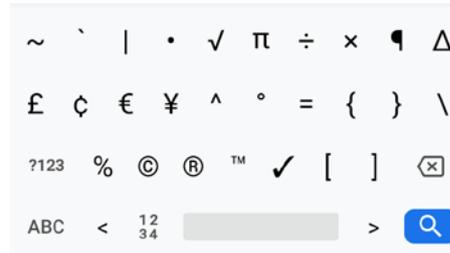
Alphabet input pad (uppercase)



Alphabet input pad (lowercase)



Numerical input pad

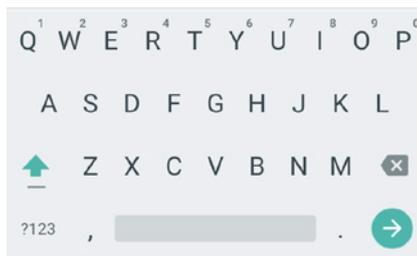


Symbol input pad

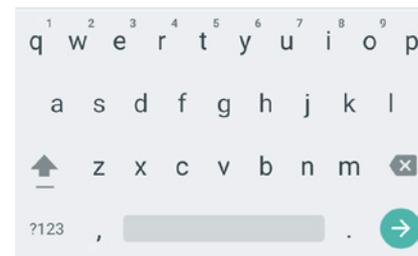


Numerical only input pad

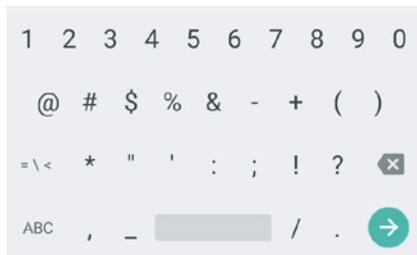
In AOSP (Chinese) models, pre-installed only "Android Keyboard (AOSP)".



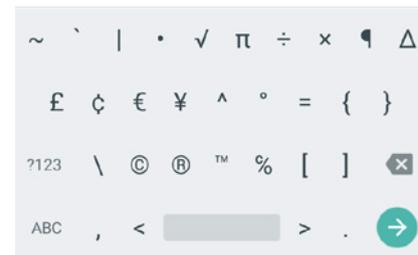
Alphabet input pad (uppercase)



Alphabet input pad (lowercase)



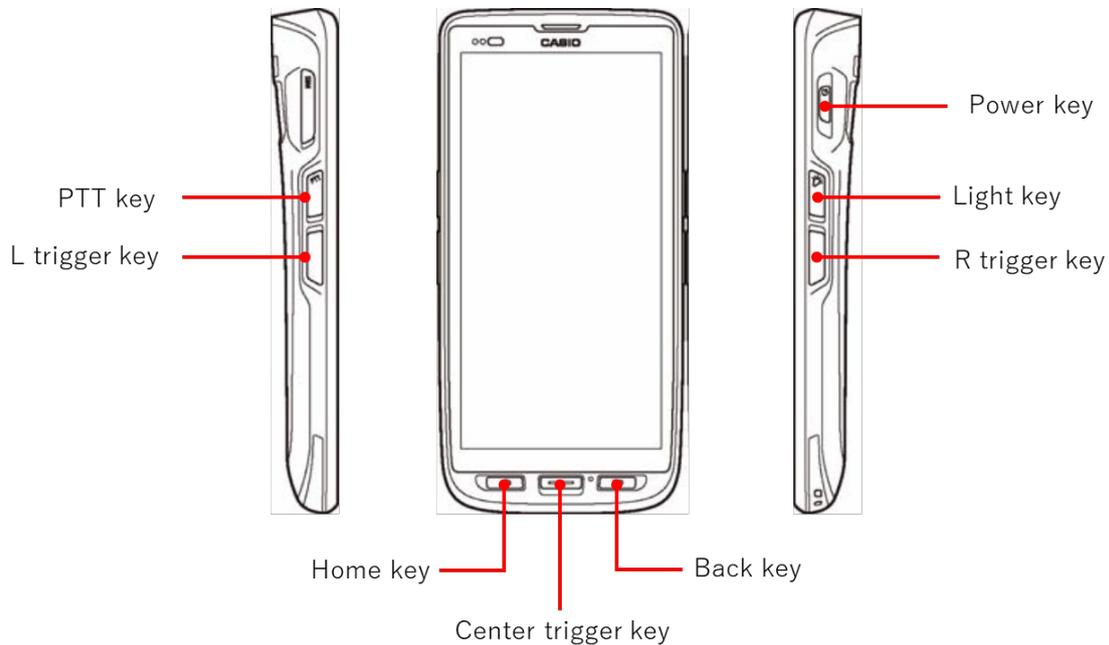
Numerical input pad



Symbol input pad

2.6.2 Hardware Keyboard

The ET-L10 has a follow hardware keyboard. The generating key code of the "Light key" and "PTT key" can be changed on the "User Definition" of the "Settings". Refer to the "User Define (p.48)" for details.



Key Name	How to use
Power Key	Short click to suspend and resume. Long press to open the power menu.
Light Key	Turn the light on the top of this device on and off. Double click to turn it on and single click to turn it off. The key code of "KeyEvent.KEYCODE_PROG_BLUE" is generated.
PTT Key	Application can use this key for any function. The key code of "KeyEvent.KEYCODE_PROG_RED" is generated.
Home Key	Home key of Android standard. Double click to view the recent task list. It can be disabled by "Accessibility" of "Settings".
Back Key	Back key of Android standard. Back to previous display.
L Trigger Key	Trigger key to scan a barcode. This key is used only for scanning. The function and generating key code can not be changed.
R Trigger Key	Trigger key to scan a barcode. This key is used only for scanning. The function and generating key code can not be changed.
Center Trigger Key	Trigger key to scan a barcode. This key is used only for scanning. The function and generating key code can not be changed.

2.7 LED

The ET-L10 has two LEDs, one for charging status and other one for the barcode scanner.

2.8 Vibrator

The ET-L10 equips vibrator. Libraries related to this function are as follows. For details of the Android standard library, refer Android official website such as "Android Developers".

Android standard library android.os.Vibrator	Class for vibrating the vibrator.
---	-----------------------------------

2.9 Speaker

The ET-L10 equips speaker. Libraries related to this function are as follows. For details of the Android standard library, refer Android official website such as "Android Developers".

Android standard library android.media.AudioManager	Classes that control volume etc For the audio function, refer to "2.1.9 Media format (p.14) ".
--	---

2.10 Microphone

The ET-L10 equips microphone. Libraries related to this function are as follows. For details of the Android standard library, refer Android official website such as "Android Developers".

Android standard library android.media.MediaRecorder	Class for using recording and recording functions. For the audio function, refer to "2.1.9 Media format (p.14) ".
---	---

2.11 Clock

2.11.1 Overview

The smartphone ensure the clock accuracy by synchronizing the time with the mobile phone network (NITZ synchronization). However, in the case of model without a telephone function, it is common to use the Internet and time synchronization (NTP synchronization) because there is no function to connect the mobile phone network. On the other hand, it is not unusual to operate without connecting to the Internet when using terminal for business use.

So, we recommend that install an NTP server inside the company if the operation is as follows.

- ① Not use telephone function
- ② Using WLAN, but not connecting to the Internet
- ③ Clock accuracy is important

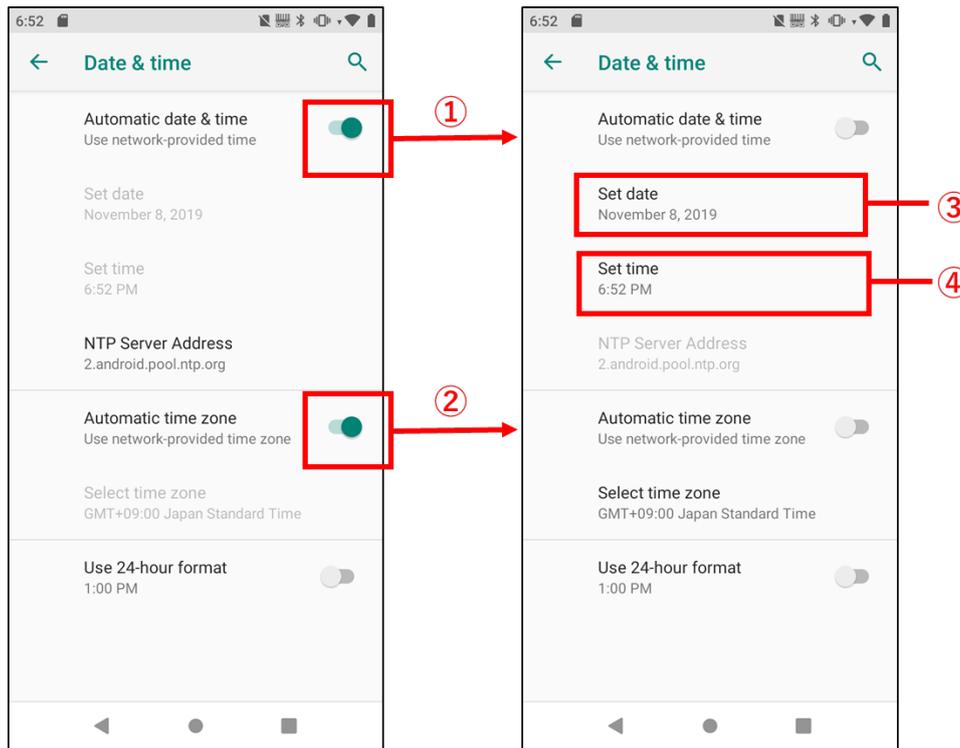
In case not possible to connect to the internal NTP server, set clock manually.

2.11.2 Time synchronization

Since the setting of "Synchronize time with network" is enabled in the default of the ET-L10, it is not necessary to change this setting if you use the mobile phone network or the Internet.

However, if set up the NTP server inside the company and synchronize time, set the NTP server address. The NTP server address can be set to [Settings] -> [System] -> [Date & time] -> [NTP Server Address].

If do not synchronize the time using the network, disable "Automatic date & time" and "Automatic time zone" from [Settings] -> [Date & time].



- ① Disable "Automatic date & time"
- ② Inactivate "Automatic time zone"
- ③ Open [Set date] and adjust the date manually.
- ④ Open [Set time] and adjust the clock manually.

2.12 Sensors

The ET-L10 has following sensors.

Illuminance sensor

Proximity sensor

Acceleration sensor

By using each sensor, the ET-L10 supports the following functions.

Automatic screen brightness adjustment

Automatic screen rotation

Touch panel invalidation during call

Libraries related to this function are as follows. For details of the Android standard library, refer Android official website such as "Android Developers".

Android standard library

android.hardware.Sensor

android.hardware.SensorManager

android.hardware.SensorEvent

Class that provides sensor information.

Class used to access sensor devices.

Class that provides sensor event and information according to the type of sensor.

2.13 Barcode scanner

2.13.1 Barcode reading specification

The barcodes that can be read by the barcode scanner are shown below. For other barcode scanner controls, refer to the "Barcode Scanner Control Manual".

1D barcode

Barcode	Reading digits	Check Digit Calculation	Check Character Output	Other functions
EAN8/JAN8	8 (+2/5)	Always enabled	Enable/Disable	2 digits / 5 digits add ons
EAN13/JAN13	13 (+2/5)	Always enabled	Enable/Disable	2 digits / 5 digits add ons
UPC-A	12 (+2/5)	Always enabled	Enable/Disable	2 digits / 5 digits add ons Add output character Extend EAN13
UPC-E0 / UPC-E1	6 (+2/5)	Always enabled	Enable/Disable	2 digits / 5 digits add ons Add output character
Code39	1 - 48	Enable/Disable	Enable/Disable	Start/Stop code output Full ASCII conversion
Codabar (NW7)	2 - 60	Enable/Disable	Enable/Disable	Start/Stop code output
ITF (Interleaved 2 of 5)	2 - 80	Enable/Disable	Enable/Disable	
Code93	1 - 80	Always enabled	Always disabled	
Code128	1 - 80	Always enabled	Always disabled	
GS1 128 (EAN128)	1 - 80	Always enabled	Always disabled	
MSI	4 - 48	Always enabled	Enable/Disable	
GS1 DataBar (RSS)	1 - 80 ※1	Always enabled	Always disabled	GS1 DataBar 14 reading GS1 DataBar Limited reading GS1 DataBar Expanded reading

※1 GS1 DataBar-14 and GS1 DataBar Limited are fixed to 14 digits of reading digits.

2D code (Stacked code)

Barcode	Reading digits	Check Digit Calculation	Check Character Output	Other functions
PDF417	1 - 2750	Always enabled	Always disabled	
MicroPDF	1 - 2750	Always enabled	Always disabled	
Composite	1 - 300	Always enabled	Always disabled	Composite compatibility (EAN8/EAN13/UPC-A/UPC-E/GS1 DataBar/GS1 128)
GS1 DataBar(RSS) Stacked type ※1	1 - 80 ※2	Always enabled	Always disabled	GS1 DataBar-14/GS1 DataBar Expanded

※1 Standard Omnidirectional type is included.

※2 GS1 DataBar-14 stacked type is fixed to 14 digits of reading digits.

2D barcode (Matrix code)

Barcode	Reading digits	Check Digit Calculation	Check Character Output	Other functions
Aztec	1 - 3832	Always enabled	Always disabled	
QR Code / Micro QR Code	1 - 7089	Always enabled	Always disabled	Model2 only ※1
Maxicode	1 - 150	Always enabled	Always disabled	
DataMatrix	1 - 3166	Always enabled	Always disabled	ECC000/050/080/100/140/200
Han Xin (Chinese Sensible Code)	1 - 6000	Always enabled	Always disabled	

※1 Model 1 is not supported.

Note!

The Readable digits are changed depends on the print quality of the barcode and environmental conditions. Please check the barcode to be used.

2.14 USB

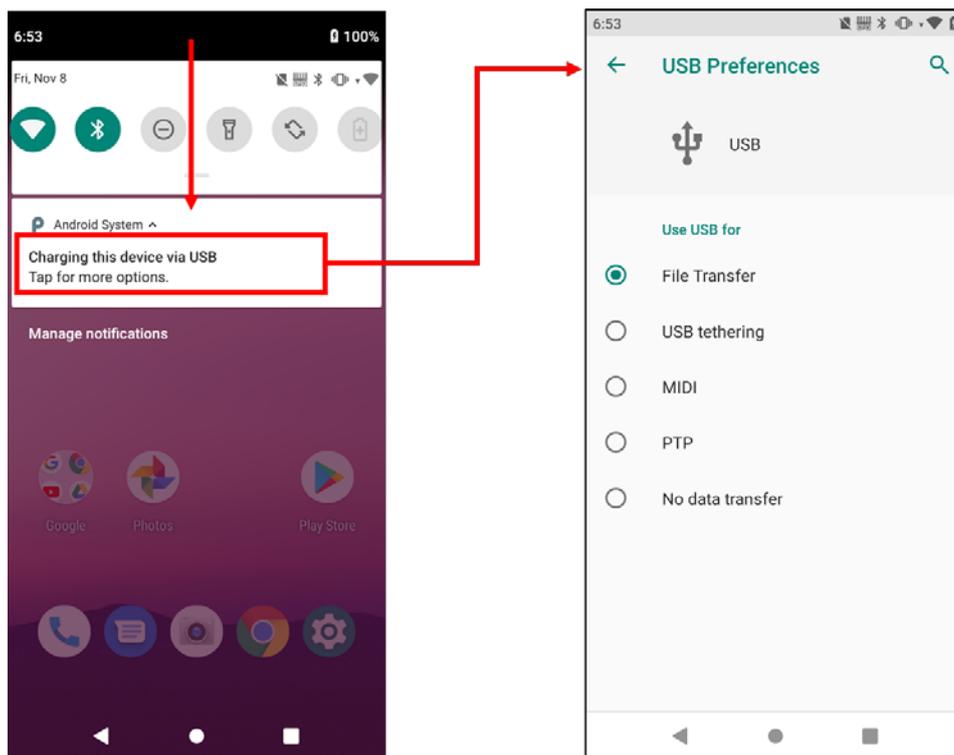
The ET-L10 can be connected to a PC.

Libraries related to this function are as follows. For details of the Android standard library, refer to the Android official website such as "Android Developers".

Android standard library
android.hardware.usb Class for accessing USB device.

The ET-L10 is assumed to use a network such as WLAN or WAN for business data exchange (transmission and reception) with PC (server). Meanwhile, the ET-L10 storage access from PC may be necessary for development and maintenance purposes. USB connection using cradle or USB cable is available for such use.

When the ET-L10 is connected to the PC via cradle or USB cable, charging starts. Open the notification panel "2.1.8 Notification panel and Quick setting panel (p.12)", then, touch "USB charging this device".



By selecting "Transfer files" from the pop-up menu, you can access the files in the ET-L10 file from PC.

Cautions!

That the default is "charging" is a security specification of Android 9.

2.15 WLAN

The ET-L10 equips WLAN module. Libraries related to this function are as follows. For details of the Android standard library, refer Android official website such as "Android Developers".

Android standard library

android.net.wifi

android.net.wifi.p2p

Class for accessing WLAN network

Class for creating P2P connection in Wi-Fi Direct.

Cautions!

The ET-L10 does not support OWE (Opportunistic Wireless Encryption) and SAE (Simultaneous Authentication of Equals).

When using static IP setting, don't forget to set Gateway and DNS addresses correctly. If these addresses are hard to set because of small local network, set "0.0.0.0" to them. Otherwise, WLAN connection will be unstable.

2.16 Bluetooth

2.16.1 Communication profile

The ET-L10 supports the following Bluetooth profiles.

Function	Purpose
A2DP (SRC)	Profile for streaming delivery of audio data of stereo sound quality used between digital audio player and headphone.
AVRCP (TG)	Profile for remotely operating the operation target device from the remote control used between the digital audio player and the remote controller.
GAP	Profile for device connection / authentication / encryption
GAVDP	Profiles that serve as the basis for A2DP and VDP
HFP (AG)	A profile used to make and receive calls and calls, used between a mobile phone and a headset.
HSP (AG)	Profile for voice input / output, used between mobile phone and headset etc.
OPP (Client/Server)	Profile used for exchanging objects between the mobile phone and the mobile phone e.g.) phone book data and schedule data.
PAN (PANU/NAP)	Profile for a plurality of PCs (slaves) to make radio connection with one PC (master) as the center.
PBAP (PCE/PSE)	Profile for transferring phone book data.
SPP (DevA/DevB)	Profile used to create virtual serial port and connect devices.
GATT	Profile used for exchanging attribute information with power saving Bluetooth.
HID (Host)	Provides support for devices such as mice (pointing device), keyboards.
SDP	Protocol for searching services supported by the other device

The following table shows correspondence between Bluetooth communication devices and usage and profiles.

However, operation of all Bluetooth communication devices is not guaranteed. Use certified Bluetooth device.

Bluetooth device	Usage	Profile and application
Bluetooth access-point (PAN-NAP Profile compatible)	LAN connection Tethering device	PAN-PANU Profile ※1 OS standard settings app + TCP/IP app
PAN-PANU Profile compatible PDA, PC, etc.	LAN connection Tethering master	PAN-NAP Profile OS standard settings app
Bluetooth printer	Print to printer	SPP Profile Application for printing
Bluetooth compatible PDA, Bluetooth compatible PC etc	File transfer among Bluetooth devices	OPP Profile OS standard photo app
Bluetooth headset	Voice communication	HFP Profile OS standard phone app
Bluetooth headphone	Play music	A2DP Profile OS standard music app

※1 When PAN-PANU Profile is used, it's not possible to communicate via Proxy.

Libraries related to this function are as follows. For details of the Android standard library, refer Android official website such as "Android Developers".

Android standard library
android.bluetooth
android.bluetooth.le

Class for controlling Bluetooth function.
Class for controlling Scan function and advertise function.

2.17 NFC

The ET-L10 equips NFC module. By communicating with the contactless IC card or RFID tag, it is possible to read and write them.

2.17.1 Useable card

The types of supported NFC cards relate android class in the follow tables. For details of the Android standard library, refer to the Android official website such as "Android Developers".

The formats and confirmed NFC cards are as follows.

ISO/IEC14443 TypeA

Card Type	Android Class	Confirmation
MIFARE Classic 1k/4k	Ndef, NdefFormatable, NfcA, MifareClassic	Yes ※1
MIFARE Classic EV1 1k/4k	Ndef, NdefFormatable, NfcA, MifareClassic	Yes ※1
MIFARE Ultralight	Ndef, NdefFormatable, NfcA, MifareUltralight	Yes
MIFARE Ultralight nano	Ndef, NdefFormatable, NfcA, MifareUltralight	Yes
MIFARE Ultralight C	Ndef, NdefFormatable, NfcA, MifareUltralight	Yes
MIFARE Ultralight EV1	Ndef, NdefFormatable, NfcA, MifareUltralight	Yes ※2
NTAG203	Ndef, NdefFormatable, NfcA, MifareUltralight	Yes
MIFARE Plus S&X	Ndef, NdefFormatable, NfcA, IsoDep	
MIFARE Plus EV1	Ndef, NdefFormatable, NfcA, IsoDep	
MIFARE Plus SE	Ndef, NdefFormatable, NfcA, IsoDep	
MIFARE DESFire	Ndef, NdefFormatable, NfcA, IsoDep	
MIFARE DESFire EV1	Ndef, NdefFormatable, NfcA, IsoDep	
MIFARE DESFire EV2	Ndef, NdefFormatable, NfcA, IsoDep	

ISO/IEC14443 TypeB

Card Type	Android Class	Confirmation
ISO14443 Type B	Ndef, NdefFormatable, NfcB	

FeliCa

Card Type	Android Class	Confirmation
SONY FeliCa Standard	Ndef, NdefFormatable, NfcF	Yes ※3
SONY FeliCa Light	Ndef, NdefFormatable, NfcF	Yes

ISO15693

Card Type	Android Class	Confirmation
NXP ICODE SLI	Ndef, NdefFormatable, NfcV	Yes
NXP ICODE SLI-S	Ndef, NdefFormatable, NfcV	Yes
NXP ICODE SLI-L	Ndef, NdefFormatable, NfcV	Yes
my-d V 10 Plain	Ndef, NdefFormatable, NfcV	Yes
my-d Light	Ndef, NdefFormatable, NfcV	Yes
Tag-it HF-I Plus	Ndef, NdefFormatable, NfcV	Yes
Tag-it HF-I Pro	Ndef, NdefFormatable, NfcV	Yes
Tag-it HF-I Standard	Ndef, NdefFormatable, NfcV	Yes

※1 Only MifareClassic function

※2 Only MifareUltralight function

※3 "Read Without Encryption" and "Write Without Encryption" commands are supported.

(The command required IC card authentication is not supported.)

2.18 GPS

The ET-L10 equips GPS module. GPS function can be used only with models with telephone function. Libraries related to this function are as follows. For details of the Android standard library, refer to the Android official website such as "Android Developers".

Android standard library

`android.location.GpsStatus`

`android.location.GpsSatellite`

Class that provides GPS engine function.

Class that gets the current state of GPS satellites.

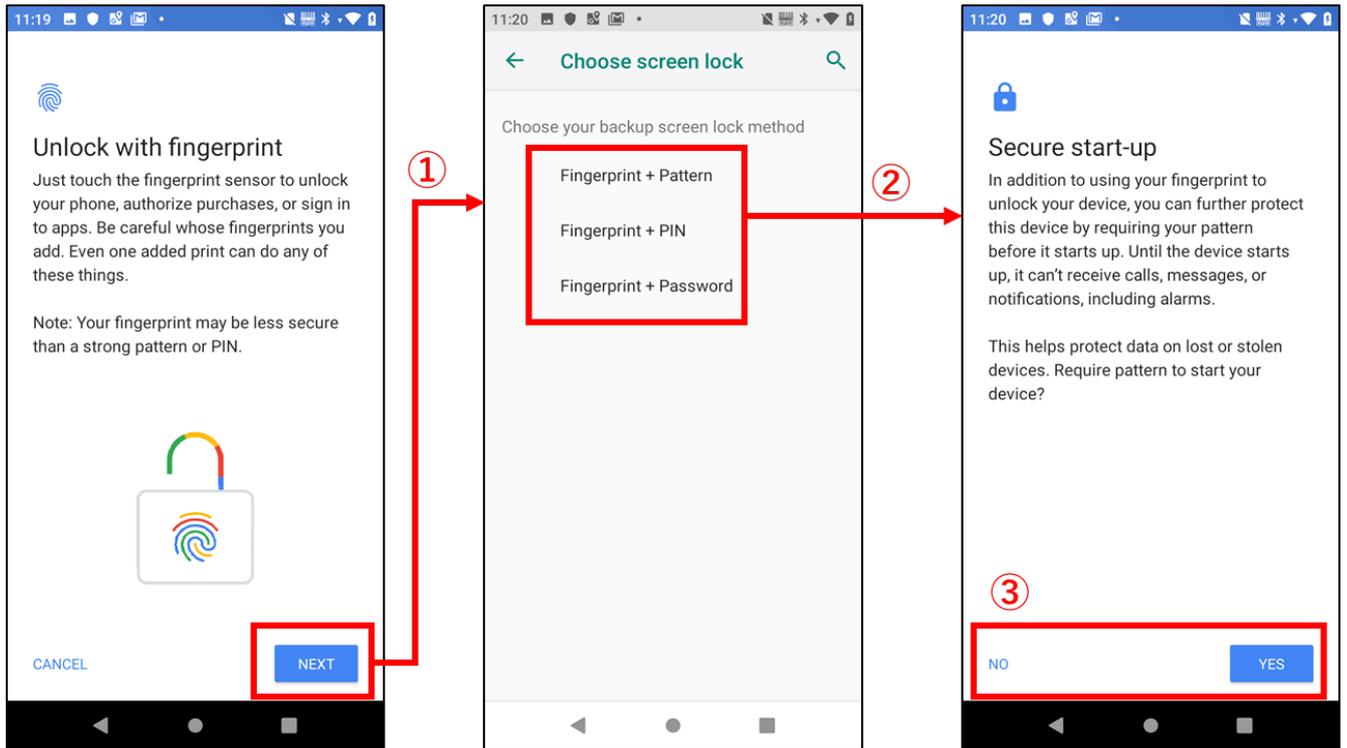
Used in conjunction with `android.location.GpsStatus`.

2.19 Fingerprint

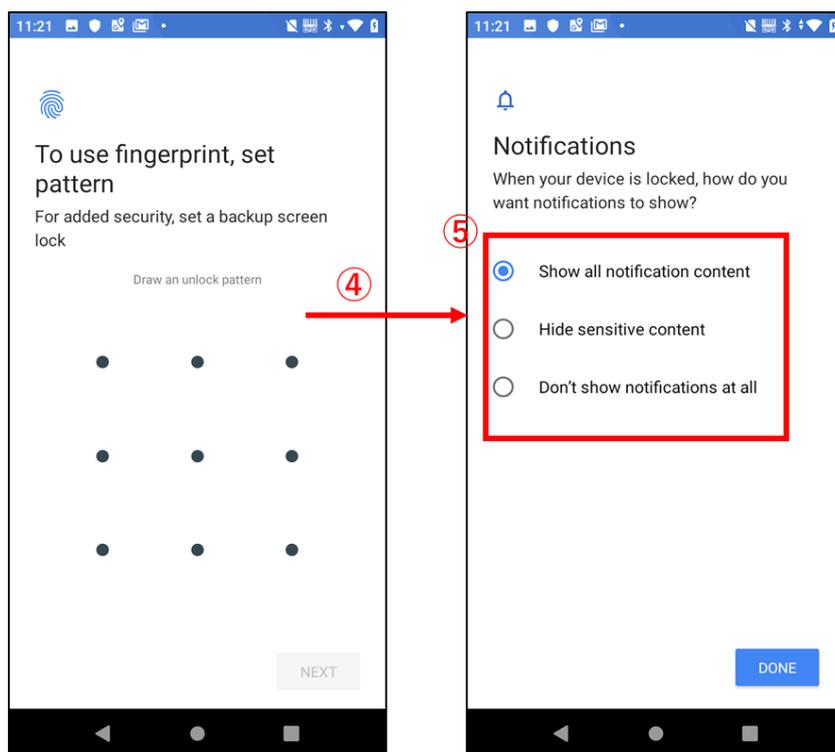
The ET-L10 equips fingerprint sensor. By registering a fingerprint, can unlock the device by simply touching the fingerprint sensor.

To register a fingerprint, go to [Settings] -> [Security & location] -> [Fingerprint].

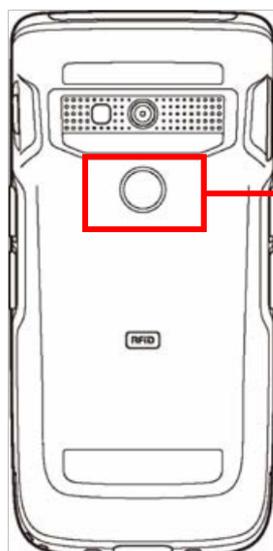
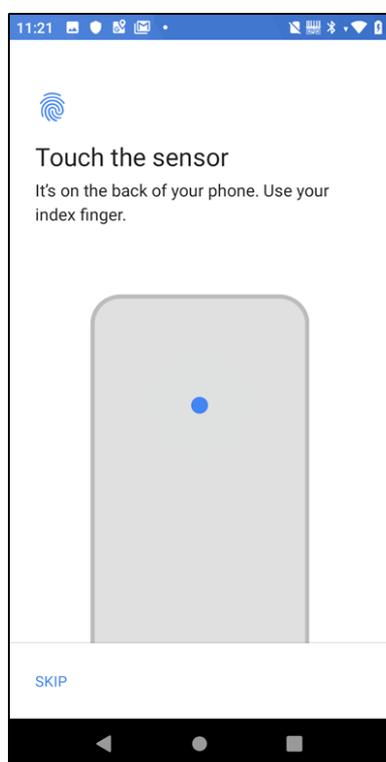
- ① Touch [NEXT] on the [Unlock with fingerprint].
- ② Choose your backup screen lock method.
- ③ Choose if protecting this device by a lock screen before it starts up.



- ④ Set the backup screen lock.
- ⑤ Choose notifications to show when your device is locked.

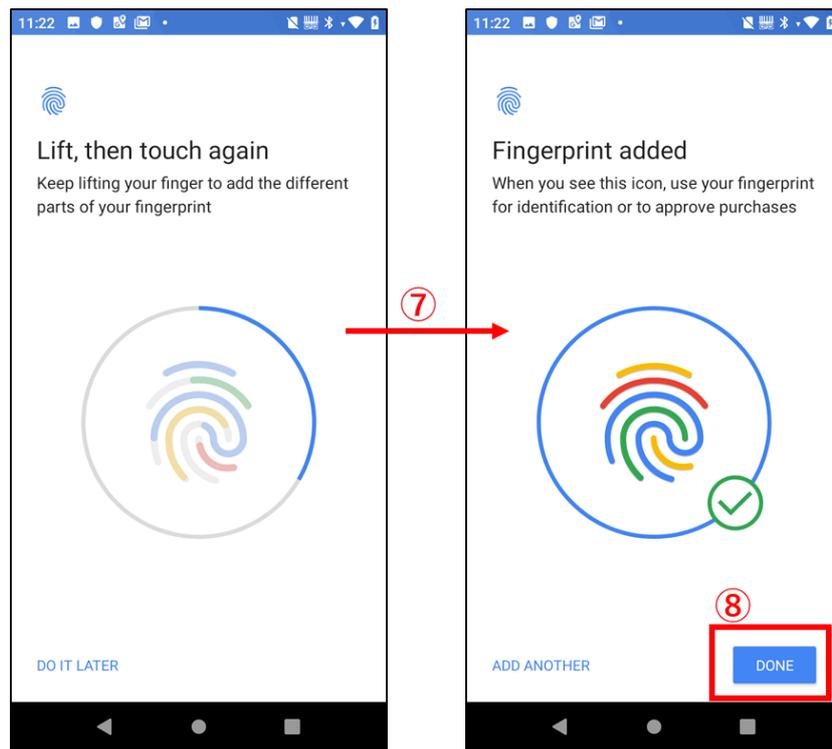


- ⑥ Touch the fingerprint sensor.



Fingerprint sensor

- ⑦ Lift and touch the fingerprint sensor again.
- ⑧ Touch [DONE] button when the registration of the fingerprint is completed.



3. Applications

3.1 List of applications

The table below shows a list of applications installed in the ET-L10.

The following sections describe applications that require explanation ("Settings" and CASIO additional applications).

Cautions!

Since installed standard Android applications are frequently updated via the Google Play Store, understand that the explanation in this manual is an overview of each application.

Icon	Application Name	Description
	Calculator	Calculator for numerical calculation and function calculation.
	Calendar	Manages events with Google Calendar. You can synchronize, display, and register schedules.
	Camera	Shoot still images and movies.
	Chrome	Browse web pages.
	Clock	Set clock display and alarm setting.
	Contacts	View and edit contacts, and sync with Google contacts.
	cScan	cScan is a demonstration tool for checking the operation of a barcode scanner.
	Drive	Accesses Google Drive, then search, view, edit photos and files on it.
	Duo	Duo is the video chatting mobile app.
	File Manager	Managing files and directories. Copy, move, delete and create files and directories.
	Files	Download files by request of mailer or browser. And refer to the downloaded file.
	Gmail	Send and receive Google and other emails.
	Google	Searches what you need on the web and on your Android devices.

	Hangouts	Sending and receiving messages, video calls and chats.
	Keep Notes	Creating text files, photos and videos and keep them on the web.
	Kitting Tools	Installs various applications and set the setting to the terminal and make it available fo business. Refer to "Kitting Manual".
	Maps	Display map and navigate to the destination.
	Messages	Sending and receiving SMS.
	NetSearch	NetSearch is a tool to display and record WLAN status. It is useful to check the WLAN environment before installation and to analyze WLAN trouble during development.
	Photos	Managing service your photos and videos.
	Play Movies	Play movies and TV shows purchased or rented on Google Play.
	Play Store	Installing applications from Google Play store.
	QTI Phone	Make and receive phone calls.
	Settings	Configure various Android settings
	Sound Recorder	Recording voice memos, talks, music and songs.
	YouTube	Play, create and upload YouTube videos.
	YT Music	Music streaming services by YouTube. You can listen to the musics and browse music videos.

In AOSP (Chinese) model, the table below shows a list of applications.

Icon	Application Name	Description
	Calculator	Calculator for numerical calculation and function calculation.
	Calendar	Simple calendar application for managing events.
	Camera	Shoot still images and movies.

	Chromium	Browse web pages.
	Clock	Set clock display and alarm setting.
	Contacts	View and edit contacts.
	cScan	cScan is a demonstration tool for checking the operation of a barcode scanner.
	Email	Send and receive emails.
	File Manager	Managing files and directories. Copy, move, delete and create files and directories.
	Files	Download files by request of mailer or browser. And refer to the downloaded file.
	Gallery	Organize your photos deleting, cropping and make albums and you can view photo and make slideshows.
	Kitting Tools	Installs various applications and set the setting to the terminal and make it available fo business. Refer to "Kitting Manual".
	Messaging	SMS/MMS Messaging app.
	Music	Simple music player. You can sort the tracks by artists and albums.
	NetSearch	NetSearch is a tool to display and record WLAN status. It is useful to check the WLAN environment before installation and to analyze WLAN trouble during development.
	PERMISSION	Mms Control / Data Control permission can be set for each package.
	QTI Phone	Make and receive phone calls.
	Settings	Configure various Android settings
	Sound Recorder	Recording voice memos, talks, music and songs.
	Videos	Video Player.

3.1.1 Settings

This is the outline of setting items.

Network & Internet

You can manage the network using Wi-Fi, mobile network and connection settings to the device.

In addition, used for setting up the connection between the terminal and the virtual private network (VPN), for connecting to the Internet with another device via the data communication of the terminal, and for turning off all wireless communication by switching to flight mode.

Item	Description
Wi-Fi	Setting WLAN enabled / disabled, selecting Access point to connect.
Add Network	
Wi-Fi preferences	
Saved networks	
Mobile network	Configure mobile network settings.
Mobile data	
Roaming	
Data usage	
Advanced	
Data usage	Restricting of the data communication quantity and to enable / disable data communication by mobile network.
Wi-Fi data usage	
Network restrictions	
Hotspot & Tethering	Enable / disable of Tethering
Wi-Fi hotspot	
USB tethering	
Bluetooth tethering	
SIM cards	Setting of SIM cards. Do not change this setting.
Airplane mode	Enable / disable Airplane mode
VPN	Setting of VPN connection
Private DNS	Setting of private DNS

Wi-Fi

Set the Wi-Fi settings.

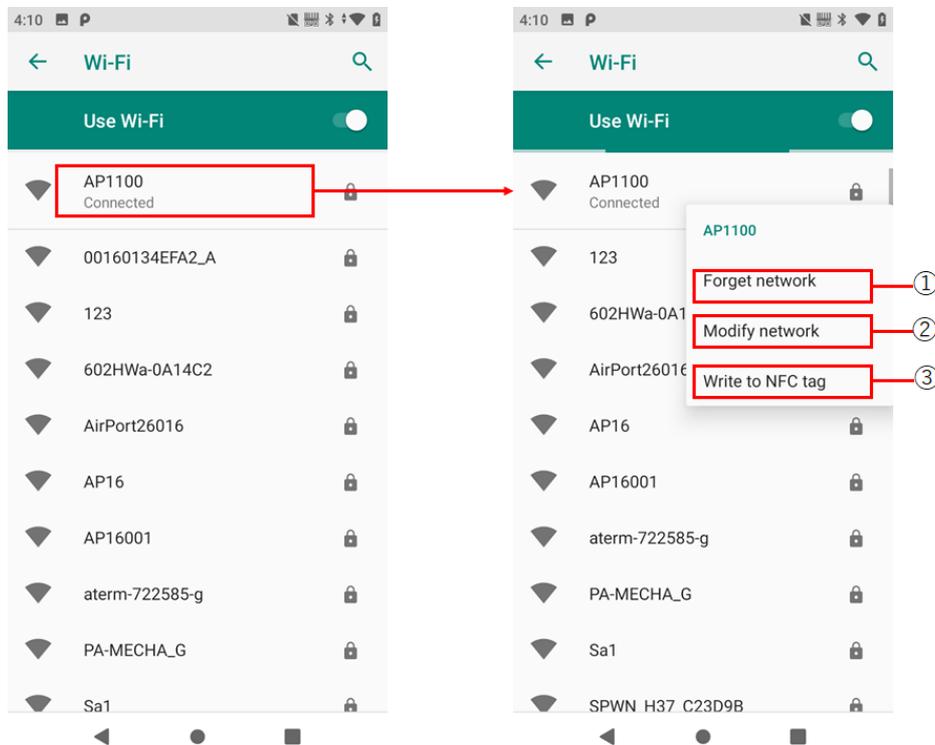
To make detailed settings, select "Wi-Fi settings".

The surrounding access points are scanned. Touch the access point that want to connect and set the connection setting.

Note!

When connecting to the stealth SSID, set [Add network] -> [Avanced options] -> [Hidden network] to "Yes".

Modifies the setting contents and forgets the connected network. If touch and hold the connected network from the access point list, a menu pops up.



① Forget network

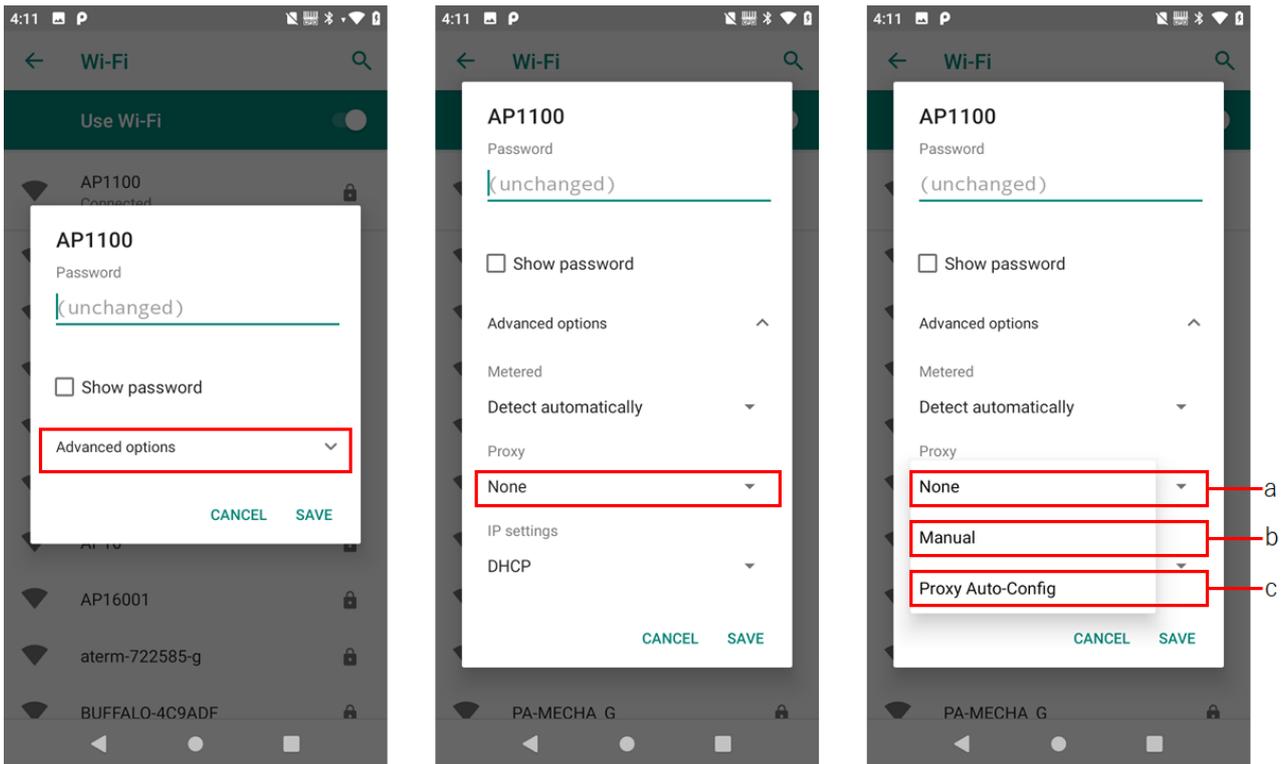
② Modify network

Configure proxy and DHCP settings.

③ Write to NFC tag

Write the access point setting to the NFC tag.

Proxy settings



Touch [Advanced options] to display the pop-up. By defaults, the proxy is set to "None", so long press this to see the choices.

- a) Proxy setting - None
Select "None" if you do not want to use a proxy.
- b) Proxy setting - Manual
Set proxy host name, port number and so on.
- c) Proxy setting - Proxy Auto-config
Set URL of "Proxy PAC".

Mobile network

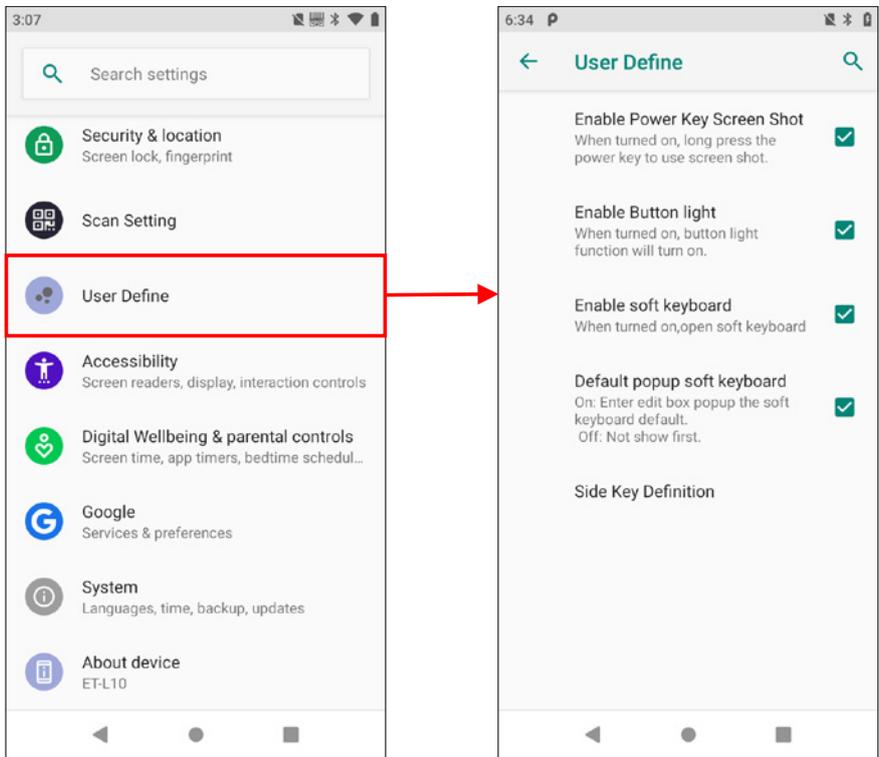
Follow instructions of the carrier to set the contents. It is not necessary to set items that are not specifically instructed.

To change the setting, touch the + icon in the upper right corner of [Advanced] -> [Access Point Names].

Item	Description
Name	Set name of APN setting.
APN	Set Access point name.
Proxy	Set host name of proxy used for data communication.
Port	Set port number of the proxy.
Username	Set user name for authentication when connecting to APN.
Password	Set password for authentication when connecting to APN.
Server	Set the server name specified by the carrier.
MMSC	Configure MMS (multimedia messaging service) center.
MMS proxy	Set host name of the proxy used when using MMS.
MMS port	Set port number of the proxy used when using MMS.
MCC	Set MCC (Mobile Country Code).
MNC	Set MNC (Mobile Network Code).
Authentication type	Set one of the followings. None / PAP / CHAP / PAP or CHAP
APN type	Set APN type specified by the carrier.
APN protocol	Set one of the followings. IPv4 / IPv6 / IPv4/IPv6
APN roaming protocol	Set one of the followings. IPv4 / IPv6 / IPv4/IPv6
APN enable/disable	Enable / disable APN
Bearer	Set bearer
MVNO type	Set MVNO type
MVNO value	Set MVNO value

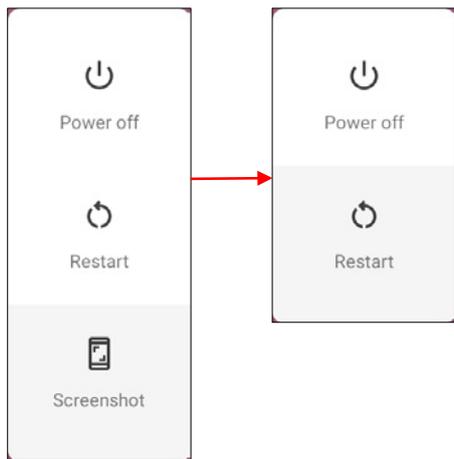
User Define

The "User Define" can change the function of the hardware key, such as PTT Key and Light Key, mounted on the ET-L10.



Screenshot

Switching "Enable Power Key Screen Shot", display / hidden the "Screenshot" button in the power menu.



Key backlight

Switching "Enable Button light", enable / disable the key backlight.

Software keyboard

Switching "Enable soft keyboard", enable / disable the software keyboard.

If disabled the software keyboard, it is not displayed regardless the setting of the application.

Popup software keyboard

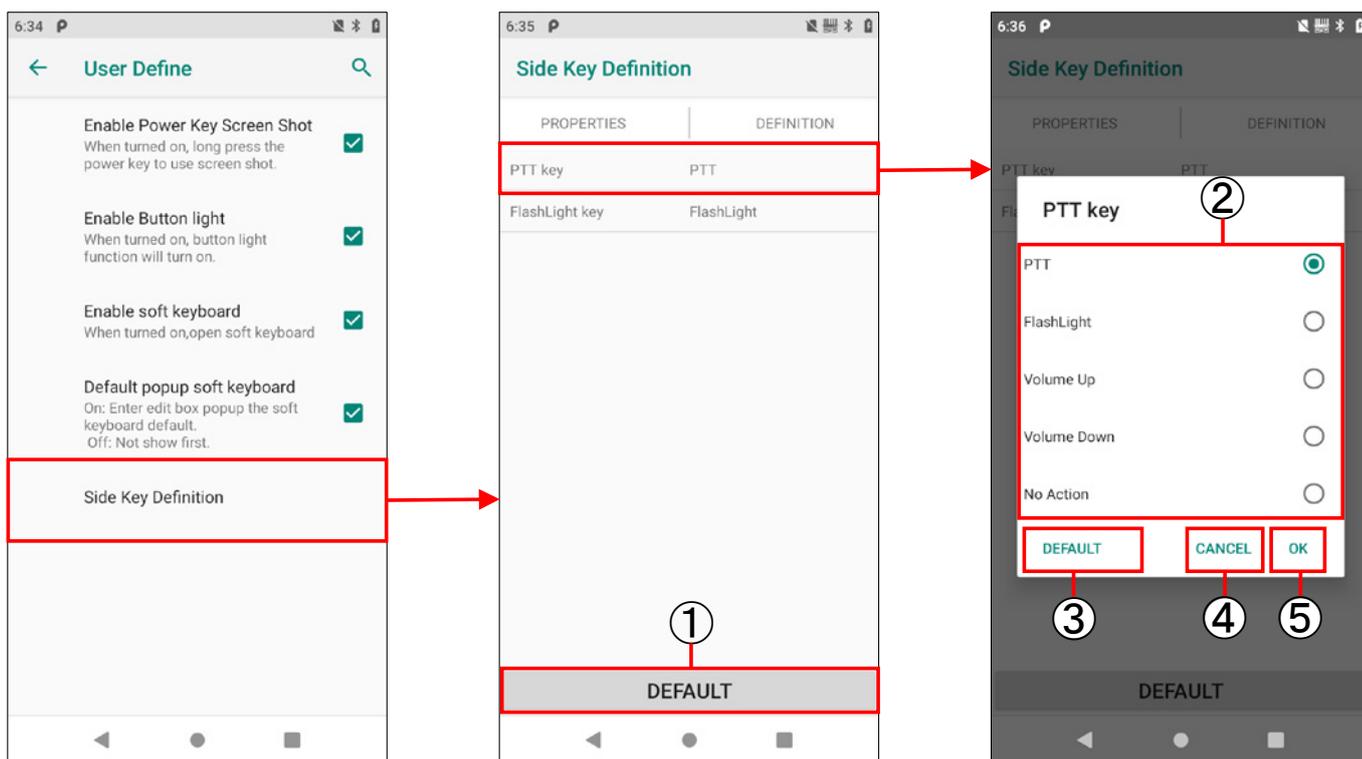
Switching "Default popup soft keyboard", popup / not popup the software keyboard when focus the editbox.

If disabled the popup, the software keyboard is not displayed when focus the edit box first time. Touch the edit box to display the software keyboard.

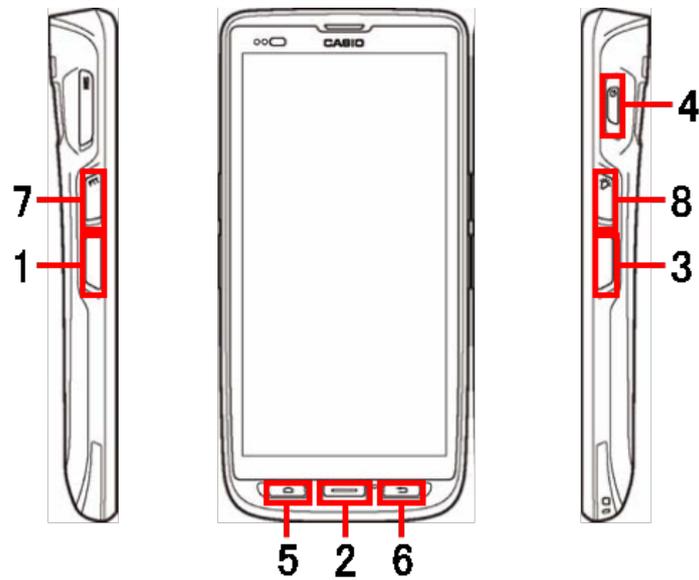
However, the application's setting has high priority more than this setting. Therefore, even if this setting is disabled, the software keyboard may be displayed.

Hardware key definition

Changing "Side Key Definition", assign different function to the hardware key.



- ① Return all keys to the default function.
- ② Select the function to assign to the selected hardware key.
- ③ Return selected hardware key to default function.
- ④ Cancel the function assignment of the selected hardware key.
- ⑤ Determine the function to assign to the selected hardware key.



No.	Key	Default function	
1	L Trigger Key	Can not change the function	
2	Center Trigger Key		
3	R Trigger Key		
4	Power Key		
5	Home Key		
6	Back Key		
7	PTT Key	PTT	No Action
8	Light Key	FlashLight	Turn the light on the top of this device on and off.

The following functions can be assigned.

Function	Function	Android Key code
PTT	No Action	KEYCODE_PROG_RED
FlashLight	Turn the light on the top of this device on and off.	KEYCODE_PROG_BLUE
Volume Up	Volume up	KEYCODE_VOLUME_UP
Volume Down	Volume down	KEYCODE_VOLUME_DOWN
No Action	No Action	KEYCODE_UNKNOWN

Accessibility

Settings related to users' usage.

Item	Description
HOME key double click	Set HOME key shortcut to use.
Text-to-speech output	Set screen readers.
Preferred engine ※1	
Language	
Speech rate	
Pitch	
Font size ※2	Set font size and display color.
Display size ※2	
Magnification	
Color correction	
Color inversion	
Large mouse pointer	
Remove animations	
Dwell timing	
Power button ends call	
Auto-rotate screen	
Touch & hold delay	
Vibration	
Mono audio	Set audio and on-screen text.
Captions	
High contrast text	Enable / disable high contrast text.

※1 These settings are not available on AOSP (Chinese) model.

※2 Applications might not accurately display interfaces by the setting of "font size" and "display size". In that case, operate with hardware keyboards.

System

Set date and time and make settings for developers.

Item	Description
Languages & input	Set language and keyboard to use.
Languages	
Virtual keyboard	
Physical keyboard	
Date & time	Set date and time and select time zone.
Automatic data & time	
Automatic time zone	
Set date	
Set time	
Select time zone	
Use 24-hour format	
NTP server	
Backup ※2	Set backup to Google Drive. Not cooperate with "Backup / Restore" in "Kitting Tools".
Back up to Google Drive	
Account	
App data ※1	
Call history ※1	
Contacts ※1	
Device settings ※1	
SMS text messages ※1	
Reset options	Clear network settings or all data in the terminal.
Reset Wi-Fi, mobile & Bluetooth	
Reset app preferences	
Erase all data	
System Updates	Use to update OS image.

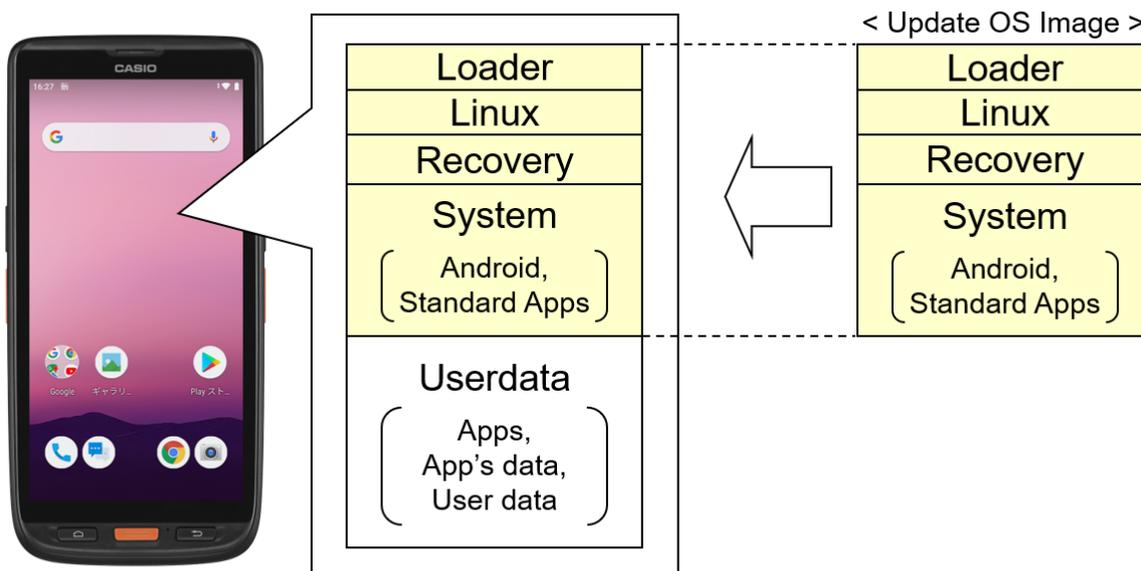
※1 Some settings of Backup is available only the terminal signed in by Google Account.

※2 These settings are not available on AOSP (Chinese) model.

System updates

The software (Android, Linux, driver, standard installed application) written at shipment from the factory of the ET-L10 is called "OS", and the place where it is written is called "system area".

On the other hand, the application installed by the user, its data area, and the internal memory area are collectively called "user data" or "user area".



If it is necessary to modify the OS due to security correspondence etc., CASIO may provide a modified "OS image". The function of rewriting the OS is called "System updates (OS Updates)".

In System updates, since only the system area is rewritten, it does not affect the user data. However, in preparation for unexpected circumstances, recommend that backup data before updating the system.

Cautions!

System updates is performed with network connection or automatic restart, so make sure that all applications are stopped.

System updates support only OS up version.

OS image

There are two types of the OS images: Full image and Differential image.

The full image is used when updating the system regardless of the OS version.

When updating the system from the current version to one newer version, use the differential image.

The OS image file name includes the OS release number and OS version. The structure of the file name is as follows.

Full image filename

ETL10-V002-EN_18.ota

ETL10-V002-CN_18.ota (for AOSP (Chinese) model)

|① |② |③ |⑦

Differential image filename

ETL10-V002-EN_18-from-V001-EN_17.ota

ETL10-V002-CN_18-from-V001-CN_17.ota (for AOSP (Chinese) model)

|① |② |③ |④ |⑤ |⑥ |⑦

- ① ETL10 : This is the fixed device name.
- ② V002 : This is the OS release number. It changes for each OS image.
- ③ EN_18(CN_18) : This is the OS version number. It changes for each OS image.
- ④ from : This is a fixed character means the differential OS image.
- ⑤ V001 : This is the OS release number of the update source. It changes for each OS image.
- ⑥ EN_17(CN_17) : This is the OS version number of the update source. It changes for each OS image.
- ⑦ ota : This is a fixed extension.

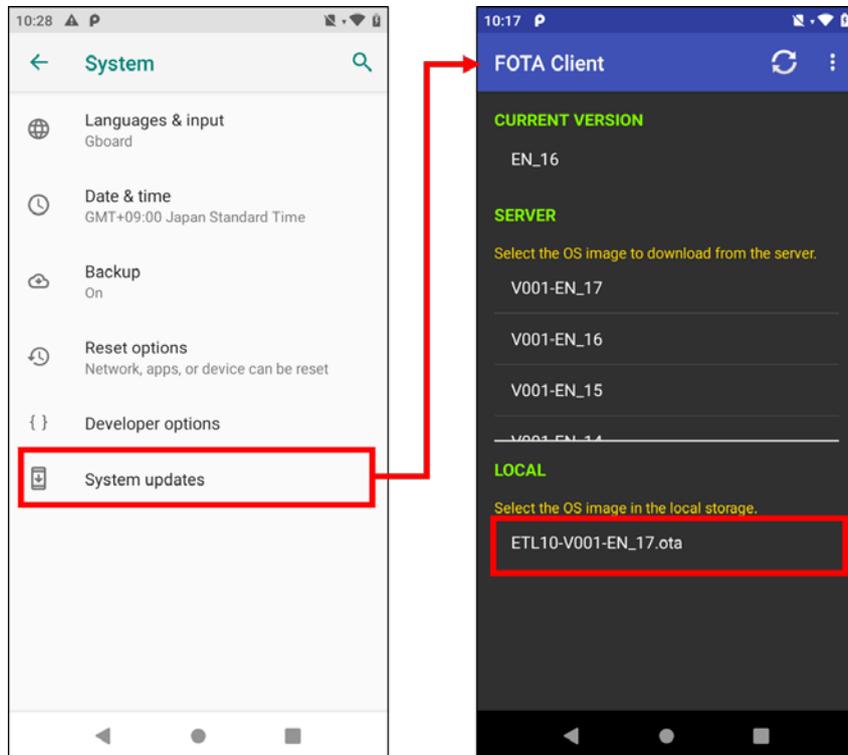
To check the current OS version, refer to the "Build number" in [Settings] -> [About device]. The last 5 digits of the displayed build number is the current OS version.

Local Updating

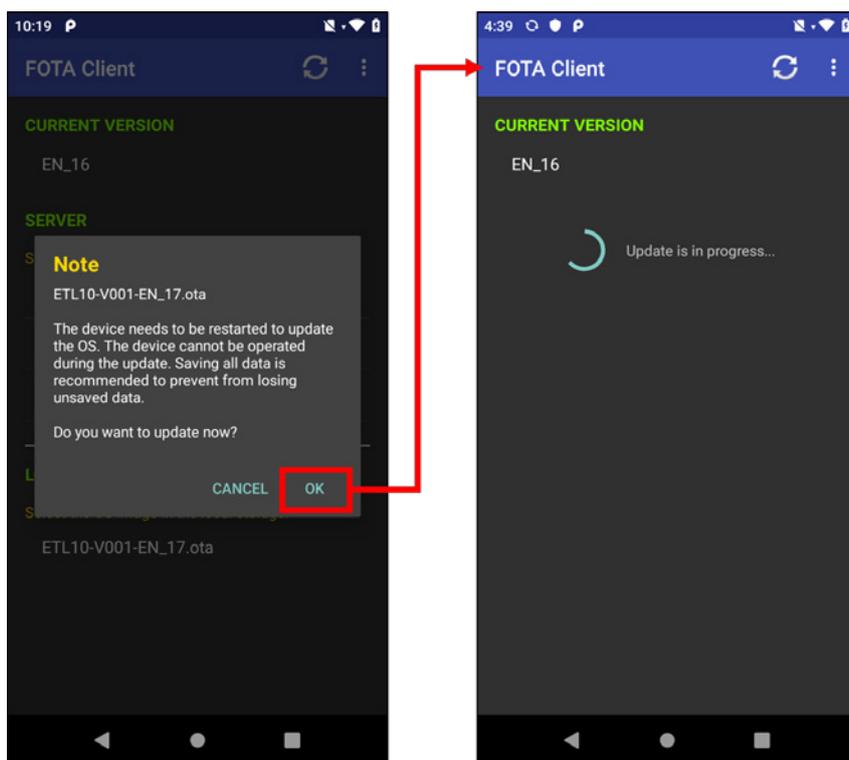
OS image stored the root folder in the internal storage or in the microSD card for System Updates.



Select [Settings] -> [System] -> [System updates], "FOTA Client" is launched and list of OS images for updating will be displayed in the local area at the bottom of the screen.



Select the target OS image, confirmation dialog will be displayed. If select [OK], system updating will start. When update is completed, it will restart automatically.



Cautions!

Updating with the OS image of the internal storage, the OS image is automatically deleted.
Updating with the OS image of external storage, the OS image is not deleted.

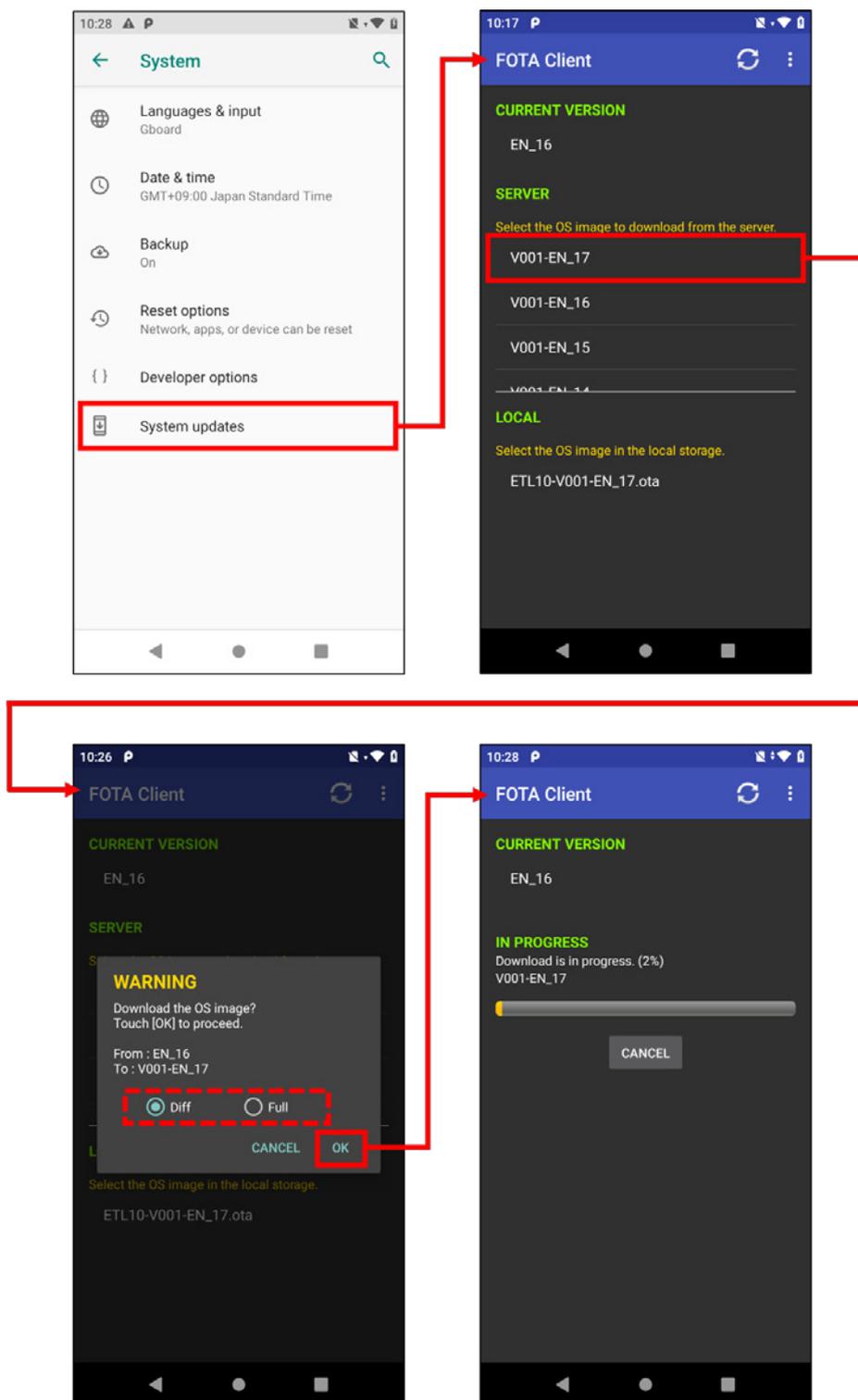
FOTA Updating

OS image download from the FOTA (Firmware Over The Air) server.

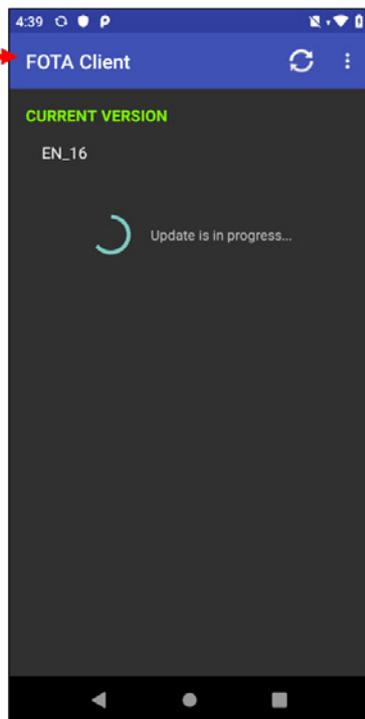
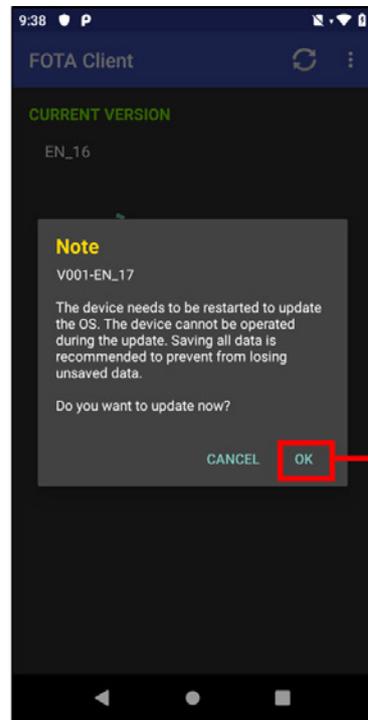
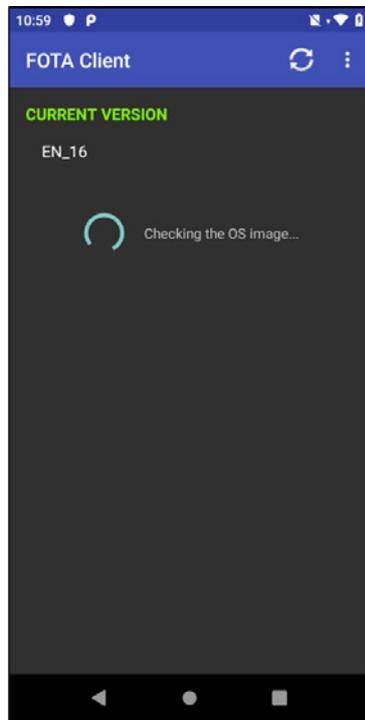
While WLAN connection is available, select [Settings] -> [System] -> [System updates], then "FOTA Client" is launched and shows available OS versions.

When OS version is touched and select the OS image, confirmation dialog will be displayed and select [OK], it will start to download the selected OS image (full image).

When performing a differential update from the current OS version to one newer OS version, touch the OS version and select [Diff] to start downloading the differential image.



After downloading is completed, "Checking the OS image" message is displayed, and after a while, confirmation dialog will be displayed. If select [OK], system updating will start. When completed, the ET-L10 will restart automatically.



Cautions!

The FOTA server does not acquire any personal information, please do not worry.

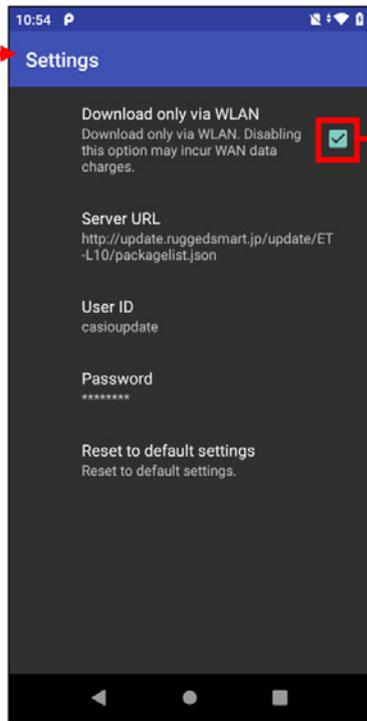
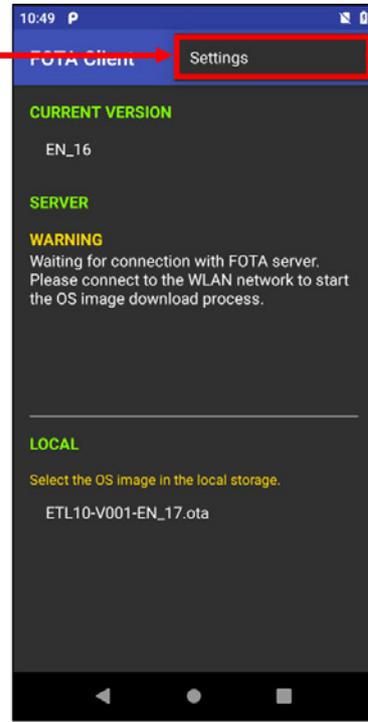
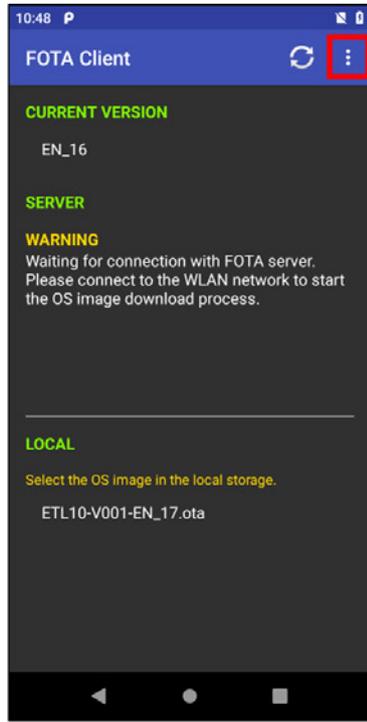
The use of FOTA function is free of charge. But data fees may apply from user's communications service provider.

Downloading may take long time depending on the user's network environment since the size of OS image is about 1.2GB. And the free space is required in the user area of the ET-L10's internal storage to save the OS image.

Depending on the user's network environment, the message of "Download paused. The network connection is unstable" will displayed. But any operation is necessary since download will resume automatically.

By default, the FOTA client downloads the OS image only over the WLAN.

If download the OS image over the Mobile network (3G/LTE), change the setting as follows. [FOTA Client] ->  -> [Settings] -> uncheck the [Download only via WLAN]



OSUpdateService

"OSUpdateService" is a method to update the system from user's application.

The OS Update of the ET-L10 is a premise to be done by human operation. This is based on the idea that "Since System update is a dangerous act such as the terminal does not start when failing, wish people to check progress".

By this method, it is possible to update OS at night when the device is not used.

Therefore, when using this service, sufficient verification is of course necessary, and furthermore it is necessary to prepare for "Measures to be taken if OS update fails, such as preparation of alternative terminal".

First, application issues "START intent" together with the PATH to the "OS image".

The OSUpdateService invoked by the intent above will check the integrity of the specified the OS image, restart the terminal and update will start.

START intent

Package name:

Class name: jp.casio.ht.osupdateservice.StartUpdate

Extra:

How to start System updates

```
Intent intent = new Intent();
intent.setFlags(Intent.FLAG_ACTIVITY_NEW_TASK);
intent.setClassName("jp.casio.ht.osupdateservice", "jp.casio.ht.osupdateservice.StartUpdate");
Uri uri = Uri.parse("PATH to the OS image");
intent.setData(uri);
startActivity(intent);
```

Specify the file path

When deploy the OS image for internal storage, specify the file path from the internal storage.
When deploy the OS image for external storage, specify the file path from the root folder of the external storage.

e.g.)

When deploy the OS image "ETL10-V001-EN_17.ota" in the root folder of the internal storage,
"/storage/emulated/0/ETL10-V001-EN_17.ota"

When deploy the OS image "ETL10-V001-EN_17.ota" in the root folder of the external storage,
"/ETL10-V001-EN_17.ota"

It is possible to get the result of system update by checking "ERROR intent" or log file.

The results that can be obtained with the "Error intent" or log file are as follows.

Value	Description
-2	Cannot update because the battery level is less than 20%.
-1	OS update image file is not valid.
0	Update was completed normally.
1	Specified update has already been applied.
2	Update was applied, but the OS version was not the desired version.

ERROR intent

Package name:

Class name: jp.casio.ht.osupdateservice.finishupdate

Extra:

```
FinishBroadcastReceiver receiver = new FinishBroadcastReceiver();
IntentFilter intentFilter= new IntentFilter("jp.casio.ht.osupdateservice.finishupdate");
registerReceiver(receiver, intentFilter);

...

class FinishBroadcastReceiver extends BroadcastReceiver {
@Override
public void onReceive(Context context, Intent intent) {
    Bundle bundle = intent.getExtras();
    String result= bundle.getString("result");
}
}
```

Log specification

System updates execution results are saved in a log file. The storage location is as follows.

(i.e. "/storage/emulated/0/Android/data/jp.casio.ht.osupdateservice /files/result.xml")

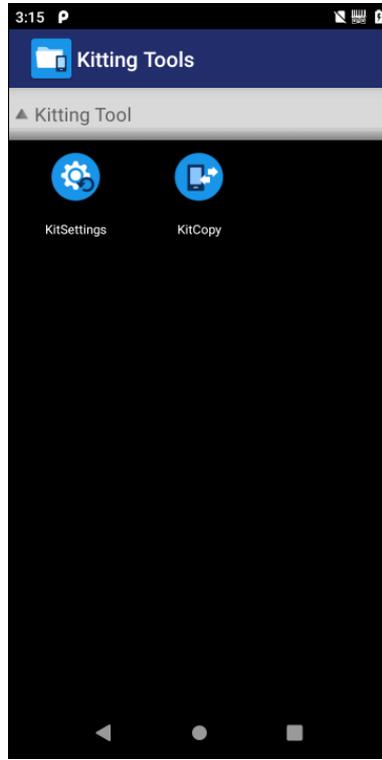
This is an XML format document, the layout shown below.

```
<?xml version='1.0' encoding='utf-8'?>
<update>
<file>OS image file path passed from the application</file>
<apply>Applied OS image file name</apply>
<start>Update starting time and date</start>
<finish>Update finished time and date</finish>
<prevver>OS version before updating</prevver>
<postver>OS version after updating</postver>
<result> System updates result</result>
</update>
```

```
e.g.)
<?xml version="1.0" encoding="utf-8"?>
<update>
<file>/storage/emulated/0/ETL10-V001-EN_17.ota</file>
<apply>ETL10-V001-EN_17.ota</apply>
<start>2019/12/04 10:36:26</start>
<finish>2019/12/04 10:40:30</finish>
<prevver>EN_16</prevver>
<postver>EN_17</postver>
<result>0</result>
</update>
```

3.1.2 Kitting Tools

It is called "kitting" to install various applications and set the setting to the terminal and make it available fo business. This tool is to make kitting work for the ET-L10 efficient. Refer to "Kitting Manual".

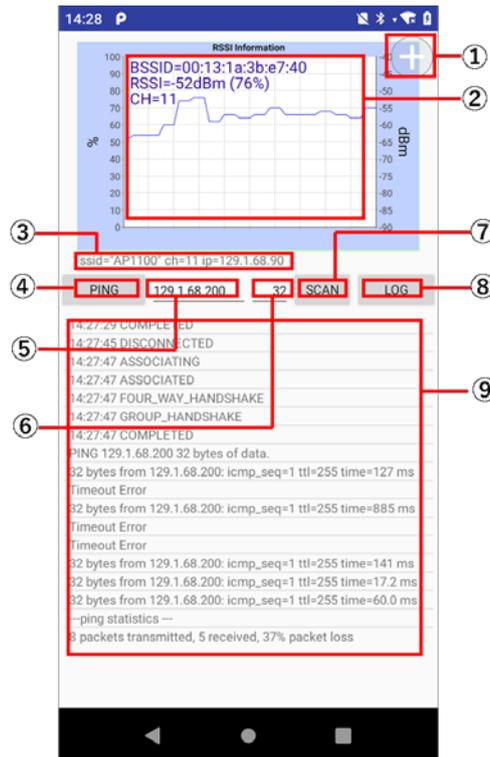


3.1.3 NetSearch

NetSearch is a tool to display and record WLAN status. It is useful to check the WLAN environment before installation and to analyze WLAN trouble during development. This tool has three views, Signal View, Scan View and Detailed View. To switch to another view, select desired view from the menu displayed by + icon placed on right upper.

Signal View

This view check WLAN status in real-time.



- ① Switch to another view
- ② Display of connected Access Point's information by graph and text
- ③ Display SSID, channel, IP Address
- ④ Ping to specified address
- ⑤ Specify PING destination address
- ⑥ Specify the ping transmission size
- ⑦ Access Point scanning for same SSID as currently connected
- ⑧ Enable / Disable Log
- ⑨ Display of WLAN status reported by Android OS

Log file

When [LOG] button is touched, two kinds of log files are created in the NetSearchLog folder of Internal Storage.

Logging stops when [LOG STOP] button is touched or the number of lines exceeds 100,000.

Ping result/Scan result/WLAN status

File name:

YYMMDDTTMMSSNetSearchlog.txt (YYMMDDTTMMSS is date and time of starting log)

Format of each line:

YYMMDDTTMMSS,results/status displayed at Signal View

RSSI graph data

File name:

YYMMDDTTMMSSGraphNetSearchlog.txt (YYMMDDTTMMSS is date and time of starting log)

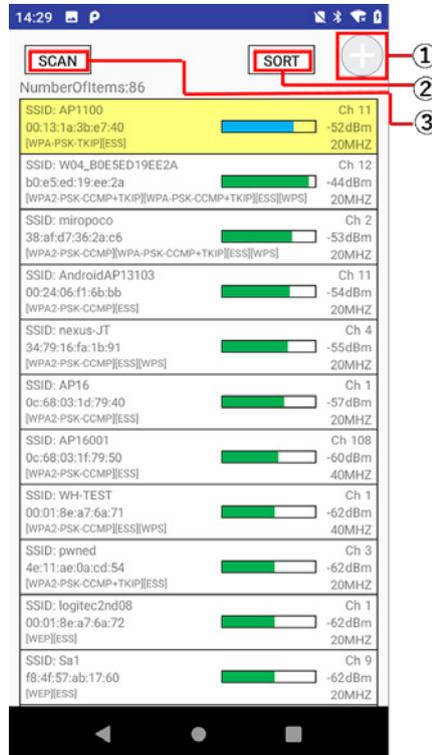
Format of each line:

YYMMDDTTMMSS,[SSID],[BSSID],[Channel],[RSSI(dBm)],[IPv4Addr]

Scan View

This view checks neighborhood Access Points list.

When this view is displayed, Access Point scanning will take place once. After that, if [SCAN] button is touched, scanning will continuously take place until [STOP] button is touched.



- ① Switch to another view
- ② Select the display order of SCAN results
- ③ Start SCAN

Colors:

Currently connected Access Point is shown with Blue strength bar. Other Access Points are shown with Green bar.

Access Points which have same SSID as currently connected are shown with Yellow background. Other Access Points are shown with White background.

Display Order:

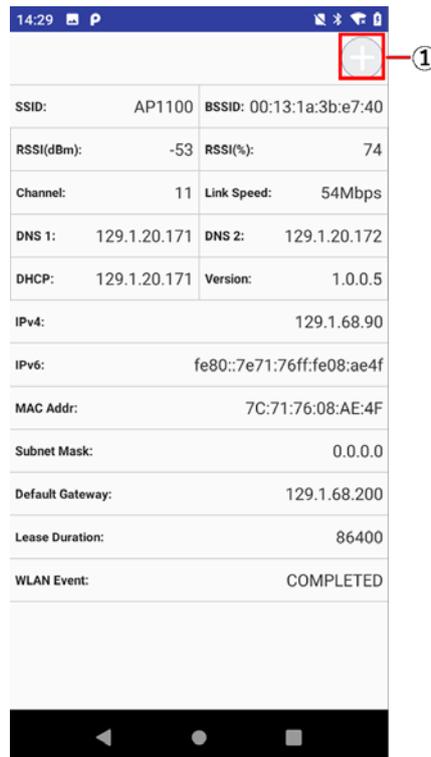
Currently connected Access Point is shown at top of the list regardless of sort setting.

Access Points which have same SSID as currently connected are shown next.

Other Access Points are shown at lower part of the list.

Detail View

This view displays detailed information about by text.



SSID: AP1100		BSSID: 00:13:1a:3b:e7:40	
RSSI(dBm):	-53	RSSI(%):	74
Channel:	11	Link Speed:	54Mbps
DNS 1:	129.1.20.171	DNS 2:	129.1.20.172
DHCP:	129.1.20.171	Version:	1.0.0.5
IPv4:	129.1.68.90		
IPv6:	fe80::7e71:76ff:fe08:ae4f		
MAC Addr:	7C:71:76:08:AE:4F		
Subnet Mask:	0.0.0.0		
Default Gateway:	129.1.68.200		
Lease Duration:	86400		
WLAN Event:	COMPLETED		

① Switch to another view

3.1.4 Scan Setting

Scan Setting is used to control the barcode scanner. This is effective when do not develop a dedicated program for barcode scanner control, such as a Web based application. For details, refer to "Barcode Scanner Control Manual".