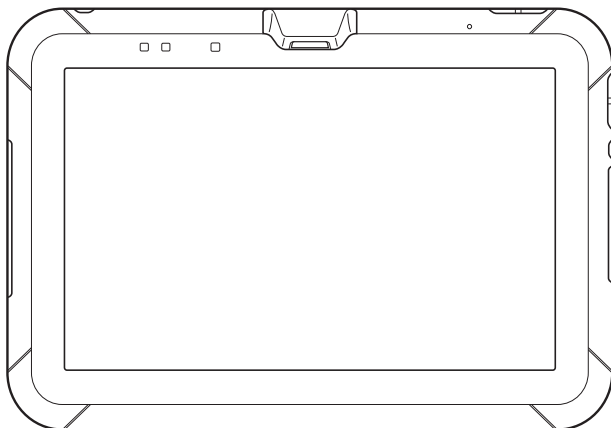


CASIO[®]

Paper Writer V-N500 Series

User's Guide

Be sure to read "Safety Precautions" inside this guide before trying to use your Paper Writer.



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For detailed information on these licenses, go to Settings ⇒ About tablet ⇒ Legal information ⇒ Open source licenses.

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Contents

Chapter 1 Essential Reading	E-5
Safety Precautions	E-6
Operating Precautions	E-13
Important	E-16
After Service	E-16
Regulatory Information	E-16
Chapter 2 Basic Operation.....	E-17
Paper Writer System Configuration.....	E-18
General Guide	E-20
Loading and Removing the Battery Pack.....	E-22
Loading	E-23
Removing.....	E-24
Charging the Battery Pack	E-25
Ethernet Cradle/Cradle-type Battery Charger	E-25
Car Adaptor	E-25
Dual Battery Charger	E-26
AC Adaptor	E-26
Switching On/Off and Sleep	E-27
Switching On.....	E-27
Switching Off (Shutdown).....	E-27
Sleep.....	E-27
Initial Settings	E-28
Unlocking the Screen.....	E-28
Customization for Job Menu Use.....	E-29
Syncing the Calendar and Contacts	E-30
Using the Paper Writer Accessories.....	E-38
Shooting Images.....	E-38
Viewing Photographed Images	E-44
Using microSD Cards.....	E-56
Installing.....	E-56
Removing.....	E-56
Using SAM Cards	E-58
Installing.....	E-58
Removing.....	E-59

Using SIM Cards	E-60
Installing.....	E-60
Removing.....	E-61
Handling SD Memory Cards	E-62
Installing.....	E-62
Removing.....	E-62
Handling the NFC Reader/Writer	E-63
Contactless IC Cards.....	E-63
RFID Tags.....	E-63
HDMI Connection	E-65
Resetting the Paper Writer	E-66
Chapter 3 Built-in Software	E-67
Standard Accessories	E-68
Software List.....	E-68
Camera.....	E-69
Browser.....	E-70
Mail.....	E-71
Gallery.....	E-72
Music.....	E-74
Clock.....	E-75
Message.....	E-76
User.....	E-77
Calendar.....	E-78
Search.....	E-80
Calculator.....	E-81
Additional Accessories	E-82
Software List.....	E-82
Adobe Reader.....	E-83
Memo Text.....	E-85
Memo Paint.....	E-86
Job Browser.....	E-88
Voice Recorder.....	E-89
Paper Writer Accessories	E-92
Software List.....	E-92
Closing Shot.....	E-93
Flipping Shot.....	E-94
Finder.....	E-104

Calendar	E-145
Contacts	E-153
Settings	E-159
Software List	E-159
Wireless and Network Settings	E-160
Terminal	E-161
User Settings	E-162
System	E-163
Operation Support Tools	E-165
Software List	E-165
Job Menu	E-166
Login Authentication Setting Tool	E-168
Account Edit Tool	E-169
Security Settings	E-170
Theft Protection	E-171
System Operation Tools	E-173
Software List	E-173
File Manager	E-174
WLAN Tool	E-176
Backup Tool	E-177
Copy Devices	E-180
Demo Tools	E-181
Software List	E-181
NFC Demo	E-182
Barcode Scanner	E-183
Chapter 4 Options (Sold Separately)	E-185
Attaching and Removing the System Case	E-186
General Guide	E-186
Fitting the Paper Writer into the System Case	E-187
Removing the Paper Writer	E-188
Mounting the Paper Holders	E-188
Removing the Paper Holder	E-189
Using the Digitizer Pen	E-190
General Guide	E-190
Fitting the Battery	E-190
Using the Digitizer Pen	E-191
Replacing the Pen Tip	E-192

Handling the Hand Belt	E-193
Attaching.....	E-193
Attaching the Neck Strap	E-194
Using the Screen Cover	E-195
Attaching the Screen Cover.....	E-195
Using the Screen Cover as a Stand (When Taking a Flipping Shot).....	E-196
Using the Ethernet Cradle (HA-M62IO)	E-197
General Guide.....	E-197
Connecting the Ethernet Cradle Power Supply.....	E-199
Using the Cradle-type Battery Charger (HA-M30CHG)	E-202
General Guide.....	E-202
Connecting the Cradle-type Battery Charger Power Supply.....	E-203
Using the Dual Battery Charger (HA-M32DCHG)	E-205
General Guide.....	E-205
Charging a Battery Pack.....	E-207
Connecting Multiple Dual Battery Chargers.....	E-208
Using the AC Adaptor (AD-S36120A-N)	E-210
Chapter 5 Specifications	E-211
V-N500 Paper Writer Specifications	E-212
Optional (Separately Sold) Accessory Specifications	E-218
Ethernet Cradle (HA-M62IO).....	E-218
Cradle-type Battery Charger (HA-M30CHG).....	E-219
Dual Battery Charger (HA-M32DCHG).....	E-219
Car Adaptor (HA-M37CAC).....	E-220
AC Adaptor (AD-S36120A-N).....	E-220
AC Adaptor (AD-S90190C-N5).....	E-220
Battery Pack (HA-M20BAT).....	E-220
Chapter 6 Appendix	E-221
Open Source Licenses	E-222
Apps That Use Licenses.....	E-222
License Text List	E-223
OpenCV Release 2.4.....	E-223
libjpeg Version 6b.....	E-224
libtiff Version 1.5.....	E-233
libpng Version 1.2.5.....	E-235
ZLIB/LIBPNG License.....	E-238
Apache License Version 2.0.....	E-239

Chapter 1

Essential Reading

Safety Precautions

Congratulations upon your selection of this CASIO product. Be sure to read the following Safety Precautions before trying to use it for the first time.

Your neglect or avoidance of the warning and caution statements in the subsequent pages causes the danger of fire, electric shock, malfunction and damage on the goods as well as personal injury.

Markings and Symbols

The following are the meanings of the markings and symbols used in these Safety Precautions.



Danger

This symbol indicates information that, if ignored or applied incorrectly, creates the danger of death or serious personal injury.



Warning

This symbol indicates information that, if ignored or applied incorrectly, creates the possibility of death or serious personal injury.



Caution

This symbol indicates information that, if ignored or applied incorrectly, creates the possibility of personal injury or property damage.



• A diagonal line indicates something you should not do. The symbol shown here indicates you should not try to take the unit apart.



• A black circle indicates something you should do. The symbol shown here indicates you should unplug the unit from the wall outlet.



Warning

Disassembly and Modification



• Never try to disassemble or modify the Paper Writer and its options including battery pack and battery in any way.


Abnormal Conditions



• Should the Paper Writer and/or its options including battery pack and battery become hot or start to emit smoke or a strange odor, immediately turn off the power and contact your dealer or distributor whom you purchased the product from, or an authorized CASIO service provider.


Warning

Dust and Moisture

-  • Though the Paper Writer is dustproof and splashproof, accessories such as the system case and optional battery pack are not. Keep loose metal objects and containers filled with liquid away from your Paper Writer and the system case and optional accessories. Note also that you should never handle the Paper Writer, system case or optional accessories while your hands are wet.


Warning

Interference with the Operation of Other Equipment (Using Wireless Data Communication)

-  • Keep your Paper Writer at least 22 centimeters (8¹¹/₁₆") away from anyone wearing a pacemaker. Radio waves emitted by the Paper Writer can affect the operation of a pacemaker.
- Before the use in aircraft, be sure to consult with cabin crew for interference the Paper Writer emits.
- Before the use in medical facility, be sure to consult with the facility management or the manufacture of a specific medical equipment that the Paper Writer may interfere with.
- Do not use the Paper Writer nearby gas pump or chemical tank or any other places flammable or explosive.

Caution

Foreign Objects

-  • Take care to ensure that metals or combustible objects are not inserted into the openings of the Paper Writer or its options, and not to allow moisture to get inside of them.
- Do not attach aluminum stickers or other objects made using metal to the back of the V-N500. Doing so could cause the Paper Writer to overheat or catch fire, resulting in damage and burns or other injuries.
- Take care not to trap foreign objects between the V-N500 and the Ethernet Cradle. Doing so could cause the Paper Writer to overheat or catch fire, resulting in burns.

 **Caution**

Location



- Install the cradle properly on a flat and stable surface so that it cannot fall down onto floor.

LCD Screen



- Never apply strong pressure to the screen or subject it to strong impact. Doing so can crack the LCD Screen.

 **Warning**

Avoiding Traffic Accidents



- Never use the Paper Writer while operating a motor vehicle. Park your vehicle in a safe place before performing any operation.



- Never locate the Paper Writer where it might interfere with proper operation of the vehicle.



- Locate connecting cables as instructed by the manual, avoiding locations that can interfere with driving operations.

Car Battery Power



- Should the Car Adaptor become damaged, replace it immediately with a new Car Adaptor.

 **Caution**

Using in Vehicle



- Always disconnect the Car Adaptor when you get out of the car. Failing to do so could drain the car battery.

- Note that using the Car Adaptor for long periods while the car engine is turned off will drain the car battery.



- Do not handle the Car Adaptor with wet hands.





- When using the Paper Writer in a car fitted with airbags (SRS airbags), never place the Paper Writer on the airbag cover or in any location that could interfere with airbag operation.



- Do not leave the Paper Writer in vehicle for a long period of time.

Lithium Polymer Battery Pack


Danger

-  • Never use the Paper Writer and its option including the battery pack and battery next to open flame, near a stove, or any other area exposed to high heat, or leave them for a long period of time in a vehicle parked in direct sunlight.
- Never use the battery pack with any device other than the Paper Writer.
- Never dispose of the battery pack by incinerating it or otherwise expose it to heat.
- Never transport or store the battery pack together with metal objects that may result in shorting positive (+) and negative (-) terminals of the battery pack. Be sure to place the battery pack in its case whenever transporting or storing it.
- Never throw the battery pack or otherwise subject it to strong impact.
- Never pierce the battery pack with nails, hit it with a hammer, or step on it.
-  • Use only the specified battery charger to charge the battery pack.

Warning



-  • Never place the battery pack in a microwave oven or any other high-voltage device.
-  • If the amount of time period the battery pack can serve becomes considerably short even after it has been fully charged for the specified time period, stop using it.
- Should the battery pack start to leak or emit a strange odor, immediately move it away from any flame nearby. Leaking battery fluid is combustible.
- Should fluid from the battery pack accidentally get into your eyes or on the skin, do not rub it. Immediately rinse it off with clean tap water and then consult a physician.

Caution






-  • Replace only with the same type of battery pack recommended by CASIO. Dispose of used battery packs according to the local regulation.
- Keep the battery pack out of the reach of small children.

Power Supply / AC Adaptor

Warning


-  Do not use the Paper Writer at a voltage other than the specified voltage. Also, do not connect the Paper Writer to a multi-plug power strip.
- Never modify, sharply bend, twist, or pull on the power cord.
- Never use a detergent to clean AC adaptor and its power cable, especially on the plug and the jack.
-  When using the battery chargers and the cradles, be sure to use the respective AC adaptors.
- Only use the power cord provided. Also, do not use the bundled power cord with any other equipment.

Caution

-  Never pull on the power cord when unplugging it. Always hold the plug when unplugging it from the wall outlet.
- Never touch the plug while your hands are wet.
-  Be sure to unplug the power cord from the wall outlet before cleaning the battery chargers and the cradles.
- Unplug the power cord from the wall outlet whenever leaving the battery chargers and the cradles unattended for a long period.
-  The housing of the AC adaptor can become warm during normal use.
-  At least once a year, unplug the AC adaptor from the wall outlet and clean any dust that builds up between the prongs of the plug.
- Dust built up between the prongs can lead to the danger of fire.
-  Do not suspend the AC adaptor while using it. The weight could cause internal damage in the DC jack.


Backup of All Important Data

Caution












-  Note that CASIO Computer Co., Ltd. shall not be held liable to you or any third party for any damages or loss caused by deletion or corruption of data due to use of the Paper Writer, malfunction or repair of the Paper Writer or its peripherals, or due to the batteries going dead.
- The Paper Writer employs electronic memory to store data, which means that memory contents can be corrupted or deleted if power is interrupted due to the batteries going dead or incorrect battery replacement procedures. Data cannot be recovered once it is lost or corrupted. Be sure to make backup of all important data. One way to do this is to use the separately sold cradles to transfer data to a computer.

Alkaline Battery Handling Precautions (for the Digitizer Pen)






Danger

-  • Since there is the risk of blindness and other serious disorders when alkaline battery fluid enters the eyes, seek medical treatment immediately after adequately flushing the eyes with a large amount of tap water or other clean water without rubbing.

Warning

-  • Do not dispose of batteries in open flames or allow them to be heated, disassembled or modified. This results in the risk of damaging insulation and safety valves or causes the batteries to leak fluid, overheat or rupture.
-  • Do not reverse the (+) and (-) poles of the batteries. This results in the risk of abnormal reactions during charging or short-circuiting, or causes the batteries to leak fluid, overheating or rupture.
-  • Store batteries in a location out of the reach of small children. In the case a battery should happen to be swallowed, seek medical treatment immediately.
-  • In the case of having ingested alkaline battery fluid, gargle immediately and seek medical treatment.
-  • Since there is the risk of injury to the skin in the case alkaline battery fluid has come in contact with the skin or clothing, immediately rinse off with a large amount of tap water or other clean water.
-  • Do not allow the (+) and (-) poles of alkaline batteries to come in contact with wires or other metal objects, and do not carry or store them together with metal necklaces, hair pins and so on. This results in the risk of the batteries short-circuiting resulting in the flow of excess current and causing the batteries to leak fluid, overheat or rupture.
-  • Do not use a new battery with an old battery that has already been used or use different types of batteries. Differences in properties results in the risk of the batteries leaking fluid, overheating or rupturing.
-  • These batteries are not designed to be recharged. Recharging results in the risk of damage to insulation and internal structure causing the batteries to leak fluid, overheat or rupture.
-  • Do not remove or damage the battery outer label. This results in the risk of the batteries short-circuiting, leaking fluid, overheating or rupturing.
-  • Do not subject the batteries to strong impacts resulting from dropping or throwing. This results in the risk of the batteries leaking fluid, overheating or rupturing.
-  • Do not allow the batteries to be deformed or damaged. This results in the risk of damage to the insulation and safety valve causing the batteries to leak fluid, overheat or rupture.


Caution

-  • Promptly remove worn out batteries from the device. Allowing worn out batteries to remain installed in the device for a long period of time results in the risk of the generation of gas from the batteries causing the batteries to leak fluid, overheat or rupture.
- Remove the batteries from the device when not using for a long period of time. Failure to do so results in the risk of the generation of gas from the batteries causing the batteries to leak fluid and damage the device.
-  • Do not attempt to solder the batteries directly. This results in the risk of heat damaging the insulation and safety valve causing the batteries to leak fluid, overheat or rupture.
- Do not use or place the batteries in a location subject to high temperatures such as locations of intense direct sunlight or in an automobile on a hot day. This results in the risk of the batteries leaking fluid, overheating or rupturing.
-  • Insulate the ends of the batteries by covering with tape and so on when storing or disposing. Allowing the batteries to contact other batteries or metal objects results in the risk of the batteries leaking fluid, overheating or rupturing.
-  • Do not allow the batteries to become wet. This results in the risk of the batteries overheating.
-  • Avoid storing batteries in locations subject to direct sunlight, high temperature or high humidity. This results in the risk of the batteries leaking fluid. In addition, there is also the risk of reduced battery performance and shorter battery life.
- Please dispose of batteries in the proper manner in accordance with the rules and regulations of your local community.

System Case

Caution

Beware Magnetism

-  Magnets are used in part of the Paper Writer. Note the following:
 - Do not keep magnetic cards (cash cards, credit cards or prepaid cards, etc.) or magnetic storage media (floppy disks, etc.) near or against the Paper Writer. Doing so could result in the loss of recorded content.
 - Attaching metal objects such as thumbtacks, pins, cutter blades or staples could result in unforeseen injury. Always check that there are no attached foreign objects when using the Paper Writer.

Operating Precautions

Your Paper Writer and its options are precision. Improper operation or rough handling can cause problems with data storage and other problems. Note and observe the following precautions to ensure proper operation.

- **Do not leave dead battery pack in the Paper Writer for a long period.**
Dead battery pack can leak, leading to malfunction and damage to the Paper Writer.
- **Stop or avoid using the Paper Writer and its options in areas and conditions subject to the following.**
 - Large amounts of static electricity
 - Extreme heat or cold or humidity
 - Sudden temperature change
 - Large amount of dust
 - After large amount of rain or water falls on the Paper Writer
 - Pressing the screen or buttons with excessive force when using in the rain
- **Always use your finger or the dedicated Digitizer Pen when using the touch panel. The use of implements other than your finger or the dedicated Digitizer Pen could damage the touch panel and/or cause malfunctions.**
- **Do not use the Digitizer Pen when your hands are wet.**
- **Do not use volatile chemical substances such as thinners, benzene or toiletries to clean the Paper Writer.**
When the Paper Writer is dirty, wipe it clean with a soft, dry cloth. Rubbing with excessive force could scratch the display.
- **The power-supply terminals and charging terminals should be cleaned from time to time using an implement such as a dry cotton bud.**
Soiling on the terminals may cause connection defects.
- **Take care when using chemicals.**
Applying thinners, gasoline, kerosene, solvents or oils, or substances such as cleaners, adhesives, paints, medications or toiletries that contain those materials, to the plastic case or cover may cause discoloration or other damage.
- **Allowing the communication/power supply terminals become wet can cause an electric shock or fire. In addition, if the terminals become soiled, contact may be impaired resulting in poor charging. This may also prevent successful communication. For reasons of safety and maintaining charging battery pack(s) in optimum condition, clean the communication/power supply terminals by wiping with a dry cloth or cotton swab after disconnecting the AC adaptor.**

-
- **Take care not to trap objects such as magnetic cards, magnetic recording media or precision equipment between the V-N500 and the Ethernet Cradle, and do not bring such objects too close to the Paper Writer and cradle.**

Bringing magnetic cards or other magnetic recording media too close could result in important data being erased due to the effects of magnetism. Precision equipment (wristwatches, etc.) should also not be placed close to the Paper Writer or cradle as it could be damaged as a result.

- **Dead Pixels**

The LCD panel employed in this product uses high precision and substantial number of components which commonly cause a small number of the pixels not to light or to remain lit all the time. This is due to the characteristics of LCD panel yield in accuracy over 99.99% and permissible.

- **802.11a/n Restrictions:**

- This product is for indoor use only when using channels 36, 40, 44, 48, 52, 56, 60, or 64 (5150-5350 MHz).
- To ensure compliance with local regulations, be sure to select the country in which the access point is installed.

- **Lithium Polymer Battery Pack**

Each lithium polymer battery pack has its life. The life span heavily depends on how the battery pack is charged or stored which may cause deterioration of the battery pack to shorten the life span if it is handled improperly. Note the tips below to make the battery pack last long.

- Be sure to charge the battery pack before using it if the battery pack is used for the first time or if it has not been used for a long period of time.
When charging the battery pack, continue charging until the charge LED lights green (fully charged).
- If the battery pack is repeatedly charged, the life span becomes short. To avoid the repetition of charging the battery pack, be sure that the remaining capacity is low before you start charging.
- Be sure to charge the battery pack in recommended temperature range. The temperature range is dependant on device you use to charge including battery chargers and Paper Writers. Refer to the respective user guides. Charging the battery pack in a temperature outside of the recommended range causes deterioration.
- When used at low temperatures, the battery pack has a reduced capacity and will supply power for shorter time.
The life span of the battery pack is also shortened.
- Charging the battery pack while the battery pack itself is freeze including inside causes deterioration. Be sure to resume an ordinary room temperature on the battery pack and then leave it unattended for approximately one hour before charging.

-
- After charging the battery pack, if the performance of the battery pack does not show any recovery, it is a sign of ending the life. Replace it with a new battery pack.
 - Avoid the battery pack with a full of the capacity to store for a long period of time. If you need to store it for a long period, be sure that the remaining capacity is 30 to 50 percent and to store in a moderate low temperature. This can reduce deterioration.
 - The battery pack gradually deteriorates over time. In particular, storing (or using) the fully charged battery pack at high temperatures tends to accelerate battery pack deterioration.

- **Adobe Reader**

This Paper Writer comes pre-loaded with Adobe Reader from Adobe Systems Incorporated.

CASIO has verified the operation of Adobe Reader on this Paper Writer, but does not guarantee all operations of Adobe Reader for the customer.

Refer to <http://www.adobe.com/support/reader/> for information on using Adobe Reader and problems with that product.

- **Barcode Scanner**

This Paper Writer comes pre-loaded with “Barcode Scanner”, comprising barcode scanning demo samples based on the ZXing library.

CASIO has verified the operation of Barcode Scanner on this Paper Writer, but does not guarantee all operations of Barcode Scanner for the customer.

The ZXing library is publicly available at the following website:

<http://code.google.com/p/zxing/>

Important

- This guide does not include any information about programming procedures. See the applicable separate documentation for information about the procedures.

After Service

- Should this product ever malfunction, contact your original retailer providing information about the product name, the date you purchased it, and details about the problem.

Regulatory Information

V-N500-E, V-N500-GE

Products are for distribution within
all member states of the EU.

CE 0984 !

HA-M62IO, HA-M30CHG

Products are for distribution within
all member states of the EU.

CE 0984

Optional models HA-M32DCHG and HA-M20BAT are in conformity with the Council Directive 2004/108/EC.

CE	Manufacturer:
	CASIO COMPUTER CO., LTD.
	6-2, Hon-machi 1-chome, Shibuya-ku, Tokyo 151-8543, Japan
	Representative within the European Union:
CASIO EUROPE GmbH	
Casio-Platz 1, 22848 Norderstedt, Germany	

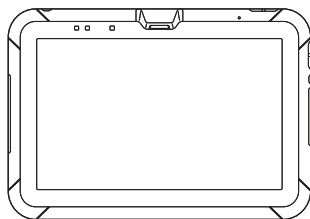
The modification of the software for controlling RF radiation of WLAN, Bluetooth and NFC/RF-ID is prohibited.

Chapter 2

Basic Operation

Paper Writer System Configuration

V-N500 Series

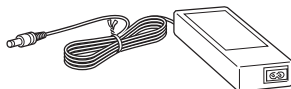


Bundled Items

Please check the items in the box before using the Paper Writer for the first time.

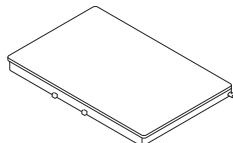
Paper Writer

AC Adaptor
AD-S36120A

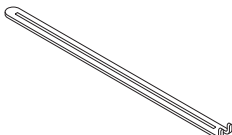


Power Cord
AC-CORD-EU

Battery Pack
HA-M20BAT



microSD Card Removal Tool



User's Guide

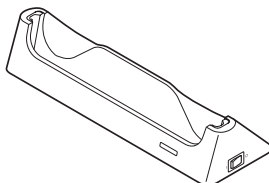
Calibration Sheet
(for Screen Cover)

Options

Ethernet Cradle

HA-M62IO

The illustration shows the Ethernet Cradle (HA-M62IO).



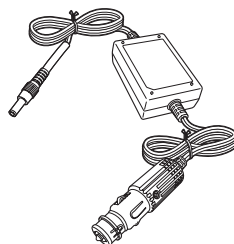
Cradle-type

Battery Charger

HA-M30CHG

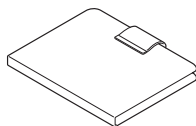
Car Adaptor

HA-M37CAC



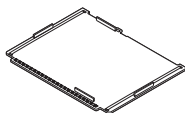
System Case

HA-M99CAS



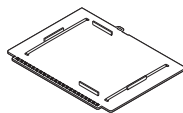
Paper Holder

(for B5 sheets)



Paper Holder

(for A5 sheets)



Calibration Sheet (small)



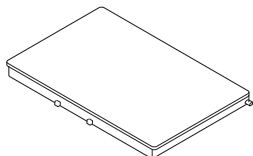
The paper holders (both sizes) and the calibration sheet (small) are included with the system case.

For the latest options list, refer to the ON-LINE manual available at <http://www.casio-intl.com/asia-mea/en/pa/usersguide/>

Options

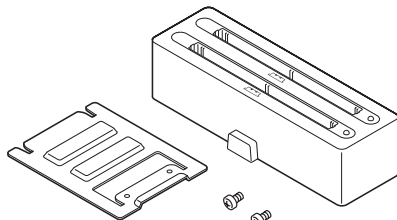
Battery Pack

HA-M20BAT



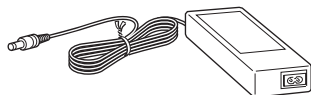
Dual Battery Charger

HA-M32DCHG



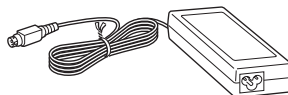
**AC Adaptor for V-N500/
Ethernet Cradle/
Cradle-type Battery Charger**

AD-S36120A-N



**AC Adaptor for
Dual Battery Charger**

AD-S90190C-N5



Power Cord for Europe

AC-CORD-EU/AC-CORD2-EU

Power Cord for North America

AC-CORD-US/AC-CORD2-US

Power Cord for Taiwan

AC-CORD-TW/AC-CORD2-TW

Power Cord for Korea

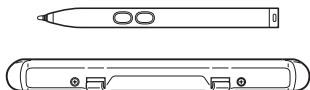
AC-CORD-KR/AC-CORD2-KR

Power Cord for Australia

AC-CORD-AU/AC-CORD2-AU

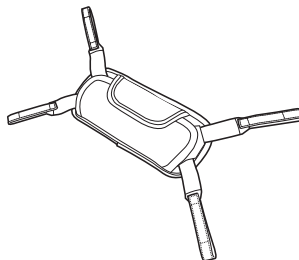
Digitizer Pen

HA-M96PEN



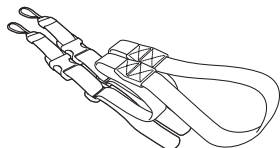
Hand Belt

HA-M95HB



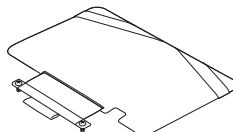
Neck Strap

HA-M97ST

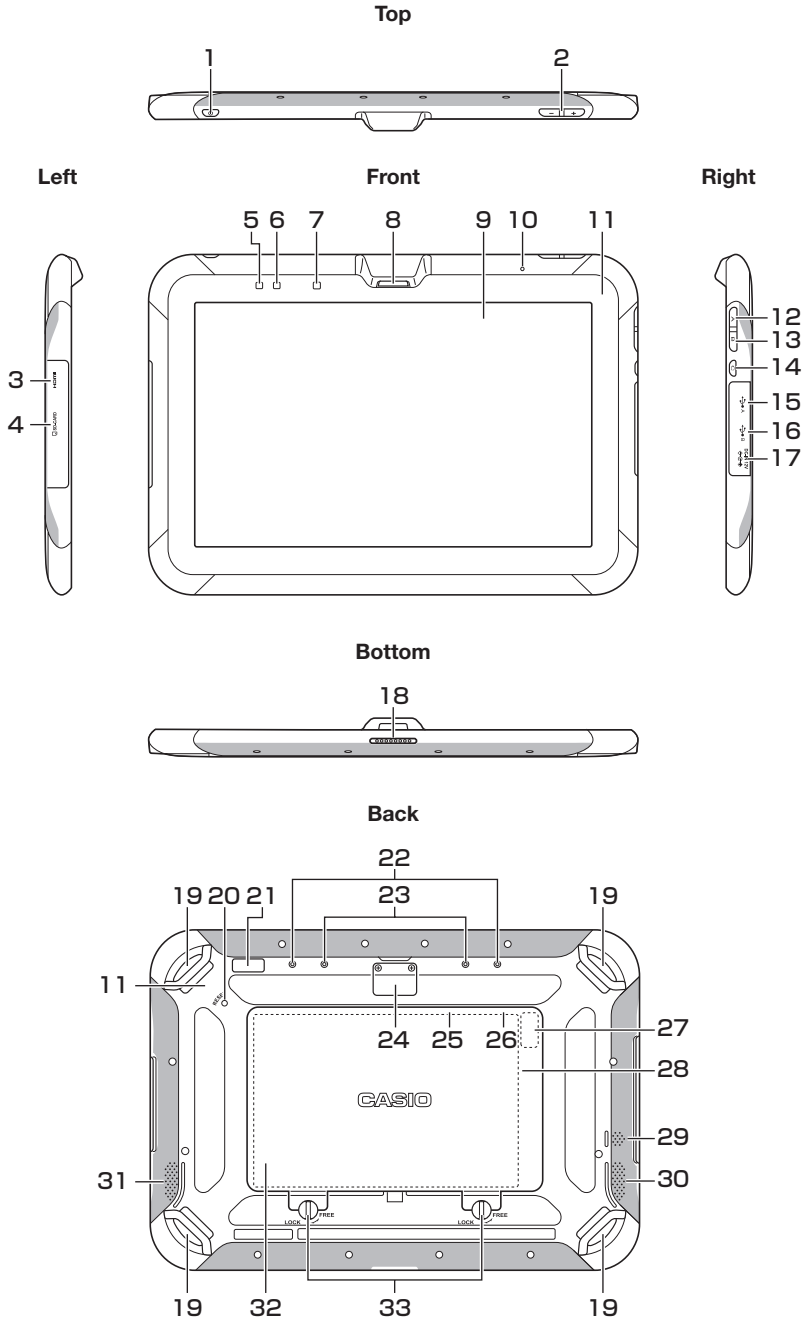


Screen Cover

HA-M98DC



General Guide



1	Power Button (→ E-27)	18	Communication/Power Supply Terminal
2	Volume Button	19	Mount for System Case (→ E-187), Hand Belt (→ E-193) or Strap (→ E-194)
3	mini HDMI Port (→ E-65)	20	Reset Switch (→ E-66)
4	SD Card Slot (→ E-62)	21	Rear Camera
5	Charge LED (→ E-25, 201, 204, 210)	22	Mounting Holes for Screen Cover (→ E-195)
6	Notification LED	23	Mounting Holes for Pen Holder (→ E-190)
7	Light Sensor Automatically adjusts the display backlight brightness to suit the ambient brightness.	24	Extension Port
8	Front Camera	25	SAM Card Slot (→ E-58) Located in the Battery Pack Compartment.
9	Display (Touch Panel)	26	SIM Card Slot (→ E-60) (V-N500-GE only) Located in the Battery Pack Compartment.
10	Microphone	27	Setup button Sets the Paper Writer operating parameters. For use by managers. Should not be changed in normal use.
11	NFC Reader (→ E-63)		
12	Function Button A This button allows you to use an application.	28	microSD Card Slot (→ E-56) Located in the Battery Pack Compartment.
13	Function Button B This button allows you to use an application.	29	Buzzer
14	Screen Lock Button Press to lock or unlock the screen.	30	Speaker (L)
15	USB A Port	31	Speaker (R)
16	USB Mini-B Port Cannot be used when the Paper Writer is fitted into the optional Ethernet Cradle (HAM62IO).	32	Battery Pack Cover (→ E-23)
17	DC Jack (→ E-25, 26, 210)	33	Battery Pack Cover Lock Switches (→ E-23)

Loading and Removing the Battery Pack

Your Paper Writer uses two types of battery: a battery pack and a memory backup battery.

The battery pack is used to power normal operations and to store data, while the memory backup battery provides the power required to maintain memory contents when the battery pack power is unable to supply power for some reason.

Use the battery pack (HA-M20BAT) as the main power source.
The backup battery is installed inside of the Paper Writer.

This guide uses the following terms to refer to the batteries.

Battery Pack: Rechargeable battery pack (HA-M20BAT) for normal operations and data storage

Backup Battery: Built-in battery for memory backup

When the battery pack power goes low, immediately charge it or replace it with a charged battery pack.

You can use the Dual Battery Charger, the Cradle-type Battery Charger, the Ethernet Cradle, the Car Adaptor, or the AC adaptor to charge a battery pack installed in the Paper Writer. See the relevant sections in this guide for the respective options about how to use.

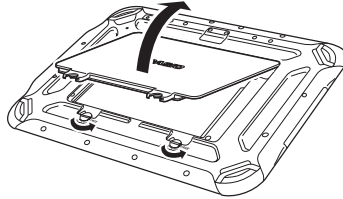
Important!

Always keep backup of all important data!

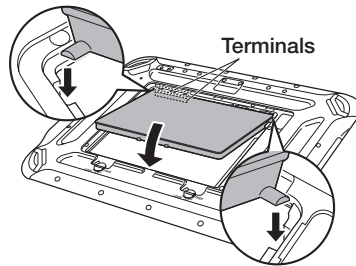
- **The battery pack powers normal operation and also provides power required to maintain memory contents, while the backup battery provides backup power to maintain memory contents. Because of this, you should not remove the battery pack if the backup battery is dead. Removing the battery pack while the backup battery is dead causes data in the memory to be corrupted or lost. Note that once data is lost it cannot be recovered. Always keep backup of all important data.**
- **The charge of a battery pack when you purchase it may be depleted due to testing at the factory or natural discharge during shipment and storage. Be sure to charge the battery pack before you use it.**
- **The life of a battery pack is limited, and charging a battery pack causes it to gradually lose its ability to maintain the charge. If your battery pack seems to require charging very frequently, it probably means it is time to purchase a new one.**
- **If a battery pack is used past the end of its service life, it may swell up in size. In such a case, replace the battery pack with a new one.**
- **You can select the item to be backed up (memory or clock).
At shipment from the factory, this option is set to “Priority is given to the memory” as the default.
If the backup battery is fully charged, it will maintain the content of the Paper Writer’s memory (RAM) and continue to run the clock for approximately 10 hours when the main battery pack is removed.
If “Priority is given to the clock” is selected, it will maintain the content of the Paper Writer’s memory (RAM) for 10 minutes and will continue to run the clock for 72 hours.**
- **It takes 8 hours with the main battery pack installed in the Paper Writer for the backup battery to be charged fully.**
- **To check the remaining charge in the backup battery, go to Settings ⇒ Backup Battery.**

Loading

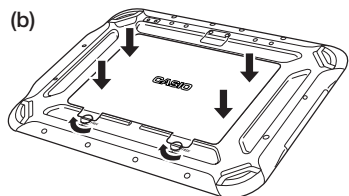
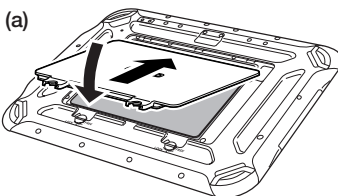
1. Turn the Paper Writer upside down. If the hand belt is fitted to the Paper Writer, unclip it (see E-193).
2. Slide the left and right lock switches for the battery pack cover to the “FREE” position, and then remove the battery pack cover.



3. Load the battery pack with the printed side of the label facing upwards, fitting the lugs on the battery pack into the slots in the Paper Writer so that the terminals in the battery socket and Paper Writer are aligned.

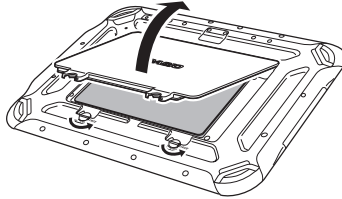


4. Put back the battery pack cover in the compartment as shown in the illustration (a). Move the lock switches on the battery pack cover back to the “LOCK” position. Securely close the battery pack cover by pushing it firmly as shown in the illustration (b).

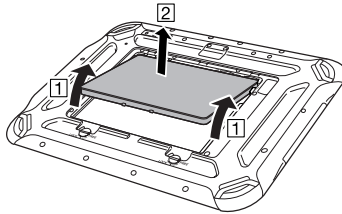


Removing

1. Make sure that the power on the Paper Writer has been switched off.
If the power is still on, hold down the power button to switch off (see E-27).
2. Turn the Paper Writer upside down. If the hand belt is fitted to the Paper Writer, unclip it (see E-193).
3. Slide the left and right lock switches for the battery pack cover to the “FREE” position, and then remove the battery pack cover.



4. As shown in the illustration, grip the lip at the sides of the battery pack with your fingers (1) and lift out the battery pack (2).



Important!

- Battery pack replacement should be carried out without delay.
- If the battery pack is left out of the Paper Writer for more than about 10 minutes, data stored in the Paper Writer's internal memory (RAM) may be lost so that the Paper Writer resets when it is next started up.
- When the battery pack is removed, do not connect the AC adaptor or Car Adaptor to the Paper Writer, and do not place Paper Writer in the Ethernet Cradle or Cradle-type Battery Charger. Doing so may cause data stored in the Paper Writer's internal memory (RAM) to be lost so that the Paper Writer resets when it is next started up.
- When the battery pack is removed, plugging in the AC adaptor will not turn the Paper Writer on.
- Never try to use other type of battery than the ones that are specified for this product.
- After you have closed the battery pack cover, turn the lock switches fully to the “LOCK” position. The Paper Writer cannot be switched on until the switches are turned to the “LOCK” position.
- If the battery pack cover is not closed securely, the product may not be fully splashproof.

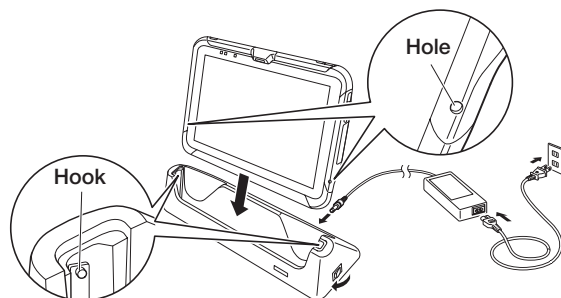
Charging the Battery Pack

Battery pack installed in the Paper Writer can be charged using either cradle, battery charger or AC adaptor. Battery charge condition can be monitored with charge LED on the Paper Writer. Multiple battery packs can also be charged simultaneously using Dual Battery Charger.

Ethernet Cradle/Cradle-type Battery Charger

If the Paper Writer is fitted to the system case (see E-186), remove it from the case beforehand.

Align the mount holes in the Paper Writer with the mount hooks on the cradle and fit the Paper Writer into the cradle.



■ Status of Charge LED on V-N500:

Orange: Charging (battery level at 6% or more)

Red: Battery level down to 0-5%
(until a level of 5%, Paper Writer will not start up)
Battery pack error

Blinking red: Standby due to being outside the temperature range for charging
(charging begins when the temperature is within the charging temperature range)

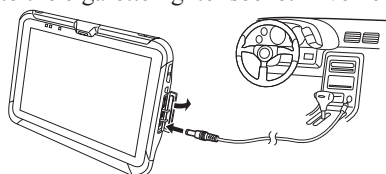
Green: Charging complete

* If, after 30 minutes or more at normal temperature, you plug the AC adaptor in again and the charge LED is still red or off, there is a fault. Immediately stop using the product and contact the dealer or distributor where you purchased the product, or an authorized CASIO service provider.

* If the remaining battery charge is 5% or less when the AC adaptor is connected correctly, the charge LED turns off for approximately 0.5 seconds and then lights red.

Car Adaptor

Plug in the Car Adaptor to the cigarette lighter socket in vehicle.

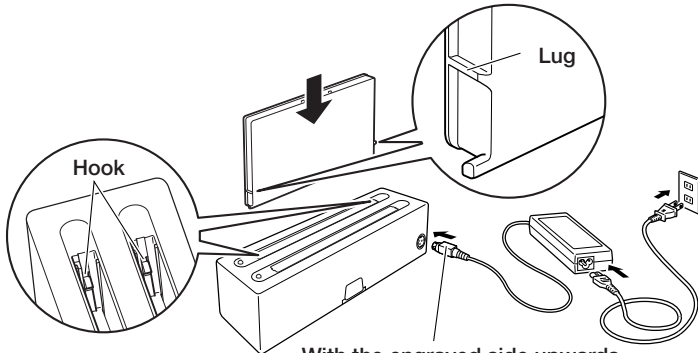


■ Status of Charge LED on V-N500:

Refer to “Ethernet Cradle/Cradle-type Battery Charger” above.

Dual Battery Charger

Push the battery pack in until the mount hooks on the charger engage the mount lugs on the battery.



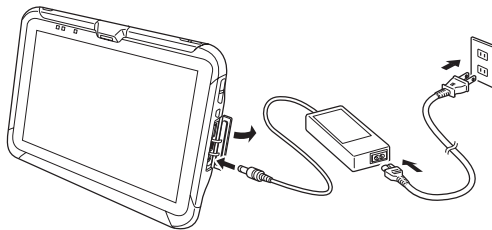
With the engraved side upwards, push the connector firmly into the jack until it clicks into place.

You can connect up to three Dual Battery Chargers. See E-208 for the connection method.

■ Status of Charge Indicator LED

- | | |
|---------|---|
| Off: | Not charging |
| Orange: | Charging |
| Red: | Battery pack problem or standby due to the surrounding temperature being beyond the specified temperature range (Approximately 0°- 40°C) (charging resumes when the temperature reaches the range.) |
| Green: | Charging complete |

AC Adaptor



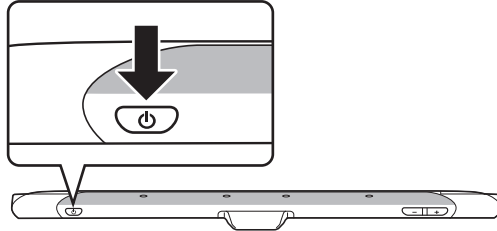
■ Status of Charge LED on V-N500:

Refer to “Ethernet Cradle/Cradle-type Battery Charger” on the previous page.

Switching On/Off and Sleep

Switching On

1. Hold down the power button until the notification LED lights green (approx. 1 sec.).



- The startup screen appears.
- The screen shown differs depending on the device settings.
- If the Paper Writer is left unused for a set time while switched on, it automatically switches to sleep mode.

Important!

- **Even with the AC adaptor connected, if the level of battery charge is 5% or less the charge LED turns red and the Paper Writer does not start up when you hold down the power button. Once the battery charge rises to 6% or more, the LED turns orange and the Paper Writer automatically starts up.**

Switching Off (Shutdown)

1. Hold down the power button for more than 2 seconds until “Power off” is displayed.
2. Tap “OK”.

Note

- **In the power off state, the Paper Writer’s operation is fully stopped.**
- **Switch the power off if the Paper Writer is left unused for a long time.**
- **The Paper Writer will restart if it is connected to an external power supply, such as the AC adaptor or cradle.**

Sleep



1. Press the power button while the Paper Writer is switched on.

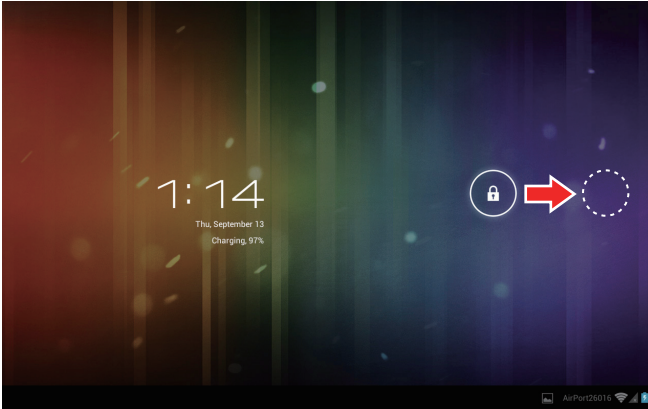
Note

- **In sleep mode, the display is off but the Paper Writer is operating.**
- **The operation mode is maintained. When you switch on the power, you can use the Paper Writer immediately.**

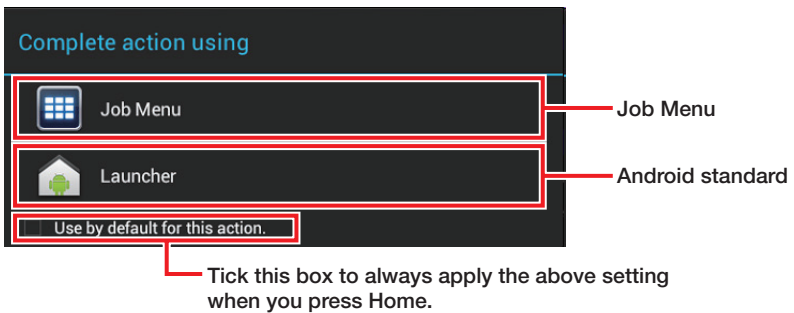
Initial Settings

Unlocking the Screen

1. Touch [] in the startup screen and drag it to [] that appears on the right to unlock the screen.



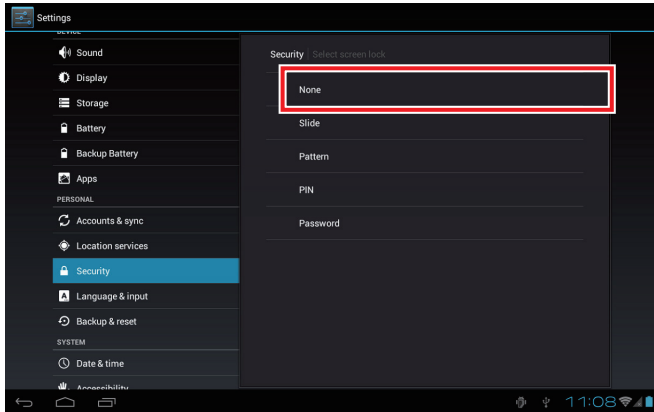
At shipment, the default menu shown below appears.
Make a selection based on the operation you actually want to perform.



Customization for Job Menu Use

To access Job Menu, you must first customize the Paper Writer as follows:

1. Build the menu to suit the operation. See “Job Menu” (E-166) for information on building the menu.
2. Specify “None” as the security level for the Settings screen.

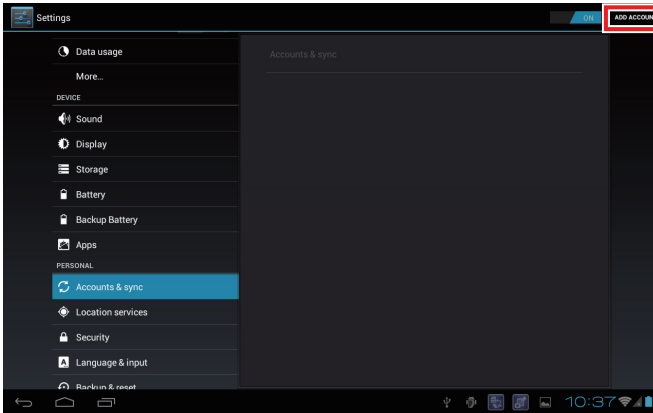


Syncing the Calendar and Contacts

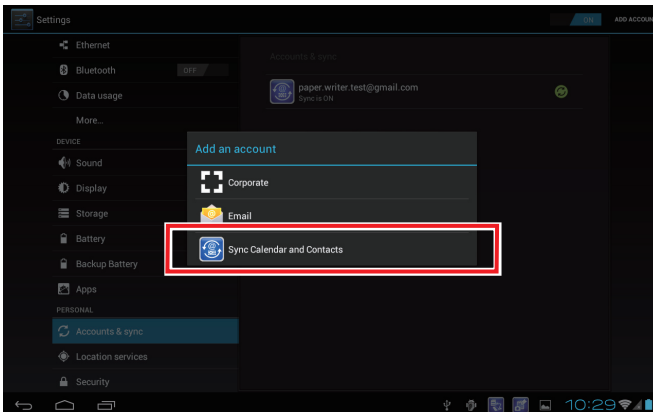
To sync with your Google account, you must configure your settings as shown below. You must also set up an account with Google beforehand. (Google is the only host service.)

■ Setting up Syncing

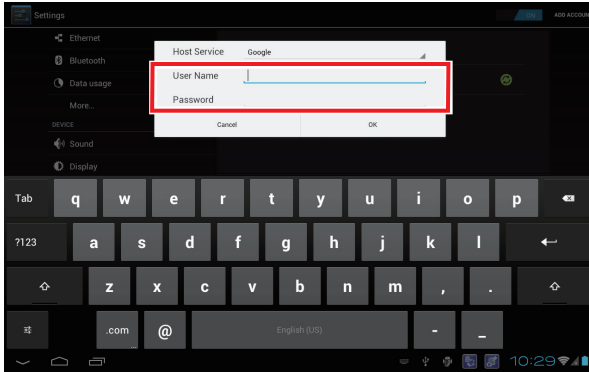
1 Go to “Accounts & sync” in the Settings screen and select “ADD ACCOUNT”.



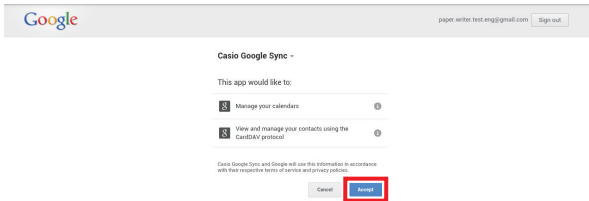
2 In the “Add an account” window, select “Sync Calendar and Contacts”.



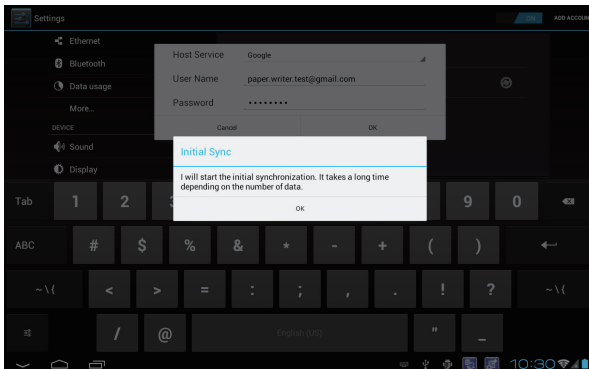
3 Enter your user name and password for the Google account you want to sync.



4 In the next window, touch “Accept”.

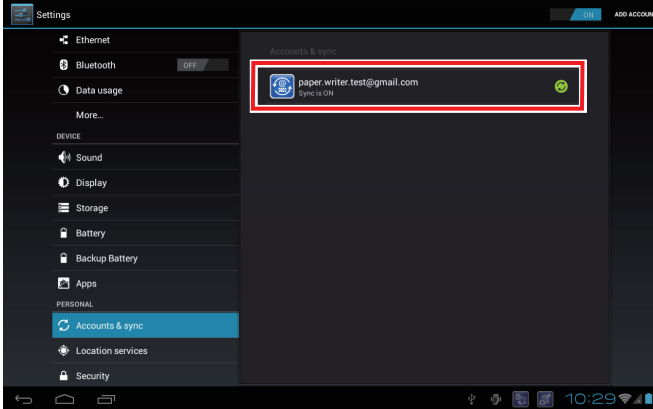


5 Click “OK” in the “Initial Sync” window to start initial synchronization.

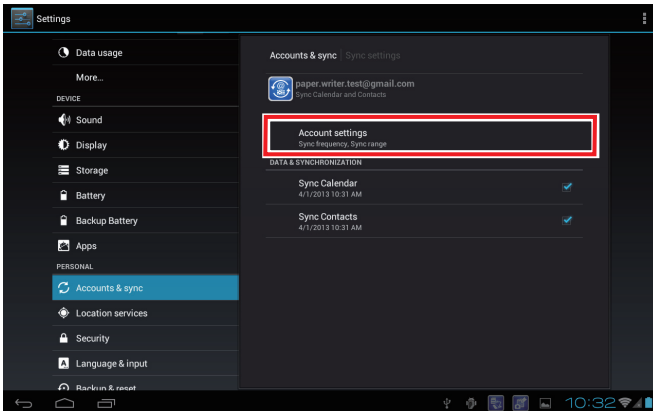


■ Sync Settings

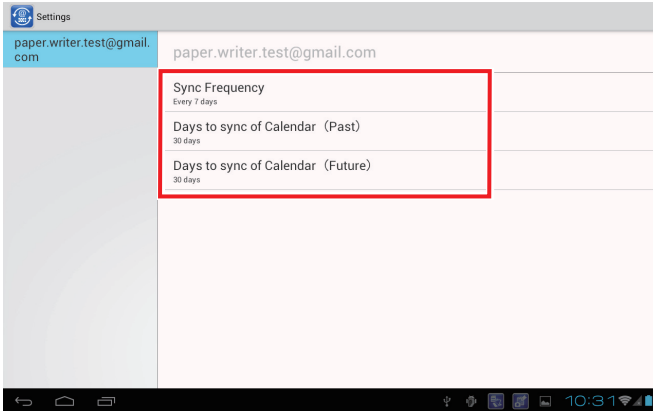
- 1 In “Accounts & sync” in the Settings screen, select the account you want to configure for syncing.



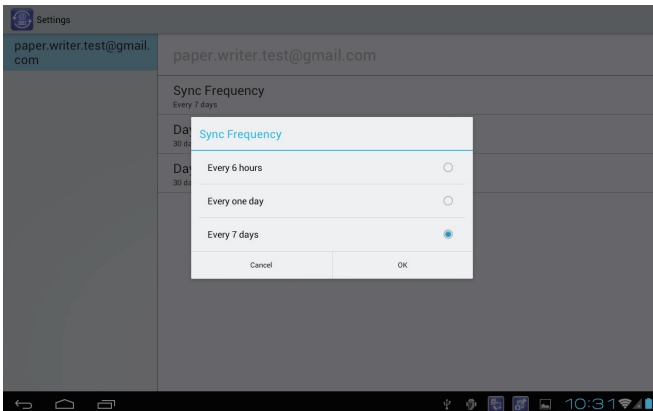
- 2 Select “Account settings” in “Sync settings”.



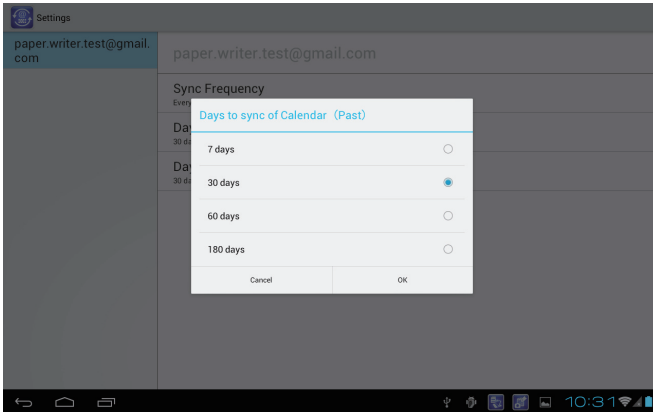
3 In the “Settings” screen, set the sync frequency and the days to sync in the Calendar.



4 You can specify a sync frequency of every 6 hours, every day, or every 7 days. In addition to the frequency specified here, whenever the Calendar and Contacts are modified on the Paper Writer, they are each synchronized by uploading data from the Paper Writer and downloading data from the server.

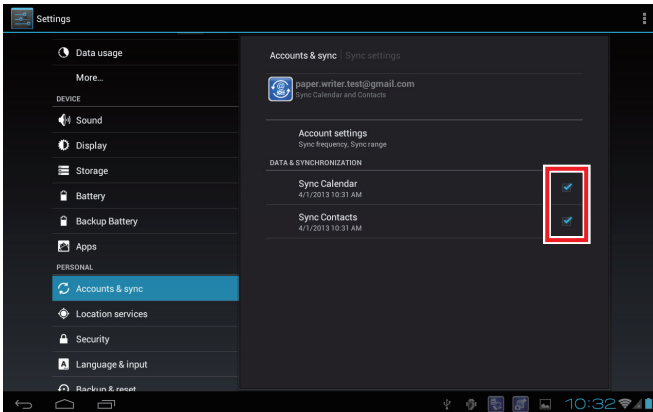


5 You can specify 7, 30, 60 or 180 days as the extent to which data is synced back into the past and ahead into the future.



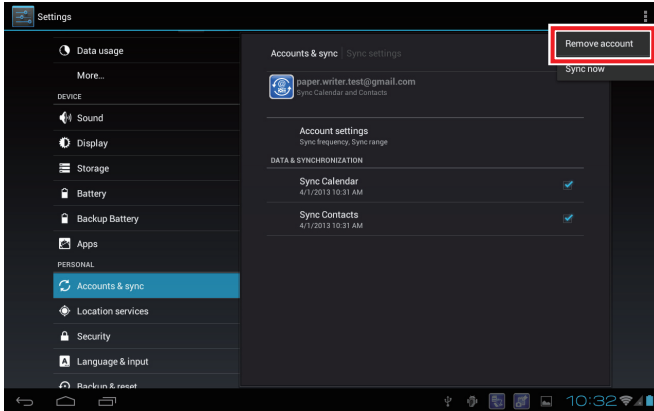
■ Stopping Syncing

1 To stop syncing, clear the “Sync Calendar” and “Sync Contacts” checkboxes respectively in “Sync settings”.



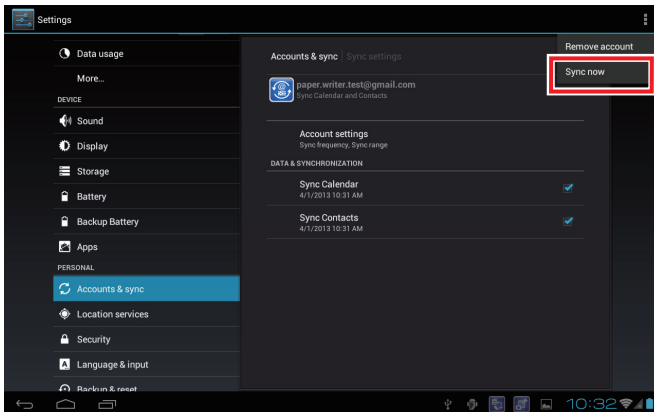
■ Removing an account

- 1 To remove an account, select “Remove account” in “Sync settings”. This erases all the data stored in the Paper Writer for that account.

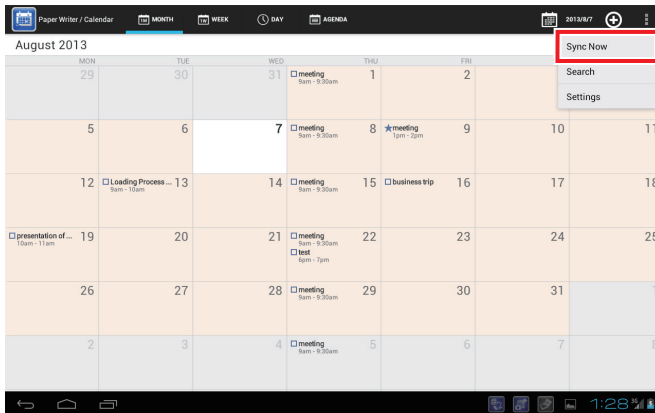


■ Sync now

- 1 In “Sync settings”, select “Sync now” to begin synchronization.



2 Selecting “Sync now” in the Paper Writer or Calendar will also begin calendar data synchronization.



Important!

● Specification differences from Google standard synchronization

The operation of synchronization using CalDAV and CardDAV differs from Google standard synchronization in the following respects:

- All contact phone number types that are not “Mobile”, “Work”, “Home”, “Work Fax”, “Home Fax”, “Pager” or “Custom” revert to “Other” when synced.
- Contact group information is not synced. Contacts set as groups are stored as not being grouped. However, if group information has already been set, the group information is not cleared.
- Merged information for contacts is not synced. Contacts that have been merged are stored as separate contacts. However, if merged information has already been set, the merged information is not cleared.
- “Internet call” items for contacts are not synced. However, if an “Internet call” has already been stored, it is not deleted.
- The “Reading Aid” set on the Paper Writer for each Contact is not synced.
- Where “Custom” is set for a Contact's “Address”, it changes to “Other” when synced.
- The “Date” set for a Contact's “Birthday” is only synced when the year is entered.
- If you have set multiple “Birthdays” for a Contact, all birthdays other than the last “Birthday” set are deleted when the data is synced.
- The attendee comments that can be set when people are invited to a scheduled event in the Calendar are not synced.

-
- If a repeating scheduled event in the Calendar has been changed to individual events, the information for the repeating scheduled event is not synced. As a result, if the repeating scheduled event is deleted, the scheduled events that were changed to individual events are not deleted and remain in the Calendar.
 - Data is not synced if you only change the “Notification” for a scheduled event in the Calendar on the Google server.
 - If you delete all the “Notifications” for scheduled events in the Calendar on the Paper Writer and then sync the data, the notifications revert to the “Default notification method” on the Google server.
 - If multiple calendars are used for one account and a scheduled event is added to a sub-calendar, that event is also added to the main calendar.

Note that the following items are also excluded from Google standard synchronization:

- The “Custom fields” that can be added to Contacts on the Google server
 - The “File format” that can be added to Contacts on the Google server
 - The “Color” settings for each Calendar scheduled event
- **If you modify a scheduled event or Contact that is on the Paper Writer and on the Google server**
If you modify a scheduled event or contact that is on both the Paper Writer and the Google server, the data on the server takes precedence. The modified content on the Paper Writer is deleted.

Using the Paper Writer Accessories

This section explains the basic operation procedures and functions offered by the Paper Writer accessories. For details of the settings and functions, refer to “Paper Writer Accessories” (E-92) in Chapter 3, “Built-in Software”.

Shooting Images

The Paper Writer features two shooting modes: the Closing Shot function and Flipping Shot function.

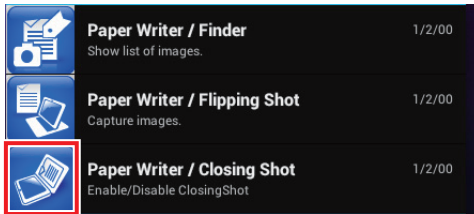
“Closing Shot” photographs information written on paper set in the paper holder.

Closing shots can be taken automatically simply by closing the system case.

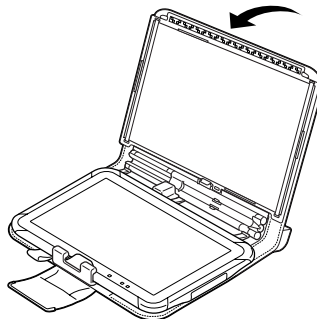
“Flipping Shot” photographs information written on paper that is not set in the paper holder. If you are using a notebook, this mode allows you to photograph multiple pages consecutively simply by flipping through the pages. This mode can also be used to photograph business cards and capture rear camera images.

■ Closing shot

1. Mount the paper holder in the system case (see E-188).
2. Tap the status bar in the bottom-right of the screen and then tap the Closing Shot icon in the pop-up menu to enable photography mode.



3. Write some text on the paper set in the paper holder.
4. Lift up the paper holder side of the case and fold it closed towards the display.
 - When the angle to the display is approximately 110°, the case stops slightly at that point and the information written on the paper is imported as an image.
 - When you open the system case, the Finder starts up and you can then edit the image and its attached information.

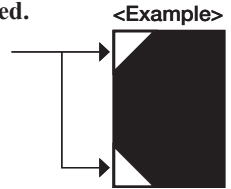


Note

- Settings menu options such as the paper size can be displayed by tapping the setting icon in the Flipping Shot main screen.

Important!

- Closing shots can only be taken when the paper holder is used.
- With B5 paper, areas at the corners of the page cannot be photographed.

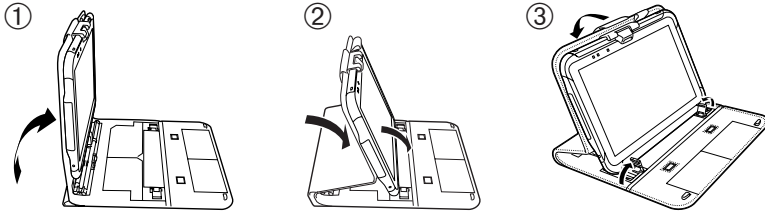


■ Flipping shots

If the paper holder is mounted on the system case, remove it.

1. Set up the Paper Writer on the system case as shown in the figure and fix the angle of the Paper Writer using the stoppers.
To ensure that it does not impede shooting, use the magnet to attach the case fastener to the back of the case.

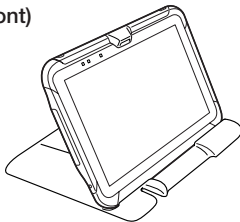
<Correct angle when using the system case>



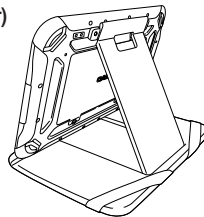
- You can shoot images using the screen cover as a stand.

<Correct angle when using the screen cover>

(Front)



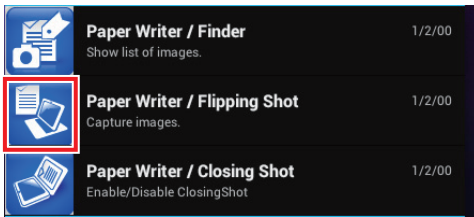
(Rear)



Important!

- To take a Flipping Shot, fix the Paper Writer in the angle shown in the “(Rear)” figure. The shot cannot be taken correctly if the Paper Writer is at the wrong angle.
- The Paper Writer will not be at the correct angle if the pen is inserted into the pen holder.
When taking a Flipping Shot, first take the pen out of the pen holder.
- With A4 or B5 paper, areas* at the corners of the page cannot be photographed.
* Refer to <Example> in “Closing shot” to see the areas.

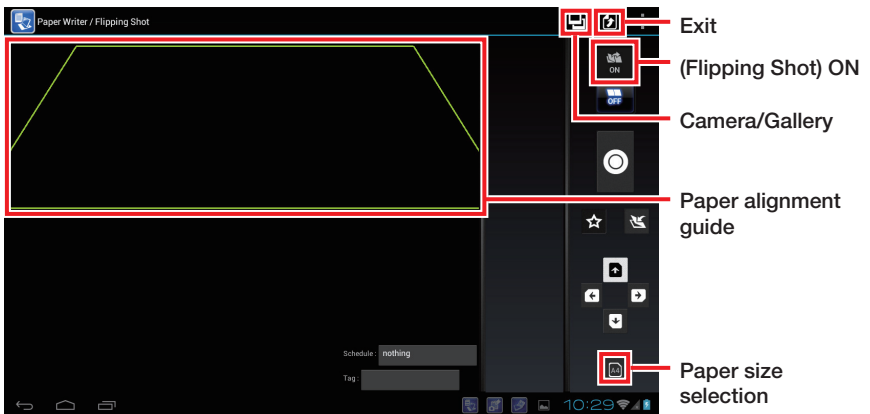
2. Tap the status bar in the bottom-right of the screen and tap the Flipping Shot icon in the pop-up menu to set the Paper Writer to photography mode.



Important!

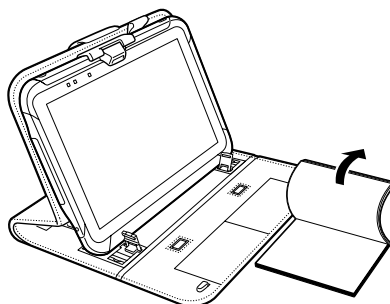
- The order in which the icons appear may differ.

3. Select the paper size and then adjust the paper position so that it fits inside the paper alignment guide (trapezoidal frame) shown on the display. Touch (Flipping Shot) “ON”.



4. Flip the paper in any direction.

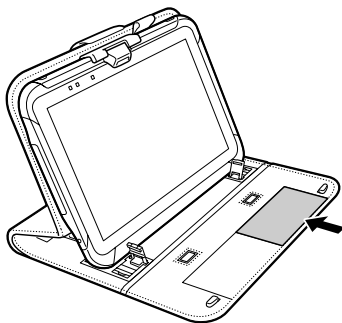
- The information written on the paper is imported as an image.
- When you touch the Exit icon, the Finder starts up and you can then edit the image and its attached information.



■ Flipping shot – capturing business cards

<Using the system case>

1. Using steps 1 and 2 in “Flipping shots”, set the Paper Writer to photography mode and choose “BC” in the paper size selection.
2. Set the business card in the business-card capture position in the case. Touch (Flipping shot) “ON”.
 - The information on the business card is imported as an image.
 - When you touch the Exit icon, the Finder starts up and you can then edit the image and its attached information.

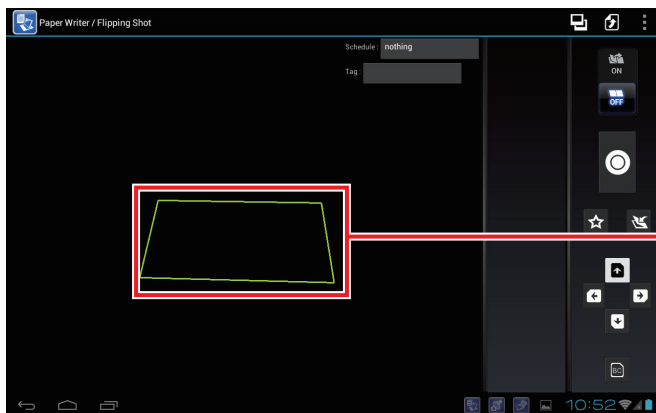


Note

- You can capture up to 2 business cards at the same time.
- You can also use Contacts to import the information on the captured business card into the address book as text data.

<Using the screen cover>

1. Using steps 1 and 2 in “Flipping shots”, set the Paper Writer to photography mode and choose “BC” in the paper size selection.
2. Position the business card so that it fits inside the business card alignment guide (trapezoidal frame) shown on the display. Touch (Flipping Shot) “ON”.



Business card alignment guide

-
- The information on the business card is imported as an image.
 - When you touch the Exit icon, the Finder starts up and you can then edit the image and its attached information.

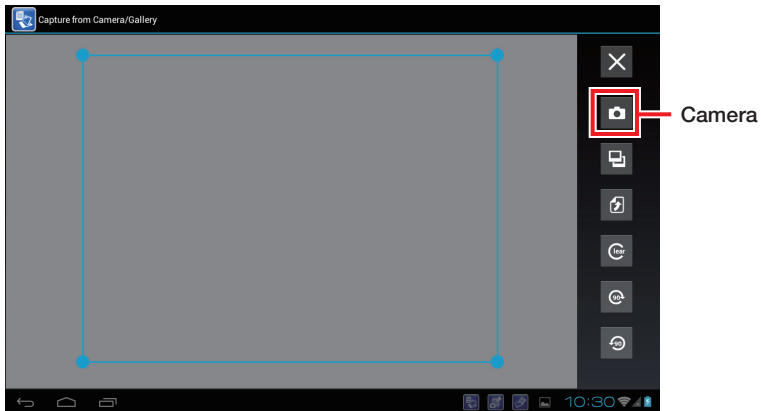
Note

- **You can only capture 1 business card at a time.**
- **You can also use Contacts to import the information on the captured business card into the address book as text data.**

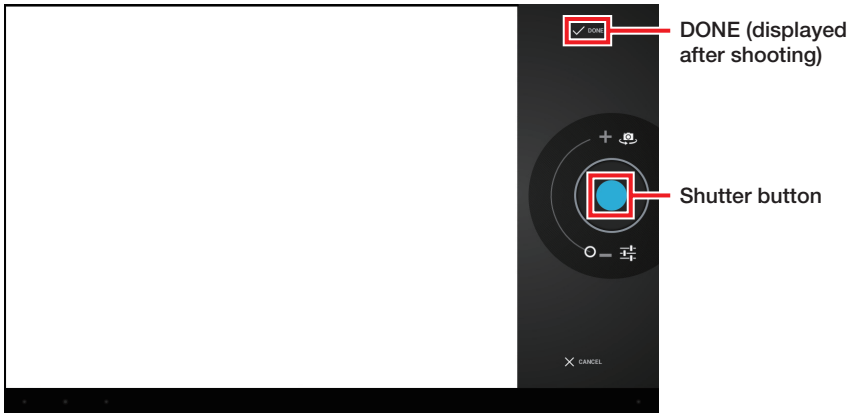
■ Flipping shots — rear camera

You can import images shot using the rear camera by applying perspective correction.

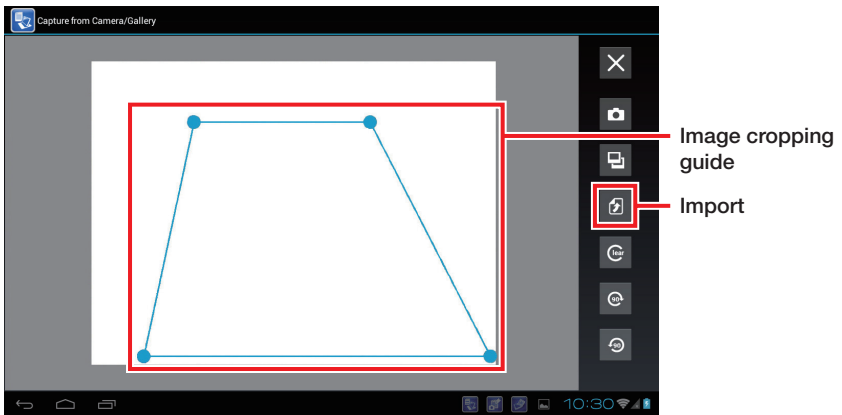
1. In the “Flipping Shot” photography screen, touch the Camera/Gallery icon.
2. Touch the camera icon to switch to photography mode.



3. Touch the shutter button to take the photo and then touch “DONE”.



4. Drag the corners of the image cropping guide (blue frame) to specify the cropping range, and then touch the Import icon.



- Perspective correction is applied to the content enclosed by the image cropping guide and a rectangular image is imported. The “Flipping Shot” photography screen then reappears.

5. When you touch the Exit icon, the Finder starts up and you can then edit the image and its attached information.

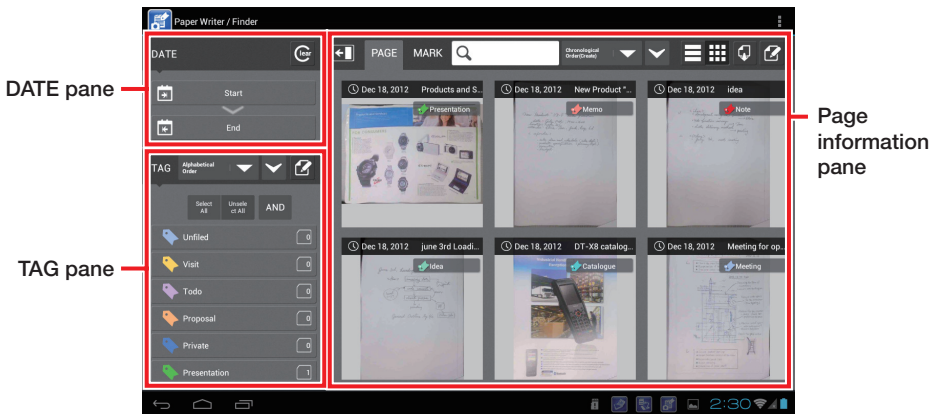
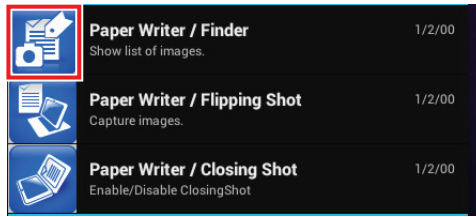
Note

- 4 points are detected automatically.
- If you are photographing a square object and you don't shoot the object with all 4 corners inside the screen, 4 points are not detected. If the photographed object completely fills the screen, the points will be detected well.
- If the 4 points cannot be detected, you can align the image manually.

Viewing Photographed Images

■ Displaying the list screen

1. Tap the status bar in the bottom-right of the screen and then tap the icon in the pop-up menu to launch the Finder.



Note

- You can filter images by specifying a date, tag or mark.
- You can also create bookmarks for individual images or combinations of filter conditions.

■ Switching between screens

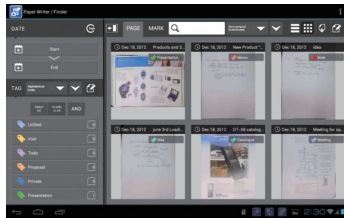
Tapping an image to select it in the page list screen opens the page display screen (full-page display). Tapping again toggles page details display on and off.

Touch the Back icon in the page details display screen to return to the page list screen.

Touching the Edit icon in the page details display screen opens the page edit screen.

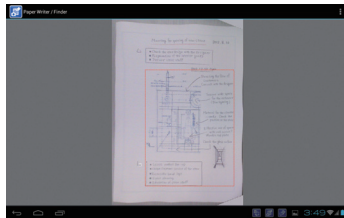
Touch the Back icon in the page edit screen to go back to the page display screen.

Page list screen



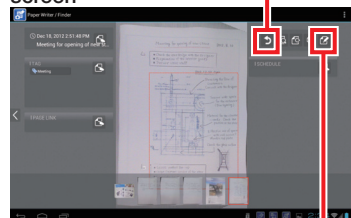
Tap

Page display screen (full-page display)



Tap

Page details display screen

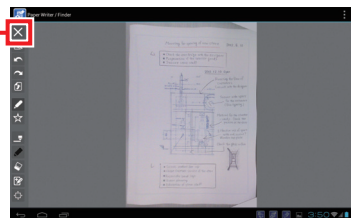


Back

Edit

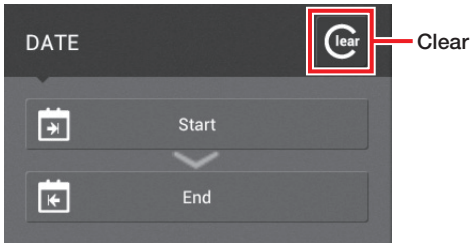
Back

Page edit screen



■ Filtering by date

If you specify a starting date and ending date in the DATE pane in the page list screen, a list of images shot during that period is displayed. Touch “Clear” to cancel filtering by date.

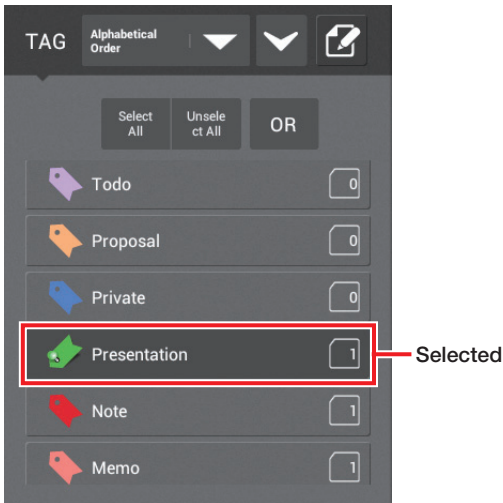


■ Filtering by tag

If you tap a tag to select it in the TAG pane in the page list screen, a list of images with that tag is displayed.

You can select multiple tags. When selecting multiple tags, touch “AND/OR” to specify an AND condition or an OR condition.

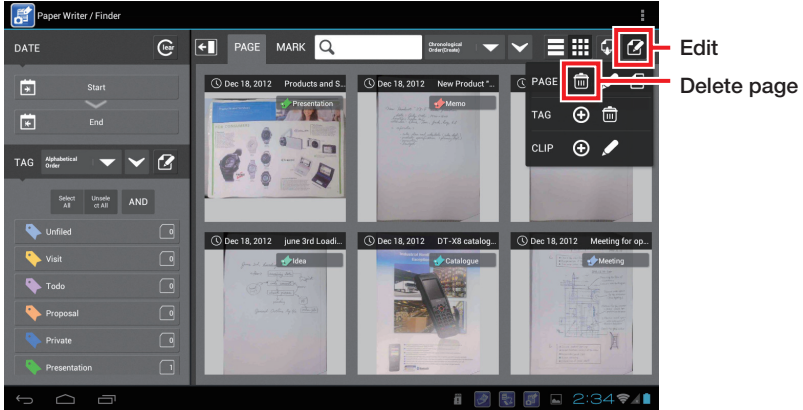
Touch “Unselect All” to cancel filtering by tag.



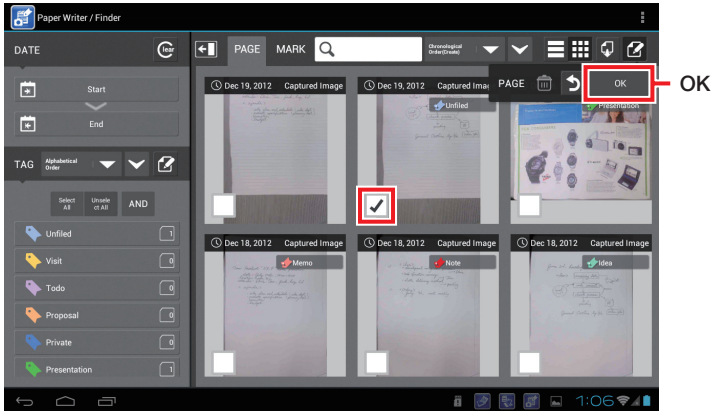
■ Deleting photographed images

Use this procedure to delete images you no longer need from the page list screen.

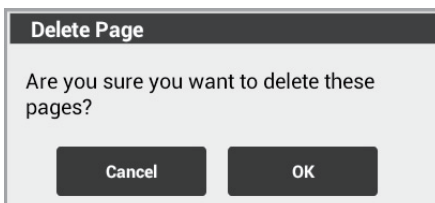
1. Touch the Edit icon and then touch the Delete page icon.



2. Tap the image to be deleted to place a checkmark in the image and then touch "OK".



3. The page delete screen appears. Touch "OK" to delete the image.



Useful Functions

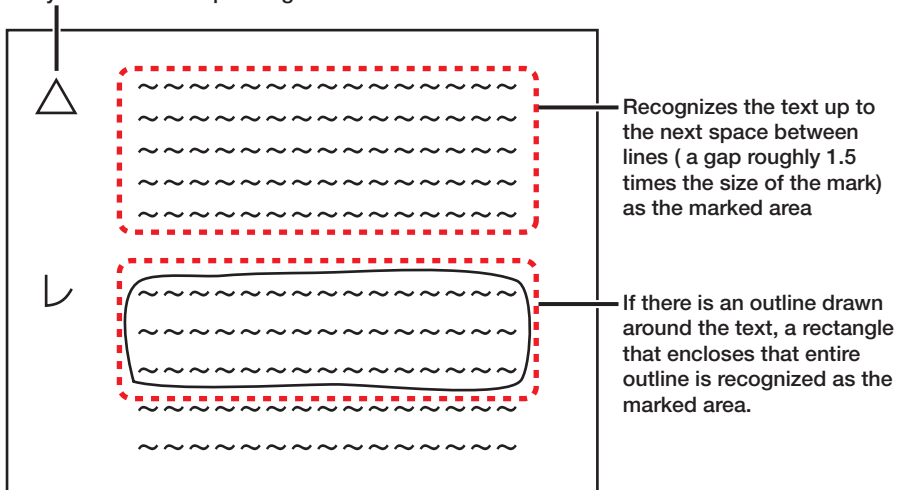
■ Handwritten mark recognition

By writing a predetermined mark on handwritten documents, you can import the documents using recognition of the mark and its associated area. You can also search and manage images by the type of mark.

The 5 types of mark are as follows:

* / △ / # / \$ / ∟

Write the mark at least 1 character away from the corresponding area.



Note

- Marks between 5 and 25 mm in size can be recognized.
- To be recognized, the mark must be positioned in the left half of the paper, at least 15 mm out from the left edge.
- The mark and its associated area are displayed digitally in the image. The position and size of a marked area can be changed in the page edit screen in the Finder.
- Set the meanings of marks in the Finder settings screen.

Important!

- Marks are not recognized when a business card is captured.
- See “Notes on marks and area descriptions” (E-50).

■ Running commands

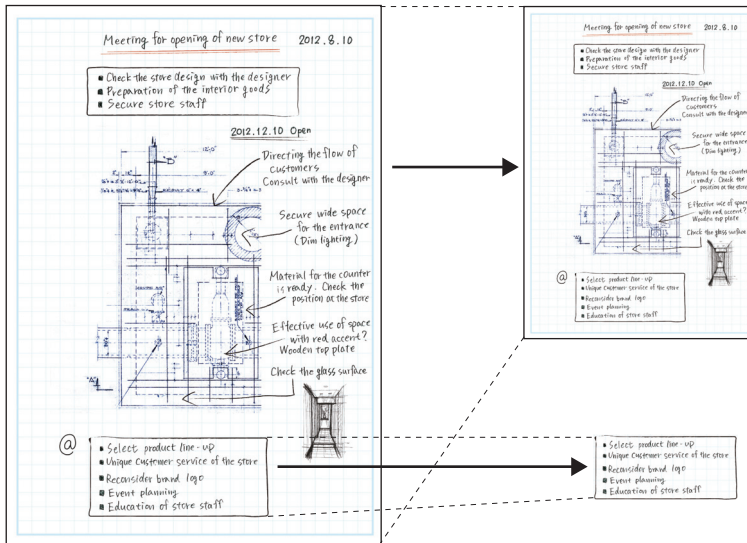
If you write predetermined command marks in a handwritten document, the commands will be automatically executed when the document is imported.

The 3 types of mark are as follows:

@/T/∞

There are 2 commands:

- Send mail: Launches the mailer with the image saved as an attachment during importing.
- Trimming and mail: Launches the mailer with the cropped area of the image saved as an attachment during importing.



Note

- Set the commands associated with marks in the Finder settings screen.

Important!

- Command execution is only enabled for closing shots. Commands do not run with flipping shots.
- See "Notes on marks and area descriptions" (E-50).

■ Notes on marks and area descriptions

● Marks and areas

- Write marks a distance of 1-2 characters from the area to be marked. If the mark is too close to or too far from the area, it will not be recognized correctly.
A mark that is too close to the area will not be recognized as a mark.
A mark that is too far from the area will be recognized as a mark, but the area will not be recognized correctly.
- Write so that lines of text are as horizontal as possible.
- If the space between lines is 1.5 lines or more, each line will be recognized as a separate area.
- If the text is written in a notebook with ruled lines, try as much as possible not to overwrite the ruled lines.
If you overwrite a ruled line, the ruled line may be recognized as part of the text so that the recognized area expands to include the ruled line.

● Describing marks

- As far as possible, write marks so that they are always the same width and height. The standard for the spacing between the mark and the area, and between lines, is the mark size.
If the mark is overly tall or wide, the mark size will be difficult to ascertain, so its spacing from the area will also be difficult to identify.
- If a mark is written in a notebook with ruled lines, write the mark so that it does not touch the ruled lines.
If the mark extends over a ruled line, the ruled line may be assumed to be part of the mark, in which case the mark may not be recognized or may be taken to be a different mark.

● Precautions when shooting

- Always try to ensure that the object is vertically and horizontally aligned.

● Writing tips for the marks

*

- Ensure that each part is the same length (see Fig. 2).
- Ensure that each line passes through the center (see Fig. 3).



Fig. 1 *: Sample



Fig. 2 *: Off-center



Fig. 3 *: Off-center

#

- Write the symbol carefully so the 2 horizontal lines and the 2 vertical lines are parallel. Curved or angled lines will cause a recognition error (see Fig. 5, 6).
- Write the 2 horizontal lines so that they are horizontal or angled up to the right. Angling the lines down to the right will cause a recognition error.
- Where lines extend outwards, ensure that they extend uniformly in the 4 directions (see Fig. 6).



Fig. 4 #: Sample



Fig. 5 #: Curved



Fig. 6 #: Curved

\$

- Write the “S” part of the symbol so that the line is drawn as smooth curves. Dollar symbols drawn with straight lines are frequently misrecognized as “#” (see Fig. 8).
- Draw the vertical line so that is down the middle of the “S” and is straight up and down. An angled line will cause a recognition error (see Fig. 9).



Fig. 7 \$: Sample



Fig. 8 \$: Straight lines used



Fig. 9 \$: Angled

ℒ

- Write this symbol carefully without a strong upstroke to ensure that it does not look like a checkmark. If this symbol is drawn with a strong upstroke, the image may well become blurred or fuzzy.
- People tend to draw this mark small with long vertical stroke, but it should be drawn clearly as a full-size (large) character.

T

- Ensure that the horizontal and vertical lines are touching. Lines that cross or that are not touching will cause recognition errors.
- Draw the vertical and horizontal components correctly. (Do not angle the lines or draw the character italicized.)

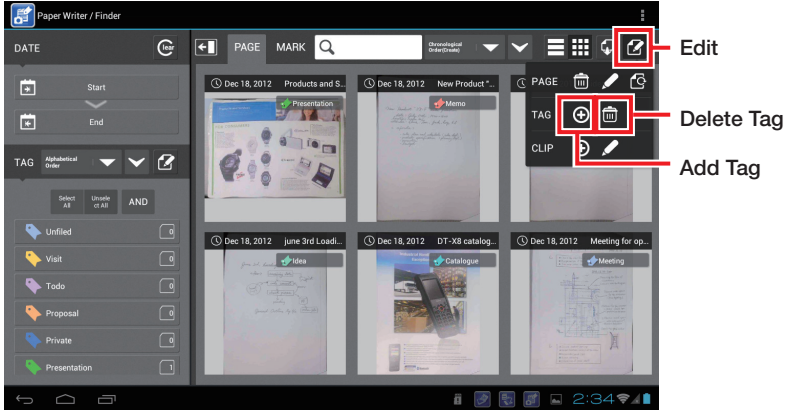
∞

- Draw this mark as 2 connected circles side-by-side.

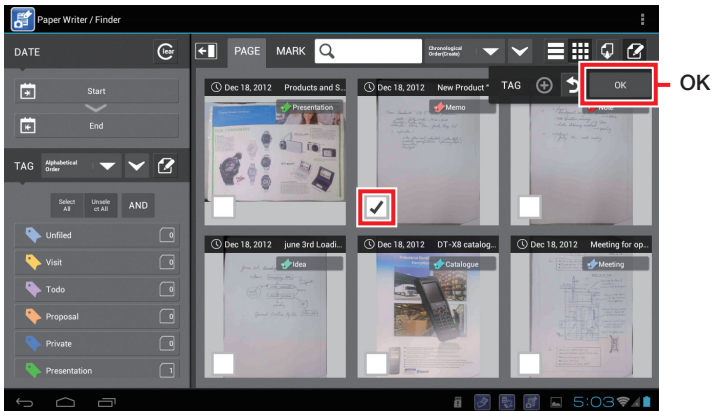
■ Adding tags

Adding tags (keywords) to images provides an easy way to search and manage them.

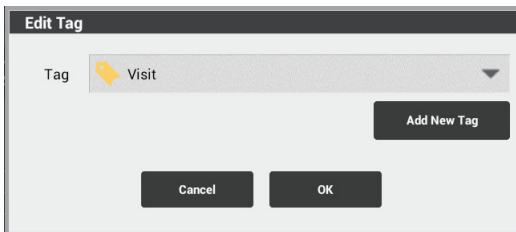
1. In the page list screen, touch the Edit icon and then touch the Add Tag icon.



2. Tap the image to which the tag will be added to place a checkmark in the image and then touch “OK”.



3. The tag edit screen appears.



4. Touch ▼ to select a tag from the list and then touch “OK” to add the tag.

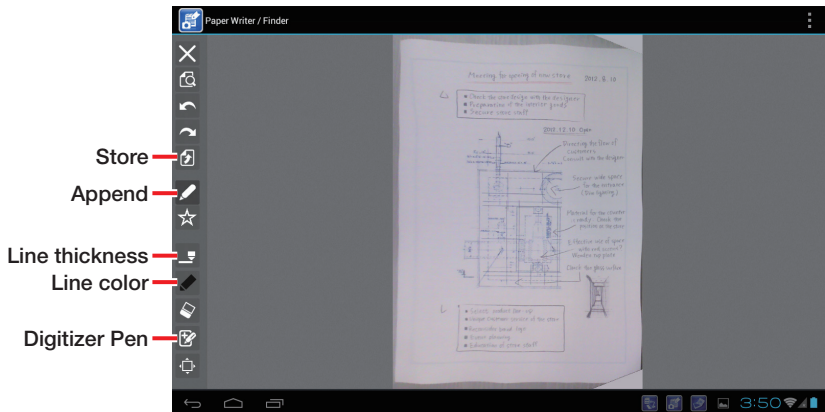
Note

- In both flipping shots and closing shots, tags are automatically added when the shot is taken.
- To delete a tag, touch “Delete Tag” in step 1 above and then touch the screen followed by the tag to select the tag. Then touch “OK”. Touch “OK” in the delete tag screen to delete the tag.

■ Editing images

You can use your finger or the Digitizer Pen to add freehand lines or text to an image.

1. Open the page edit screen.



2. Touch the Append icon and select the line thickness and line color.

3. Touch the Digitizer Pen icon to select whether to use the Digitizer Pen.

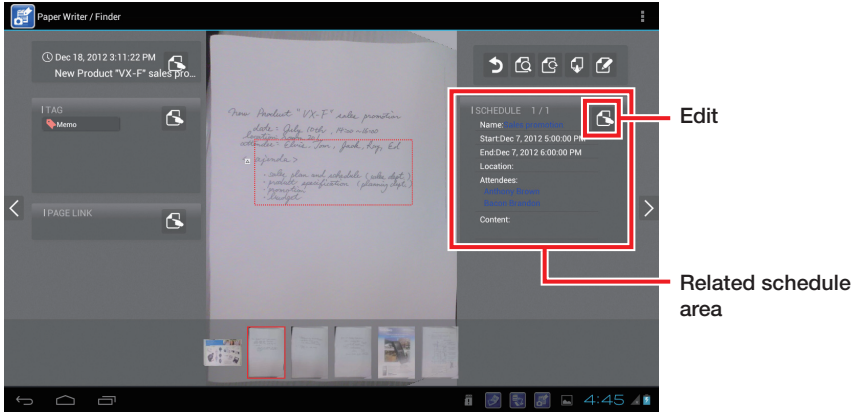
4. Touch the screen to draw a line.

5. Touching the Store icon saves the edited image and returns to the page display screen.

■ Linking to the Calendar or address book

You can link imported images to the Calendar or the address book.

In the menu display screen, use the Edit icon in the related schedule area to retrieve schedule information from the Calendar. If there are participants stored in the schedule, the address information for those participants is retrieved.



Note

- You can also call up associated images from the Calendar or address book.

Using microSD Cards

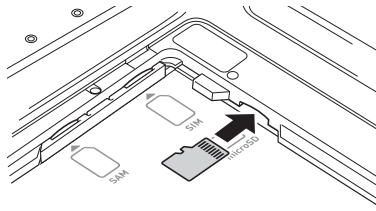
This Paper Writer supports microSD cards.

The card slot is located in the battery pack compartment (see E-20, 21). Remove the battery pack before inserting or removing a card.

Refer to pages 22 to 24 for information on “Loading and Removing the Battery Pack”. Install (or remove) a card according to the procedure described below.

Installing

1. Make sure that the power on the Paper Writer has been switched off. If the power is still on, hold down the power button to switch off (see E-27).
2. Remove the battery pack.
3. Check that the card is the right way up and facing in the right direction, then match it to the correct printed icon and push it all the way into the slot.
 - Turn the card so that rear side (with the terminals) faces upwards and then push the card in fully until it clicks into place.



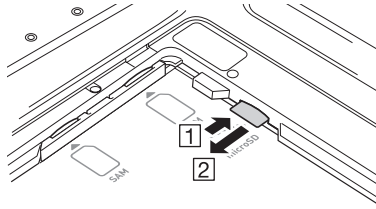
4. Load the battery pack.

Removing

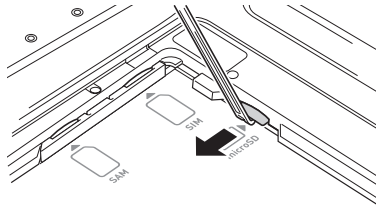
1. Make sure that the power on the Paper Writer has been switched off. If the power is still on, hold down the power button to switch off (see E-27).
2. Remove the battery pack.

3. Press on the card slightly (1).

The card is pushed out (2).



- If you have difficulty removing the card, use the microSD card removal tool provided. As shown in the illustration, hook the end of the tool under the projection on the card to pull the card out.



4. Pull out the card and load the battery pack.

Important!

- A card must be inserted with the top and bottom properly aligned and in the proper direction. Attempt in inserting it with an excessive force in incorrect orientation can risk damage to the card and slot.
- Touching the connectors or IC area when installing the card could result in damage to the card through soiling or an electrostatic charge.
- The battery pack will not be able to be properly installed if the card is not properly installed. Reinstall the card properly if this happens.
- Since data recorded in the Paper Writer may be lost if the battery pack is removed for more than 10 minutes, complete the installation (or removing) of a card within 10 minutes.
- Never turn off the power or remove a card from the slot while the card is being accessed. Doing so can damage the card or data in the card.
- Do not drop the card or lose it.

Using SAM Cards

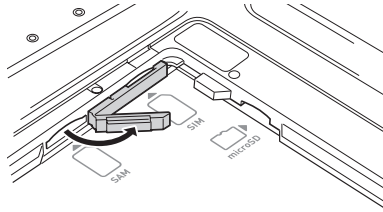
This Paper Writer supports SAM cards.

The card slot is located in the battery pack compartment (see E-20, 21). Remove the battery pack before inserting or removing a card.

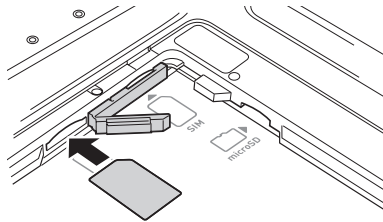
Refer to pages 22 to 24 for information on “Loading and Removing the Battery Pack”. Install (or remove) a card according to the procedure described below.

Installing

1. Make sure that the power on the Paper Writer has been switched off. If the power is still on, hold down the power button to switch off (see E-27).
2. Remove the battery pack.
3. Open the supporting cover.



4. Check that the card is the right way up and facing in the right direction, then match it to the correct printed icon and push it into the slot.
 - Insert the card so that the notch is on the front right corner.

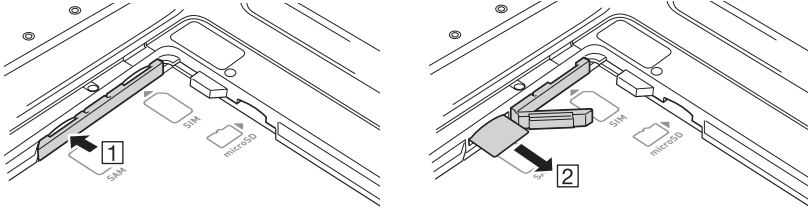


5. Close the supporting cover and push the inserted card just above the cover.
 - Push the card in fully until it clicks into place.
6. Load the battery pack.

Removing

1. Make sure that the power on the Paper Writer has been switched off. If the power is still on, hold down the power button to switch off (see E-27).
2. Remove the battery pack.
3. Gently push the card in above the supporting cover (1).

The card is pushed out (2).



4. Pull the card out and close the supporting cover.
5. Load the battery pack.

Important!

- A card must be inserted with the top and bottom properly aligned and in the proper direction. Attempt in inserting it with an excessive force in incorrect orientation can risk damage to the card and slot.
- Touching the connectors or IC area when installing the card could result in damage to the card through soiling or an electrostatic charge.
- The battery pack will not be able to be properly installed if the card is not properly installed. Reinstall the card properly if this happens.
- Since data recorded in the Paper Writer may be lost if the battery pack is removed for more than 10 minutes, complete the installation (or removing) of a card within 10 minutes.
- Never turn off the power or remove a card from the slot while the card is being accessed. Doing so can damage the card or data in the card.
- Do not drop the card or lose it.

Using SIM Cards

This Paper Writer supports SIM cards.

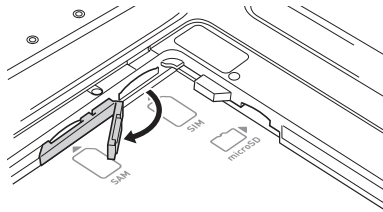
SIM cards may not be supported by some models. See E-21 for information on compatible models.

The card slot is located in the battery pack compartment (see E-20, 21). Remove the battery pack before inserting or removing a card.

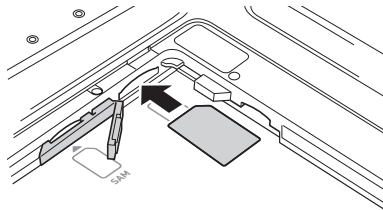
Refer to pages 22 to 24 for information on “Loading and Removing the Battery Pack”. Install (or remove) a card according to the procedure described below.

Installing

1. Make sure that the power on the Paper Writer has been switched off. If the power is still on, hold down the power button to switch off (see E-27).
2. Remove the battery pack.
3. Open the supporting cover.



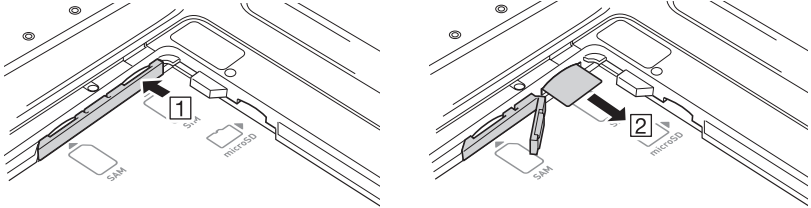
4. Check that the card is the right way up and facing in the right direction, then match it to the correct printed icon and push it into the slot.
 - Insert the card so that the notch is on the front right corner.



5. Close the supporting cover and push the inserted card just above the cover.
 - Push the card in fully until it clicks into place.
6. Load the battery pack.

Removing

1. Make sure that the power on the Paper Writer has been switched off. If the power is still on, hold down the power button to switch off (see E-27).
2. Remove the battery pack.
3. Gently push the card in above the supporting cover (1).
The card is pushed out (2).



4. Pull the card out and close the supporting cover.
5. Load the battery pack.

Important!

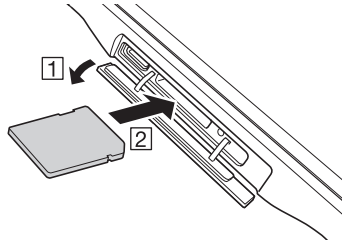
- A card must be inserted with the top and bottom properly aligned and in the proper direction. Attempt in inserting it with an excessive force in incorrect orientation can risk damage to the card and slot.
- Touching the connectors or IC area when installing the card could result in damage to the card through soiling or an electrostatic charge.
- The battery pack will not be able to be properly installed if the card is not properly installed. Reinstall the card properly if this happens.
- Since data recorded in the Paper Writer may be lost if the battery pack is removed for more than 10 minutes, complete the installation (or removing) of a card within 10 minutes.
- Never turn off the power or remove a card from the slot while the card is being accessed. Doing so can damage the card or data in the card.
- Do not drop the card or lose it.

Handling SD Memory Cards

SD memory card can be installed in the SD memory card slot on the Paper Writer. Install (or remove) an SD memory card according to the procedure described below.

Installing

1. Open the cover of the SD memory card slot on the left side of the Paper Writer (1) and insert an SD memory card all the way in until the top of the SD memory card aligns with the entrance of the slot of the Paper Writer (2).



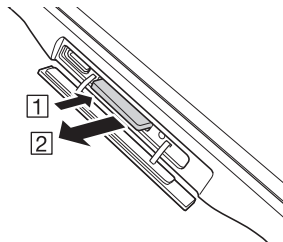
2. Close the cover of the SD memory card slot.

Important!

- An SD memory card must be inserted with the top and bottom properly aligned and in the proper direction. Attempt in inserting it with an excessive force in incorrect orientation can risk damage to the connectors and slot.
- Never turn off the power or remove an SD memory card from the slot while the card is being accessed. Doing so can damage the SD memory card or data in the card.
- The Paper Writer cannot access the SD memory card while the cover of the SD memory card slot is open. Always close the cover.
- Do not drop the card or lose it.

Removing

1. Open the cover of the SD memory card slot and press on the SD memory card slightly (1). The SD memory card is pushed out (2).



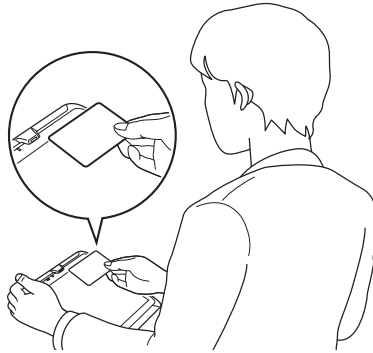
2. Pull out the SD memory card and close the cover of the SD memory card slot.

Handling the NFC Reader/Writer

NFC is a type of RFID (Radio Frequency Identification) technology that allows the data in a device to be read simply by holding the device up to an NFC reader. It can be used to read RFID tags used for controlling goods as well as contactless IC cards used in applications such as employee identification. RFID tags and contactless IC cards can be read from either the front or the back of the Paper Writer.

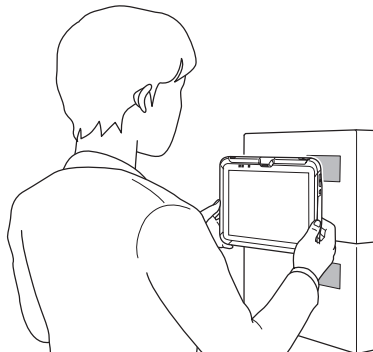
Contactless IC Cards

1. Hold the contactless IC card up so that it is parallel with the Paper Writer's reader portion.
Otherwise, you can hold the Paper Writer up to the card.



RFID Tags

1. Hold the Paper Writer up so that the reader portion is parallel with the RFID tag.



Important!

Both contactless IC cards and RFID tags

- The NFC employs a low power radio wave which does not require regulatory station license.
- Frequency band used by the NFC is 13.56 MHz. Secure a sufficient space between V-N500 and other reader/writer located in the vicinity. Make sure also that a radio station employs the same frequency band does not locate near by prior to using V-N500.
- Read a contactless IC card or RFID tag by holding the Paper Writer so that the reader portion is flush against the card or tag.
- When holding up the Paper Writer, take care not to strike the reader portion against the card or tag.
- If the card or tag cannot be read, try moving the Paper Writer back and forth or side to side.

Contactless IC cards

- Metal objects near a contactless IC card will interfere with successful reading. Take the card out of a wallet if the wallet is with metal object before applying it to the reader portion.
- The card may not be read correctly if it is overlapped by one or more other cards.
- Always keep the Paper Writer away from your body when reading cards. Avoid facing the Paper Writer towards your body while using it.

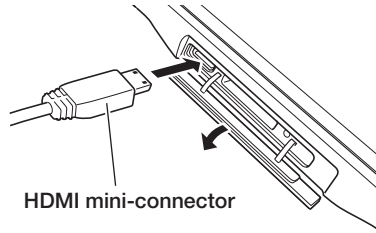
RFID tags

- Metal objects near an RFID tag will interfere with successful reading. Move the tag away from any nearby metal objects or use a tag designed for use with metal.
- The tag may not be read correctly if it is overlapped by one or more other tags. Set up the Paper Writer so that tags can be kept completely apart during reading.

HDMI Connection

HDMI-compatible external devices can be connected to the Paper Writer using a third-party HDMI cable.

1. Make sure that the power on the Paper Writer has been switched off. If the power is still on, hold down the power button to switch off (see E-27).
2. Open the mini HDMI port cover on the left side of the Paper Writer and connect the external device using a third-party HDMI cable.



Important!

- Always turn the Paper Writer off when connecting or disconnecting the cable.
- The settings for the connected external device should be as stipulated in the instruction manual for that device.

Resetting the Paper Writer

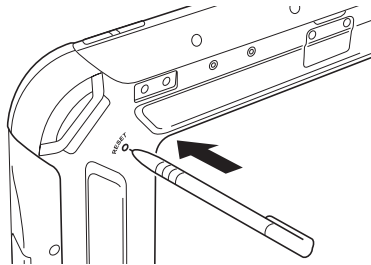
Resetting the Paper Writer is the same as resetting a PC. Performing a reset causes all unsaved RAM data to be lost that are in mid-course of inputting and editing, but data and settings that are already stored in the FlashROM should be unaffected.

Perform a reset to restore normal operation whenever the Paper Writer operates abnormally due to misoperation or some other reason.

Use a pointed implement such as a mechanical pencil (with the lead retracted) to press the reset switch on the back of the V-N500.

This starts the reset operation.

* Do not use a toothpick or pencil or other sharp object whose tip may break off the reset switch.



Chapter 3

Built-in Software

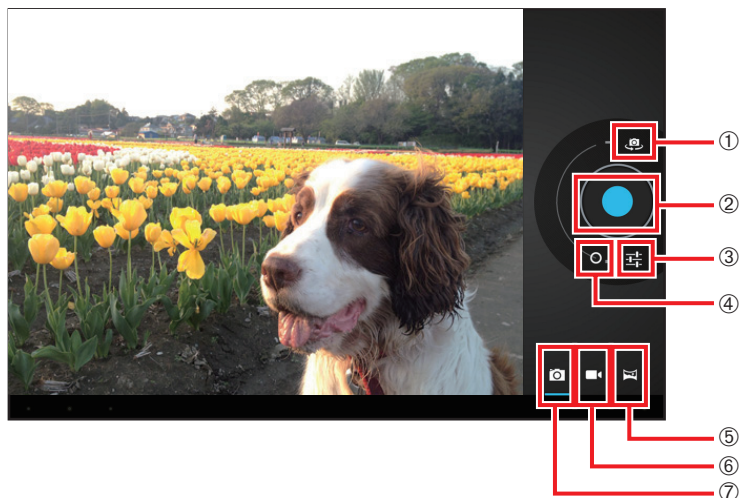
Standard Accessories

Software List

Icon	Software
	Camera
	Browser
	Email
	Gallery
	Music
	Clock
	Messaging
	People
	Calendar
	Search
	Calculator

Camera

Shoots still images and movies.



- ① Switch between rear camera and front camera
- ② Shutter
- ③ Settings
- ④ Zoom in/out
- ⑤ Shoot panorama images
- ⑥ Shoot video
- ⑦ Shoot still images

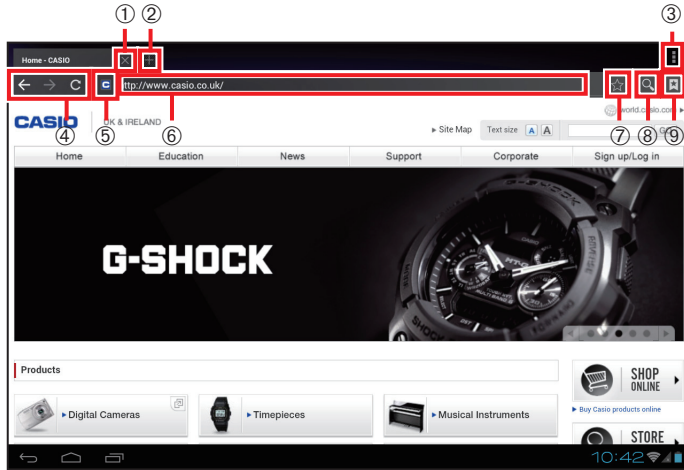
■ Settings

You can use Settings to select the following modes for shooting images:

Flash mode, white balance, exposure, photography mode, camera settings

Browser

You can use the Browser to view web pages, just as you do on a computer. There is also the Job Browser app loaded onto the Paper Writer.



- ① Close tab
- ② Open new tab
- ③ Show Menu
- ④ Go to next/previous page
- ⑤ Reload page
- ⑥ Display/Enter URL
- ⑦ Add bookmark
- ⑧ Search
- ⑨ Bookmarks list

■ Show menu

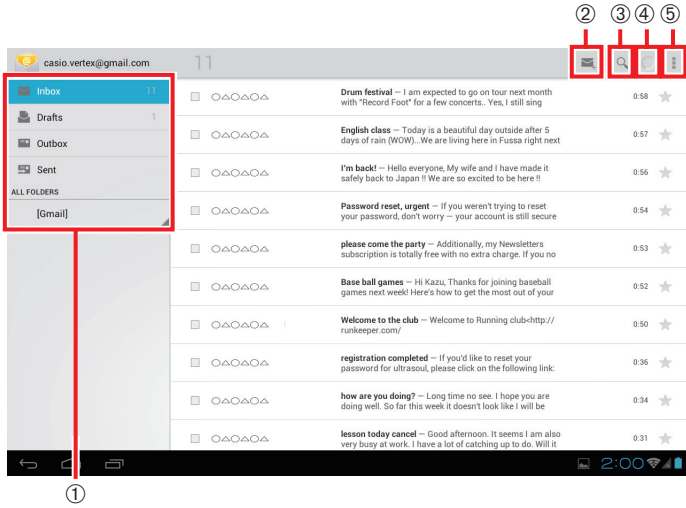
In the menu display, you can configure settings such as the following browser operations:
Reload (Stop), Next, New Tab, New Secret Tab, Share Page, Search in Page, Request Desktop Site, Save for Reading Online, Page Info., Settings

■ Go to next/previous page

Moves to the next or previous page.

Mail

Sends and receives email.



- ① Mail sorting folders
- ② Compose new email
- ③ Search
- ④ Send/Receive
- ⑤ Settings

■ Search

Searches through your received email for any that match the specified keyword.

■ Send/Receive

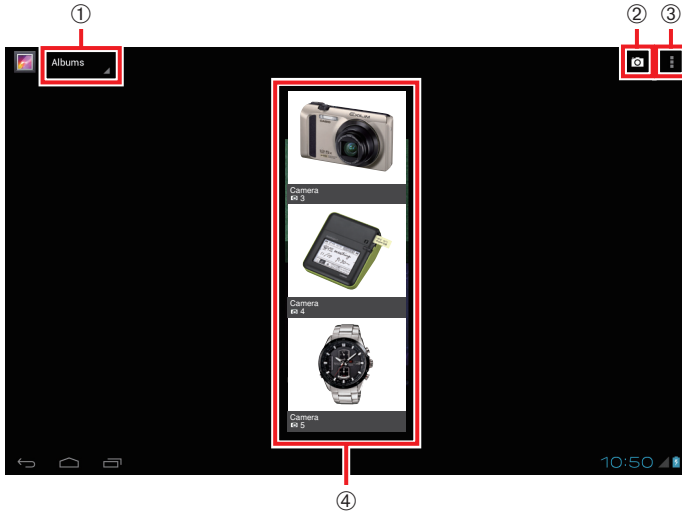
Sends and receives email.

■ Settings

Use this to set your preferences for using email, including configuring your account information, setting the frequency of email reception, setting up notifications and configuring your server settings.

Gallery

Allows you to view and organize your still images and movies.
In the initial screen, images are tiled according to the sort categories.



- ① Sort category
- ② Launch Camera app
- ③ Show menu
- ④ Groupings for each sort category displayed as tiles.

■ Sort category

You can use this to sort the images displayed any of the following categories:
Albums, Location, Time, People, Tags

■ Show menu

In the menu display, you can configure settings such as the following gallery operations:
Select Album (select group), Use Offline, Update, Settings

When you select a still image, the selected image appears in full-screen display.



- ① Return to list
- ② Share
- ③ Delete
- ④ Show menu
- ⑤ Show list of images in group

■ Share

You can use the following functions to share images:

Bluetooth, Email

■ Show menu

The menu display allows you to configure the following settings for displaying and editing images:

Slideshow, Edit, Trimming, Store, Details

Music

Plays audio files.



- ① Artists
- ② Albums
- ③ Songs
- ④ Playlists
- ⑤ Now playing

■ Artists

Displays a list of the saved tracks for each artist.

If no artist information is registered, “Unknown artist” is displayed.

■ Albums

Displays a list of the saved tracks on each album.

■ Songs

Displays a list of saved tracks.

■ Playlists

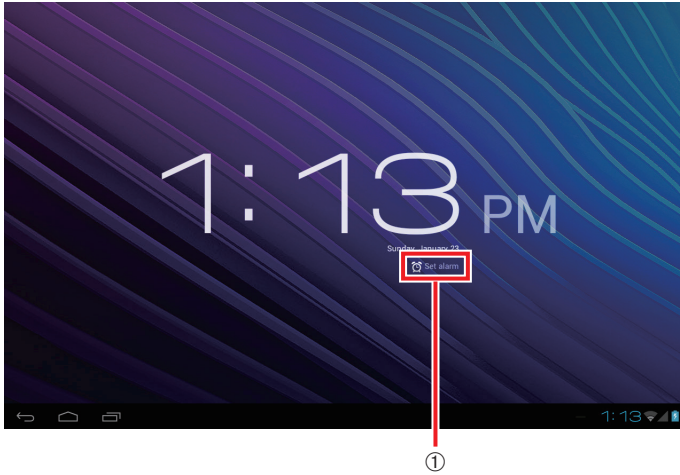
Displays a list of grouped tracks (playlists).

■ Now playing

Displays the track currently being played.

Clock

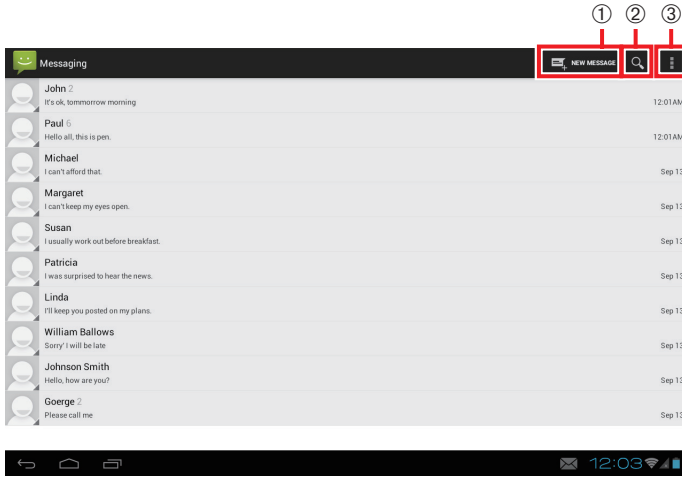
Allows you to configure the date/time display and set the alarm.



① Set alarm

Message

This is the Short Message Service (SMS) app.
This service is available on WAN models.



- ① Compose new message
- ② Search
- ③ Settings

■ Search

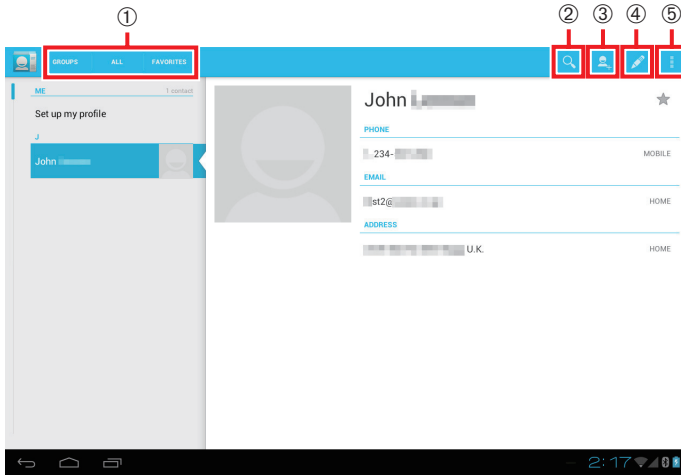
Searches through your messages for those that match the specified keyword.

■ Settings

Use this to set your preferences for using SMS, including how messages are saved, configuring message reception and sending, and your settings for notifications.

User

Use this to manage street and email addresses.



- ① Select display category
- ② Search
- ③ Add new
- ④ Edit current info.
- ⑤ Show menu

■ Select display category

Use this to select one of the following as the items to be displayed:

Groups, All, Favorites

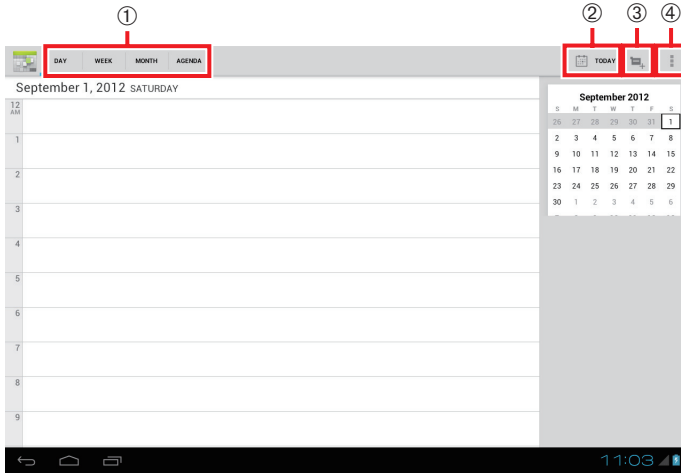
■ Show menu

Use the menu to specify any of the following operations for your information on people.

Share, Delete, Show contact info., Import/Export, Account

Calendar

You can use the Calendar to manage your schedule and to store or check events. The layout below shows the screen for the single-day display.



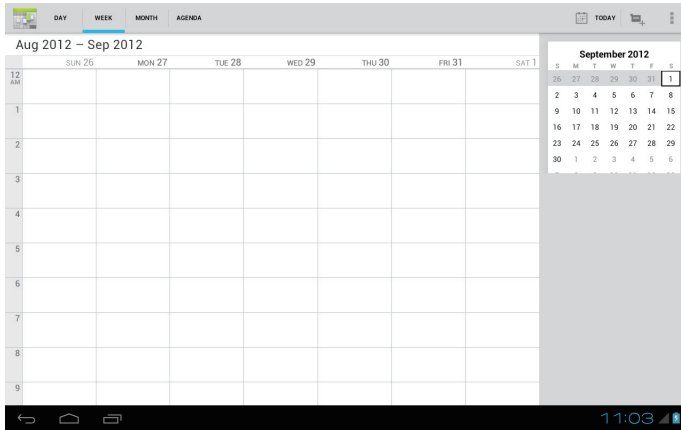
- ① Select display mode
- ② Show today
- ③ Make a plan
- ④ Show menu

■ Show menu

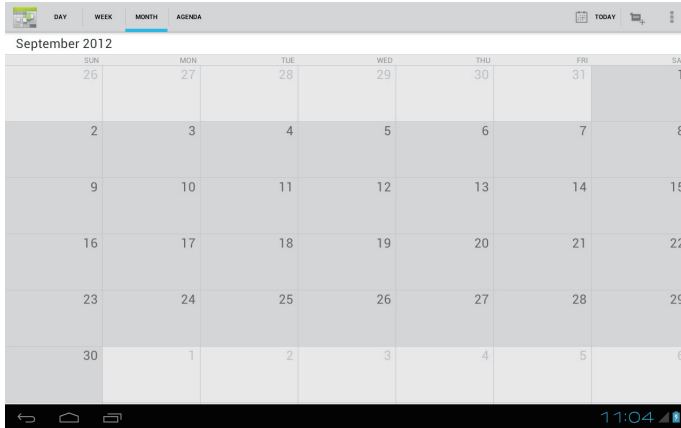
Use the menu to select any of the following calendar operations:

Update, Search, Show/Hide controls, Settings

The layout below shows the screen for the one-week display.

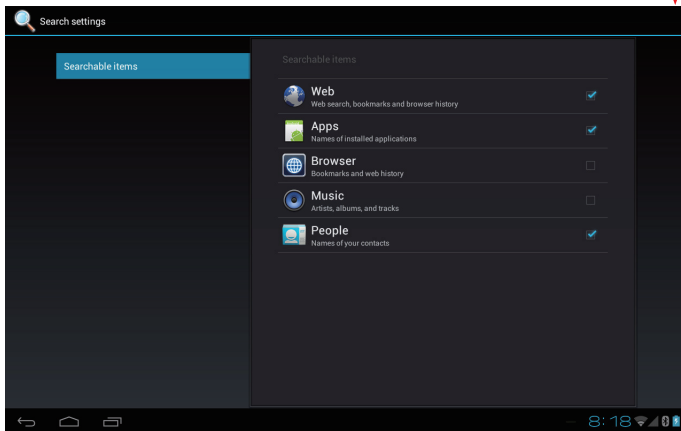
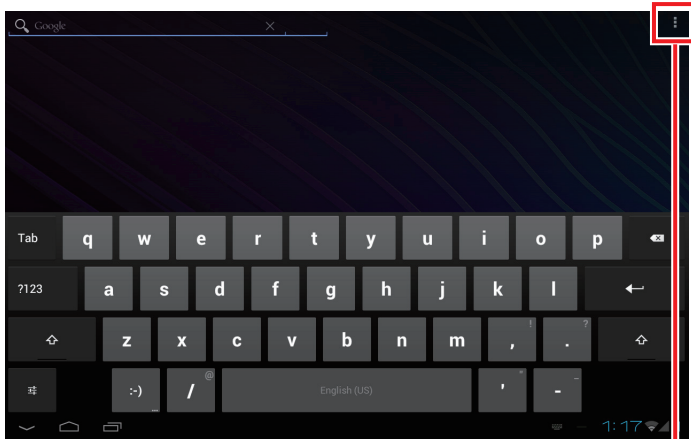


The layout below shows the screen for the one-month display.



Search

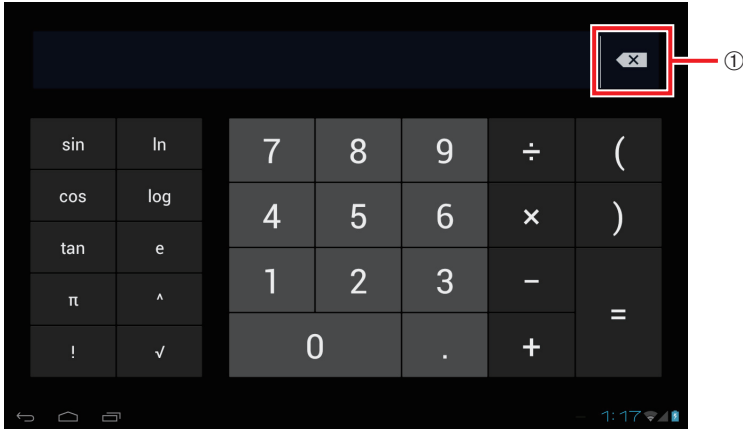
Searches on the web or in the Paper Writer.



Items checked in the search settings will be searched.

Calculator






Allows you to carry out arithmetic or scientific calculations.



① Backspace

Additional Accessories

Software List

Icon	Software
	Adobe Reader
	MemoText
	MemoPaint
	Job Browser
	Voice Recorder

Adobe Reader

Allows you to view PDF documents.

When you select a PDF document in File Manager, this software is used to display the document.



- ① Home screen
- ② Display mode
- ③ Edit
- ④ Share
- ⑤ Search text
- ⑥ Slide bar

■ Home screen

The Home screen shows the following menu items when you select a document to view:
Open Recent File, Document List, What's New

■ Display mode

The display modes allow you to select any of the following ways of viewing a document:
Continuous, Single-Page, Text Wrapping, Auto

■ Edit

In documents that permit editing, you can carry out the following editing tasks:

Comments, Highlights, Strikethrough, Underscore, Add text, Freehand drawing, Signature

■ Share

You can use the following functions to share documents:

Bluetooth, Email, Send for signing

■ Slide bar

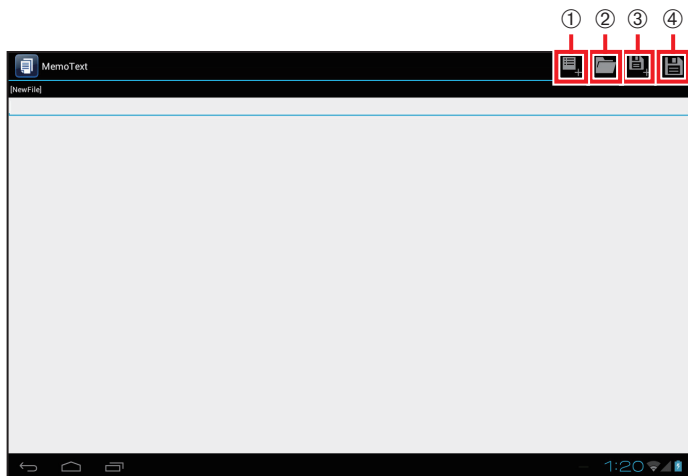
You can move a page by sliding the bar.

Memo Text

Provides display and editing functions for text memos.

When you select a text document in File Manager, this software is used to display the document.

You can also launch this app and then use “Open File” to select and display any text file.

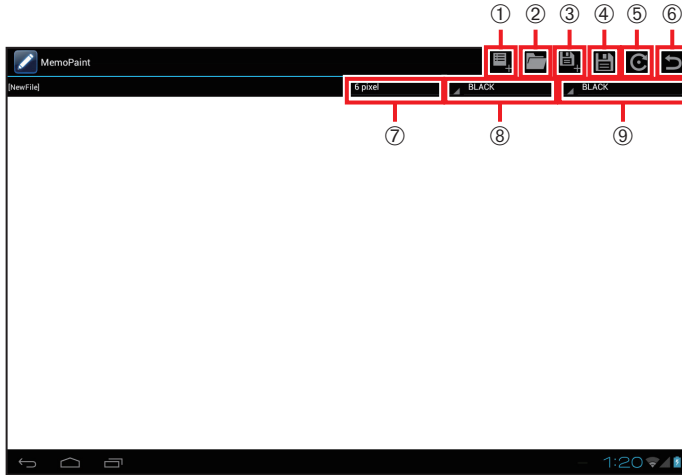


- ① New
- ② Open file
- ③ Save as
- ④ Save

Memo Paint

Provides display and editing functions for handwritten (image format) memos.

You can also launch this app and then use “Open File” to select and display any image (PNG or JPG).



- ① New
- ② Open file
- ③ Save as
- ④ Save
- ⑤ Rotate image
- ⑥ Undo
- ⑦ Line thickness
- ⑧ Line color for fingerpainting
- ⑨ Line color for Digitizer Pen

■ Rotate image

Rotates the displayed image 90° clockwise.

■ Undo

Cancels the last operation performed.

This allows you to undo just the last action you took.

■ **Line thickness**

Specifies one of the following as the line thickness:

1, 2, 4, 6, 8, 10, 20 or 30 pixels

■ **Line color for fingerpainting**

Specifies one of the following as the line color for fingerpainting:

Black, blue, cyan, gray, green, red, magenta, yellow, white

■ **Line color for Digitizer Pen**

Specifies one of the following as the line color for the Digitizer Pen:

Black, blue, cyan, gray, green, red, magenta, yellow, white

Job Browser

The Job Browser is separate from the standard Android browser and allows you to limit the standard browser functions.

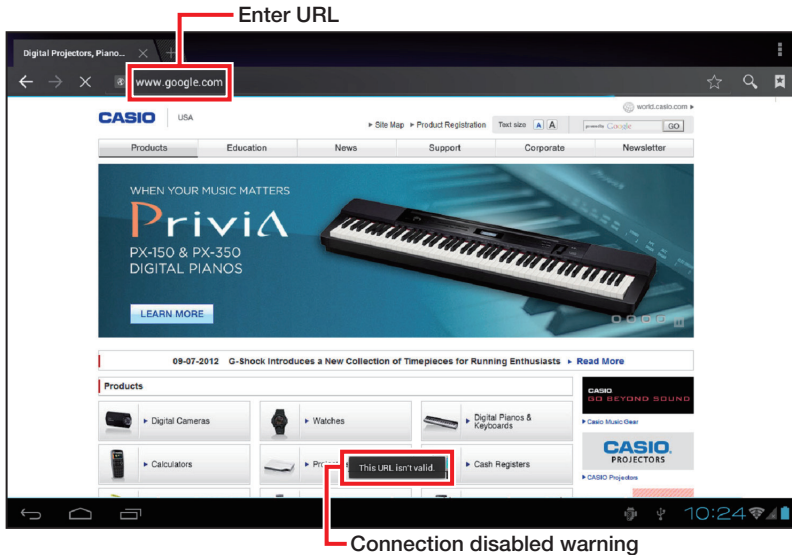
Unlike the standard browser, you can apply the following limitations:

- **Restrict displayed items**
Prevents the user from accessing displayed buttons and the address bar.
- **Specify browsed domains**
Restricts the hosts that can be browsed.
- **Priority specification**
The settings in the settings file take priority over the settings specified in the Job Browser settings screen.

Apart from the restrictions, the Job Browser is identical to the standard Android browser.

Sample setting: Where the browsed site is restricted to “www.casio.com”

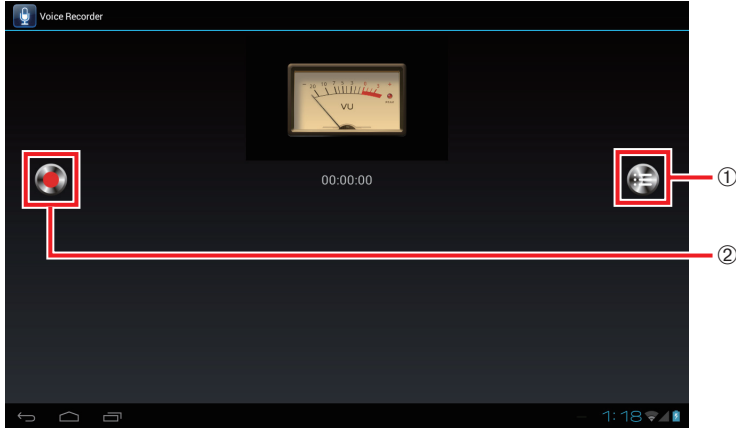
If a URL other than www.casio.com is entered (“www.google.com” in this screenshot), a pop-up (Toast) warning message appears and access to the site is blocked.



Voice Recorder

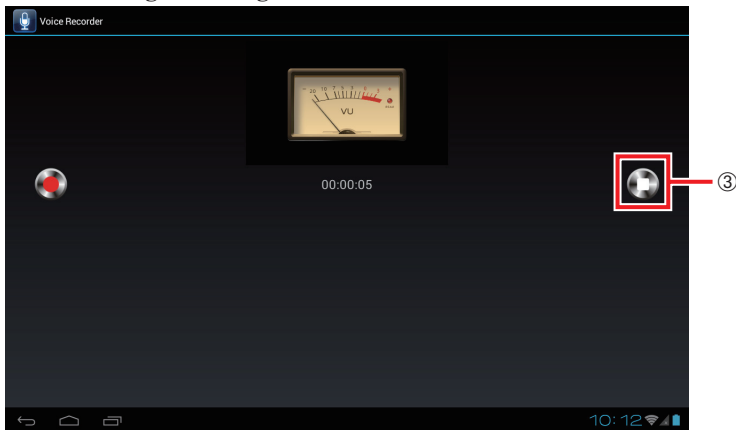
Provides recording and playback functions for voice memos.

Screen at startup



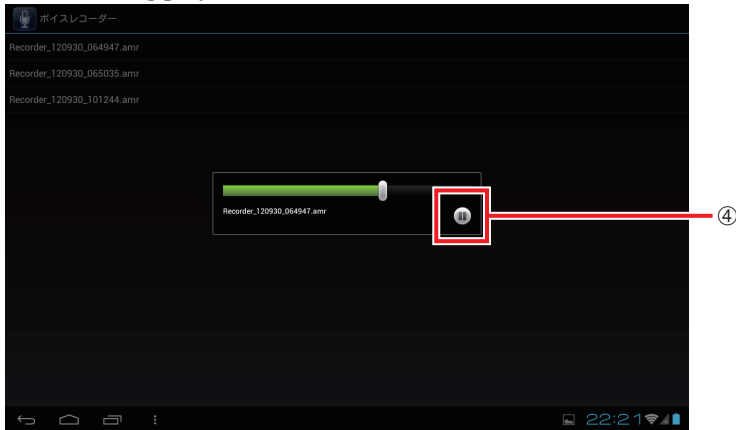
- ① Show playback list
- ② Record

Screen during recording



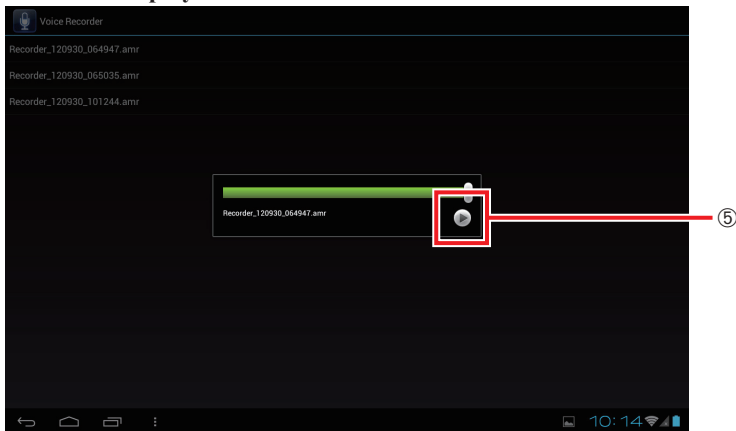
- ③ Stop

Screen during playback



④ Pause

Screen when playback ends



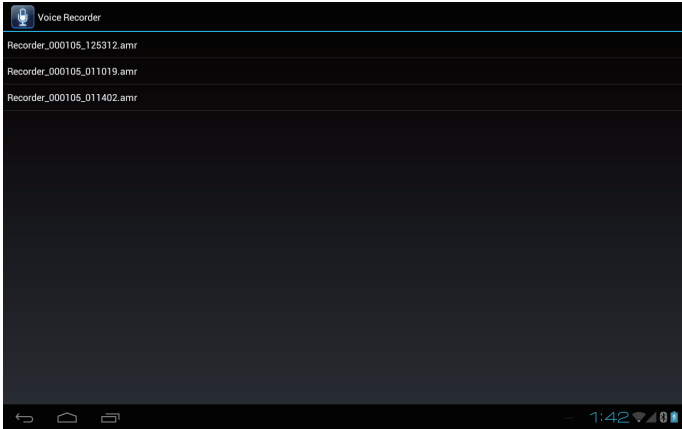
⑤ Play

■ Show playback list

Shows a list of the data recorded so far.

Files are saved in the “Recorder_YYMMDD_HHMMSS.amr” format.

During recording, the Show Playback List button ① changes to the Stop button ③.



■ Record

Recording starts when you press the Record button ②.

To stop recording, press the Stop button ③.

■ Playback

When you select a file from the playback list, the selected audio file is played.






To pause playback, press the Pause button ④.

When playback ends, the Pause button ④ changes to the Play button ⑤.

To play the file again, press the Play button ⑤.

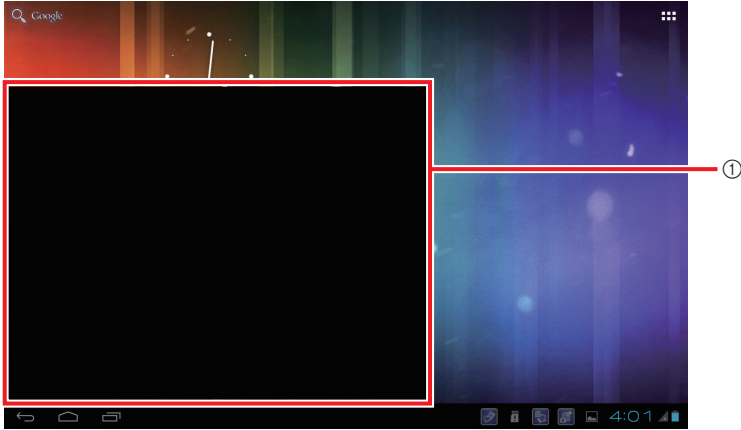
Paper Writer Accessories

Software List

Icon	Software
	Closing Shot
	Flipping Shot
	Finder
	Calendar
	Contacts

Closing Shot

A closing shot photographs information written on paper set in the paper holder. After a shot is taken, the Finder automatically starts up and the image can be viewed, edited, printed and configured.



① Preview

Note

- Settings menu options such as the paper size can be displayed by tapping the setting icon in the Flipping Shot main screen.

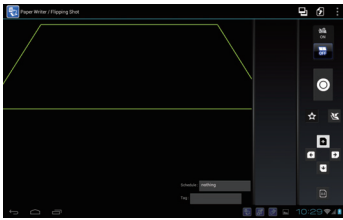
Flipping Shot

Use flipping shots to photograph business cards or information written in a notebook or similar document.

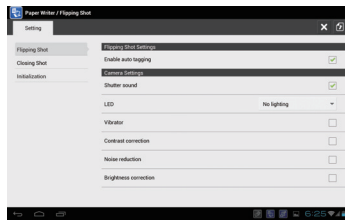
You can use this mode to import images shot with the rear camera and images in the Gallery. When you exit the Flipping Shot function, the Finder automatically starts up and the image can be viewed, edited, printed and configured.

[Key Screens]

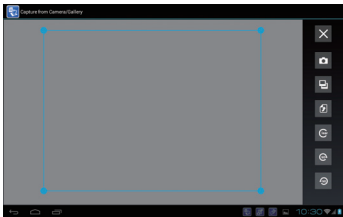
Main screen



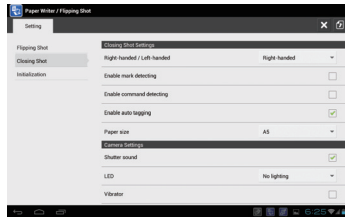
Setting screen (Flipping Shot)



Camera/Gallery screen



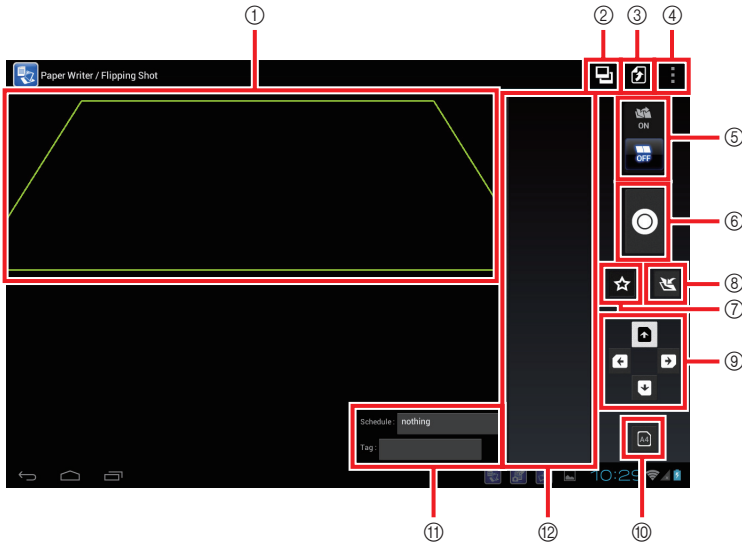
Setting screen (Closing Shot)



Note

- The Closing Shot setting screen is not displayed when the screen cover is used.

[Flipping Shot – Main screen]



- ① Paper alignment guide
- ② Camera/Gallery
- ③ Exit
- ④ Setting
- ⑤ (Flipping Shot) ON/OFF
- ⑥ Manual shooting
- ⑦ Mark recognition on/off
- ⑧ Facing pages on/off
- ⑨ Paper direction
- ⑩ Paper size
- ⑪ Related schedule, tags
- ⑫ Photographed image thumbnail display

■ Camera/Gallery

Jumps to the Camera/Gallery screen.

■ Exit

Exits the Flipping Shot function. If any images have been shot, the Finder automatically starts up.

■ Setting

Jumps to the setting screen.

■ (Flipping Shot) ON/OFF

Enables/Disables the Flipping Shot function.

■ Manual shooting

Enables you to shoot images at any time, regardless of whether Flipping Shot is ON or OFF.

■ Mark recognition on/off

Enables/Disables mark recognition.

■ Facing pages on/off

Specifies whether the notebook being used has facing pages.

If the facing pages setting is selected, the photographed image is split into 2 pages and saved.

■ Paper direction

Tap the arrow to set the paper direction.

After the shot is taken, the image is rotated so that the direction of the arrow is upwards.

■ Related schedule, tags

Displays information on related schedules and tags added by the auto tagging function.

Tapping this icon opens a pop-up menu that can be used to change the details.

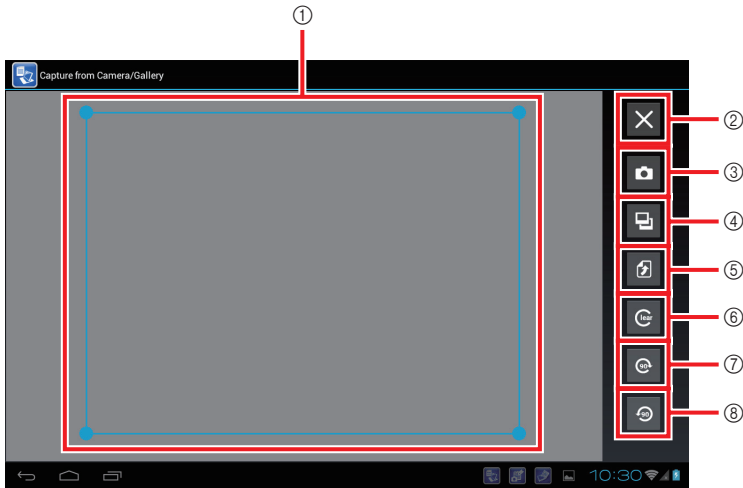
Note

- You can enable or disable the auto tagging function in the setting screen.
- You can edit the rules for auto tagging in the TAG pane of the Finder page list screen.

■ Photographed image thumbnail display

Displays thumbnails for the photographed images. If you hold your finger against an image, a pop-up menu appears from which you can delete, re-shoot or enlarge the image.

[Flipping Shot – Camera/Gallery screen]



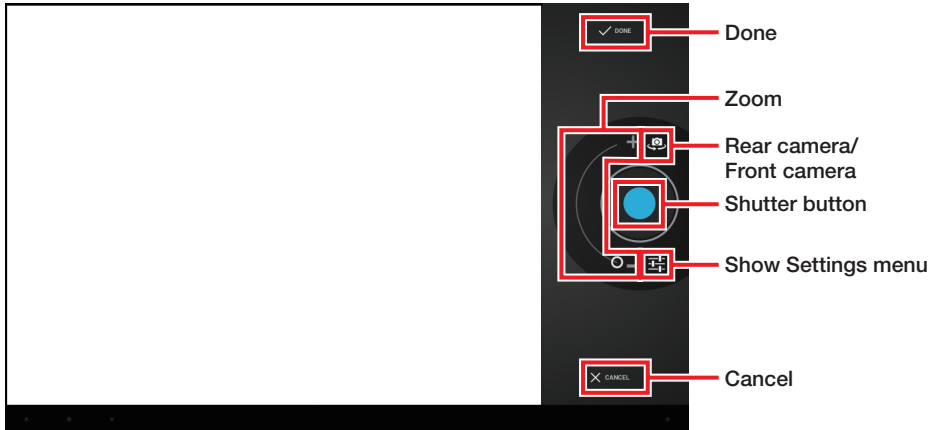
- ① Image cropping guide
- ② Cancel
- ③ Camera
- ④ Gallery
- ⑤ Import
- ⑥ Clear
- ⑦ Rotate 90° clockwise
- ⑧ Rotate 90° counterclockwise

■ Image cropping guide

Automatically recognizes an image and displays the area to be cropped as a trapezoid.
You can change the area to be cropped by dragging the corners of the trapezoid around.

■ Camera

Switches to a shooting mode that uses the rear camera.



■ Gallery

Loads an image in the Gallery and displays the image cropping guide.

■ Clear

Aligns the position of the image cropping guide to the outline of the image.

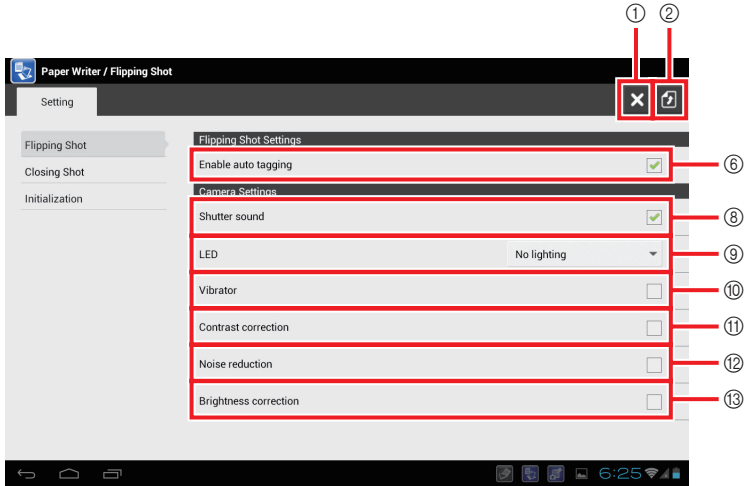
■ Import

Crops the area bounded by the image cropping guide and displays it as a thumbnail in the main screen.

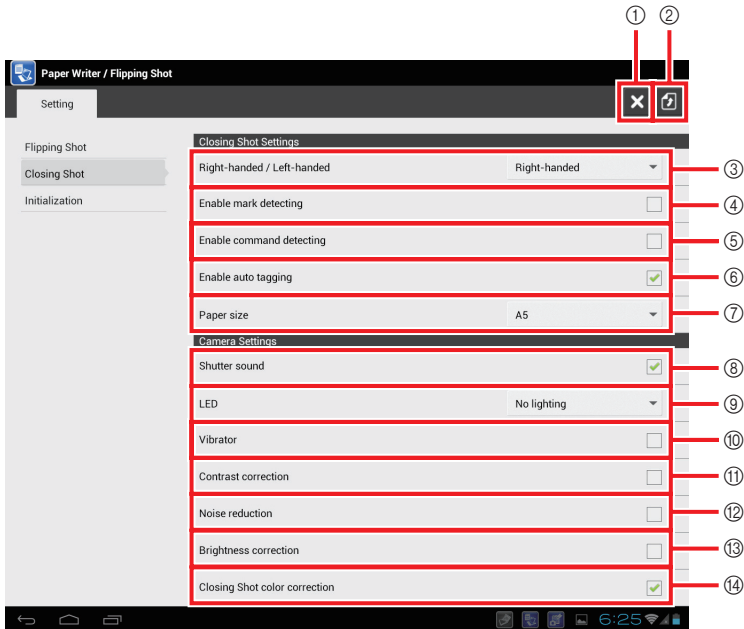
■ Cancel

Jumps to the main screen without cropping the image.

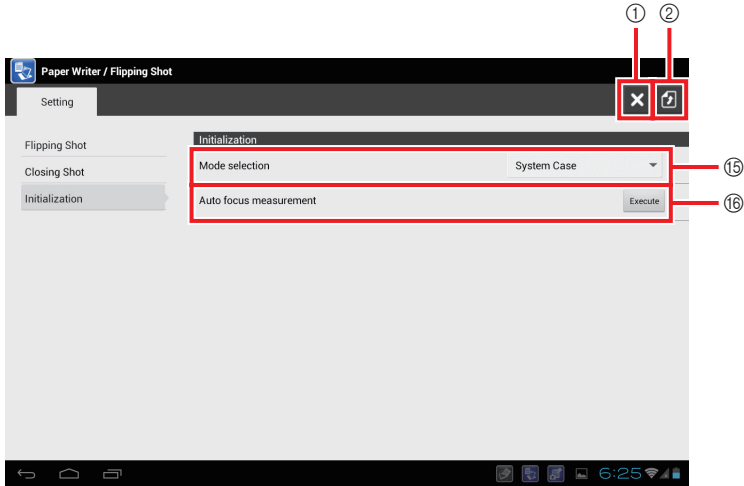
[Flipping Shot – Setting screen (Flipping Shot)]



[Flipping Shot – Setting screen (Closing Shot)]



[Flipping Shot – Initialization screen]



- ① Back
- ② Store
- ③ Right-handed/Left-handed
- ④ Enable mark detecting
- ⑤ Enable command detecting
- ⑥ Enable auto tagging
- ⑦ Paper size
- ⑧ Shutter sound
- ⑨ LED
- ⑩ Vibrator
- ⑪ Contrast correction
- ⑫ Noise reduction
- ⑬ Brightness correction
- ⑭ Closing Shot color correction
- ⑮ Mode selection
- ⑯ Auto focus measurement

■ Store

Stores the changed settings.

The settings cannot be stored using the Back icon ().

■ Right-handed/Left-handed

If the Paper Writer is on the left and the paper is on the right, select “Right-handed”.

If the Paper Writer is on the right and the paper is on the left, select “Left-handed”.

■ Enable mark detecting

If you check this option, mark recognition is performed after shooting.

■ Enable command detecting

If you check this option, command recognition is performed after shooting.

■ Enable auto tagging

If you check this option, auto tagging is applied as of the scheduled event that most closely precedes the event on the date when the image was shot.

Auto tagging sets the schedule event name in the image name and adds tags based on the schedule event name, location, content and attendees.

■ Paper size

Select a paper size between A5 and B5.

■ Shutter sound

If you check this option, the Paper Writer emits a shutter sound when shooting images.

■ LED

The 3 available options are: No lighting, In operation, and In operation and shooting.

■ Vibrator

If you check this option, the Paper Writer vibrates when shooting images.

■ Contrast correction

If you check this option, areas other than text are made whiter.

■ Noise reduction

If you check this option, the amount of noise in photographed images is reduced.

■ **Brightness correction**

If you check this option, the extent to which shadows are blacked out in photographed images is reduced.

■ **Closing Shot color correction**

If you check this option, colors are corrected in photographed images.

■ **Mode selection**

If you are using the Paper Writer with the system case, select “System Case”. If you are using the Paper Writer with the screen cover, select “Screen Cover”.

■ **Auto focus measurement**

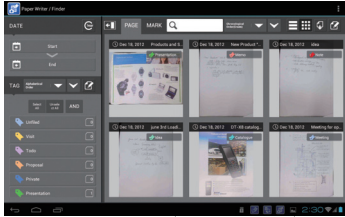
Tapping “Execute” launches the auto focus measurement tool.

Finder

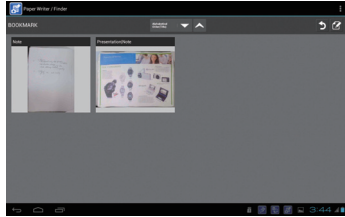
Use the Finder to view, edit, print and configure the settings for photographed images. Each image is handled as a “page”. You can also join multiple pages into a single “clip”.

[Key Screens]

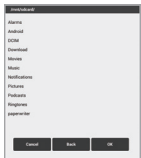
Page list screen



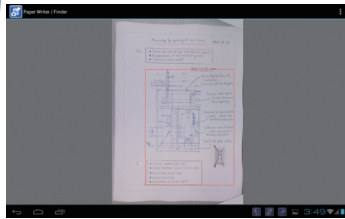
Bookmark screen



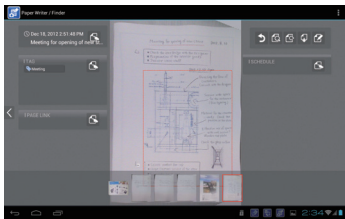
File import screen



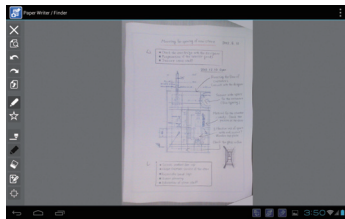
Page display screen (full-page display)



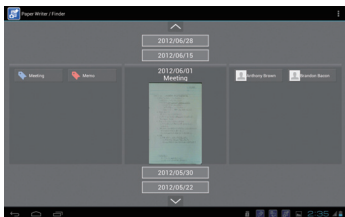
Page details display screen



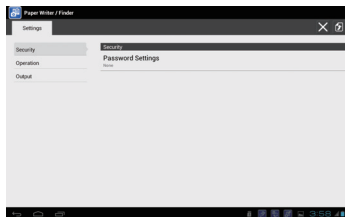
Page edit screen



Page-related display screen



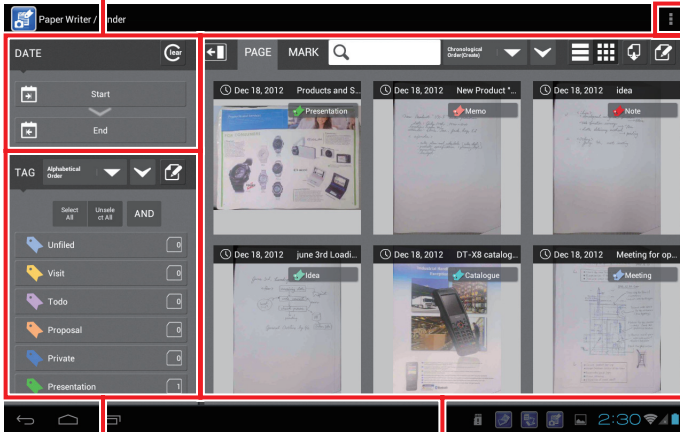
Settings screen



Two-way transition to all screens other than the file import screen

[Finder — Page list screen]

DATE pane



Show Bookmark/
Register Bookmark/
Show Clip/
Import File/
Settings

TAG pane

Page information pane

Name	Description
Show Bookmark	Jumps to the bookmark screen.
Register Bookmark	Registers the bookmark.
Show Clip	Toggles clip display on and off.
Import File	Jumps to the file import screen.
Settings	Jumps to the settings screen.
DATE pane	Selects a period for the pages to be viewed.
TAG pane	Selects the tags set in the pages to be viewed.
Page information pane	Displays filtered pages. Pages are displayed filtered by tag or by mark.

[Finder — Page list screen — DATE pane]



- ① Start
- ② End
- ③ Clear

■ Start

Specifies a starting date as the condition for filtering pages.

■ End

Specifies an ending date as the condition for filtering pages.

■ Clear

Clears the starting and ending date settings and filters for all dates.

[Finder — Page list screen — TAG pane]



- ① Sort key
- ② Sort order
- ③ Edit
- ④ Select All, Unselect All
- ⑤ Tag filtering conditions
- ⑥ Tag selection area
- ⑦ Selected
- ⑧ Unselected
- ⑨ No. of pages with the same tag set

■ Sort key

The list of tags displayed in the tag selection area can be sorted in the following ways:
Alphabetical Order, Chronological Order, Numerical Order, Access Date, Color Order, Optional Order

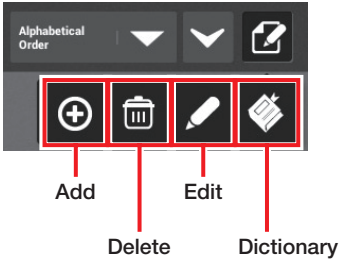
● Optional Order

You can change the tag order by long-tapping a tag and then dragging and dropping it in the desired position.

■ Edit

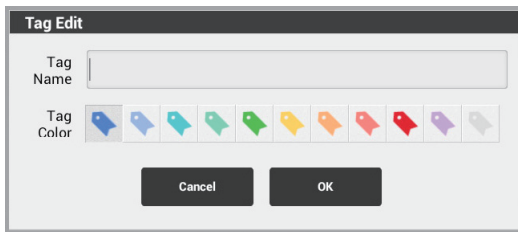
This displays the edit function screen below, from which you can do the following editing operations:

Add, delete or edit tags and access the dictionary



● Add

This sets a new tag in the tag edit screen.



After setting the new tag, touch “OK” to add the tag.

The following tagging rules are set automatically:

Target word: Tag name

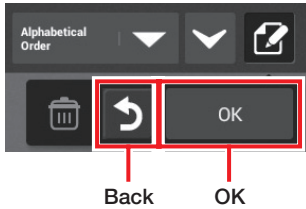
Matching rule: Partial match

Note

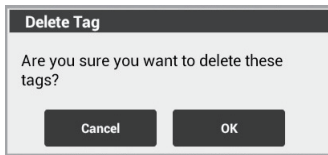
- The tagging rules can be changed in the Dictionary.

● Delete

This switches to the edit function screen below and displays a checkbox in front of each tag. However, no checkbox is displayed for “Unfiled” or “No Tags”.



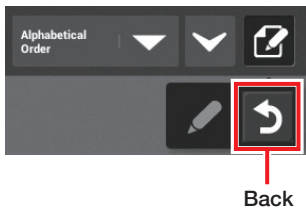
If you tick the tags to be deleted and then touch “OK”, the delete tag screen appears.



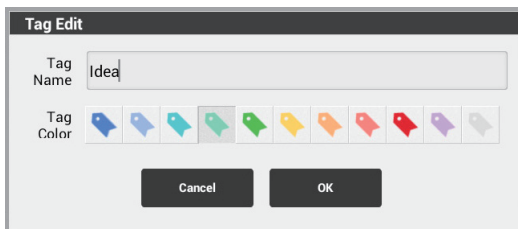
Touch “OK” to delete the tags.

● Edit

This switches to the edit function screen below and displays a checkbox in front of each tag. However, no checkbox is displayed for “Unfiled” or “No Tags”.



When you tick the tags to be edited, the tag edit screen appears.



Edit the tags and then touch “OK” to save the settings.

● Dictionary

This sets the rules for the auto tagging function.

The screenshot shows a dialog box titled "Tag Rule Settings". It contains a table with three columns: "Tag", "Target Word", and "Matching Rule". The table lists several entries, all with "Meeting" as the tag and "partial" as the matching rule. Below the table are three buttons: "Add", "Delete", and "Cancel". At the bottom are "Cancel" and "OK" buttons.

Tag	Target Word	Matching Rule
Meeting	meeting	partial
Meeting	session	partial
Meeting	conference	partial
Meeting	briefing	partial
Meeting	congress	partial
Meeting	review	partial
Meeting	seminar	partial
Meeting	mtg	partial
Meeting	sess	partial

Tapping a tag name opens the tag rule screen.

The screenshot shows a dialog box titled "Tag Rule". It has three fields: "Tag" with a dropdown menu showing "Meeting", "Target Word" with a text input field containing "congress", and "Matching Rule" with a dropdown menu showing "partial". At the bottom are "Cancel" and "OK" buttons.

Edit the rules and then touch "OK" to save the settings.

Tapping “Add” opens the tag rule screen.

Tag Rule

Tag Visit

Target Word

Matching Rule partial

Cancel OK

Select a tag, set the rules and then touch “OK” to add the specified tag rule.

If you touch “Delete”, a checkbox appears in front of each tag name.

Tag Rule Settings

Tag	Target Word	Matching Rule
<input type="checkbox"/> Meeting	meeting	partial
<input type="checkbox"/> Meeting	session	partial
<input type="checkbox"/> Meeting	conference	partial
<input type="checkbox"/> Meeting	briefing	partial
<input type="checkbox"/> Meeting	congress	partial
<input type="checkbox"/> Meeting	review	partial
<input type="checkbox"/> Meeting	seminar	partial
<input type="checkbox"/> Meeting	mtg	partial
<input type="checkbox"/> Meeting	sess	partial

Cancel OK

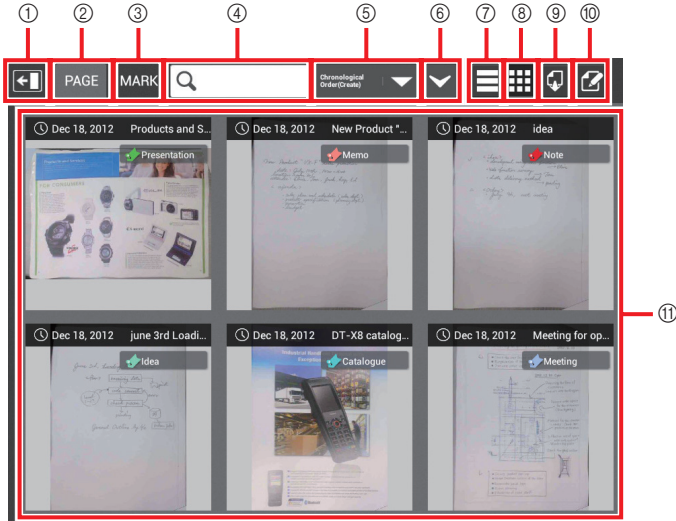
Cancel OK

If you tick the tags to be deleted and then touch “OK”, that item is deleted.

Note

- Deleting the rule for a tag does not delete the tag itself.

[Finder – Page list screen – Page information pane (tag filtered display)]



- ① Show/Hide left pane
- ② PAGE
- ③ MARK
- ④ Text search
- ⑤ Sort key
- ⑥ Sort order
- ⑦ List display
- ⑧ Tiled display
- ⑨ Output
- ⑩ Edit
- ⑪ Page list

■ PAGE (tag filter mode)

Displays the pages to be viewed filtered by tag.

■ MARK (mark filter mode)

Displays the pages to be viewed filtered by mark.

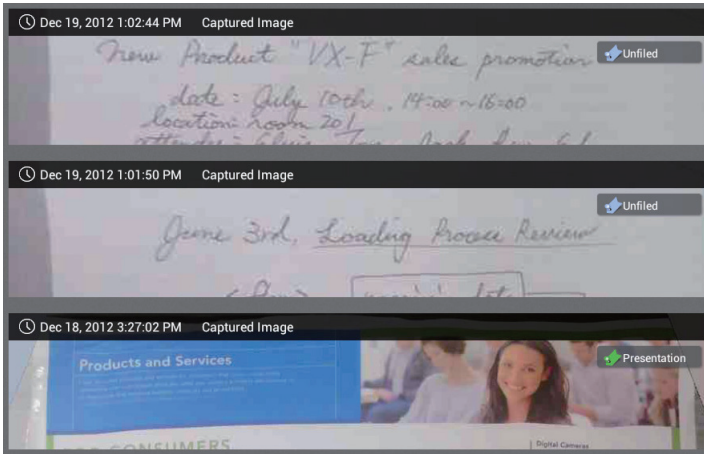
■ Sort key

The pages displayed in the page list can be sorted in the following ways:

Chronological Order (Create), Chronological Order (Update), Alphabetical Order (Title)

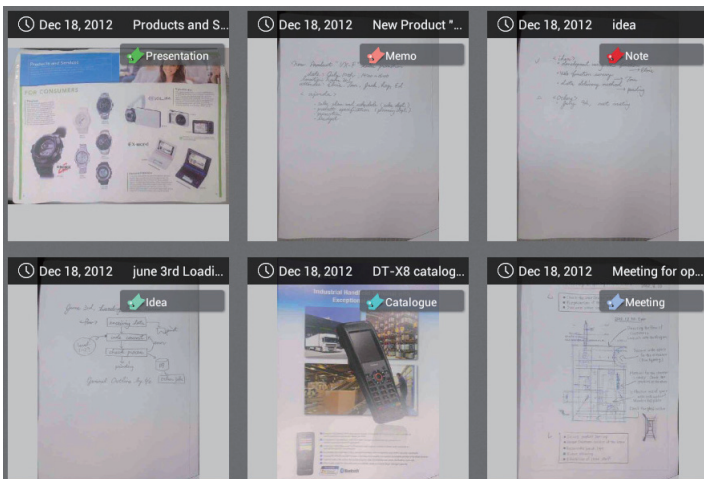
■ List display

Displays the page list in list format.



■ Tiled display

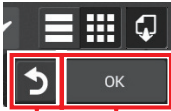
Displays the page list as tiles.



■ Output

Selects a page and outputs it as an image.

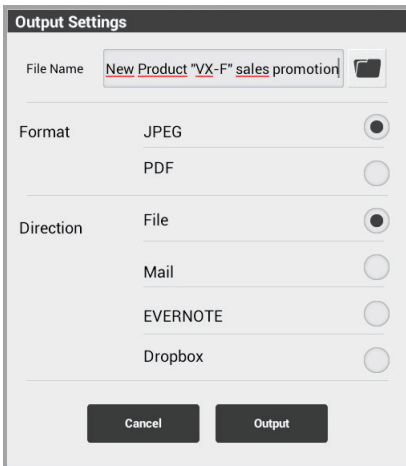
Touching the output icon displays the edit function screen and displays a checkbox in each page.



Back

OK

If you tick the images to be output and then touch “OK”, the output settings screen appears.



Specify the file name, output format and output destination and then touch “Output” to output the page.

If the output destination is mail, the mailer is displayed with the file saved as an attachment.

If the output destination is EVERNOTE or Dropbox, the file is uploaded.

Note

- Specify the information referenced by the mailer (To, CC, BCC, Subject and Body) in the settings screen.

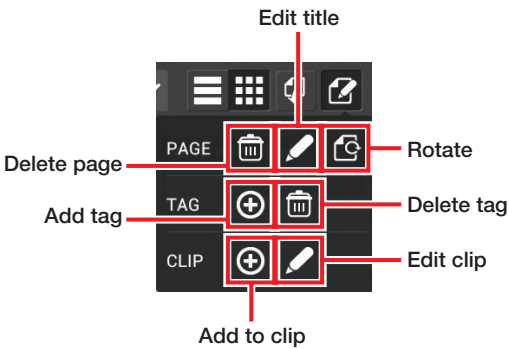
Important!

- To output to mail, EVERNOTE or Dropbox, a network connection is required.
- To use EVERNOTE or Dropbox, you must also register an account.
- Each time files are output to EVERNOTE or Dropbox, the browser starts up and you must log in and complete the access permission process.

■ Edit

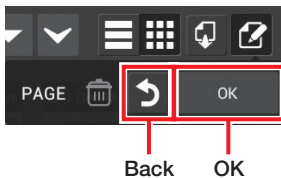
This displays the edit function screen below, from which you can do the following editing operations:

Delete pages, edit titles, rotate pages, add and delete tags, and add, edit and delete clips.

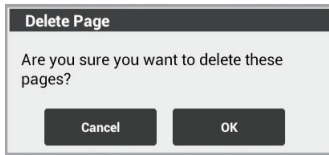


● Delete page

The delete page icon switches to the edit function screen below and displays a checkbox in each page.



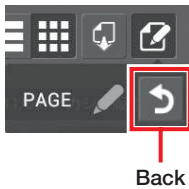
If you tick the pages to be deleted and then touch “OK”, the delete page screen appears.



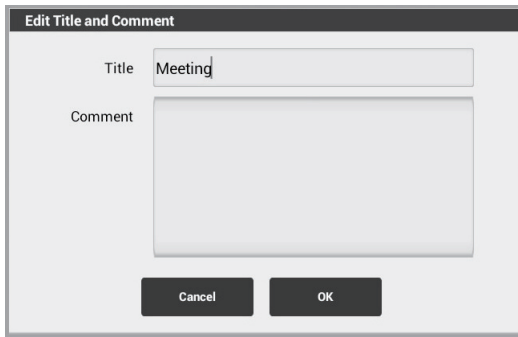
Touch “OK” to delete the page.

● Edit title

The edit title icon switches to the edit function screen below and displays a checkbox in each page.



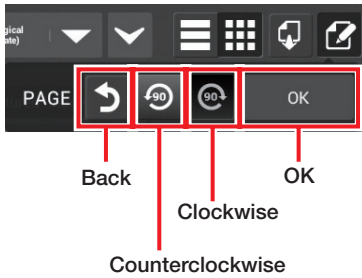
When you tap the page with the title to be edited, the edit title and comment screen appears.



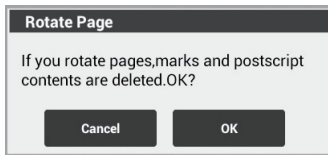
Edit the title and/or comment and then touch “OK” to save the settings.

● Rotate

The rotate icon switches to the edit function screen below and displays a checkbox in each page.



Select the page to be rotated, touch the clockwise or counterclockwise icon and then touch “OK”. The rotate page screen appears.

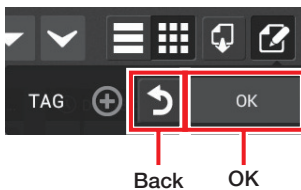


Touch “OK” to rotate the page. If the page is clipped to other pages, all the clipped pages are rotated.

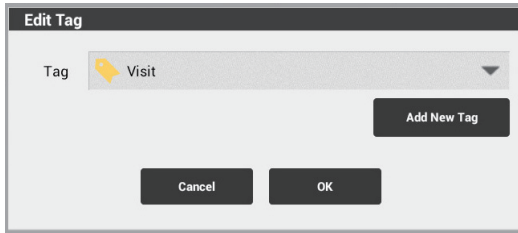
Any content appended to the pages is deleted. Mark settings are also cancelled.

● Add tag

The add tag icon switches to the edit function screen below and displays a checkbox in each page.



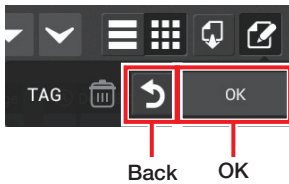
If you tick the pages to which tags are to be added and then touch “OK”, the edit tag screen appears.



Select or add a tag name and then touch “OK” to add the tag.

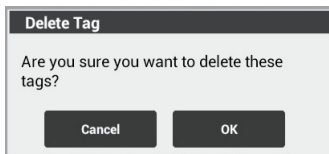
● Delete tag

The delete tag icon opens the edit function screen and displays a checkbox in each page.



When you place a tick in the pages where tags are to be deleted, a checkbox appears in front of each tag.

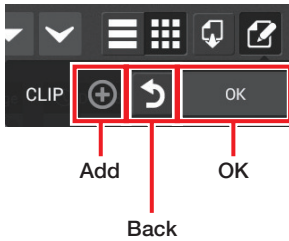
Tick the tags to be deleted and then touch “OK”. The delete tag screen appears.



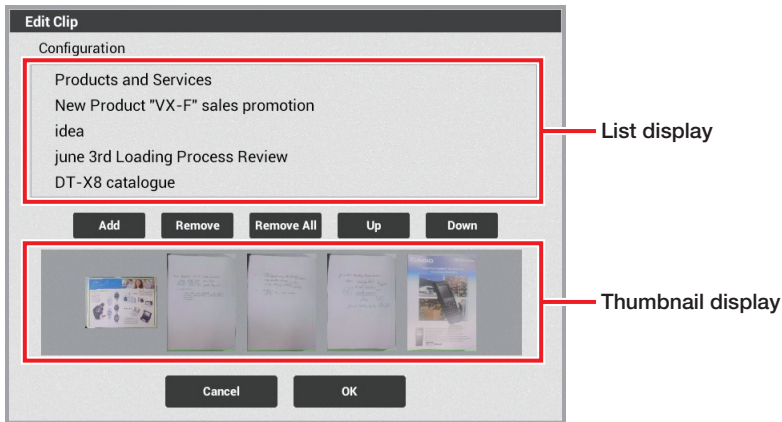
Touch “OK” to delete the tags.

● Add to clip

The add to clip icon opens the edit function screen and displays a checkbox in each page. However, pages that are already part of the clip are not displayed.



If you tick the pages to be added to the clip and then touch “OK”, the edit clip screen appears.



If the page to be added to the clip is not currently displayed, touch “Add”. This takes you back to the page list screen. Tick the page to be added and then touch the Back icon. The edit clip screen reappears with the added page shown at the bottom of the display.

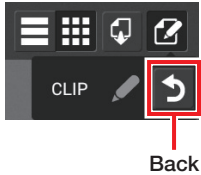
If you want to remove a currently displayed page from the clip or rearrange it in the page order, tap the page in the list or thumbnail display to select it. Touch “Remove” to remove the selected page from the clip. Touch “Up” or “Down” to move the selected page to a different position in the page order. When you touch “OK”, the displayed pages are clipped together in the order shown.

Note

- Touching “Remove All” in the edit clip screen removes all the displayed pages from the clip.

● Edit clip

The edit clip icon opens the edit function screen and displays a list of created clips with checkboxes.



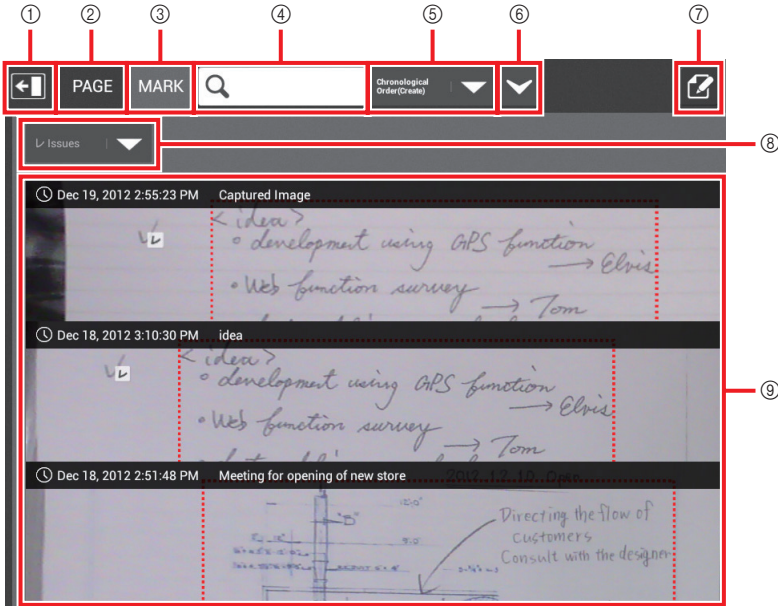
When you tick the clip to be edited, the edit clip screen appears. The remaining steps are the same as for adding to clips.

■ Page list

The following operations can be used from the page list:

Pinch out (enlarge), pinch in (reduce), long tap (full-page display), tap (select page) and slide (scroll).

[Finder — Page list screen — Page information pane (mark filtered display)]



- ① Show/Hide left pane
- ② PAGE
- ③ MARK
- ④ Text search
- ⑤ Sort key
- ⑥ Sort order
- ⑦ Edit
- ⑧ Select mark
- ⑨ Page list

■ PAGE (tag filter mode)

Displays the pages to be viewed filtered by tag.

■ MARK (mark filter mode)

Displays the pages to be viewed filtered by tag and mark.

■ Sort key

The pages displayed in the page list can be sorted in the following ways:

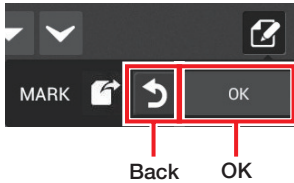
Chronological Order (Create), Chronological Order (Update), Alphabetical Order (Title)

■ Edit

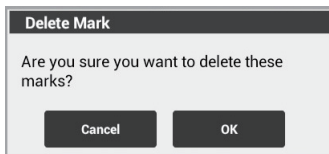
This displays the edit function screen, from which you can cancel mark settings.



Touching the cancel icon switches to the edit function screen below and displays a checkbox in each page.



If you tick the pages in which mark settings are to be cancelled and then touch “OK”, the delete mark screen appears.



Touch “OK” to cancel the mark settings.

■ Select mark

Selects the type of mark.

■ Page list

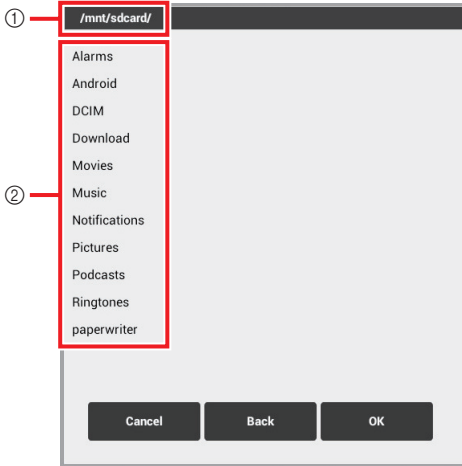
The following operations can be used from the page list:

Tap (select page) and slide (scroll)

[Finder — File import screen]

Office files and PDF files can be imported.

In the file selection area, select a directory and file and then touch “OK”.



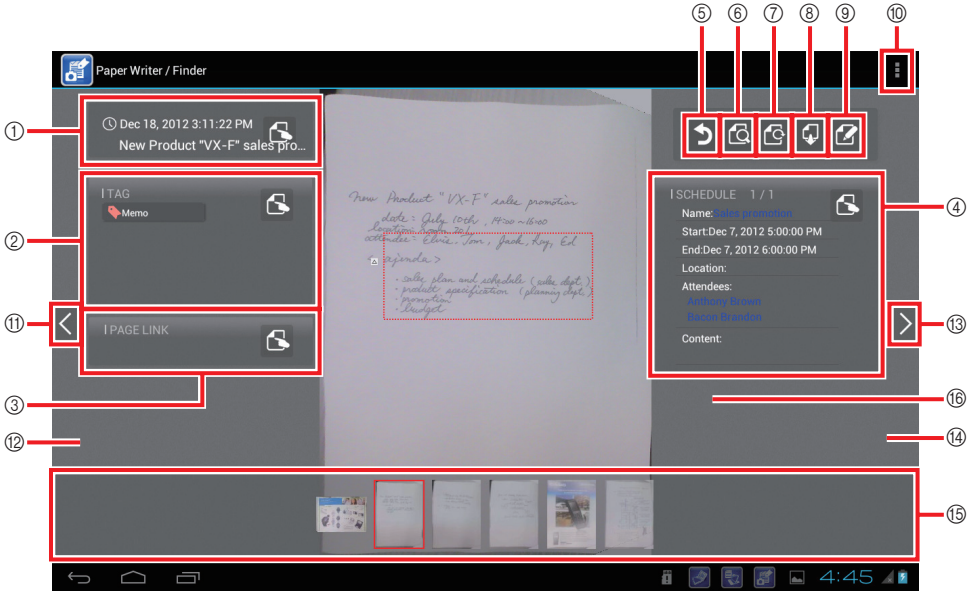
① Path display

② File selection area

Important!

- Files imported here cannot be displayed as page images, cannot be appended and marks cannot be edited.

[Finder — Page details display screen]




- ① Title area
- ② TAG pane
- ③ Related page area
- ④ Related schedule area
- ⑤ Back
- ⑥ Display
- ⑦ Rotate
- ⑧ Output
- ⑨ Edit
- ⑩ Show Related Pages/Show Clip/Settings
- ⑪ To previous page
- ⑫ To previous page (clip)
- ⑬ To next page
- ⑭ To next page (clip)
- ⑮ Page selection area
- ⑯ Business card area (displayed for business card images)


■ Title area

Shows the page creation date and title. Touch  to edit the title or comment. The procedure is the same as for title editing in the page information pane (tag filtered display).

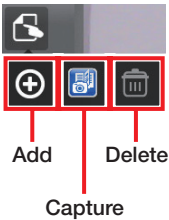
■ TAG pane

Shows a list of the tags set in the pages. Touch  to add or delete the tag. The procedure is the same as for adding or deleting tags in the page information pane (tag filtered display).

■ Related page area

Displays a list of other related pages. Selecting a page displays that page. Touching  displays the edit function screen below, from which you can do the following editing operations:

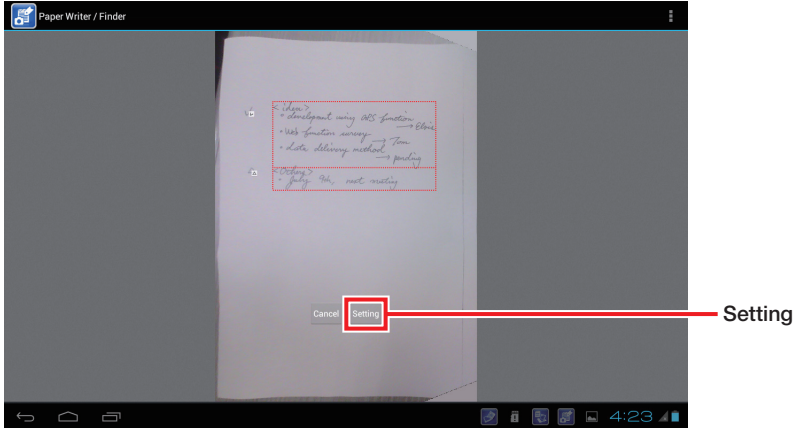
Add, capture or delete.



● Add

Touching this icon opens the page link selection screen (which has the same layout as the page list screen).

Select the page to be linked and tap again to open the page link addition screen (same layout as the page display screen). Touch “Setting” to add the page as a page link.



Note

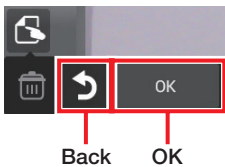
- The added page link is added to the end of the links list. You can change the page link order by long-tapping a link and dragging and dropping it in the desired position.

● Capture

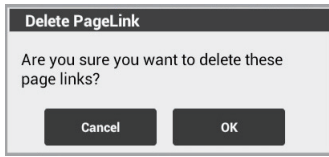
Touching this icon switches to Flipping Shot photography mode and adds the photographed pages as a page link.

● Delete

The delete icon switches to the edit function screen below and displays a checkbox in each page.



If you tick the pages to be unlinked and then touch “OK”, the delete page link screen appears.



Touch “OK” to delete the page link.


■ Related schedule area

Based on calendar information that relates to the page, the following items are displayed:

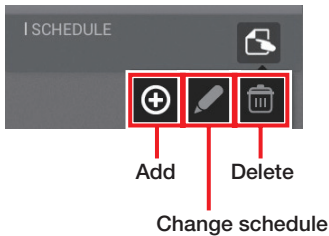
Name, Start, End, Location, Attendees and Content

Tapping the name switches to the Calendar screen showing the specified schedule information.

Tapping an attendee name switches to the Contacts screen showing the information for that attendee.

Touching  displays the edit function screen below, from which you can do the following editing operations:

Add, change schedule and delete.



● Add

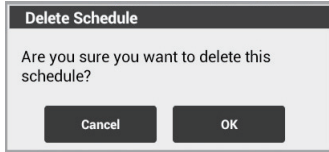
Jumps to the Calendar screen. When you select a scheduled event and touch the Store icon in the detail schedule screen, the information is displayed in the related schedule area.

● Change schedule

Touching this icon jumps to the Calendar advanced edit screen. When you change some details and touch the Store icon, the updated information is displayed in the related schedule area.

● Delete

Displays the delete schedule screen.



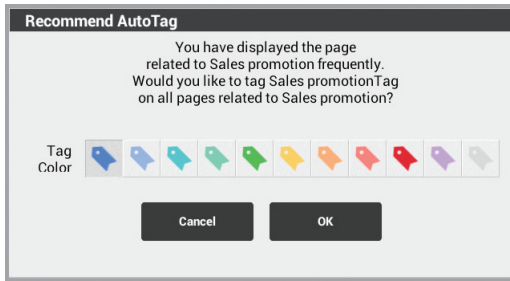
Touch "OK" to delete the related scheduled event.

Note

● Recommend AutoTag dialog box

For any of the items below displayed in the related schedule area, when the same content is displayed with a frequency that exceeds a set level, a dialog box automatically appears suggesting that the item be tagged.

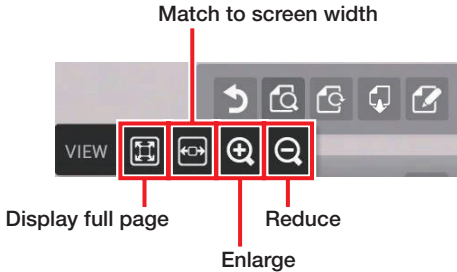
Name, location or attendees



In the Settings screen, you can switch between enabling and disabling Recommend AutoTag.

■ Display

This displays the display function screen below, from which you can change the display scale.



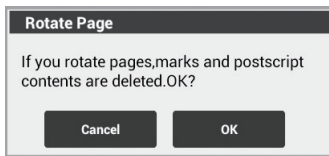
■ Rotate

This displays the rotation function screen, from which you can rotate a page.



Counterclockwise Clockwise

Touch the counterclockwise or clockwise icon to rotate the page.
If the page includes appended content or mark settings, the rotate page screen appears.



Touch “OK” to rotate the page. If the page is part of a clip, only the displayed page is rotated. Any content appended to the pages is deleted. Mark settings are also cancelled.

■ Output

Touching this icon displays the output settings screen used to output page images.

The procedure is the same as for the output settings screen in the page information pane (tag filtered display).

■ Edit

Touching this icon jumps to the page edit screen.

■ Show Related Pages/Show Clip/Settings

● Show Related Pages

Jumps to the show related pages screen.

● Show Clip

Toggles clip display on and off.

● Settings

Jumps to the settings screen.

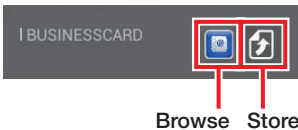
■ Page selection area

The following operations are available from the page selection area:

Long tap (full-page display), tap (select page) and slide (scroll)

■ Business card area

Displayed for business card images.



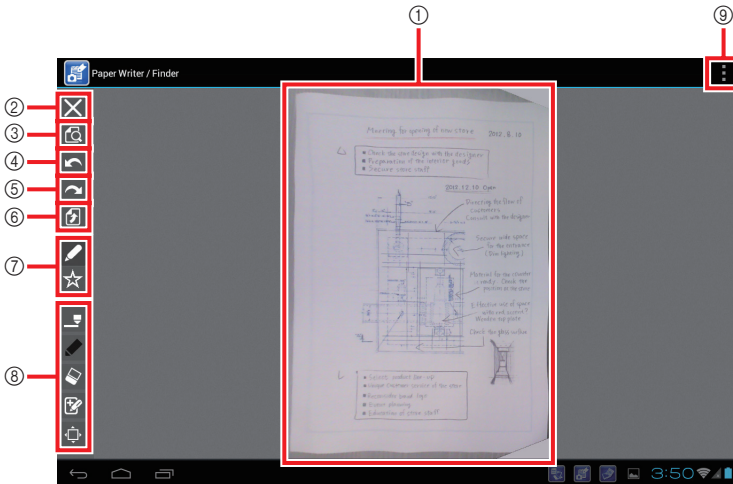
● Browse

Jumps to the Contacts screen showing the stored information.

● Store

Jumps to the Contacts screen and stores the details on the business card in the address book.

[Finder — Page edit screen]



- ① Page image
- ② Back
- ③ Display
- ④ Undo
- ⑤ Redo
- ⑥ Store
- ⑦ Function area for editing target selection
- ⑧ Function area by editing target
- ⑨ Settings

■ Page image

The operations listed below are available for this image:

When the Append icon is selected

Append manually or using the Digitizer Pen, and pinch-out (enlarge) or pinch-in (reduce) in Digitizer Pen mode

When the Edit mark icon is selected

Add or edit mark and pinch-out (enlarge) or pinch-in (reduce)

● Edit mark

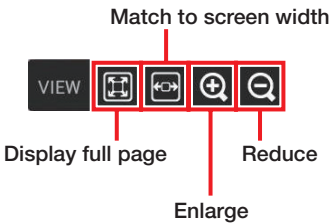
Tapping a mark displays black squares (■) around the mark area. At this point, the position of the mark area can be changed by touching inside the mark area and dragging it to a new position. The mark area can be resized by dragging the black squares (■).

■ Back

Jumps to the page display screen.

■ Display

This displays the display function screen, from which you can change the display scale.



■ Function area for editing target selection

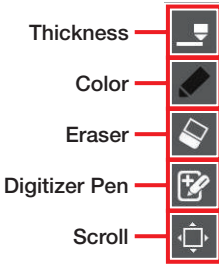
Use this area to select whether to append or to edit marks.



■ Function area by editing target

This display changes depending on whether Append or Edit mark is selected.

When the Append icon is selected



● Thickness

Selects the thickness of the appended line. “AUTO” is only enabled in Digitizer Pen mode.

● Color

Selects the color of the appended line.

● Digitizer Pen

Toggles Digitizer Pen mode on and off. Set this to on to use the Digitizer Pen.

When Edit mark icon is selected



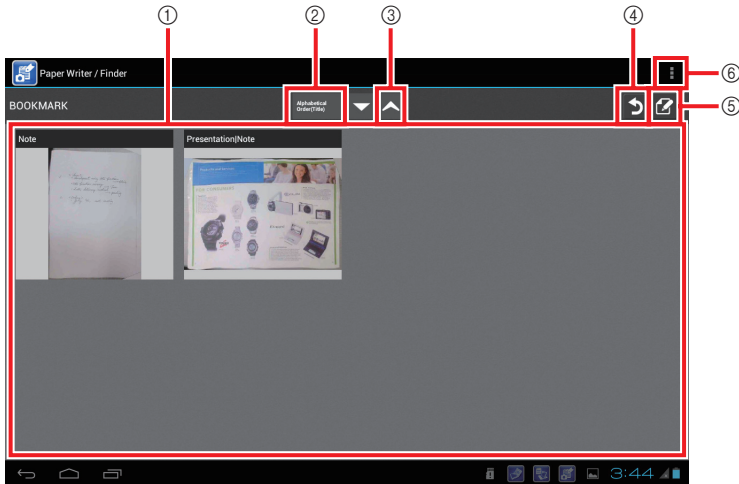
● Add mark

Selects the type of mark to be added. Select a mark type and then tap the screen to display the mark area for the selected mark. Use the steps in “Edit mark” above to adjust the mark area.

■ Settings

Jumps to the settings screen.

[Finder — Bookmark screen]



- ① Bookmarks area
- ② Sort key
- ③ Sort order
- ④ Back
- ⑤ Edit
- ⑥ Settings

■ Bookmarks area

■ Sort key

The list of bookmarks displayed in the bookmark selection area can be sorted in the following ways:

Alphabetical Order (Title), Chronological Order (Create), Chronological Order (Update), Optional Order

● Optional Order

You can change the bookmark order by long-tapping a bookmark and dragging and dropping it in the desired position.

■ Edit

This displays the edit function screen below, from which you can do the following editing operations:

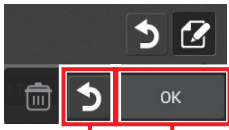
Delete and edit



Delete Edit

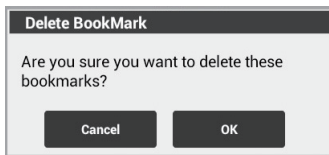
● Delete

The delete icon switches to the edit function screen below and displays a checkbox for each bookmark.



Back OK

Tick the bookmark tags to be deleted and then touch “OK”. The delete bookmark screen appears.



Touch “OK” to delete the bookmark.

● Edit

The edit icon switches to the edit function screen below and displays a checkbox in front of each bookmark.



Back

When you tick the bookmark to be edited, the edit bookmark screen appears.

Edit BookMark

Title

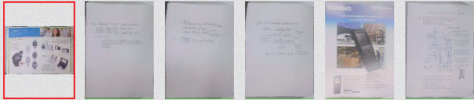
Specify a Cover Page

Ticking the Specify a cover page checkbox enables you to select a page to be used as the cover page.

Edit BookMark

Title

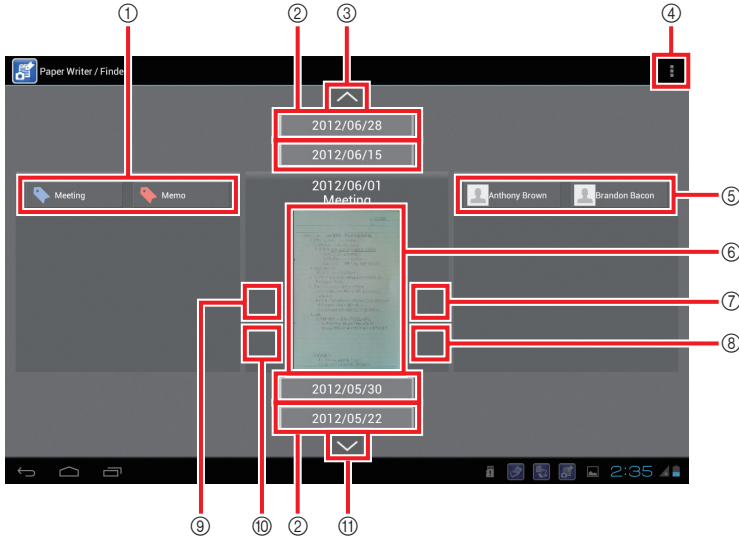
Specify a Cover Page



After you have finished editing, touch “OK” to change the bookmark settings.

[Finder — Page-related display screen]

This screen allows you to consecutively view all the images stored on the same date. You can also filter the displayed pages by tag or attendee.



- ① Tag list display
- ② Date list display
- ③ To next day
- ④ Settings/Page details display
- ⑤ Attendees list display
- ⑥ Target images for related display
- ⑦ To next page
- ⑧ To next page (clip)
- ⑨ To previous page
- ⑩ To previous page (clip)
- ⑪ To previous day

■ **Tag list display**

Displays a list of the tags set in the target image for the related display. If you tap a tag to select it, the date list display is applied only to images for which that tag is set. If you select multiple tags, the AND condition applies.

■ **Date list display**

Displays a list of image storage dates. Tap a date to skip to that date.

■ **To next day**

Switches the target image for the related display to the last image shot on the next day of shooting.

■ **Settings/Page details display**

● **Settings**

Jumps to the settings screen.

● **Page details screen**

Jumps to the page details display screen.

■ **Attendees list display**

Displays a list of the attendees at a scheduled event related to the target image for the related display. If you tap an attendee to select him or her, the date list display is applied only to images for which that attendee is set. If you select multiple attendees, the AND condition applies.

■ **Target image for the related display**

This shows the target image for the related display.

You can change the image displayed by touching the previous or next page icons or by scrolling up and down.

Tapping the image opens the details display screen.

Long-tapping the image shows the image thumbnail enlarged.

■ To next page

This displays the next oldest image on the same date. If the target image for the related display is clipped, this displays the next oldest image in the clip.

■ To next page (clip)

Displays an icon if the target image for the related display is clipped. Tapping the icon displays the next oldest image outside the clip.

■ To previous page

This displays the next most recent image on the same date. If target image for the related display is clipped, this displays the next most recent image in the clip.

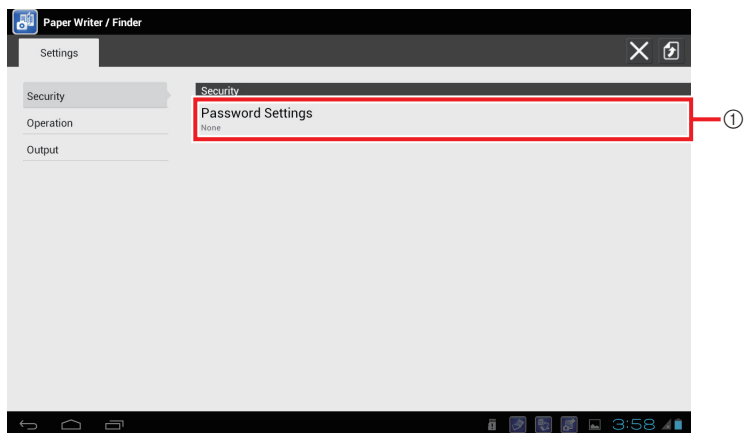
■ To previous page (clip)

Displays an icon if the target image for the related display is clipped. Tapping the icon displays the next most recent image outside the clip.

■ To previous day

Switches the target image for the related display to the last image shot on the previous day of shooting.

[Finder – Security settings screen]

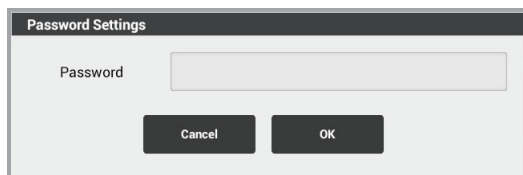


① Password Settings

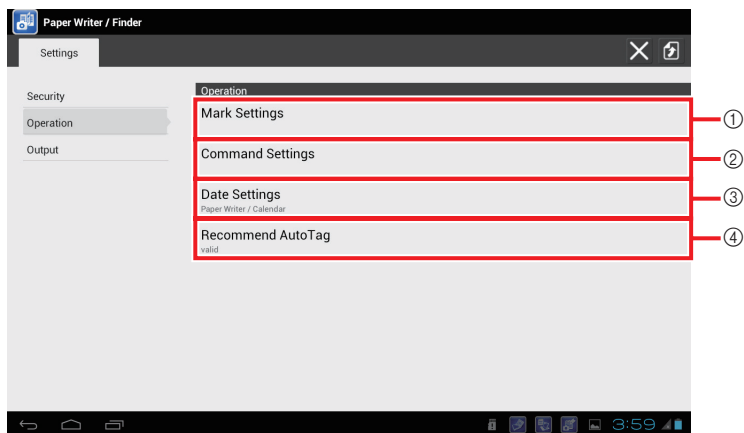
■ Password Settings

Sets the password used at startup.

When this password is set, a password entry screen is displayed when the Finder starts up.



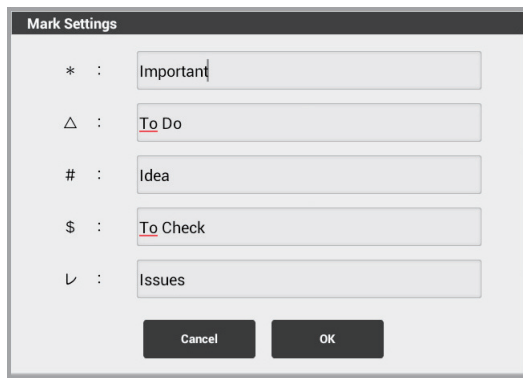
[Finder — Operation settings screen]



- ① Mark Settings
- ② Command Settings
- ③ Date Settings
- ④ Recommend AutoTag

■ Mark Settings

Sets a character string for each of the 5 marks.



■ Command Settings

Sets commands for 3 of the marks.

You can set either of the following commands:

Send mail or Trimming and Mail

The screenshot shows a dialog box titled "Command Settings". It contains three rows of settings, each with a label and a dropdown menu:

- @ : None
- T : None
- ∞ : Send Mail

There is a "Setting" button to the right of the third dropdown. At the bottom of the dialog are "Cancel" and "OK" buttons.

Note

- This screen is not displayed when the screen cover is used.

■ Date Settings

Specifies calendar display when the starting and ending dates are set for the DATE pane in the page list screen.

The screenshot shows a dialog box titled "Date Settings". It contains two radio button options:

- Paper Writer / Calendar (selected)
- Default Calendar

At the bottom of the dialog are "Cancel" and "OK" buttons.

■ Recommend AutoTag

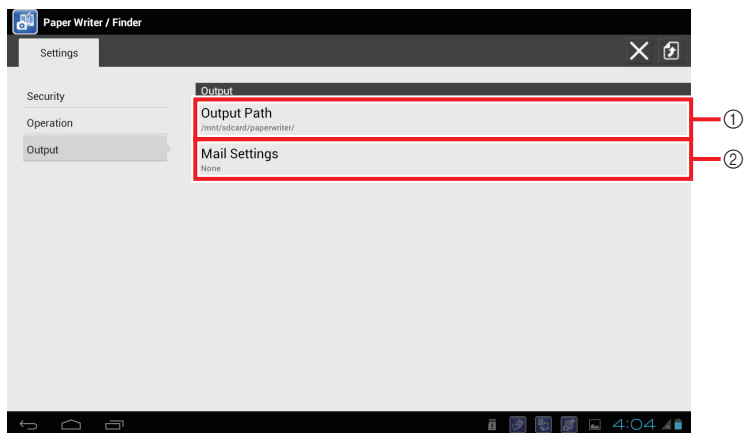
Enables or disables Recommend AutoTag.

The screenshot shows a dialog box titled "Recommend AutoTag". It contains two radio button options:

- valid (selected)
- invalid

At the bottom of the dialog are "Cancel" and "OK" buttons.

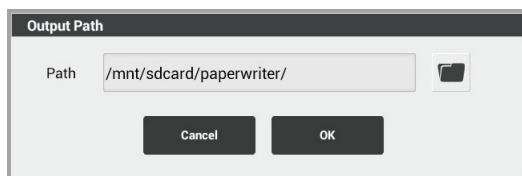
[Finder — Output settings screen]



- ① Output Path
- ② Mail Settings

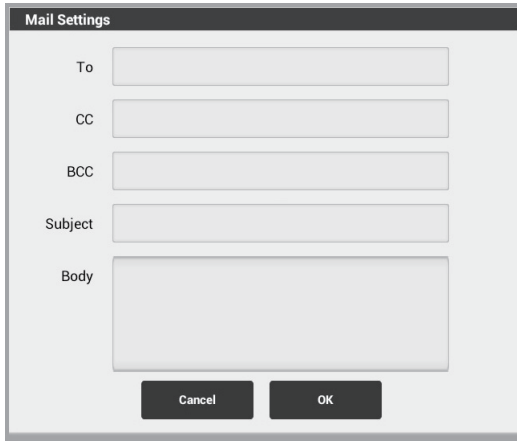
■ Output Path

Sets the output path referenced during output.



■ Mail Settings

Sets the mail information referenced if mail is selected as the output destination.



The image shows a dialog box titled "Mail Settings". It contains five input fields: "To", "CC", "BCC", "Subject", and "Body". The "Body" field is a larger text area. At the bottom, there are two buttons: "Cancel" and "OK".

Field	Type
To	Text input
CC	Text input
BCC	Text input
Subject	Text input
Body	Text area

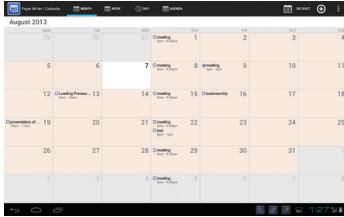
Buttons: Cancel, OK

Calendar

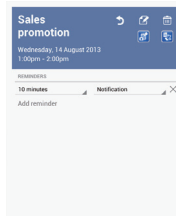
In addition to the calendar function provided as a standard accessory, you can link the calendar data to images and the address book.

[Key Screens]

Main screen



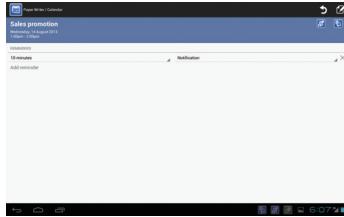
Detail schedule screen



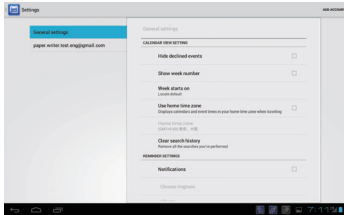
Advanced edit screen



Detail schedule screen (launched from Finder)

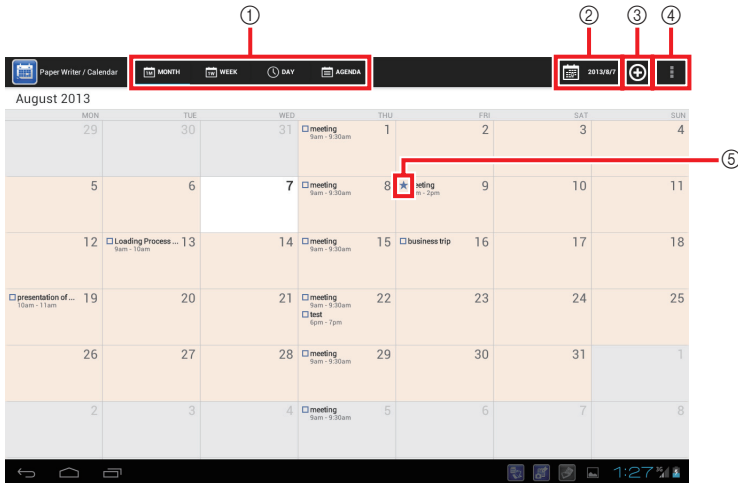


Settings screen



[Calendar – Main screen]

The layout below shows the screen for the one-month display.



- ① Select display mode
- ② Show today
- ③ Advanced edit (new schedule)
- ④ Sync Now/Search/Show (or Hide) mini calendar/Settings
- ⑤ Related page notification

■ Advanced edit (new schedule)

Touching this icon jumps to the advanced edit screen for a new scheduled event.

■ Sync Now

Synchronizes the calendar.

■ Search

Searches for text.

■ Show/Hide mini calendar

In the one-week and single-day displays, this toggles mini calendar display on and off.

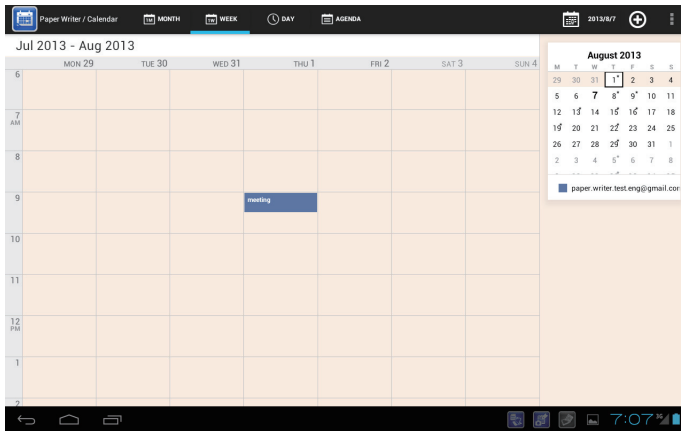
■ Settings

Jumps to the settings screen.

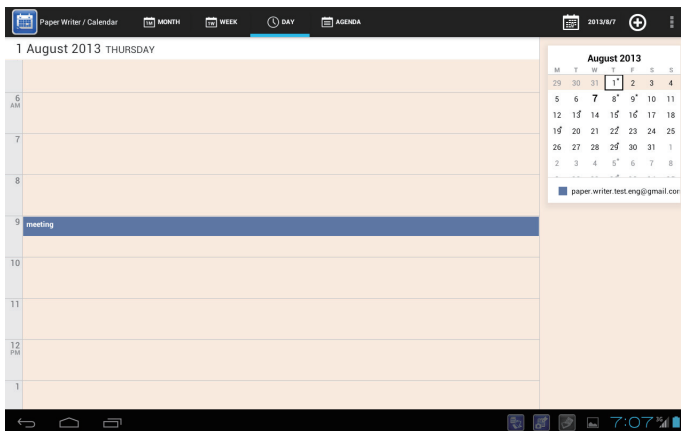
■ Related page notification

Displayed when there is a page that relates to the scheduled event.
The related page can be displayed from the detail schedule screen.

The layout below shows the screen for the one-week display.

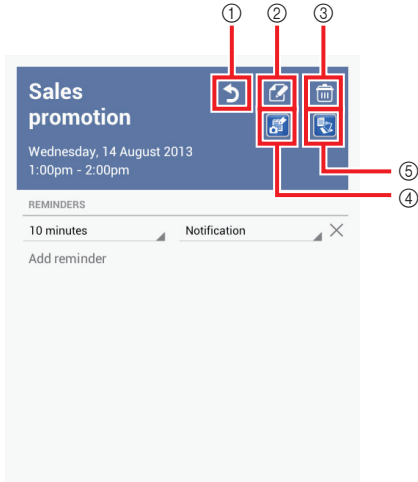


The layout below shows the screen for the single-day display.



[Calendar – Detail schedule screen]

This screen is displayed when you tap a scheduled event in the main single-day display screen.



- ① Back
- ② Advanced edit (displayed schedule)
- ③ Delete
- ④ Finder
- ⑤ Capture

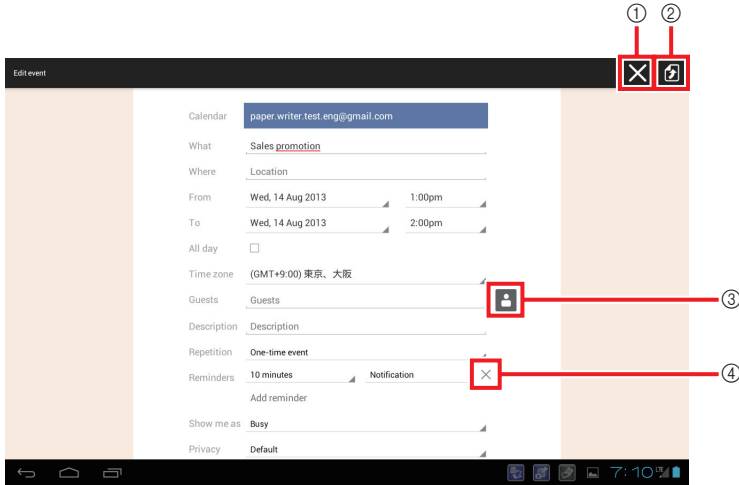
Note

- The steps used for the detail schedule screen can also be used from the text search results screen.
- **Advanced edit (displayed schedule)**
Touching this icon jumps to the advanced edit screen for the scheduled event for which details are displayed.
- **Finder**
Launches the Finder and displays the pages related to the scheduled event. If there are no related pages, the icon is grayed out.

■ Capture

Launches the Flipping Shot function and shoots an image based on the schedule information.

[Calendar – Advanced edit screen]

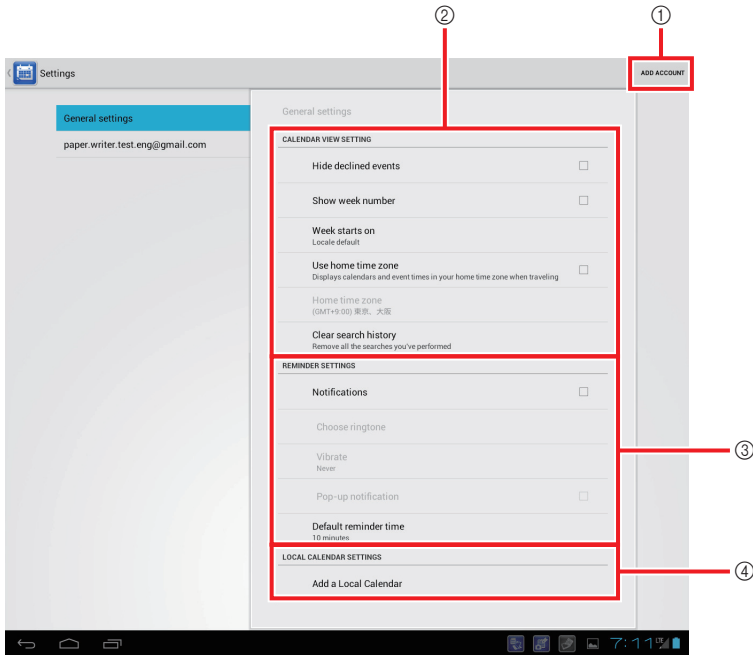


- ① Back
- ② Store
- ③ Browse address
- ④ Delete item

■ Browse address

Jumps to the detail address screen in Contacts. Select an address from the list to retrieve the address.

[Calendar – Settings screen (general settings)]

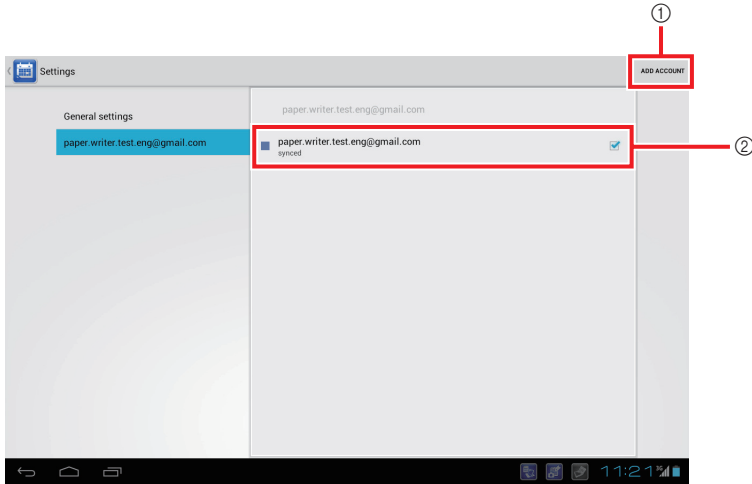


- ① ADD ACCOUNT
- ② CALENDAR VIEW SETTING
- ③ REMINDER SETTINGS
- ④ LOCAL CALENDAR SETTINGS

■ LOCAL CALENDAR SETTINGS

Use these to add or delete a local calendar.

[Calendar – Settings screen (account)]



① ADD ACCOUNT

② Account Settings

■ Display

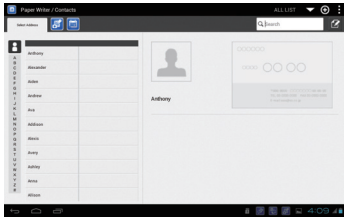
Displays the synchronized schedule information on the main screen.

Contacts

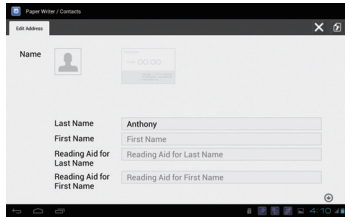
In addition to the address book (User) provided as a standard accessory, you can link the address book data to images and the Calendar.

[Key Screens]

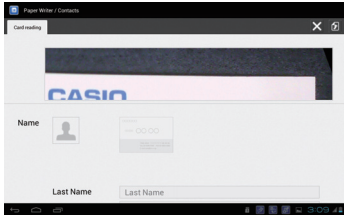
Select address screen



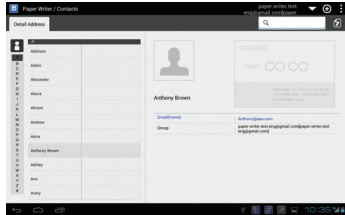
Edit address screen



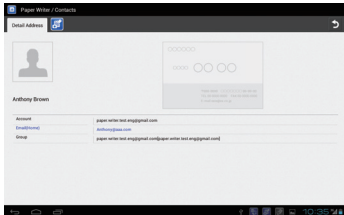
Card reading screen
(Launched from Flipping Shot)



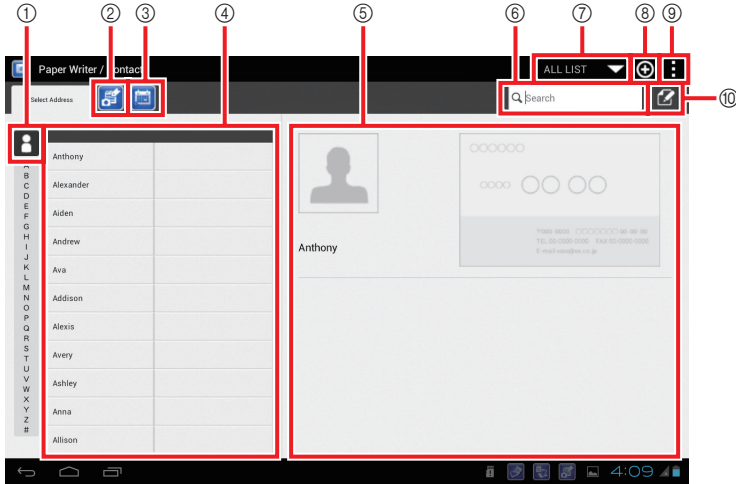
Detail address screen
(Launched from Calendar)



Detail address screen
(Launched from Finder)



[Contacts – Select address screen]



- ① Sort type
- ② Finder
- ③ Calendar
- ④ List display
- ⑤ Single address display
- ⑥ Text search
- ⑦ Group search
- ⑧ Edit address (new address)
- ⑨ Account/Import-Export/Delete the contact address
- ⑩ Edit address (displayed address)

■ Sort type

Chooses whether to sort items by name or by group name.

■ Finder

Launches the Finder and displays related images.

■ Calendar

Launches the Calendar and displays related scheduled events.

■ Group search

Displays a list of the group names set for addresses. Tapping a group name displays a list of addresses that belong to the group.

■ Edit address (new address)

Touching this icon jumps to the edit screen for a new address.

■ Account

Configures the synchronization of accounts between applications.

■ Import/Export

Imports or exports an address.

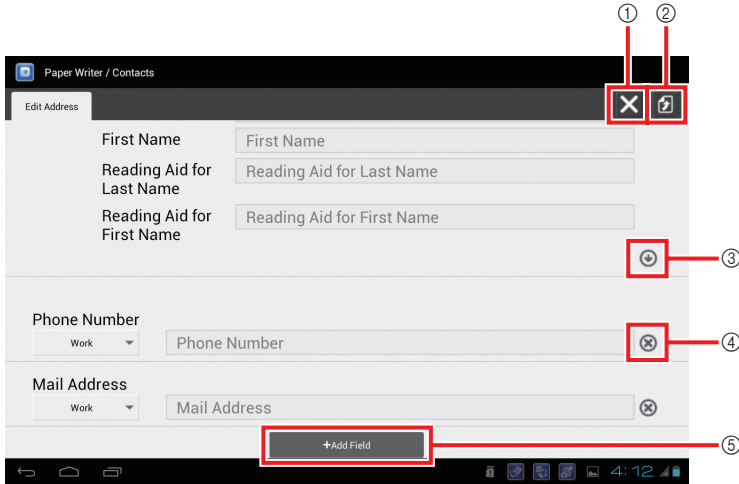
■ Delete the contact address

Deletes the displayed address.

■ Edit address (displayed address)

Touching this icon jumps to the edit screen for a displayed address.

[Contacts – Edit address screen]



- ① Back
- ② Store
- ③ Enable/Disable input item omission
- ④ Delete
- ⑤ Add Field

■ Enable/Disable input item omission

Selects whether input fields are omitted.

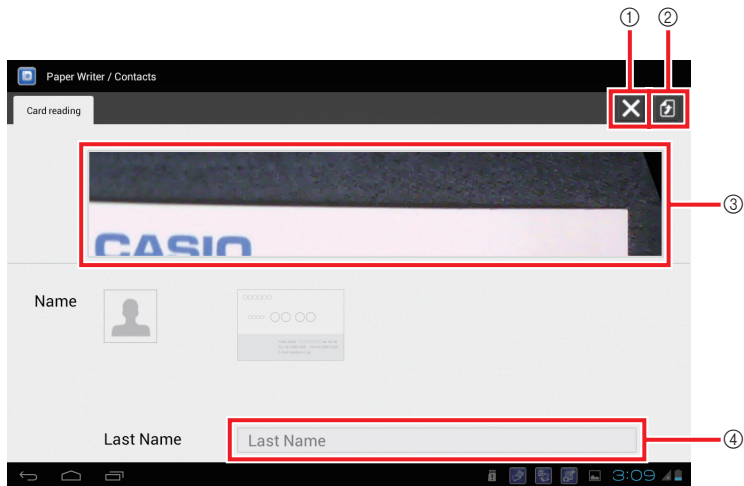
■ Delete

Deletes an item. If there is only 1 item in a field, the field itself is deleted.

■ Add Field

Tap a field in the list dialog to add the field.

[Contacts – Card reading screen]



- ① Back
- ② Store
- ③ Card display area
- ④ Address input area

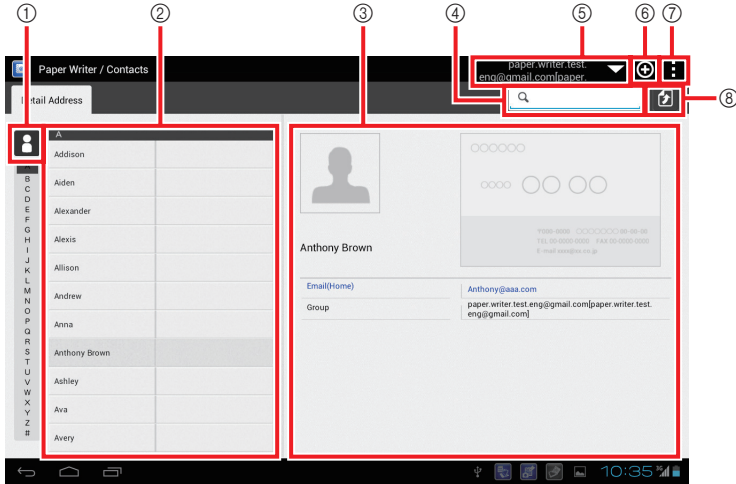
■ Back

Returns to the Flipping Shot function without storing any data.

■ Address input area

Enter the business card information in this area.

[Contacts – Detail address screen (Launched from Calendar)]



- ① Sort type
- ② List display
- ③ Single address display
- ④ Text search
- ⑤ Group search
- ⑥ Edit address (new address)
- ⑦ Account/Import-Export/Delete the contact address
- ⑧ Store

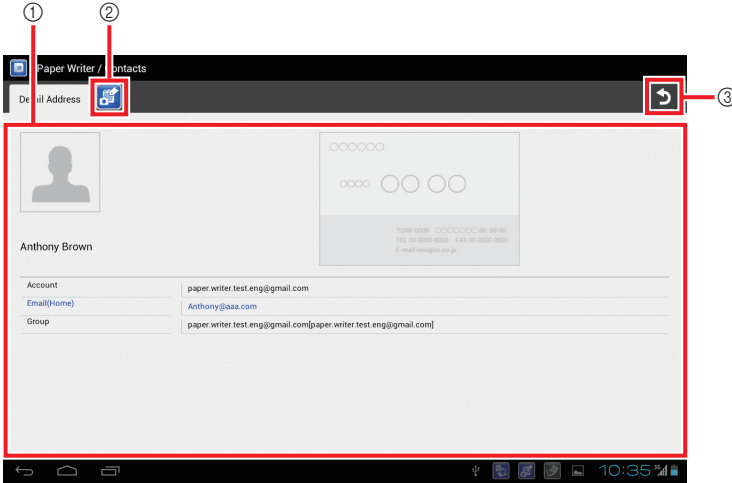
Note

- Except for the Store icon, the screen functions are the same as the main screen.

■ Store

Stores the displayed address in the Calendar.


[Contacts – Detail address screen (Launched from Finder)]



- ① Single address display
- ② Finder
- ③ Jumps to the select address screen.

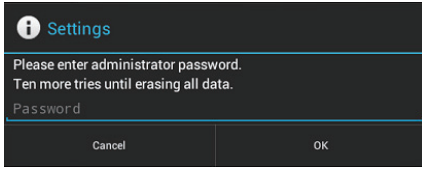
Settings

Software List

Icon	Software
	Settings

If administrator authentication is enabled, the screen below appears requesting the administrator password used at startup.

See “Security Settings” (E-170) for information on how to set up administrator authentication.



Enter the administrator password and then click “OK”.

If you are already logged in as a user with system setting privileges, the authentication screen is not displayed even if administrator authentication is enabled.

Wireless and Network Settings

You can configure and manage your connections to devices and networks using Wi-Fi, Bluetooth, mobile networks and USB connections.

You can also configure the connection between the Paper Writer and a virtual private network (VPN), connect to other devices or the Internet via your Paper Writer’s data communications functions, or switch the Paper Writer’s Airplane Mode so that all wireless communication is disabled.

Item		Description
Wi-Fi		Enables/disables Wi-Fi.
Bluetooth		Enables/disables Bluetooth.
Data use		Checks the data communication settings and the amount of data used.
Other	Airplane Mode	Enables/disables the Paper Writer’s Airplane Mode.
	VPN	Configures VPN.
	Tethering and portable access points	Configures tethering (access points, communication methods, etc.)
	NFC	Enables/disables NFC.
	Android Beam	Configures data transfer with other NFC-compatible devices.
	Wi-Fi Direct	Enables/disables Wi-Fi Direct.
	Wi-Fi Direct (Peer2Peer)	Configures peer-to-peer connections.
	Mobile network	Configures mobile networks.

Terminal

You can specify the sound and display settings and check the status of your storage, battery and apps.

Item		Description
Sound	Volume	Sets the volume for the speakers and for notifications and alarms, etc.
	Default alert tone	Sets the default alert tone.
	Vibration and ring tone	Enables/disables vibration and ring tones.
	Touchscreen tone	Enables/disables the touchscreen operation tone.
	Screen lock tone	Enables/disables the screen lock tone.
	Touchscreen vibration	Enables/disables touchscreen vibration.
Display	Screen brightness	Sets the screen brightness.
	Wallpaper	Sets the wallpaper.
	Screen auto-rotate	Enables/disables automatic screen rotation.
	Sleep	Sets the delay until the Paper Writer goes to sleep.
	Font size	Sets the font size.
Storage		Allows you to check the amount of storage used and the available capacity.
Battery		Allows you to check the battery charge level and the remaining battery use time.
Backup Battery		Checks the level of charge in the backup battery. You can select the item to be backed up (memory or clock).
Apps		Allows you to check the apps loaded on the Paper Writer.

User Settings

The user settings relate to how the Paper Writer is used and what it is used for, and include various security settings.

Item		Description
Sync to account		Configures synchronizing accounts between apps.
Location information service	Google location information service	Specifies whether apps are permitted to identify your current location using Wi-Fi or mobile network data.
	GPS function	Specifies whether apps are permitted to identify your current location using GPS.
Security	Screen lock	Sets the authentication method used to unlock the screen.
	Owner information	Configures the owner information display for screen lock.
	Tablet encryption	Encrypts data stored in the Paper Writer.
	SIM card lock setting	Specifies whether a PIN code must be entered to use the Paper Writer.
	Show password	Specifies whether the password characters are displayed briefly when the password is entered.
	Tablet administrator	Displays a list of apps that have been granted device administrator privileges for the Paper Writer.
	Supplier-unknown apps	Specifies whether apps with unknown suppliers are permitted to install on the Paper Writer.
	Trusted authentication data	Displays trusted CA certificates.
	Install from SD card	Installs certificates from SD cards.
	Clear stored authentication	Deletes all the certificates.
Language and input	Language	Sets the language used.
	Spellchecker	Enables/disables the spellchecker and selects the dictionary used.
	Custom dictionary	Stores a custom dictionary.
	Keyboard and input method	Configures the keyboard and character input method.
	Read aloud output	Selects the audio engine used and sets the speed at which text is read aloud.
	Pointer speed	Sets the mouse pointer speed.
	Pointer method	Specifies the input method used (finger + pen, finger only, pen only).
Backup & reset	Reset data	Erases all the data stored in the Paper Writer.

System






This specifies the date and time and the settings for developers.

Item		Description
Date & time	Date and time auto set	Specifies whether the date and time are set automatically.
	Time zone auto set	Specifies whether the time zone is set automatically.
	Set date	Sets the date.
	Set time	Sets the time.
	Select time zone	Sets the time zone.
	24-hour display	Specifies whether 24-hour display is used.
	Date format	Sets the date format.
User assistance	Large text size	Specifies whether a large text size is used.
	Screen auto-rotate	Specifies whether the screen is rotated automatically.
	Read password aloud	Specifies whether the password is read aloud.
	Repeat delay	Sets the delay until holding down a key repeats an action.
	Install web script	Specifies whether web script installation is permitted.
Developer options	USB debug	Specifies whether USB debugging is used.
	Development tablet ID	Displays the Paper Writer ID.
	Disable Sleep mode	Enables/disables Sleep mode.
	Permit fake locations	Specifies whether fake locations are permitted.
	HDCP check	Configures how HDCP (a digital copyright management technology) checking operates.
	PC backup password	Sets the full-backup password.
	Enable strict mode	Specifies whether the screen flashes to alert you if processing times are too long.
	Pointer position	Specifies whether tap event information (coordinates) are displayed.
	Show tap	Specifies whether a marker is displayed where you tap the screen.
	Show screen refresh	Specifies whether areas in the screen where the display is updated flash.
	Show CPU use	Specifies whether the current CPU use rate is displayed.

Item		Description
Developer options	Use GPU rendering	Specifies whether 2D hardware acceleration is used.
	Window animation scale	Adjusts the window animation speed.
	Transition animation scale	Adjusts the animation speed when components are switched.
	Do not save activity	Specifies whether apps are terminated immediately
	Limit on background processes	Sets an upper limit on the number of background processes.
	Show all ANR	Specifies whether you are notified if background apps do not respond.
Tablet information	Tablet status	Displays the Paper Writer status (battery, networks, etc.).
	Legal information	Displays licenses.
	Model No.	Displays the Paper Writer model number.
	Android version	Displays the Android version information.
	Baseband version	Displays the baseband version information.
	Kernel version	Displays the kernel version information.
	Build No.	Displays the build number.

Operation Support Tools

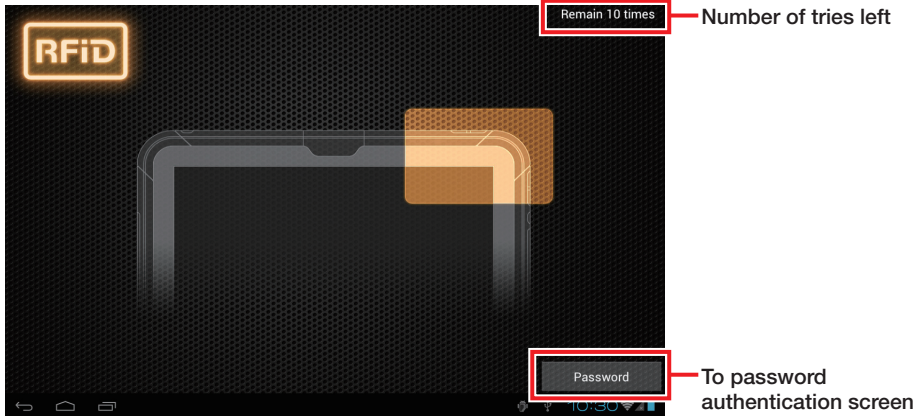
Software List

Icon	Software
	Job Menu
	Login settings
	Job User Editor
	Security Settings
	AntiBurglar

Job Menu

As well as user identification using NFC or passwords, ActiveMenu also provides a menu system capable of representing a menu tree with up to 5 levels. This menu system runs as the home application, and you can display this menu whenever you press the Home key.

User authentication screen (using RFID authentication)



User authentication screen (using password authentication)



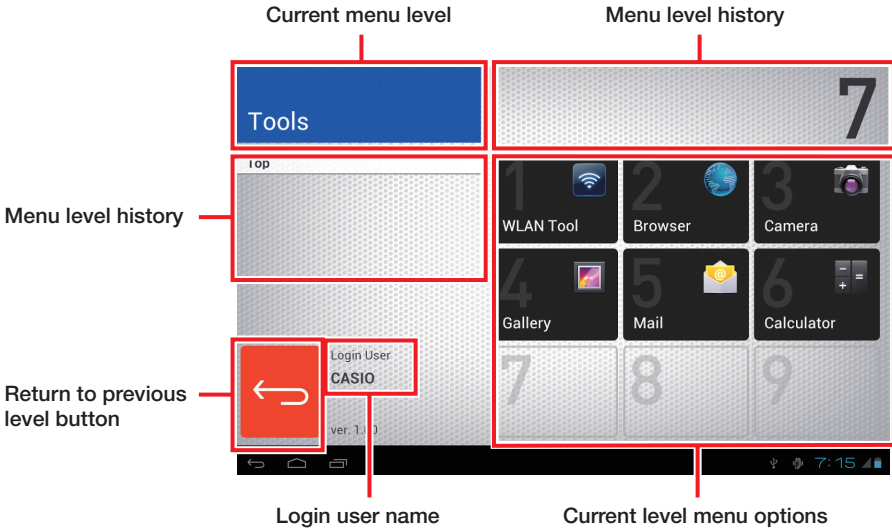
* At shipment from the factory, the authentication method is set to “none”. To use authentication, select the authentication method in the Login Authentication Setting Tool.

* The user shown below is registered at shipment.

User name: CASIO

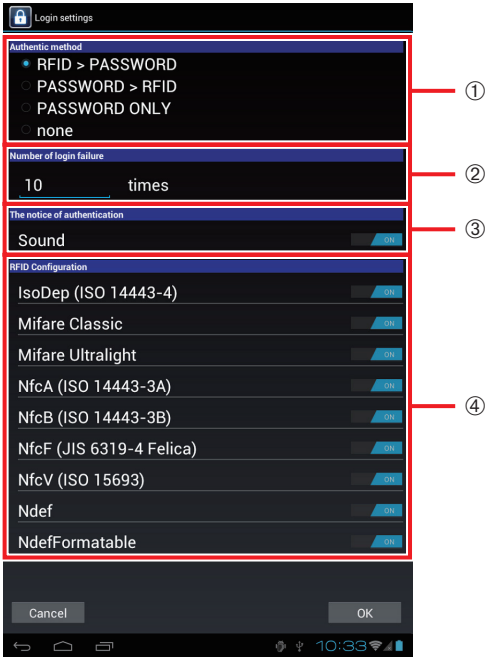
Password: casio

Menu screen



Login Authentication Setting Tool

Configures the operation of the user authentication screen.



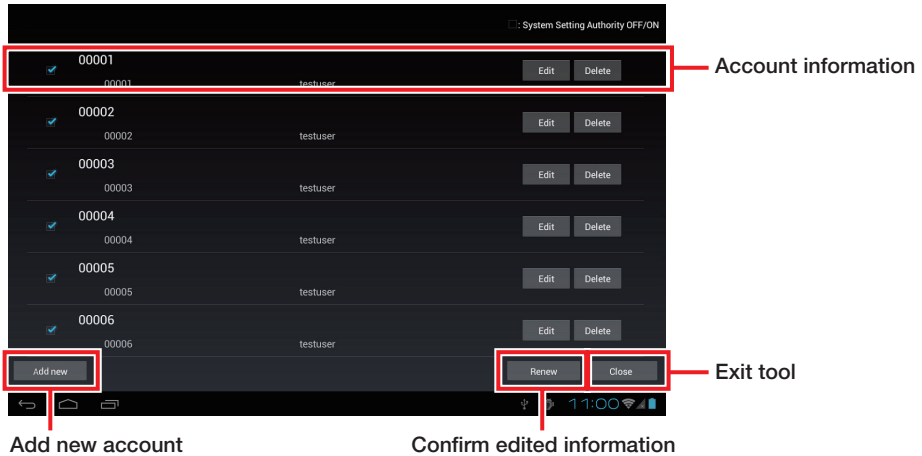
Item	Description
① Authentication method	RFID > PASSWORD: The RFID authentication screen appears first. PASSWORD > RFID: The password authentication screen appears first. PASSWORD ONLY: Only the password authentication screen appears. None: Authentication is not used.
② Permitted number of incorrect authentications	Sets the permitted number of consecutive failures. A number between 0 and 99 can be set. If 0 is set, there is no limit on the number of incorrect tries and the number of tries left is not shown at the top of the screen. Once the permitted number of consecutive incorrect authentications is reached, the Paper Writer reverts to the factory default status.
③ Authentication notification	Sounds a tone when authentication succeeds or fails.
④ RFID device settings	Configures the RFID device types to be scanned.

* After changing the settings, turn the power off (shut down).

Account Edit Tool

Edits users.

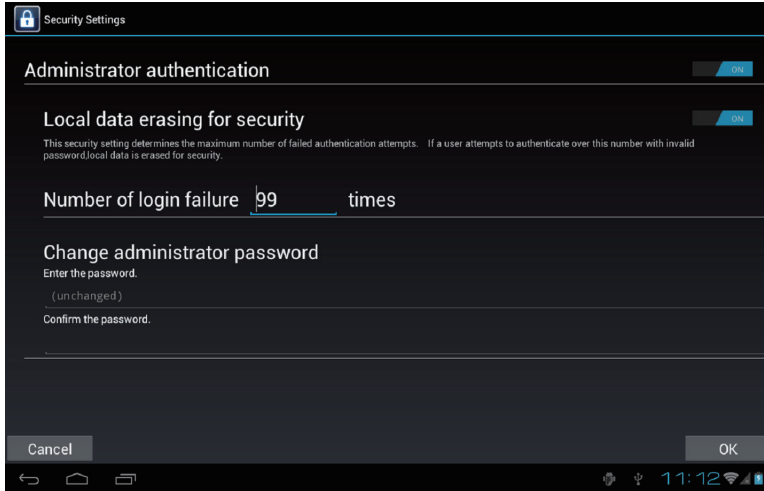
This tool allows you to manage up to 10,000 user accounts, and allows only those users who have been granted system setting privileges to add new accounts and to grant, edit and delete system setting privileges.



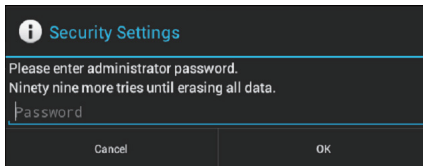
Security Settings

Set the password for the administrator.

The password for the administrator is used for authentication for using a secure function. It is also possible to set whether the user data should be deleted when authentication fails.



If administrator authentication is enabled, the screen below appears requesting the administrator password used at startup.



Enter the administrator password and then click “OK”.

If you are already logged in as a user with system setting privileges, the authentication screen is not displayed even if administrator authentication is enabled.

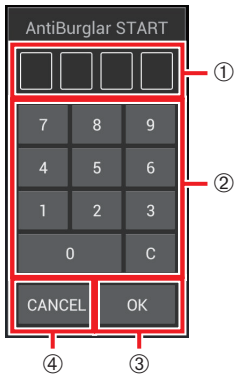
Theft Protection

This allows you to have the Paper Writer emit a loud warning tone when it is removed from the charger (Ethernet Cradle or Cradle-type Battery Charger) and that removal constitutes theft.

■ Enable Theft Protection (Lock)

To use the Theft Protection function, enter the PIN code twice.

Enter the 4-digit PIN code (first time)



- ① Shows the entered PIN code.
- ② Keys for input
- ③ Confirms entered PIN code.
- ④ Exit this app (Theft Protection is not set).

Enter the 4-digit PIN code (second time)

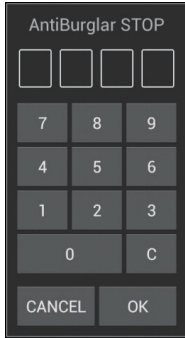
When a similar reconfirmation screen appears, enter the PIN code again.



- ⑤ Enables the Theft Protection function.

■ Disable Theft Protection (Unlock)

To disable the Theft Protection function, launch this app when the Theft Protection function is enabled and enter the 4-digit PIN code.



AntiBurglar STOP





<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7	8	9	
4	5	6	
1	2	3	
0	C		
CANCEL	OK		

■ When theft is detected (when the Paper Writer is removed from the charger)

The screen shown above automatically appears. Enter the 4-digit PIN code.

System Operation Tools

Software List

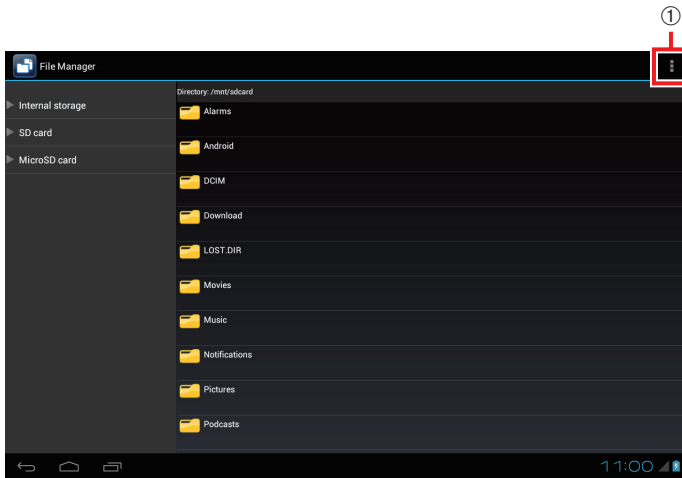
Icon	Software
	File Manager
	WLAN Tool
	Backup/Restore
	Copy Devices

File Manager

Provides file management functions.

You can select the storage in the pane on the left side of the screen and a list for that directory is then shown on the right of the screen.

When you select a folder from the directory list, the content of the selected folder is then listed. When you select a file from a directory listing, the app associated with that file type (e.g. browser) launches.



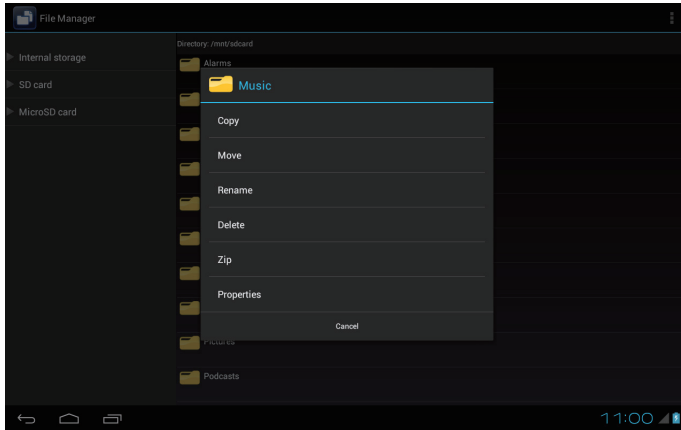
① Settings menu

■ Settings menu

Use the Settings menu to configure the following:

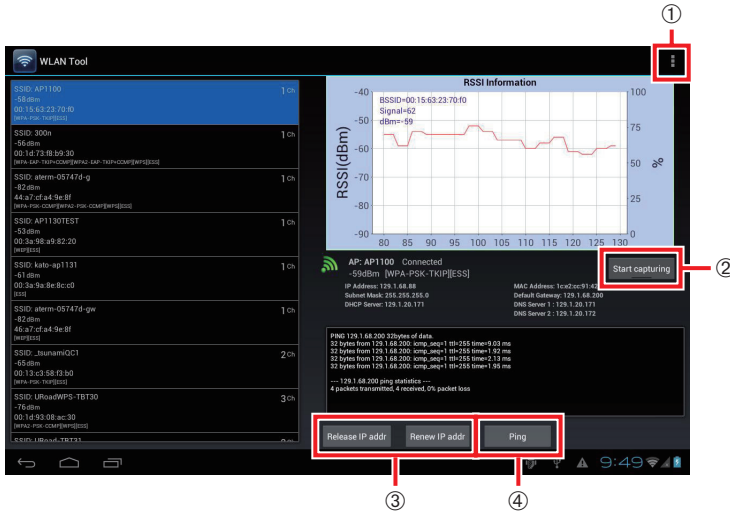
New, Sorting, Display mode, Edit, Search, Properties

When you press and hold on an item in the directory listing, the menu of editing actions appears.



WLAN Tool

In the user operating environment, this tool allows you to check the wireless LAN signal status.



- ① Settings menu
- ② Output the signal strength history log file
- ③ Release/Renew own IP address
- ④ Ping specified terminal

■ Settings menu

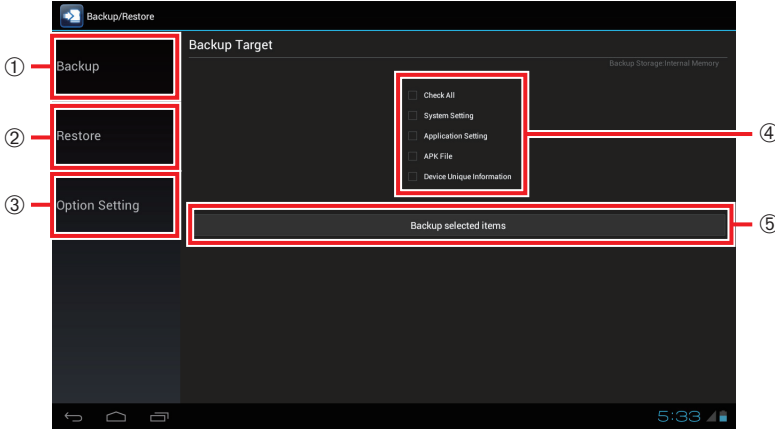
Use the Settings menu to configure the following:

- ① Ping Settings
- ② Environment Settings

Backup Tool

Use this to backup and restore Paper Writer data.

Backup screen



- ① Backup menu
- ② Restore menu
- ③ Option settings menu
- ④ Checkboxes for selecting items to be backed up
- ⑤ Start backup.

■ Backup menu

Transitions to the Backup screen.

■ Restore menu

Transitions to the Restore screen.

■ Option settings menu

Transitions to the Option Settings screen.

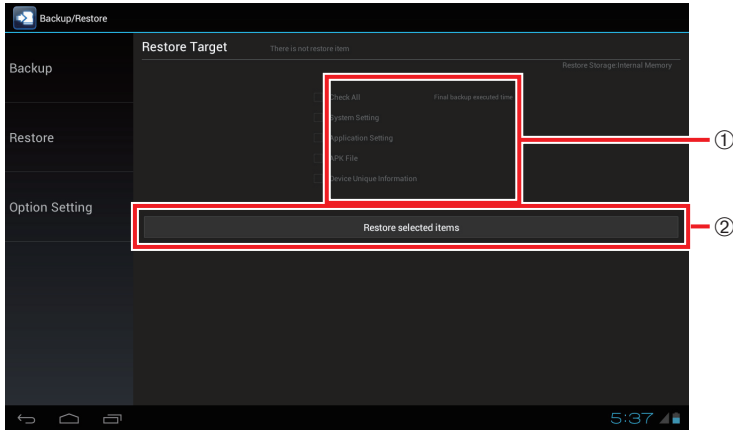
■ Checkboxes for selecting items to be backed up

Select the items for which data will be backed up.

■ Start backup.

Backs up the data for the items selected in ④.

Restore screen



① Checkboxes for selecting items to be restored

② Start restore

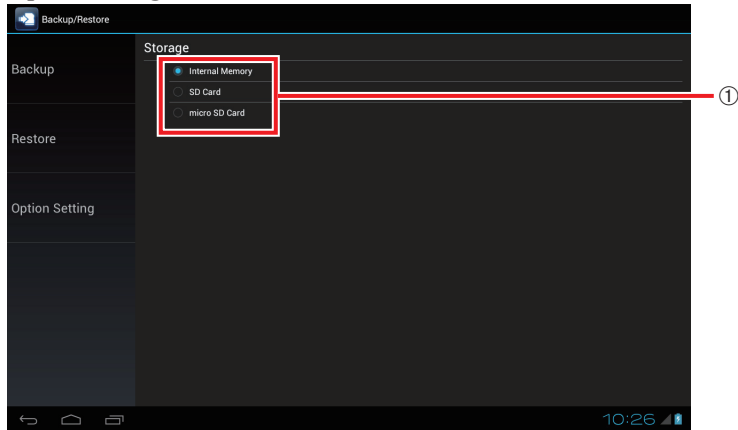
■ Checkboxes for selecting items to be restored

Select the items for which data will be restored.

■ Start restore

Restores the data saved in the location specified in “Option settings”.

Option settings screen



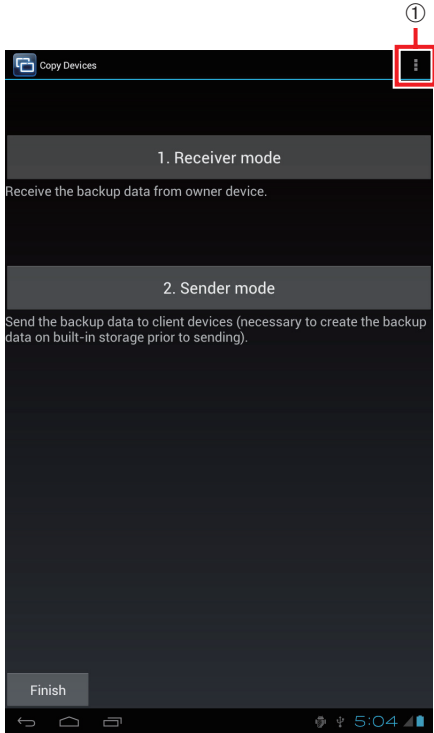
① Data save location buttons

■ Data save location buttons

Use these to select the location where backup/restore data is saved.

Copy Devices

You can make a copy of a master terminal efficiently by transferring the master terminal backup data to a slave terminal and then restoring that data.



① Settings menu



■ Settings menu

Use the Settings menu to configure the following:

Network port number

Demo Tools

Software List

Icon	Software
 The icon is a blue square with rounded corners. It features the text 'RFID' in white, bold, uppercase letters at the top, and 'DEMO' in smaller white, uppercase letters below it.	NFC Demo
 The icon is a black square with rounded corners. It features a white barcode in the center, with a red horizontal line at the bottom, suggesting a scanner's sensor or a scanning action.	Barcode Scanner

NFC Demo

Allows you to check the type and ID of a scanned NFC card.



- ① Card type
- ② Enumeration data obtained from Android SDK
- ③ Clears the card type and ID display

■ Card type

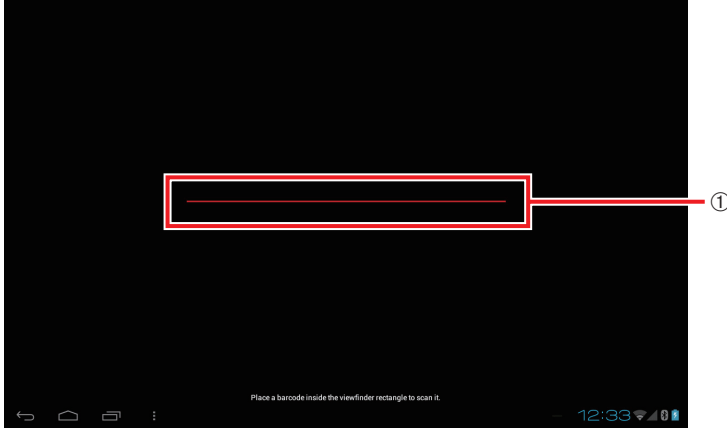
Based on the description in ②, one of the following is displayed:

Displayed information
NFC-A (ISO 14443-3A) [MIFARE Classic]
NFC-A (ISO 14443-3A) [MIFARE Ultralight]
NFC-A (ISO 14443-3A)
NFC-B (ISO 14443-3B)
NFC-F (JIS 6319-4) [FeliCa]
TAG (ISO 15693)

Barcode Scanner

Scans barcodes.

Barcode scanning screen



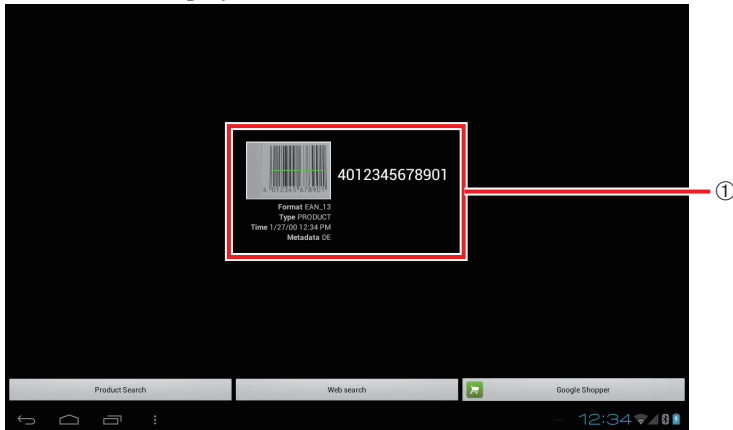
① Barcode preview area

■ Barcode preview area

Position the Paper Writer so that the barcode to be scanned appears in this area.

When the Paper Writer scans the barcode, it emits a short beep and transitions to the barcode data display screen on the next page.

Barcode data display screen



① Barcode data display

■ Barcode data display

Displays an image of the scanned barcode and the information for that barcode.

Chapter 4

Options (Sold Separately)

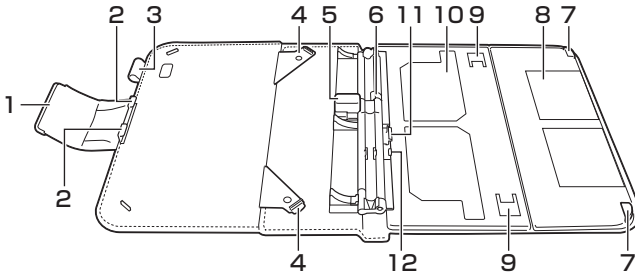
Attaching and Removing the System Case

Fitting the Paper Writer into the system case allows you to import text written on paper as an image.

If the pen holder (see E-190), hand belt (see E-193), neck strap (see E-194) or screen cover (see E-195) is attached, remove it beforehand.

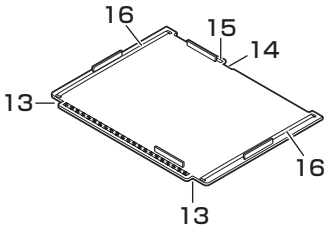
General Guide

System Case

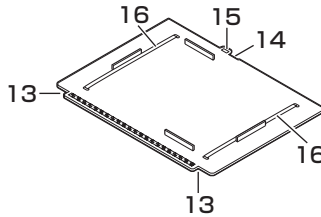


Bundled Items

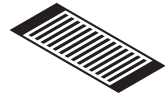
**Paper Holder
(for B5 sheets)**



**Paper Holder
(for A5 sheets)**



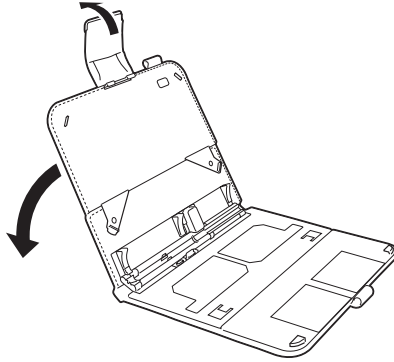
**Calibration Sheet
(small)**



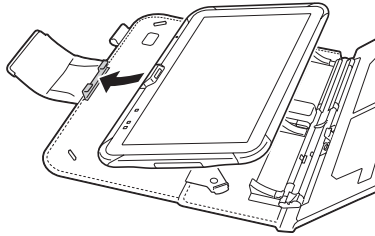
1	Fastener	9	Stopper for Flipping Shots
2	Paper Writer Retainers (top)	10	Business Card Holder
3	Pen Holder	11	Paper Holder Retainer (bottom)
4	Paper Writer Retainers (bottom)	12	Paper Holder Retaining Lug
5	Magnetic Sensor	13	Notches (top)
6	Digitizer Pen Holder	14	Notch (bottom)
7	Paper Holder Retainers (top)	15	Retaining Hole
8	Business Card Scan Position	16	Paper Retaining Belt

Fitting the Paper Writer into the System Case

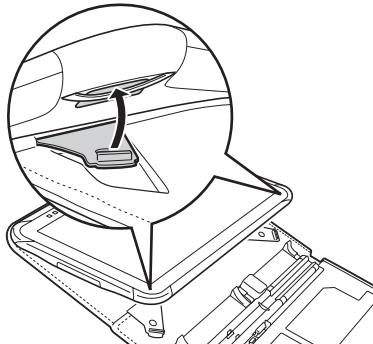
1. Pull open the fastener (magnetic) and lay the system case out flat.



2. Align the front camera section of the Paper Writer so that it is centered between the Paper Writer retainers (top).

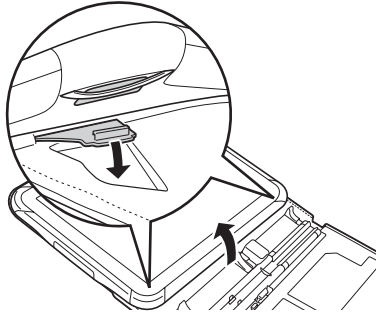


3. Engage the projecting tabs on the Paper Writer retainers (bottom) with the two system case mounts and secure in place.

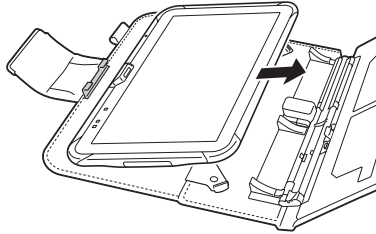


Removing the Paper Writer

1. Disengage the projecting tabs on the Paper Writer retainers (bottom) from the two system case mounts.



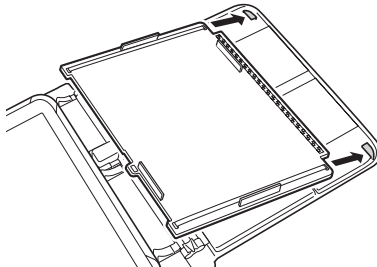
2. Pull the Paper Writer out of the retainers (top).



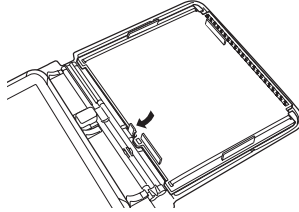
Mounting the Paper Holders

You can use the paper holders to set B5 or A5 sheets of paper into the system case. A B5 sheet of paper is used as an example in this description.

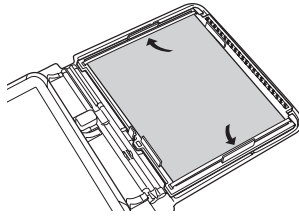
1. As shown in the figure, align the paper holder retainers (top) with the notches (top) in the paper holder.



-
2. Align the paper holder retainer (bottom) with the notch (bottom) in the paper holder and fit the retaining lug into the retaining hole.

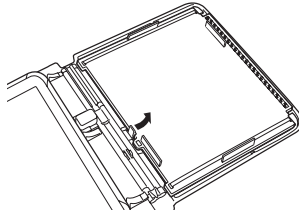


3. Fit the paper sheet by sliding both ends under the retaining belts.
 - You can load up to 50 sheets of writing paper.

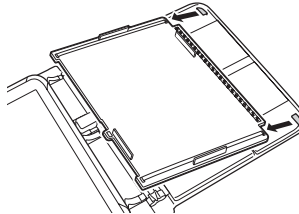


Removing the Paper Holder

1. Disengage the notch (bottom) in the paper holder from the paper holder retainer (bottom).



2. Disengage the notches (top) in the paper holder from the paper holder retainers (top) and pull the paper holder out.



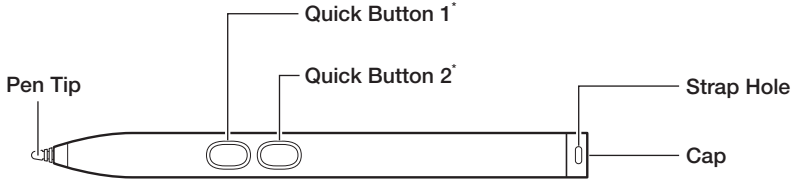
Important!

- The system case is not designed to be splashproof. If it gets wet, wipe the moisture off with a soft, dry cloth.

Using the Digitizer Pen

You can use the optional Digitizer Pen to work on the Paper Writer's touch-panel.

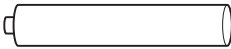
General Guide



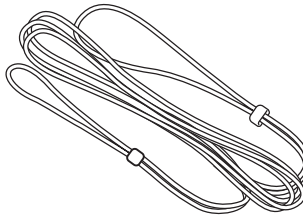
* The functions of quick buttons 1 and 2 differ depending on the application specifications.

Bundled Items

AAAA Battery

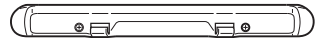


Strap



Attach to the strap hole on the pen.

Pen Holder



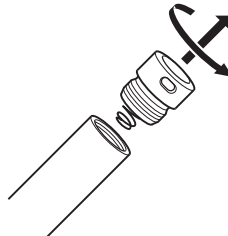
Secured to the mount on the upper rear of the Paper Writer (see E-20, 21) using screws. Cannot be attached at the same time as the screen cover (see E-195).

Pen Tip (replaceable)

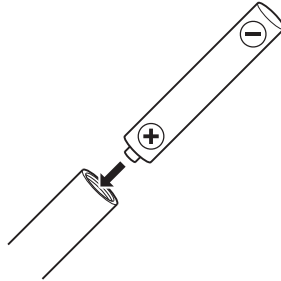


Fitting the Battery

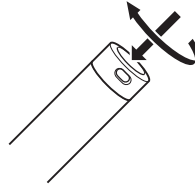
1. Turn the cap counterclockwise to remove.



2. Insert the battery with the positive (+) terminal towards the tip of the pen.

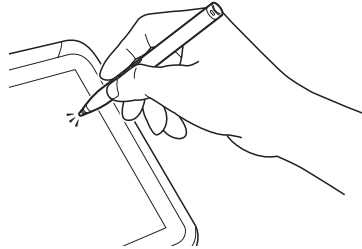


3. Turn the cap clockwise to secure.

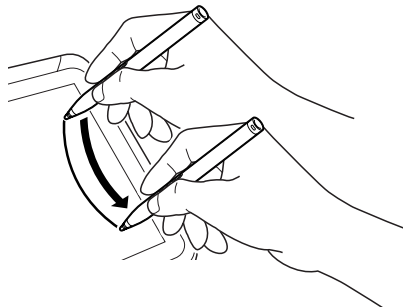


Using the Digitizer Pen

Tap: Lightly touch the tip of the pen against the touch-panel.



Sketching characters and lines: Sketch characters and lines by holding the tip of the pen against the touch-panel and sliding it lightly over the surface.



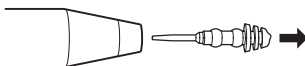
Important!

- Do not tap the Digitizer Pen too strongly against the touch-panel.
- Pens other than the dedicated Digitizer Pen cannot be used.

Replacing the Pen Tip

The tip of the pen will wear out over time. Replace the tip as follows.

1. Grasp the tip of the pen and pull it gently out from the end of the pen.



2. Insert the new pen tip.



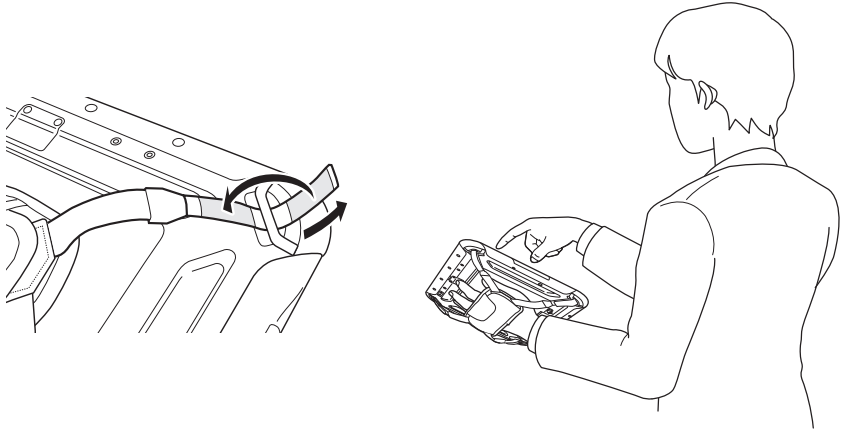
Handling the Hand Belt

The optional hand belt can be attached to the Paper Writer.

If you also plan to attach the neck strap, attach the neck strap first (see E-194).

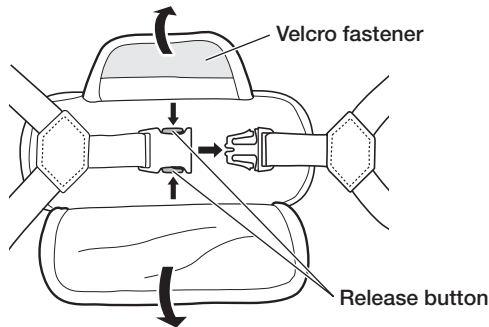
Attaching

1. Feed the ends of the 4 hand belt straps through the mounts on each corner of the back of the Paper Writer. Then fold the straps back over, adjust the length as appropriate and fasten them in place using the Velcro fasteners.



Important!

- Pulling on the hand belt with excessive force could cause damage.
- Unclip the hand belt before opening the battery pack cover.

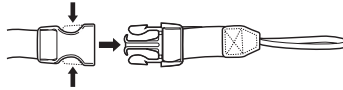


Attaching the Neck Strap

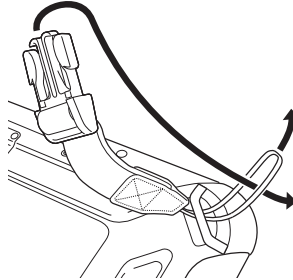
The optional neck strap can be used to prevent the Paper Writer from fall when carrying it around. Four strap mounts are provided. Use whichever 2 mounts provide greatest ease of use.

If you also plan to attach the hand belt (see E-193), attach the neck strap first. Attach the neck strap according to the procedure described below.

1. Press the neck strap release buttons and pull apart the buckles on each end of the strap.



2. Feed the fine looped cords on each strap end through the corner strap mounts on the back of the Paper Writer and then feed the strap end buckle through the loop.



3. Fit the two ends of the main neck strap into the respective strap end buckles. Adjust the length as necessary.

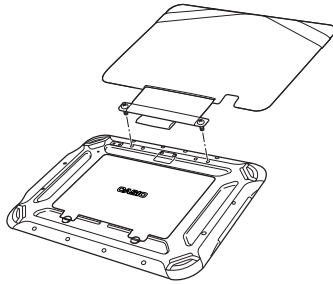


Using the Screen Cover

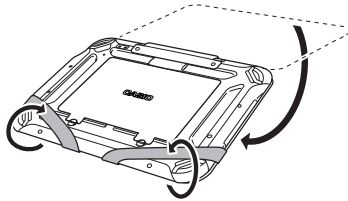
An optional screen cover can be fitted to the Paper Writer to protect the display. The screen cover can also be used as a stand when using the Paper Writer. If the pen holder for the Digitizer Pen is fitted to the Paper Writer (see E-190), remove it. The Digitizer Pen can be kept in the screen cover's pen holder.

Attaching the Screen Cover

1. Fasten the screen cover to the mount holes on upper rear of the Paper Writer (see E-20, 21) using the 2 screws fitted to the screen cover.

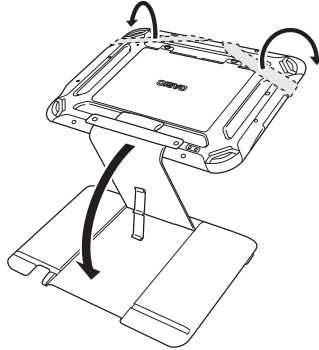


2. Close the cover so that it fits snugly against the display and fix in place by pulling the rubber bands around the back of the Paper Writer.

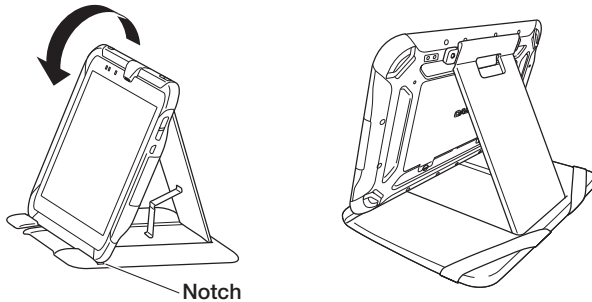


Using the Screen Cover as a Stand (When Taking a Flipping Shot)

1. Disengage the rubber bands from the Paper Writer, open the cover and place it on a desktop or other flat surface.



2. Turn the Paper Writer so that it faces forwards and fit the bottom into the notch in the cover to fix it in place.



Important!

- The screws cannot be removed from the screen cover.
- The screen cover is a synthetic leather product, so any moisture on the cover should be immediately be wiped off gently with a soft, dry cloth.
Note also that it is sensitive to heat and should not be used close to a fire or similar location.
- Do not hold the Paper Writer by the screen cover alone while the rubber bands are not fastened around the Paper Writer. Doing so could damage the screen cover.
- When fitting the Paper Writer into the cradle, lift up the screen cover slightly so that the Paper Writer fits securely into the cradle.
- To take a Flipping Shot, fix the Paper Writer in the step 2 angle.
The shot cannot be taken correctly if the Paper Writer is at the wrong angle.
- The Paper Writer will not be at the correct angle if the pen is inserted into the pen holder.

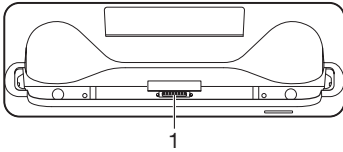
When taking a Flipping Shot, first take the pen out of the pen holder.

Using the Ethernet Cradle (HA-M62IO)

The optionally available Ethernet Cradle (HA-M62IO) makes it possible to transmit system data and file data between the Paper Writer and a PC via a USB or LAN connection (download or upload). You can also use the Ethernet Cradle to charge the battery pack installed in the Paper Writer.

General Guide

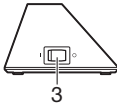
Top



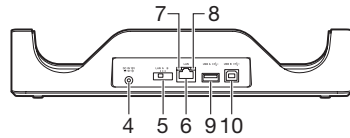
Front



Right



Back

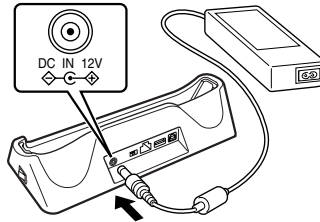


1	Communication/ Power Supply Terminals	Power is supplied to the V-N500 via these terminals. Also used for communication with the V-N500.
2	Power Indicator LED	Off: Power off. Red: Power on, V-N500 is not installed Green: Power on, V-N500 mounted correctly
3	Power Switch	Turns the power on and off.
4	AC Adaptor Jack	Connect the AC adaptor (sold separately) here.
5	Selector Switch	This switch is used to switch between a USB connection and a LAN connection. LAN: LAN A: USB host B: USB client
6	LAN Port	This port is used for connecting the cradle to a PC or hub via a LAN cable so that system data and file data can be transmitted (uploaded or downloaded). The special driver software must be installed in the V-N500.
7	LAN Communication Status LED	This LED shows the LAN operation status. Off: No communication. Blinking: Communication in progress.
8	LAN Connection Status LED	This LED shows the status of the LAN connection. Off: LAN cable not connected correctly. Lit orange: LAN cable connected correctly.
9	USB Host Port	This port is used to connect a corresponding USB peripheral device.
10	USB Client Port	This port is used to transmit system data and file data (download, upload) by connecting the Ethernet Cradle to a PC using a USB cable. The dedicated driver must be installed in the PC before connecting the Ethernet Cradle to the PC.

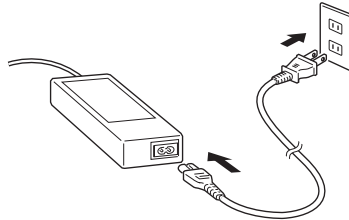
Connecting the Ethernet Cradle Power Supply

Use the optional AC adaptor (AD-S36120A-N) for the power supply of the Ethernet Cradle. Always make sure to connect the AC adaptor to the Ethernet Cradle before performing communication with the Paper Writer. Power to the Paper Writer is supplied from the Ethernet Cradle.

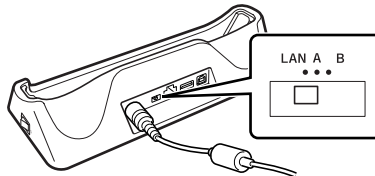
1. Plug the AC adaptor into the AC adaptor jack on the back of the Ethernet Cradle.



2. After connecting the power cable to the AC adaptor, plug the other end of it into an electrical outlet.



3. Use the selector switch on the back of the Ethernet Cradle to select the port to be used. Set the switch to the "LAN" position when using the LAN port on the cradle. Set the switch to the "B" position when using the unit as a USB client, or set it to the "A" position when using the unit as a USB host.

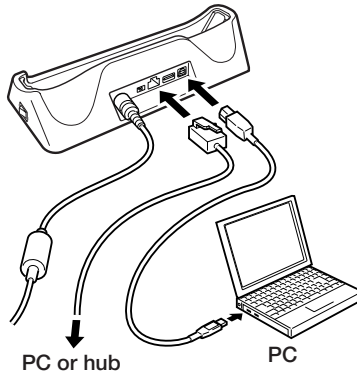


4. Before using the cradle ports, remove the caps from the ports.

When using a LAN, connect one end of the LAN cable to the LAN port and the other end to the PC or hub.

When using a USB connection, connect one end of the USB cable to the USB client port and the other end to the PC.

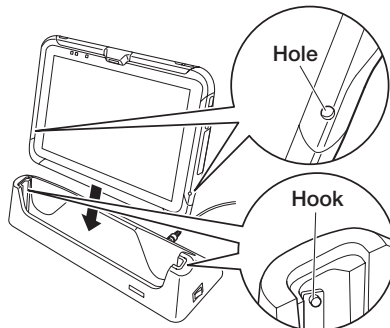
The USB host port is used for connecting the cradle with other USB peripheral device.



5. Turn on the power switch on the right side of the Ethernet Cradle. The power indicator LED on the front of the Ethernet Cradle lights red.



6. Hold the V-N500 so that the bottom faces downwards and fit it into the Ethernet Cradle so that the mount hooks in the cradle engage the mount holes in the V-N500. The power indicator LED on the front of the Ethernet Cradle will light green if the V-N500 has been properly mounted.



■ Status of Charge LED on V-N500:

Orange: Charging (battery level at 6% or more)

Red: Battery level down to 0-5%
(until a level of 5%, Paper Writer will not start up)
Battery pack error

Blinking red: Standby due to being outside the temperature range for charging
(charging begins when the temperature is within the charging temperature range)

Green: Charging complete

- * If, after 30 minutes or more at normal temperature, you plug the AC adaptor in again and the charge LED is still red or off, there is a fault. Immediately stop using the product and contact the dealer or distributor where you purchased the product, or an authorized CASIO service provider.
- * If the remaining battery charge is 5% or less when the AC adaptor is connected correctly, the charge LED turns off for approximately 0.5 seconds and then lights red.

Important!

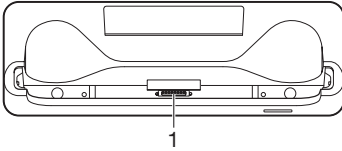
- **Never short out the communication/power supply terminals of the Ethernet Cradle. This can damage the Ethernet Cradle.**
- **Allowing the communication/power supply terminals become wet can cause an electric shock or fire. In addition, if the terminals become soiled, contact may be impaired resulting in poor charging. For reasons of safety and maintaining charging battery pack(s) in optimum condition, clean the communication/power supply terminals by wiping with a dry cloth or cotton swab after disconnecting the AC adaptor.**
- **Do not subject the Paper Writer and Ethernet Cradle to vibration or impact during communication. This can cause communication to be interrupted.**
- **When placing the V-N500 into the cradle, make sure that it is seated properly and that the power indicator LED at the front of the Ethernet Cradle is lit in green. Charging and communication will not proceed properly if the Paper Writer is not seated properly.**
- **The USB Mini-B port on the Paper Writer cannot be used while the Paper Writer is fitted into the Ethernet Cradle.**
- **Always cap ports that are not being used. Using the Ethernet Cradle while the ports are uncapped can cause damage.**

Using the Cradle-type Battery Charger (HA-M30CHG)

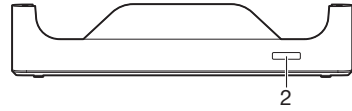
The optionally available Cradle-type Battery Charger (HA-M30CHG) lets you charge the battery pack installed in the Paper Writer simply by placing the Paper Writer onto the charger.

General Guide

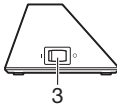
Top



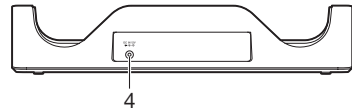
Front



Right



Back

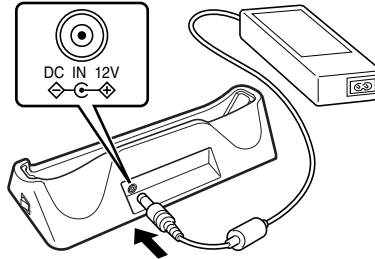


1	Power Supply Terminals	Power is supplied to the V-N500 via these terminals.
2	Power Indicator LED	Off: Power off Red: Power on, V-N500 is not installed Green: Power on, V-N500 mounted correctly
3	Power Switch	Turns the power on and off.
4	AC Adaptor Jack	Connect the AC adaptor (sold separately) here.

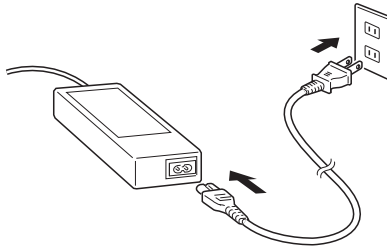
Connecting the Cradle-type Battery Charger Power Supply

Use the optional AC adaptor (AD-S36120A-N) for the power supply of the Cradle-type Battery Charger.

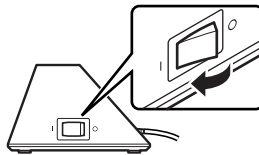
1. Plug the AC adaptor into the AC adaptor jack on the back of the Cradle-type Battery Charger.



2. After connecting the power cable to the AC adaptor, plug the other end of it into an electrical outlet.

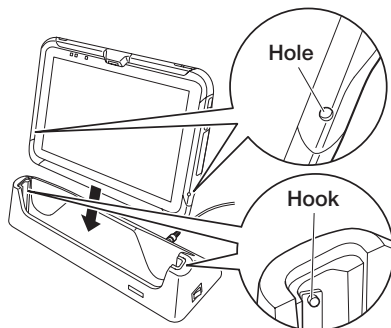


3. Turn on the power switch on the right side of the Cradle-type Battery Charger. The power indicator LED on the front of the Cradle-type Battery Charger lights red.



-
4. Hold the V-N500 so that the bottom faces downwards and fit it into the Cradle-type Battery Charger so that the mount hooks in the charger engage the mount holes in the V-N500.

The power indicator LED on the front of the Cradle-type Battery Charger will light green if the V-N500 has been properly mounted.



■ Status of Charge LED on V-N500:

Orange: Charging (battery level at 6% or more)

Red: Battery level down to 0-5%
(until a level of 5%, Paper Writer will not start up)
Battery pack error

Blinking red: Standby due to being outside the temperature range for charging
(charging begins when the temperature is within the charging temperature range)

Green: Charging complete

* If, after 30 minutes or more at normal temperature, you plug the AC adaptor in again and the charge LED is still red or off, there is a fault. Immediately stop using the product and contact the dealer or distributor where you purchased the product, or an authorized CASIO service provider.

* If the remaining battery charge is 5% or less when the AC adaptor is connected correctly, the charge LED turns off for approximately 0.5 seconds and then lights red.

Important!

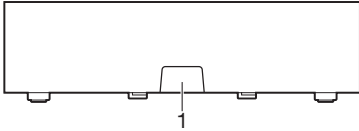
- **Never short out the power supply terminals of the Cradle-type Battery Charger. This can damage the Cradle-type Battery Charger.**
- **Allowing the power supply terminals become wet can cause an electric shock or fire. In addition, if the terminals become soiled, contact may be impaired resulting in poor charging. For reasons of safety and maintaining charging battery pack(s) in optimum condition, clean the power supply terminals by wiping with a dry cloth or cotton swab after disconnecting the AC adaptor.**
- **When placing the V-N500 into the charger, make sure that it is seated properly and that the power indicator LED at the front of the Cradle-type Battery Charger is lit in green. Charging and communication will not proceed properly if the Paper Writer is not seated properly.**

Using the Dual Battery Charger (HA-M32DCHG)

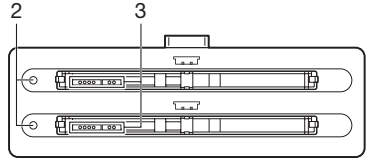
The optionally available dual battery charger (HA-M32DCHG) can be used to simultaneously charge two battery packs.

General Guide

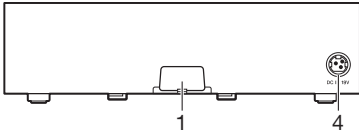
Left



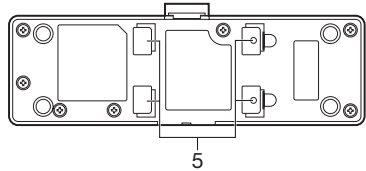
Top



Back

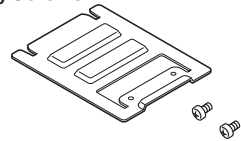


Bottom



Bundled Items

Connecting Bracket
2 Connecting Screws

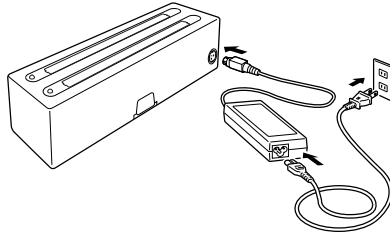


1	Dual Battery Charger Connection Port	Use this port to connect multiple Dual Battery Chargers to each other.
2	Charge Indicator Lamp	This lamp indicates the charge status of the battery pack(s). Off: Not charging Orange: Charging Red: Battery pack problem or standby due to the surrounding temperature being beyond the specified temperature range (Approximately 0°- 40°C) (charging resumes when the temperature reaches the range.) Green: Charging complete
3	Power Contacts	Power is supplied to the battery packs via these contacts.
4	AC Adaptor Jack	This is used to supply power by connecting the AC adaptor (sold separately).
5	Connecting Bracket Attachment Holes	The connecting bracket attaches here when you connect multiple Dual Battery Chargers to each other.

Charging a Battery Pack

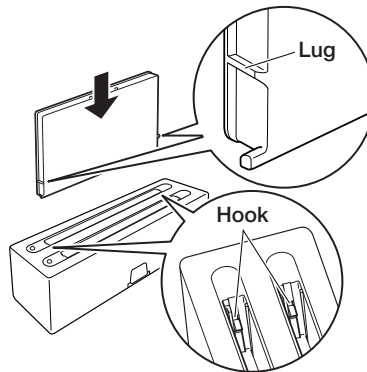
Use the optionally available AC adaptor (AD-S90190C-N5) for the power supply of the Dual Battery Charger.

1. Plug the cord from the AC adaptor into the AC adaptor jack of the Dual Battery Charger. With the engraved side upwards, push the connector firmly into the jack until it clicks into place.
2. Plug one end of power cord into the AC adaptor and the other end to a wall outlet.



3. Check the orientation of the battery pack and then push it in until the mount hooks on the Dual Battery Charger engage the mount lugs on the battery.

This causes the Charge Indicator Lamp to light in orange, indicating that charging has started.



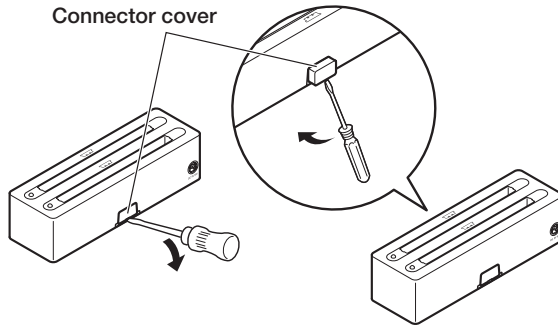
■ Charge Indicator Lamp

Off:	Not charging
Orange:	Charging
Red:	Battery pack problem or standby due to the surrounding temperature being beyond the specified temperature range (Approximately 0°- 40°C) (charging resumes when the temperature reaches the range.)
Green:	Charging complete

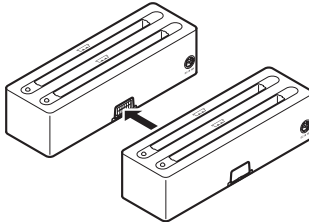
Connecting Multiple Dual Battery Chargers

You can connect up to three Dual Battery Chargers. Doing so makes it possible to supply power to all the Dual Battery Chargers using one dedicated AC adaptor.

1. As shown in the illustrations below, remove the connector covers of the Dual Battery Chargers you want to connect to each other.

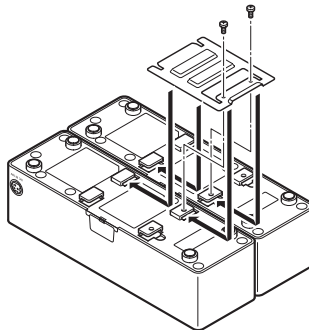


2. Connect the two Dual Battery Chargers as shown below.



3. Turn over the connected Dual Battery Chargers and attach a connecting bracket, securing it in place with screws.

You can repeat the above steps to connect up to 3 Dual Battery Chargers.



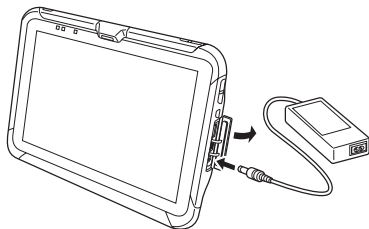
Important!

- **Allowing the power contacts become wet can cause an electric shock or fire. In addition, if the contacts become soiled, contact may be impaired resulting in poor charging. For reasons of safety and maintaining charging battery pack(s) in optimum condition, clean the power contacts by wiping with a dry cloth or cotton swab after disconnecting the AC adaptor.**
- **Although the battery may become warm during charging, this is normal and does not indicate a malfunction.**
- **Do not place objects such as a cover over the battery charger while charging.**
- **Do not remove the battery pack or disconnect the AC adaptor during charging.**
- **Repeated “Mounting and Removing” of battery pack in excess of times may cause the quality deterioration of the battery pack.**
- **Each Dual Battery Charger comes with one connecting bracket.**
- **Since only one connecting bracket is required when you connect two Dual Battery Chargers, you will always have one left over.**
- **Simply keep the other connecting bracket on hand as an extra, in case you ever need it.**

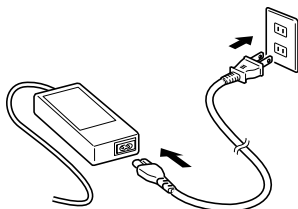
Using the AC Adaptor (AD-S36120A-N)

With the option AC adaptor (AD-S36120A-N) directly connected to the Paper Writer, battery pack installed in the Paper Writer can be charged. Follow the steps below.

1. Plug in the cord from the AC adaptor to the DC Jack on V-N500.



2. Plug in one end of power cord to the AC adaptor and the other end to a wall outlet.



As soon as charging starts, charge LED on the V-N500 lights orange. After charging is complete, it lights green.

■ Status of Charge LED on V-N500:

Orange: Charging (battery level at 6% or more)

Red: Battery level down to 0-5%
(until a level of 5%, Paper Writer will not start up)
Battery pack error

Blinking red: Standby due to being outside the temperature range for charging
(charging begins when the temperature is within the charging temperature range)

Green: Charging complete

* If, after 30 minutes or more at normal temperature, you plug the AC adaptor in again and the charge LED is still red or off, there is a fault. Immediately stop using the product and contact the dealer or distributor where you purchased the product, or an authorized CASIO service provider.

* If the remaining battery charge is 5% or less when the AC adaptor is connected correctly, the charge LED turns off for approximately 0.5 seconds and then lights red.

Chapter 5

Specifications

V-N500 Paper Writer Specifications

Item	Classification	Details
Model		V-N500-E*, V-N500-EF, V-N500-GEF
CPU		OMAP 4460 1.5 GHz Dual core
Platform		Android 4.0
Memory	RAM	1 GB
	FROM	16 GB
Display		10.1-inch, WXGA (1280 x 800), LED-backlit TFT color LCD
Bluetooth®	Protocol	Bluetooth® Specification Ver.4.0 (Class2)
	Communication Range	Approximately 5 m (16'4 ⁷ / ₈ ") (depends on radio wave conditions and environment)
	Output	4 dBm max
WLAN	Standards	IEEE 802.11a/b/g/n
	Diffusion Modulation	IEEE 802.11a/g/n: OFDM (Orthogonal Frequency Division Multiplexing) IEEE 802.11b: DSSS (Direct Sequence Spread Spectrum)
	Frequency	IEEE 802.11a/n: 5.18 - 5.70 GHz IEEE 802.11b/g/n: 2.400 - 2.4835 GHz
	Communication Range	IEEE 802.11a/n (5 GHz band): 30 m indoors, 150 m outdoors IEEE 802.11b/g/n (2.4 GHz band): 50 m indoors, 150 m outdoors (varies according to usage environment and transmission rate)
	No. of Channels	IEEE 802.11a/n: W52: 4 W53: 4 W56: 11(where n is the 5 GHz band) IEEE 802.11b: 14 IEEE 802.11g/n: 13 (where n is the 2.4 GHz band) *There are prohibitive channels in some countries. So please refer the country's standard.

*The system case is bundled with this model.

Item	Classification	Details
WLAN	Output	IEEE 802.11a: Minimum 12 dBm; Typical 13.5 dBm (for 54 Mbps communication) IEEE 802.11b: Minimum 17 dBm; Typical 18 dBm (for 11 Mbps communication) IEEE 802.11g: Minimum 12 dBm; Typical 14 dBm (for 54 Mbps communication) IEEE 802.11n: Minimum 11 dBm; Typical 12.5 dBm (for 72 Mbps communication)
	Other Functions	Roaming function among multiple access points
NFC	Frequency Band	13.56 MHz \pm 7 kHz
	Antenna	Magnetic Loop Antenna
	Operating Magnetic Field	Magnetic Length Output: 1.5 A/m or greater (in contact with the case)
	Bit Rate	ISO14443 Type A: 106 kbps ISO14443 Type B: 106 kbps Felica: 212 kbps, 424 kbps ISO15693: 1.65 kbps
	Modulation	Amplitude Shift Keying
	Modulation Degree	10% degree, 100% degree
	Communication Range	ISO14443 Type A/B, Felica: 0 mm (in contact with the rear side) ISO15693: 0 mm (in contact with the rear side) to max. 50 mm
	Communication Area	15 mm \times 15 mm (card/tag type dependent)
	Supported Cards	ISO14443TypeA, ISO14443TypeB, FeliCa, ISO15693 (card dependent)
WCDMA	Standard	UMTS/W-CDMA: 3GPP release99HSDPA: 3GPP release5
	Communication Function	Packet data
	Data Transmission	Downlink: 14.4 MbpsUplink: 5.76 Mbps
	Modulation Scheme	UMTS/HSDPA/HSUPA

Item	Classification	Details
WCDMA	Signal Type	Band I: 4M19F9W Band V: 4M19F9W Band VI: 4M19F9W Band VIII: 4M15F9W
	Supported Bands	Band I: Uplink: 1920 - 1980 MHz Downlink: 2110 - 2170 MHz Band V: Uplink: 824 - 849 MHz Downlink: 869 - 894 MHz Band VI: Uplink: 830 - 840 MHz Downlink: 875 - 885 MHz Band VIII: Uplink: 880 - 915 MHz Downlink: 925 - 965 MHz
	No. of Channels	Band I: 277 Band V: 108 Band VI: 29 Band VIII: 152
	Channel Interval	Band I: 190 MHz Band V: 45 MHz Band VI: 45 MHz Band VIII: 45 MHz
	Channel Bandwidth	Band I: 60 × 2 MHz Band V: 25 × 2 MHz Band VI: 10 × 2 MHz Band VIII: 35 × 2 MHz
	Module Output	24 dBm
GSM	Standard	3GPP release99
	Communication Function	Packet data
	Data Transmission	Uplink: 236.8kbps Downlink: 236.8kbps

Item	Classification	Details
GSM	Modulation Scheme	GSM/GPRS/EDGE
		GSM850: 248KGXW (GPRS), 248KG7W (EDGE) EGSM900: 248KGXW (GPRS), 248KG7W (EDGE) DCS1800: 374248KGXW (GPRS), 248KG7W (EDGE) PCS1900: 248KGXW (GPRS), 248KG7W (EDGE)
	Supported Bands	GSM850: Uplink: 824 - 849 MHz Downlink: 869 - 894 MHz EGSM900: Uplink: 880 - 915 MHz Downlink: 925 - 960 MHz DCS1800: Uplink: 1710 - 1785 MHz Downlink: 1805 - 1880 MHz PCS1900: Uplink: 1850 - 1910 MHz Downlink: 1930 - 1990 MHz
	No. of Channels	GSM850: 124 EGSM900: 174 DCS1800: 374 PCS1900: 299
	Channel Interval	GSM850: 45 MHz EGSM900: 45 MHz DCS1800: 95 MHz PCS1900: 80 MHz
	Channel Bandwidth	GSM850: 25 × 2 MHz EGSM900: 35 × 2 MHz DCS1800: 75 × 2 MHz PCS1900: 60 × 2 MHz
	Module Output	33 dBm (850/900 MHz bands) 30 dBm (1800/1900 MHz bands)

Item	Classification	Details
GPS	General Specifications	16-channel receiver, L1 1575.42 MHz, C/A code
	Position Measurement Method	Standalone-GPS (S-GPS)
	Sensitivity	Acquisition sensitivity: -146 dBm Tracking sensitivity: -162 dBm
SAM	Standard	ISO 7816 IC Card standard
	General Specifications	Support for 3 V, 1.8 V and 5 V SAM cards
SIM	Standard	ISO 7816 IC Card standard
	General Specifications	Support for 3 V and 1.8 V and 5 V SIM cards
SD Card Slot		Compatible with SDHC Memory Card
microSD Memory Card Slot		Compatible with microSDHC Memory Card
HDMI		MiniHDMI (Out)
USB		Host: USB 2.0 Type A × 1 Client: USB 2.0 Mini-B × 1
Camera		Approximately 5 megapixels
Power Requirement	Power Source	Battery Pack (HA-M20BAT)
	Memory Backup	Rechargeable Lithium Battery (Built-in)
Charging	Charging Period	Approximately 6 hours
Consumption Current		V-N500-GE: DC 4.0 A (When using the battery pack) V-N500-E: DC 2.6 A (When using the battery pack)
Battery Life		V-N500-GE: Approximately 12hours ^{*1} V-N500-E, V-N500-GE: Approximately 10hours ^{*2} *1: 3 hours operating (repeated cycle comprising 3 minutes of WAN data transmission, 1 minute of screen browsing and 6 minutes of app use), 9 hours in standby mode (WAN data transmission standby mode with the screen OFF) *2: Repeated cycle comprising 1 minute of data transmission, 1 minute of movie playback, 3 minutes of screen browsing and 10 minutes in standby mode (screen OFF)

Item	Classification	Details
Operating Temperature		-20°C to 50°C (-4°F to 122°F)
Operating Humidity		10% to 90% RH (non-condensation)
Drop Impact Resistance		1.0 m (trial value only, not guaranteed)* * Paper Writer only (excluding screen cover and system case)
Dust and Water Splash Proof		IP54 level
Dimensions		Paper Writer: Approximately 190 (H) × 269 (W) × 14.4 (D) mm (7 ⁷ / ₁₆ "H × 10 ⁹ / ₁₆ "W × 9 ⁹ / ₁₆ "D) System case (closed): Approximately 220 (H) × 270 (W) × 30 (D) mm (8 ¹¹ / ₁₆ "H × 10 ⁵ / ₈ "W × 1 ³ / ₁₆ "D)
Weight (including battery pack)		Approximately 780 g (27.5 oz) (Paper Writer only) Approximately 1.4 kg (45.9 oz) (including system case)

Optional (Separately Sold) Accessory Specifications

Ethernet Cradle (HA-M62IO)

Item	Classification	Details
LAN Specifications	Communication Protocol	IEEE 802.3
	Media Type	10base-T/100base-TX auto-switched
USB	Protocol	USB Ver2.0 Standard
	Transmission Rate	480 Mbps (max)
Charging	Charging Method	Constant current/voltage
	Charging Period	Approximately 6 hours
Power Supply	Power Source	AD-S36120A-N
	Consumption Current	12 V DC 3.0 A
	Main Unit (V-N500) Output	Contact: 12 V DC, 2.0 A
	USB Host Output	5 V DC 500 mA (max)
Dimensions and Weight	Dimensions	Approximately 292 (W) × 98.5 (D) × 64 (H) mm (11 ¹ / ₂ "W × 3 ⁷ / ₈ "D × 2 ¹ / ₂ "H) (including rubber feet)
	Weight	Approximately 332 g (11.7 oz)
Operating Environment	Temperature	0°C to 40°C (32°F to 104°F)
	Humidity	10% to 90% RH (non-condensation)

Cradle-type Battery Charger (HA-M30CHG)

Item	Classification	Details
Charging	Charging Method	Constant current/voltage
	Charging Period	Approximately 6 hours
Power Supply	Power Source	AD-S36120A-N
	Consumption Current	12V DC 3.0A
	Main Unit (V-N500) Output	Contact: 12 V DC, 2.0 A
Dimensions and Weight	Dimensions	Approximately 292 (W) × 98.5 (D) × 64 (H) mm (11 ¹ / ₂ "W × 3 ⁷ / ₈ "D × 2 ¹ / ₂ "H) (including rubber feet)
	Weight	Approximately 297 g (10.5 oz)
Operating Environment	Temperature	0°C to 40°C (32°F to 104°F)
	Humidity	10% to 90% RH (non-condensation)

Dual Battery Charger (HA-M32DCHG)

Item	Classification	Details
Charging	Charging Period	1 battery pack mounted: 4 hours 2 battery packs mounted: 6 hours
Power Supply	Power Source	AD-S90190C-N5
	Consumption Current	19 V DC 4.74 A
Dimensions and Weight	Dimensions	Approximately 196 (W) × 60 (D) × 55 (H) mm (7 ¹¹ / ₁₆ "W × 2 ³ / ₈ "D × 2 ³ / ₁₆ "H)
	Weight	Approximately 242 g (8.5 oz)
Operating Environment	Temperature	0°C to 40°C (32°F to 104°F)
	Humidity	10% to 90% RH (non-condensation)

Car Adaptor (HA-M37CAC)

Item	Details
Input	12 V/24 V DC 3 A/1.5 A
Output	7.5 V DC 3.5 A

AC Adaptor (AD-S36120A-N)

Item	Details
Input	100 V to 240 V AC 50/60 Hz 1.2 A
Output	12 V DC 3.0 A

AC Adaptor (AD-S90190C-N5)

Item	Details
Input	100 V to 240 V AC 50/60 Hz 1.6 A
Output	19 V DC 4.74 A

Battery Pack (HA-M20BAT)

Item	Details
Rated Capacity	7000 mAh
Rated Voltage	3.7 V
Dimensions	Approximately 135 (W) × 94 (D) × 7 (H)mm ($5\frac{5}{16}$ "W × $3\frac{11}{16}$ "D × $\frac{1}{4}$ "H) (excluding projecting parts)
Weight	Approximately 160 g (5.6 oz)

Chapter 6

Appendix

Open Source Licenses

Apps That Use Licenses

App	License used
Paper Writer / Capture	OpenCV Release 2.4 libjpeg Version 6b libtiff Version 1.5 libpng Version 1.2.5
Paper Writer / Contacts	libjpeg Version 6b libtiff Version 1.5 libpng Version 1.2.5
Paper Writer / Finder	ZLIB/LIBPNG License
Barcode Scanner	Apache License Version 2.0

License Text List

OpenCV Release 2.4

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libjpeg Version 6b

The Independent JPEG Group's JPEG software

README for release 6b of 27-Mar-1998

This distribution contains the sixth public release of the Independent JPEG Group's free JPEG software. You are welcome to redistribute this software and to use it for any purpose, subject to the conditions under LEGAL ISSUES, below.

Serious users of this software (particularly those incorporating it into larger programs) should contact IJG at jpeg-info@uunet.uu.net to be added to our electronic mailing list. Mailing list members are notified of updates and have a chance to participate in technical discussions, etc.

This software is the work of Tom Lane, Philip Gladstone, Jim Boucher, Lee Crocker, Julian Minguillon, Luis Ortiz, George Phillips, Davide Rossi, Guido Vollbeding, Ge' Weijers, and other members of the Independent JPEG Group.

IJG is not affiliated with the official ISO JPEG standards committee.

DOCUMENTATION ROADMAP

This file contains the following sections:

OVERVIEW	General description of JPEG and the IJG software.
LEGAL ISSUES	Copyright, lack of warranty, terms of distribution.
REFERENCES	Where to learn more about JPEG.
ARCHIVE LOCATIONS	Where to find newer versions of this software.
RELATED SOFTWARE	Other stuff you should get.
FILE FORMAT WARS	Software *not* to get.
TO DO	Plans for future IJG releases.

Other documentation files in the distribution are:

User documentation:

install.doc	How to configure and install the IJG software.
usage.doc	Usage instructions for cjpeg, djpeg, jpegtran, rdjpgcom, and wrjpgcom.
*.1	Unix-style man pages for programs (same info as usage.doc).
wizard.doc	Advanced usage instructions for JPEG wizards only.
change.log	Version-to-version change highlights.

Programmer and internal documentation:

libjpeg.doc	How to use the JPEG library in your own programs.
example.c	Sample code for calling the JPEG library.
structure.doc	Overview of the JPEG library's internal structure.
filelist.doc	Road map of IJG files.
coderrules.doc	Coding style rules --- please read if you contribute code.

Please read at least the files install.doc and usage.doc. Useful information can also be found in the JPEG FAQ (Frequently Asked Questions) article. See ARCHIVE LOCATIONS below to find out where to obtain the FAQ article.

If you want to understand how the JPEG code works, we suggest reading one or more of the REFERENCES, then looking at the documentation files (in roughly the order listed) before diving into the code.

OVERVIEW

This package contains C software to implement JPEG image compression and decompression. JPEG (pronounced “jay-peg”) is a standardized compression method for full-color and gray-scale images. JPEG is intended for compressing “real-world” scenes; line drawings, cartoons and other non-realistic images are not its strong suit. JPEG is lossy, meaning that the output image is not exactly identical to the input image. Hence you must not use JPEG if you have to have identical output bits. However, on typical photographic images, very good compression levels can be obtained with no visible change, and remarkably high compression levels are possible if you can tolerate a low-quality image. For more details, see the references, or just experiment with various compression settings.

This software implements JPEG baseline, extended-sequential, and progressive compression processes. Provision is made for supporting all variants of these processes, although some uncommon parameter settings aren't implemented yet. For legal reasons, we are not distributing code for the arithmetic-coding variants of JPEG; see LEGAL ISSUES. We have made no provision for supporting the hierarchical or lossless processes defined in the standard.

We provide a set of library routines for reading and writing JPEG image files, plus two sample applications “cjpeg” and “djpeg”, which use the library to perform conversion between JPEG and some other popular image file formats. The library is intended to be reused in other applications.

In order to support file conversion and viewing software, we have included considerable functionality beyond the bare JPEG coding/decoding capability; for example, the color quantization modules are not strictly part of JPEG decoding, but they are essential for output to colormapped file formats or colormapped displays. These extra functions can be compiled out of the library if not required for a particular application. We have also included “jpegtran”, a utility for lossless transcoding between different JPEG processes, and “rdjpgcom” and “wrjpgcom”, two simple applications for inserting and extracting textual comments in JFIF files.

The emphasis in designing this software has been on achieving portability and flexibility, while also making it fast enough to be useful. In particular, the software is not intended to be read as a tutorial on JPEG. (See the REFERENCES section for introductory material.) Rather, it is intended to be reliable, portable, industrial-strength code. We do not claim to have achieved that goal in every aspect of the software, but we strive for it.

We welcome the use of this software as a component of commercial products. No royalty is required, but we do ask for an acknowledgement in product documentation, as described under LEGAL ISSUES.

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The Unix configuration script “configure” was produced with GNU Autoconf. It is copyright by the Free Software Foundation but is freely distributable. The same holds for its supporting scripts (config.guess, config.sub, ltconfig, ltmain.sh). Another support script, install-sh, is copyright by M.I.T. but is also freely distributable.

It appears that the arithmetic coding option of the JPEG spec is covered by patents owned by IBM, AT&T, and Mitsubishi. Hence arithmetic coding cannot legally be used without obtaining one or more licenses. For this reason, support for arithmetic coding has been removed from the free JPEG software. (Since arithmetic coding provides only a marginal gain over the unpatented Huffman mode, it is unlikely that very many implementations will support it.) So far as we are aware, there are no patent restrictions on the remaining code.

The IJG distribution formerly included code to read and write GIF files.

To avoid entanglement with the Unisys LZW patent, GIF reading support has been removed altogether, and the GIF writer has been simplified to produce “uncompressed GIFs”. This technique does not use the LZW algorithm; the resulting GIF files are larger than usual, but are readable by all standard GIF decoders.

We are required to state that

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REFERENCES

We highly recommend reading one or more of these references before trying to understand the innards of the JPEG software.

The best short technical introduction to the JPEG compression algorithm is

Wallace, Gregory K. “The JPEG Still Picture Compression Standard”,
Communications of the ACM, April 1991 (vol. 34 no. 4), pp. 30-44.

(Adjacent articles in that issue discuss MPEG motion picture compression, applications of JPEG, and related topics.) If you don’t have the CACM issue handy, a PostScript file containing a revised version of Wallace’s article is available at <ftp://ftp.uu.net/graphics/jpeg/wallace.ps.gz>. The file (actually a preprint for an article that appeared in IEEE Trans. Consumer Electronics) omits the sample images that appeared in CACM, but it includes corrections and some added material. Note: the Wallace article is copyright ACM and IEEE, and it may not be used for commercial purposes.

A somewhat less technical, more leisurely introduction to JPEG can be found in “The Data Compression Book” by Mark Nelson and Jean-loup Gailly, published by M&T Books (New York), 2nd ed. 1996, ISBN 1-55851-434-1. This book provides good explanations and example C code for a multitude of compression methods including JPEG. It is an excellent source if you are comfortable reading C code but don’t know much about data compression in general. The book’s JPEG sample code is far from industrial-strength, but when you are ready to look at a full implementation, you’ve got one here...

The best full description of JPEG is the textbook “JPEG Still Image Data Compression Standard” by William B. Pennebaker and Joan L. Mitchell, published by Van Nostrand Reinhold, 1993, ISBN 0-442-01272-1. Price US\$59.95, 638 pp.

The book includes the complete text of the ISO JPEG standards (DIS 10918-1 and draft DIS 10918-2). This is by far the most complete exposition of JPEG in existence, and we highly recommend it.

The JPEG standard itself is not available electronically; you must order a paper copy through ISO or ITU. (Unless you feel a need to own a certified official copy, we recommend buying the Pennebaker and Mitchell book instead; it’s much cheaper and includes a great deal of useful explanatory material.) In the USA, copies of the standard may be ordered from ANSI Sales at (212) 642-4900, or from Global Engineering Documents at (800) 854-7179. (ANSI doesn’t take credit card orders, but Global does.) It’s not cheap: as of 1992, ANSI was charging \$95 for Part 1 and \$47 for Part 2, plus 7% shipping/handling. The standard is divided into two parts, Part 1 being the actual specification, while Part 2 covers compliance testing methods. Part 1 is titled “Digital Compression and Coding of Continuous-tone Still Images, Part 1: Requirements and guidelines” and has document numbers ISO/IEC IS 10918-1, ITU-T T.81. Part 2 is titled “Digital Compression and Coding of Continuous-tone Still Images, Part 2: Compliance testing” and has document numbers ISO/IEC IS 10918-2, ITU-T T.83.

Some extensions to the original JPEG standard are defined in JPEG Part 3, a newer ISO standard numbered ISO/IEC IS 10918-3 and ITU-T T.84. IJG currently does not support any Part 3 extensions.

The JPEG standard does not specify all details of an interchangeable file format. For the omitted details we follow the “JFIF” conventions, revision 1.02. A copy of the JFIF spec is available from:

Literature Department
C-Cube Microsystems, Inc.
1778 McCarthy Blvd.
Milpitas, CA 95035
phone (408) 944-6300, fax (408) 944-6314

A PostScript version of this document is available by FTP at <ftp://ftp.uu.net/graphics/jpeg/jfif.ps.gz>. There is also a plain text version at <ftp://ftp.uu.net/graphics/jpeg/jfif.txt.gz>, but it is missing the figures.

The TIFF 6.0 file format specification can be obtained by FTP from <ftp://ftp.sgi.com/graphics/tiff/TIFF6.ps.gz>. The JPEG incorporation scheme found in the TIFF 6.0 spec of 3-June-92 has a number of serious problems. IJG does not recommend use of the TIFF 6.0 design (TIFF Compression tag 6). Instead, we recommend the JPEG design proposed by TIFF Technical Note #2 (Compression tag 7). Copies of this Note can be obtained from <ftp.sgi.com> or from <ftp://ftp.uu.net/graphics/jpeg/>. It is expected that the next revision of the TIFF spec will replace the 6.0 JPEG design with the Note's design. Although IJG's own code does not support TIFF/JPEG, the free libtiff library uses our library to implement TIFF/JPEG per the Note. libtiff is available from <ftp://ftp.sgi.com/graphics/tiff/>.

ARCHIVE LOCATIONS

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The "official" archive site for this software is <ftp.uu.net> (Internet address 192.48.96.9). The most recent released version can always be found there in directory <graphics/jpeg>. This particular version will be archived as <ftp://ftp.uu.net/graphics/jpeg/jpegsrc.v6b.tar.gz>. If you don't have direct Internet access, UUNET's archives are also available via UUCP; contact help@uunet.uu.net for information on retrieving files that way.

Numerous Internet sites maintain copies of the UUNET files. However, only <ftp.uu.net> is guaranteed to have the latest official version.

You can also obtain this software in DOS-compatible "zip" archive format from the SimTel archives (<ftp://ftp.simtel.net/pub/simtelnet/msdos/graphics/>), or on CompuServe in the Graphics Support forum (GO CIS:GRAPHSUP), library 12 "JPEG Tools". Again, these versions may sometimes lag behind the <ftp.uu.net> release.

The JPEG FAQ (Frequently Asked Questions) article is a useful source of general information about JPEG. It is updated constantly and therefore is not included in this distribution. The FAQ is posted every two weeks to Usenet newsgroups <comp.graphics.misc>, <news.answers>, and other groups.

It is available on the World Wide Web at <http://www.faqs.org/faqs/jpeg-faq/> and other <news.answers> archive sites, including the official <news.answers> archive at <rtfm.mit.edu>: <ftp://rtfm.mit.edu/pub/usenet/news.answers/jpeg-faq/>.

If you don't have Web or FTP access, send e-mail to mail-server@rtfm.mit.edu with body
send [usenet/news.answers/jpeg-faq/part1](news.answers/jpeg-faq/part1)
send [usenet/news.answers/jpeg-faq/part2](news.answers/jpeg-faq/part2)

RELATED SOFTWARE

Numerous viewing and image manipulation programs now support JPEG. (Quite a few of them use this library to do so.) The JPEG FAQ described above lists some of the more popular free and shareware viewers, and tells where to obtain them on Internet.

If you are on a Unix machine, we highly recommend Jef Poskanzer's free PBMPLUS software, which provides many useful operations on PPM-format image files. In particular, it can convert PPM images to and from a wide range of other formats, thus making `cjpeg/djpeg` considerably more useful. The latest version is distributed by the NetPBM group, and is available from numerous sites, notably <ftp://wuarchive.wustl.edu/graphics/graphics/packages/NetPBM/>. Unfortunately PBMPLUS/NETPBM is not nearly as portable as the IJG software is; you are likely to have difficulty making it work on any non-Unix machine.

A different free JPEG implementation, written by the PVRG group at Stanford, is available from <ftp://havefun.stanford.edu/pub/jpeg/>. This program is designed for research and experimentation rather than production use; it is slower, harder to use, and less portable than the IJG code, but it is easier to read and modify. Also, the PVRG code supports lossless JPEG, which we do not. (On the other hand, it doesn't do progressive JPEG.)

FILE FORMAT WARS

Some JPEG programs produce files that are not compatible with our library. The root of the problem is that the ISO JPEG committee failed to specify a concrete file format. Some vendors "filled in the blanks" on their own, creating proprietary formats that no one else could read. (For example, none of the early commercial JPEG implementations for the Macintosh were able to exchange compressed files.)

The file format we have adopted is called JFIF (see REFERENCES). This format has been agreed to by a number of major commercial JPEG vendors, and it has become the de facto standard. JFIF is a minimal or "low end" representation. We recommend the use of TIFF/JPEG (TIFF revision 6.0 as modified by TIFF Technical Note #2) for "high end" applications that need to record a lot of additional data about an image. TIFF/JPEG is fairly new and not yet widely supported, unfortunately.

The upcoming JPEG Part 3 standard defines a file format called SPIFF. SPIFF is interoperable with JFIF, in the sense that most JFIF decoders should be able to read the most common variant of SPIFF. SPIFF has some technical advantages over JFIF, but its major claim to fame is simply that it is an official standard rather than an informal one. At this point it is unclear whether SPIFF will supersede JFIF or whether JFIF will remain the de-facto standard. IJG intends to support SPIFF once the standard is frozen, but we have not decided whether it should become our default output format or not. (In any case, our decoder will remain capable of reading JFIF indefinitely.)

Various proprietary file formats incorporating JPEG compression also exist. We have little or no sympathy for the existence of these formats. Indeed, one of the original reasons for developing this free software was to help force convergence on common, open format standards for JPEG files. Don't use a proprietary file format!

TO DO

=====

The major thrust for v7 will probably be improvement of visual quality. The current method for scaling the quantization tables is known not to be very good at low Q values. We also intend to investigate block boundary smoothing, "poor man's variable quantization", and other means of improving quality-vs-file-size performance without sacrificing compatibility.

In future versions, we are considering supporting some of the upcoming JPEG Part 3 extensions --- principally, variable quantization and the SPIFF file format.

As always, speeding things up is of great interest.

Please send bug reports, offers of help, etc. to jpeg-info@uunet.uu.net.

libtiff Version 1.5

\$Header: /cvs/maptools/cvsroot/libtiff/README,v 1.5 2004/10/30 13:44:45 dron Exp \$

TIFF Software Distribution

This file is just a placeholder; all the documentation is now in HTML in the html directory. To view the documentation point your favorite WWW viewer at html/index.html; e.g.

 netscape html/index.html

If you don't have an HTML viewer then you can read the HTML source or fetch a PostScript version of this documentation from the directory

<ftp://ftp.remotesensing.org/pub/libtiff/>

If you can't hack either of these options then basically what you want to do is:

```
% ./configure
% make
% su
# make install
```

More information, email contacts, and mailing list information can be found online at <http://www.remotesensing.org/libtiff/>.

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A “png_get_copyright” function is available, for convenient use in “about” boxes and the like:

```
printf(“%s”,png_get_copyright(NULL));
```

Also, the PNG logo (in PNG format, of course) is supplied in the files “pngbar.png” and “pngbar.jpg (88x31) and “pngnow.png” (98x31).

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Glenn Randers-Pehrson
glennrp at users.sourceforge.net
May 15, 2007

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