PA-501

User's Manual

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About This Manual

The PA-501 User's Manual provides instruction for qualified personnel to follow when setting up a new PA-501 device.

This document is intended for use by qualified personnel to compliment the training and expertise, not to replace it.

Related Information

Current information and manuals are available for download at the following website:

http://www.ruggon.com

Conventions

Bolded or underlined text is used to emphasize the designated information.

A Note is used to provide additional information for the device or settings.

A Caution is used to warn against potential hazards or to caution against unsafe practices.

A Warning is used to identify immediate hazards for property damage, injury or death.

Basic Safety Guidelines

The following safety guidelines are intended to help protect the user from injury and prevent damage to the hardware.

- Do not place anything on the AC adapters power cable and make sure the cable is not located where it can be tripped over or stepped on.
- Do not cover the AC adaptor as it reduces the cooling
- Do not use the AC adapter while it is inside the carrying case.
- Use only the AC adapter, power cord, and batteries that are approved for use with the device. Use of another type of battery or AC adapter may cause risk of fire or explosion.
- If you use an extension cable with the AC adapter, ensure that the total ampere rating of all products plugged in to the extension cable does not exceed the ampere rating of the extension cable.
- If the device is moved between environments with very different temperature and/ or humidity ranges, condensation may form on or within the device. Avoid damaging the device by allowing sufficient time for the moisture to evaporate before using the device.
- When disconnecting cables, pull on the connector or on its strain relief loop, not on the cable itself. When pulling out or plugging in the connector, keep it evenly aligned to prevent bending the connector pins.

Intended Use

The PA-501 rugged tablet is equipped with multi-functional terminals for stationary and mobile applications in industrial environments such as logistics, warehousing, fleet management, manufacturing and the automotive industry.

Read the safety guidelines thoroughly before starting any servicing on the device. Read the guidelines before powering up the device, and keep this document for later use.

The operator is solely responsible for any damage resulting from unauthorized modifications to the device.

Unintended Application Use

The device is not designed for use in life-support systems or critical safety/security systems where system malfunction can lead to the direct or indirect endangerment of human life. The operator is fully responsible for using the device in these situations.

Maintenance and Operation Overview

The PA-501 is designed and manufactured according to strict controls and following the stated safety regulations. The following list identifies incorrect operating uses of the PA-501. Incorrect use of the PA-501 can lead to hardware damage, safety issues and possible risk to personnel health:

- The PA-501 is under operation by untrained personnel;
- The PA-501 is not maintained as recommended;
- The PA-501 is not used as intended.

Safety

To prevent injury and damage, read the following safety guidelines prior to operating the device. The manufacturer assumes no liability for any and all damages arising from misuse or noncompliance with these guidelines.

Electrical Hazards

Cleaning/Servicing: Power Off the PA-501

- Disconnect the PA-501 from power before cleaning or servicing it.

Power Adapter

Contact an authorized service personnel for repairs to the power pack. In the event of a blown fuse after replacing the fuse, contact an authorized service personnel to avoid electrical shock.

Use only Supplied Power Cables

RuggON power cables meet industrial requirements for low-temperature flexibility, UV resistance, and oil resistance. Use only supplied power cables from RuggON.

If other power cables are used, the following may apply:

- The operator is solely responsible for the resulting damage;
- All RuggON warranties are void.

Environmental Hazards

Do not use the PA-501 in locations near/with flammable gases or vapor.

The use of electrical equipment in explosive environments can be dangerous.

- Turn off the device when near a gas station, fuel depot, chemical plant or a place where blasting operations take place.

Environmental

Ambient Temperature

The PA-501 operates on the basis of a passive cooling concept which internal waste heat is released via the housing surface and requires fresh airflow in the environment.

- Operating the PA-501 with no fresh cooling air may cause overheating and damage to the device.
- The operating environment should not be enclosed to prevent the cool air being heated by the heat waste from the device.

Connecting and Disconnecting External Devices

To prevent the considerable damage, the PA-501 and the external device should be disconnected from power when connecting/disconnecting excluding USB devices.

Only Use Authorized Accessories

Only use the supplied cables, power packs and other accessories that have been tested and approved by RuggON. Contact your local distributor for further information.

Radio Transmissions

Permitted Transmission Power

Follow the national regulations for the maximum permitted transmission power.

The operator is solely responsible for this type of operation.

Radio Frequency Limited Locations

Considering the radio frequency limitation in hospitals and aircraft, the PA-501 can only be installed with permission.

Industrial computers may affect the function of implanted medical devices such as pacemakers and may cause malfunction.

Cleaning and Servicing

- Disconnect the PA-501 from power before cleaning or servicing.
- Never clean the PA-501 with compressed air, a pressure washer or a vacuum cleaner.
- If necessary, clean the housing of the PA-501 with a damp cloth.
- Clean the touch-screen with a nonabrasive cloth.

Regulatory and Certification

FCC

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

This device is slave equipment; the device is not radar detection and not ad-hoc operation in the DFS band.

Labeling Requirements

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

RF Exposure Information (SAR)

This device meets the government's requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.

The exposure standard employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6 W/kg. Tests for SAR are conducted using standard operating positions accepted by the FCC with the EUT transmitting at the specified power level in different channels.

The highest SAR value for the device as reported to the FCC is **0.23** W/kg when placed next to the body.

CE Marking

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables. Please contact your local representative for ordering information.

This product has passed the CE test for environmental specifications. Test conditions for passing included the equipment being operated within an industrial enclosure. In order to protect the product from being damaged by ESD (Electrostatic Discharge) and EMI leakage, we strongly recommend the use of CE-compliant industrial enclosure products.

R&TTE

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC.

CB

This device complies with the IEC 60950-1:2005+A1.

Lithium Battery Safety Statement

Lithium battery inside. Danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by battery manufacturer.

Chapter 1. Introduction

The PA-501 is a rugged tablet PC based on the TI® OMAP Platform (OMAP4470) processor core architecture. This high-performance tablet features a bright 10.1” LED-backlit LCD display and runs on Google® Android® operating system.

The PA-501 has been engineered and tested to meet Military Standards for Environmental Extremes (MIL- STD- 810G). The following features make it exceptionally rugged, durable and ideal for the rigors of field work:

- Android 4.2 JB operating system
- Complies with the highest rugged standards in the market
  - IP65: water- and dust-proof
  - MIL-STD-810G: temperature, thermal shocks, relative humidity, vibration, drop, altitude
  - 5-feet drop resistance
- Fully integrated communication
  - WLAN 802.11 a/b/g/n
  - Bluetooth V4.0
- Dual camera
  - 1.2 MP front camera for HD video conferencing
  - 5 MP AF rear camera with LED flash

About This Guide

The PA-501 User Manual provides instruction for qualified personnel to use as a guide for setup of the device. This document is not intended to replace the training and expertise of the end-user.

Unpacking the Device

Before you begin the installation or configuration process make sure to inspect all components and accessories. Contact your representative if there are any missing or damaged items. See *“Contacting RuggON”* on page 42.

Technical Specifications

Table 1. Technical Specifications

Item	Description
Display	10.1-inch LED Backlight, 1920 (W) x 1200 (H) WUXGA
Touch screen	5-point capacitive touch screen
Brightness	1000 nits
CPU	TI® Dual Core Cortex A9 OMAP4470 1.5 GHz
Operating System	Android™ 4.2
RAM	2 GB LPDDR2
Storage	eMMC 32 GB (optional: 64 GB)

Item	Description
Battery	„ Standard hot swappable battery: 10.8V, 4500mAh, Li-polymer „ Extended hot swappable battery: 10.8V, 9000mAh, Li-polymer (optional)
Power Supply	AC 100V ~ 240V, 50~60Hz input; 19VDC@3.42A, 65W
Dimensions (W x H x L)	280 mm (11”) x 23 mm (0.9”) x 195 mm (7.7”)
Weight	1.32 kg (2.9 lbs)
Wireless	
WLAN	Wi-Fi IEEE 802.11 a/b/g/n
Bluetooth	Bluetooth V4.0
Sensor	
Sensor	Gyroscope, G Sensor, E-compass, Light Sensor
I/O	
Docking Connector	12-pin
DC-IN Jack	x1
Micro SIM Card Slot	x1
MicroSD Slot	x1
Audio Jack	x1; headphone / microphone combo
Micro USB	x1
USB 2.0	x1; type A
RS-232	x1
Micro HDMI	x1
Ethernet	x1
Data Collection	
Camera	„ Front: 1.2 Mega-Pixels camera „ Rear: 5.0 Mega-Pixels camera with LED auxiliary light and Auto-focus
GNSS	YES
NFC	YES
Barcode Reader	Optional
Smart Card Reader	Optional

Item	Description
Rugged Specifications	
Drop	153 cm (5 feet), 26 drops on plywood
MIL-STD 810G	„ Vibration (MIL-STD-810G Method 514.6 Category 4, Fig 514.6C-1, Fig 514.6C-2, Fig 514.6C-3) „ Drop (MIL-STD-810G Method 516.6 Procedure IV) „ Mechanical shock (MIL-STD-810G Method 516.6 Procedure I, Procedure V) „ Operation and storage temperature (MIL-STD-810G Method 501.5 and 502.5) „ Humidity MIL-STD-810G Method 507.5 Humidity Procedure II Aggravated Cycles (Fig 507.5-7)
IP rating	IP65
Operating Temperature Range	-20°C (-4°F) to 60°C (140°F)
Storage Temperature Range	-30°C (-22°F) to 70°C (158°F)
Humidity	5-95% without condensation

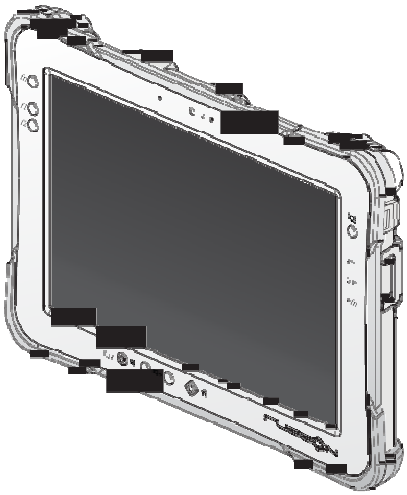
PA-501 Configuration Options

The following options are available for the PA-501:

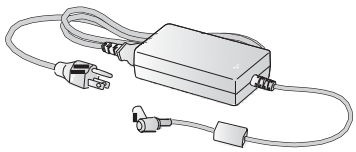
- NFC module
- Barcode reader
- Smart card reader
- High capacity battery

Parts List

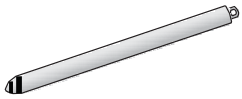
The PA-501 is shipped with the following items. All other accessories are sold and ordered separately. For help, contact your local RuggON sales representative. See *“Contacting RuggON”* on page 42.



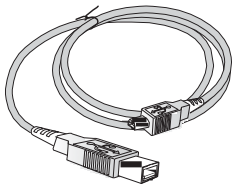
PA-501



Power Adapter

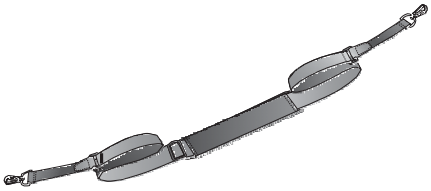


Stylus

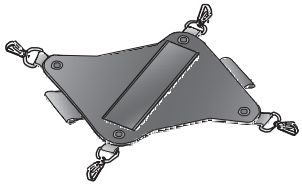


Micro USB cable

2-Point Carrying Handle



2-Point Shoulder Strap



4-Point Handstrap

Hitch D-rings
(Attaching straps)

Identifying the Device

Overview

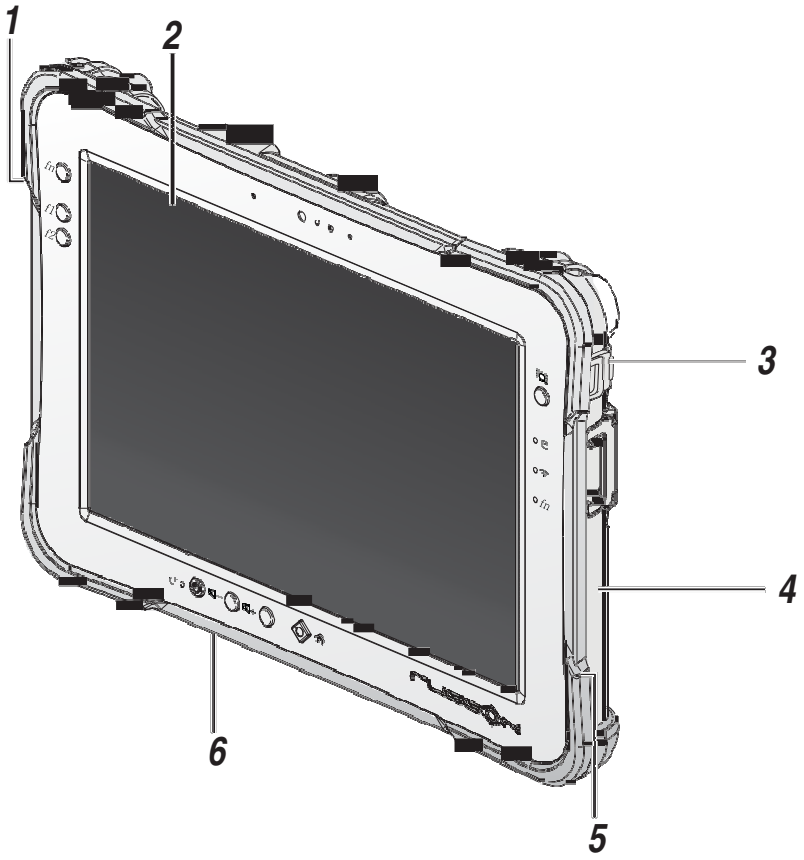


Figure 1. Overview

Table 2. Overview

No	Item	Description
1	Left view	See *"Side View"* on page 14 for further information.
2	Front view	See *"Front View"* on page 12 for further information.
3	Rear view	See *"Rear View"* on page 15 for further information.
4	Right view	See *"Side View"* on page 14 for further information.
5	Rubber bumpers	Easy to grip rubber bumpers enable the rugged tablet to withstand shocks and drop for use in demanding environments.
6	Bottom view	See *"Bottom View"* on page 13 for further information.

Front View

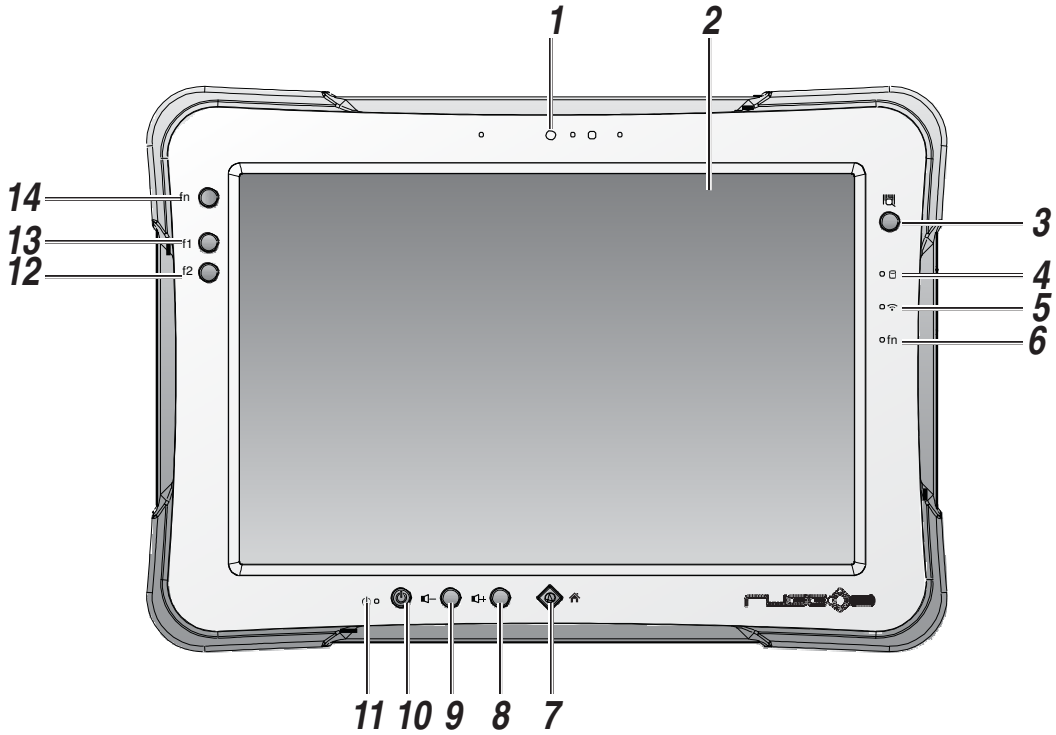


Figure 2. Front View

Table 3. Front View

No	Item	Description
1	Front camera	1.2 Mega-Pixels camera.
2	Touch screen	5-point capacitive touch.
3	Barcode trigger	„ Press to activate scan function when barcode scanner is installed. „ User programmable key if barcode scanner is not installed.
4	Battery LED	Display battery status, see *"LED Status"* on page 13.
5	Wi-Fi LED	The Wi-Fi LED lights to indicate Wi-Fi is enabled.
6	FN LED	The FN LED lights when the function switch on.
7	Home key	Android home key.
8	Volume +	Volume increase.
9	Volume -	Volume decrease.
10	Power key	Turns the PA-501 on or off.
11	Power LED	The power LED lights when the device is on.
12	F2 key	Programmable function key.
13	F1 key	Programmable function key.
14	FN key	Select second set of functions for F1 and F2 keys.

LED Status

Table 4. LED Status

Item	Status	Description
Power	Green: On	Power on
	Off	Power off
Battery	Green: On	Fully charged
	Amber: On	Charging
	Amber: Blinking	Low power < 15%
	Off	Not charging / no battery
FN	Blue: On	FN function switch on
	Blue: Off	FN function switch off
Wi-Fi	Blue: On	Wi-Fi on
	Blue: Off	Wi-Fi off

Bottom View

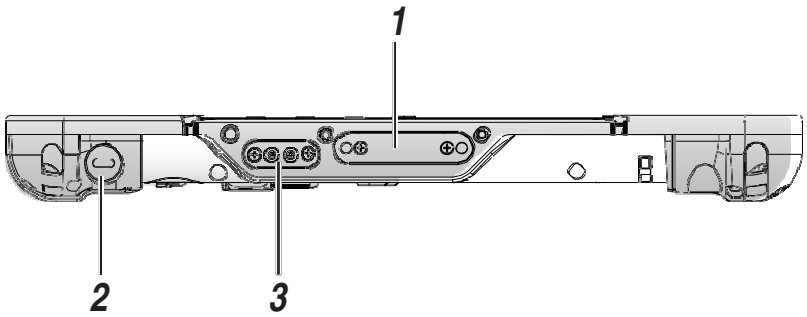


Figure 3. Bottom View

Table 5. Bottom View

No	Item	Description
1	Docking connector	12 pin connector for docking onto a station.
2	Kensington lock	Lock the PA-501 to a stationary object for security.
3	Pass-through	Dual pass-through for WLAN and GNSS

Side View

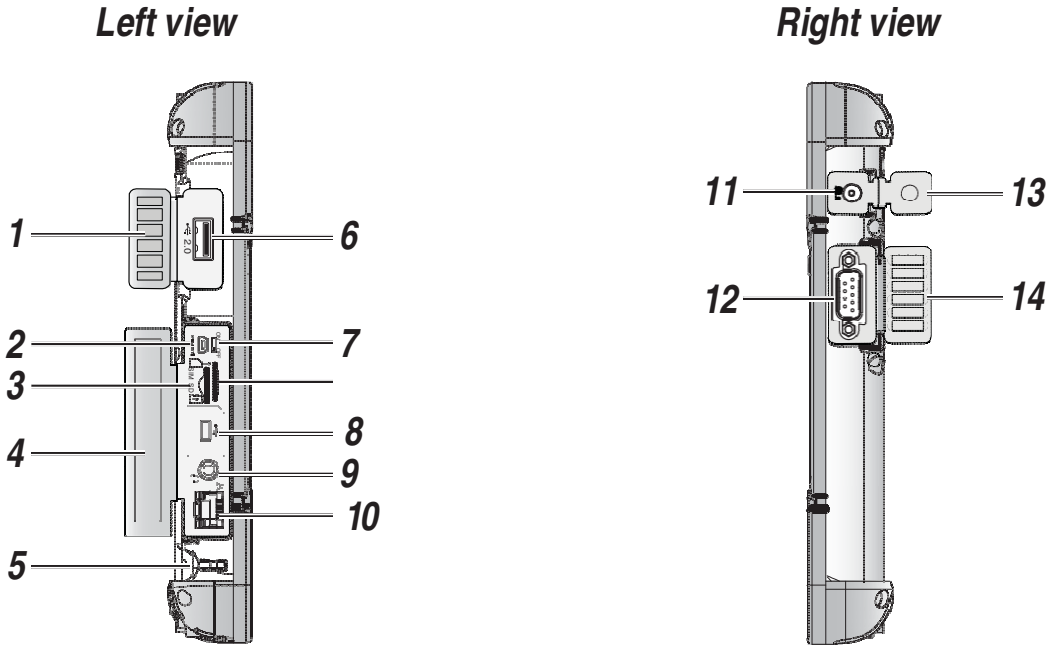


Figure 4. Side Views

Table 6. Side View

No	Item	Description
1	Left I/O compartment cover	Open to access the USB 2.0 port.
2	Micro HDMI	Connect HDMI devices to the PA-501.
3	MicroSD slot	Insert microSD card in to slot.
4	Left I/O compartment cover	Open to access the left I/O ports.
5	Tether hole	Stylus can be tethered to it.
6	USB 2.0	Connect USB devices to the PA-501.
7	Battery switch	Switch to ON to provide power from the backup battery.
8	Micro USB	Connect computer for data synchronization.
9	Audio jack	Connect a 3.5 mm jack for a headphone or external speakers.
10	Ethernet	Connect the PA-501 to an Ethernet (RJ-45) cable.
11	DC-IN jack	Insert power connector to charge battery.
12	RS-232	Connect the PA-501 to a serial device.
13	DC-IN cover	Open to access the DC-IN jack.
14	Right I/O compartment cover	Open to access the right I/O port.

Rear View

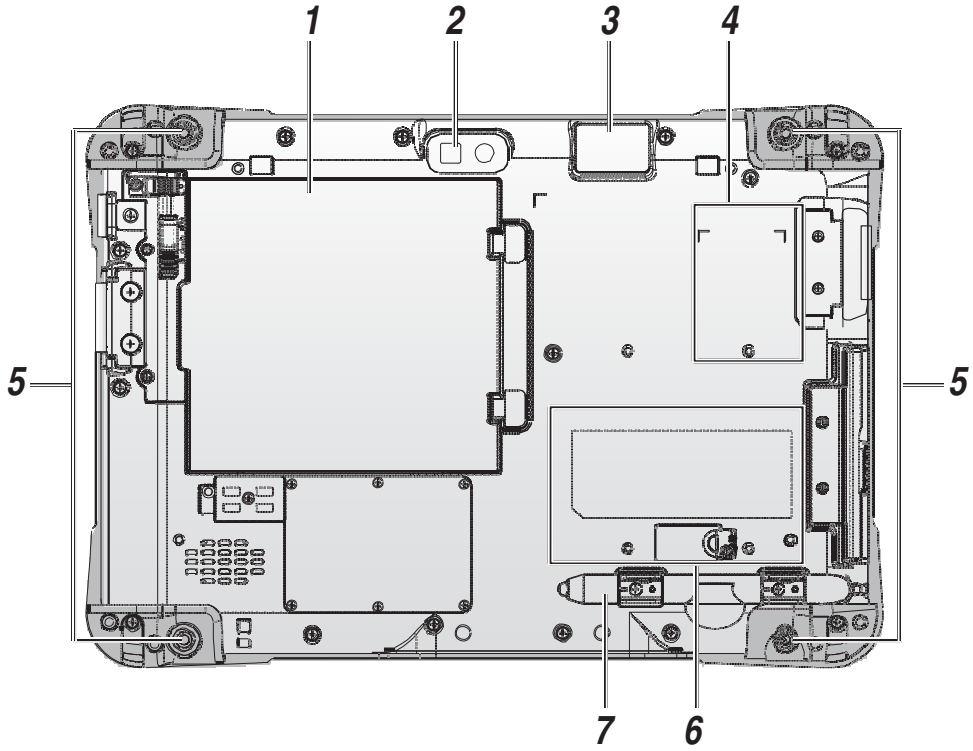


Figure 5. Rear View

Table 7. Rear View

No	Item	Description
1	Battery	To install a battery, an extender battery is optional.
2	Rear camera	5.0 Mega-Pixels camera with LED auxiliary light.
3	Barcode reader	For installing a barcode reader. (Optional)
4	NFC sensing area	For detecting NFC devices. (Optional)
5	Securing holes	Secure the bumpers and the D-rings for the handstrap and shoulder strap.
6	Expansion bay	Remove the cover to find the expansion accessory connector.
7	Stylus holder	Place stylus here.

Dimensions

The following image lists the device dimensions without add-ons (mm/inches).

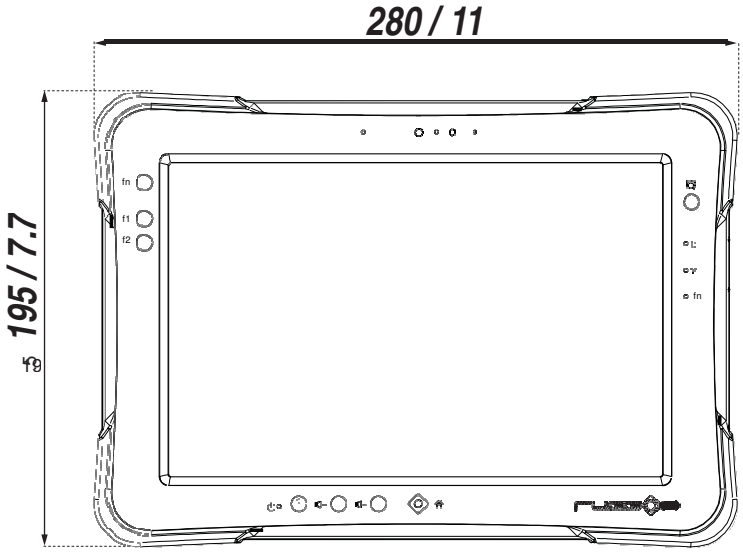


Figure 6. Front View Dimensions

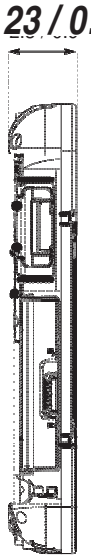


Figure 7. Side View Dimensions

Touch Screen Features

Always use the point of the stylus for clicking or making strokes on the touch screen.

Never use an actual pen, pencil, or sharp/abrasive object on the touch screen.

The stylus is used as if it were a pen or pencil. Touch the screen with the tip of the stylus then remove the stylus from the screen.

After each use, replace the stylus in the stylus holder for proper care and to preserve the life of the stylus.

Using a stylus is similar to moving the mouse pointer then left-clicking icons on a desktop computer screen.

The following actions are available through the use of the stylus:

- Open applications
- Choose commands in menu
- Select options in dialog box or drop-down menu
- Drag the scroll bar
- Drag across the text to select content
- Place the cursor in a text box before typing

A long click (LongTouch) is a gesture in Android mobile devices. A long click is generated when an item is pressed for a few seconds. Long clicks on applications allows you to move them to the desktop.

A stylus replacement kit is available.

To prevent damage or malfunction, always dry the touch screen when wet.

Chapter 2. Getting Started

This section provides an outline of the steps necessary to setup a new PA-501. A detailed guide follows the listed items, see as follows.

For additional technical assistance, contact your RuggON representative. See *"Contacting RuggON"* on page 42.

It is recommended to installing or remove accessories on a clean, well-lit work surface. To protect yourself and the device from electrostatic discharge, wear anti-static wrist straps or place the device on an anti-static mat.

First Time Use

1. Open the left I/O compartment cover. See *"Opening the I/O Compartment Cover"* on page 25.
2. Slide the switch to the ON position.

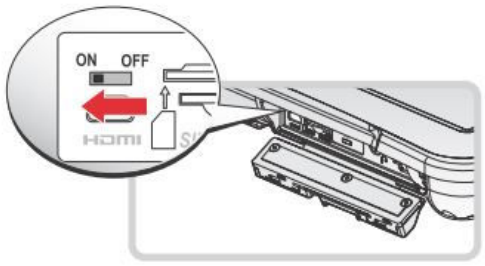


Figure 8. Switching the Battery Switch

3. Close the left I/O compartment cover. See *"Closing the I/O Compartment Cover"* on page 26.

Charging the Battery

When you use the AC adapter to connect your PA-501 to a power outlet, the main battery (hot-swappable) automatically begins to recharge.

While the battery is charging, the Battery LED is active. When the battery is fully charged, the Battery LED lights a solid green.

1. Flip open the DC-IN cover to expose the DC-IN jack.

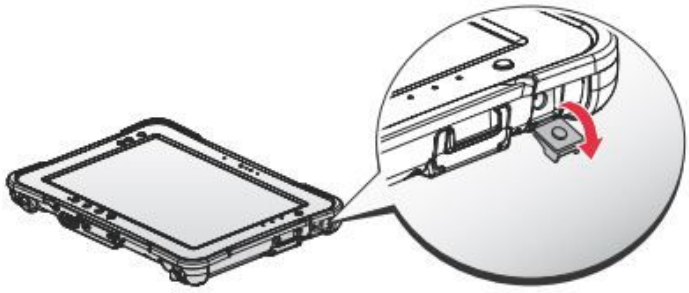


Figure 9. Opening the DC-IN Cover

2. Connect the AC adapter to the DC-IN port.

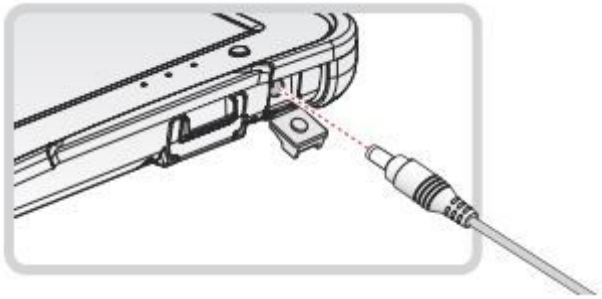


Figure 10. Connecting the AC Adapter

After charging the battery, disconnect the AC adapter and close the DC-IN cover.

1. Insert one end of the cover first and angle the cover to seat it in place.
2. Push in the cover to seal the DC-IN compartment.

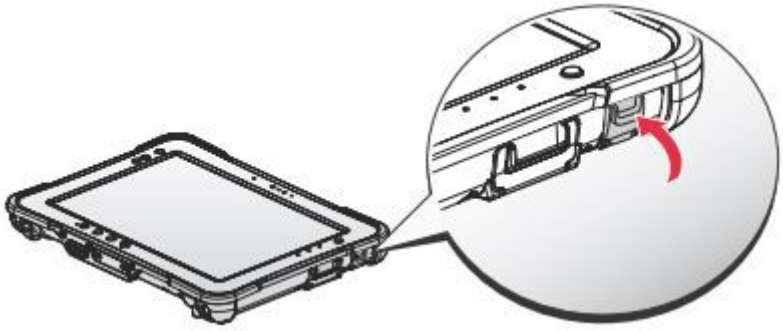


Figure 11. Closing the DC-IN Cover

The DC-IN cover must be inserted correctly to prevent internal damage to the device.

Powering the Device On and Off

Powering On the Device

Only power on the PA-501 after connecting all of the peripherals and cabling.

1. Press and hold the power button until the screen lights. The device runs through the start up sequence and powers up.

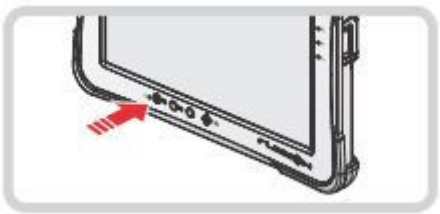


Figure 12. Power On the PA-501

Powering Off the Device

1. Press and hold the power key until the Power Off prompt displays.

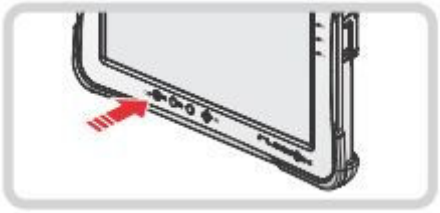


Figure 13. Press the Power Key

2. Tap **OK** to power off the PA-501.

Installing the MicroSD Card

The device supports microSD card for easier data storage.

1. Open the left I/O compartment cover. See *"Opening the I/O Compartment Cover"* on page 25.
2. Locate the microSD slot in the left I/O parts.

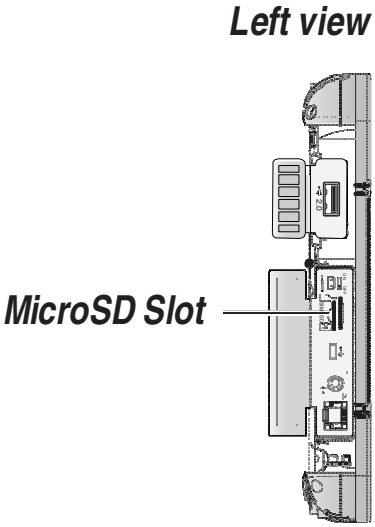


Figure 14. Left View: Locating the MicroSD Slot

3. The microSD card has a corner missing. Align the microSD card with the slot making sure that the corners match.
4. Insert the microSD card and press it in until an audible click sounds.

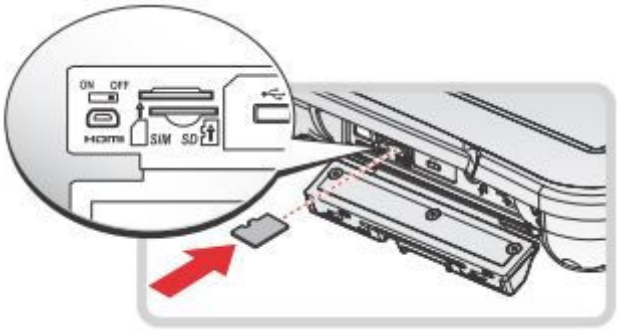


Figure 15. Installing the MicroSD Card

5. Close the left I/O compartment cover. See *"Closing the I/O Compartment Cover"* on page 26.

Removing the MicroSD Card

1. Open the left I/O compartment cover. See *"Opening the I/O Compartment Cover"* on page 25.
2. Locate the microSD slot in the left I/O parts.

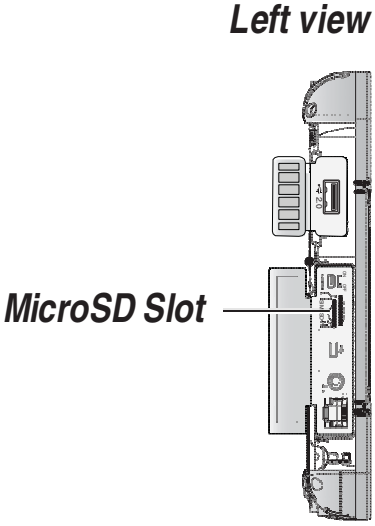


Figure 16. Left View: Locating the MicroSD Slot

3. Press the microSD card in and release it. The card springs out.
4. Grasp the microSD card and remove it from the slot.

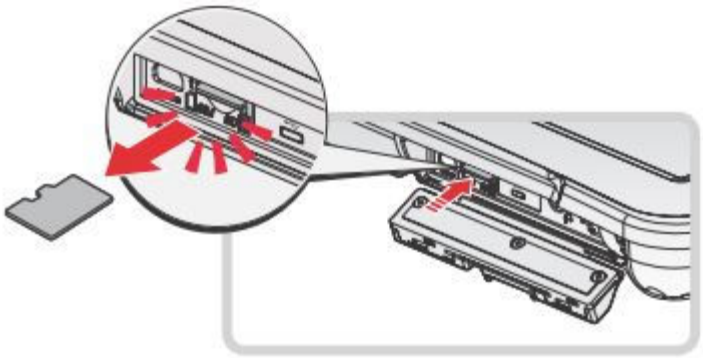


Figure 17. Removing the MicroSD Card

5. Close the left I/O compartment cover. See *"Closing the I/O Compartment Cover"* on page 26.

Using the Stylus

Following the information below when using a stylus:

- Use only the included stylus to touch the screen. Do not place any objects on its surface and do not use sharp-pointed or hard objects that may leave marks, for example: nails, pencils and ball point pens.
- Use the stylus only for touching the screen. Using it for any other purpose may damage the stylus and result in scratches on the screen.
- The pointer cannot follow the stylus movement if you move the stylus too quickly.

To make a selection, tap the screen once with the stylus. To double-click, tap twice without pausing. To do a long click, tap the screen and hold it for a few seconds.

Removing the Protective Film from the Display

The front display of the PA-501 is protected during transport by a transparent film. This film should remain on the front display during assembly to avoid damage to the front display surface.

Only remove the film once all of the assembly work has been completed.

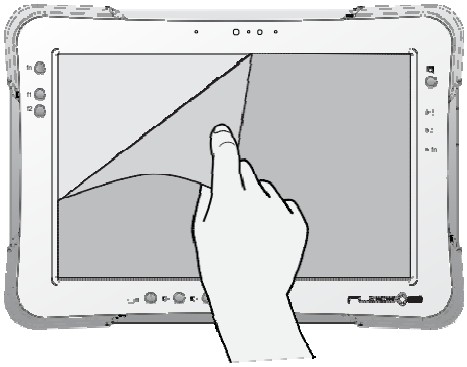


Figure 18. Removing the Protective Film

Chapter 3. Operation

Opening the I/O Compartment Cover

1. Place the device display side down on a clean work surface.
2. Locate the I/O compartment cover.

Figure 19. Side View: Locating the I/O Compartment Cover

3. Unlock the latch. (Only available for the left I/O compartment cover)

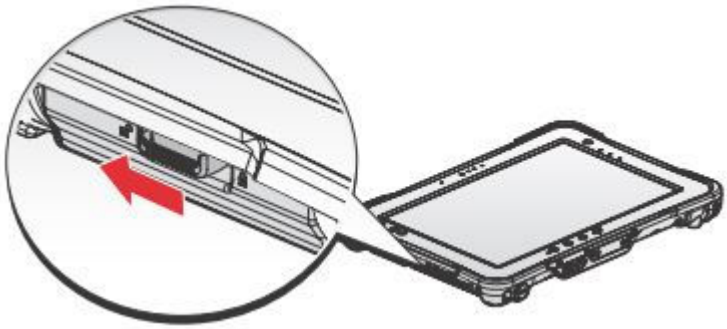


Figure 20. Unlocking the Latch

4. Pull out the I/O compartment cover.

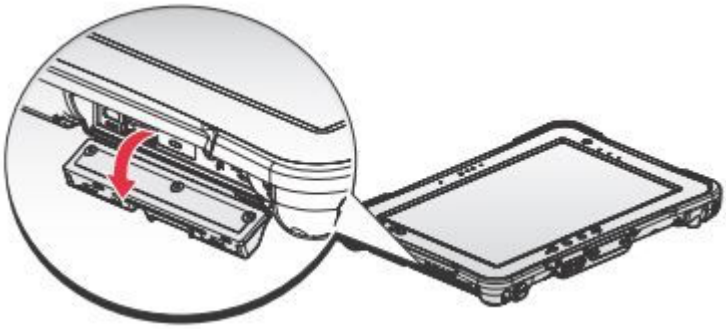


Figure 21. Openin the I/O Compartment Cover

Closing the I/O Compartment Cover

1. Place the device display side down on a clean work surface.
2. Locate the I/O compartment cover.

Figure 22. Side View: Locating the I/O Compartment Cover

3. Flip the I/O compartment cover and install.

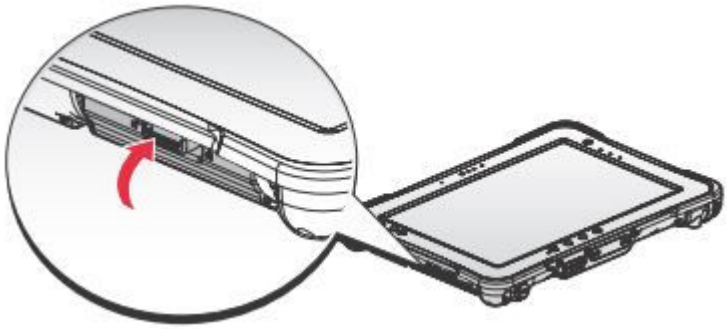


Figure 23. Installing the I/O Compartment Cover

4. Lock the latch. (Only available for the left I/O compartment cover)

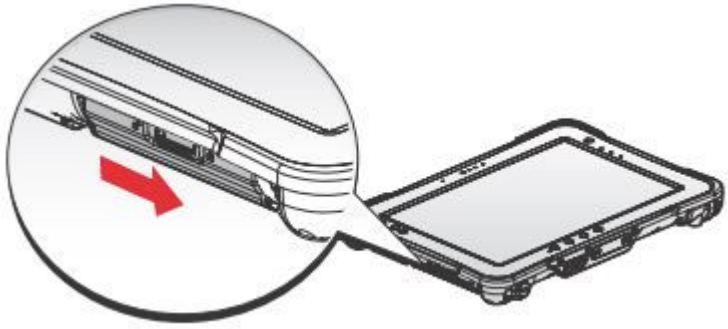


Figure 24. Locking the Latch

The I/O compartment cover must be inserted correctly to prevent internal damage to the device.

Connecting to External Cabling

To prevent damage to the device, connect all cabling and accessories before powering up the device.

Connect USB Cabling

The PA-501 have one micro USB and one USB 2.0 ports for connecting USB devices, such as a digital camera, scanner, printer, modem, and mouse. The USB ports support USB 2.0 devices.

1. Open the left I/O compartment cover. See *"Opening the I/O Compartment Cover"* on page 25.
2. Connect to USB device via USB cable.

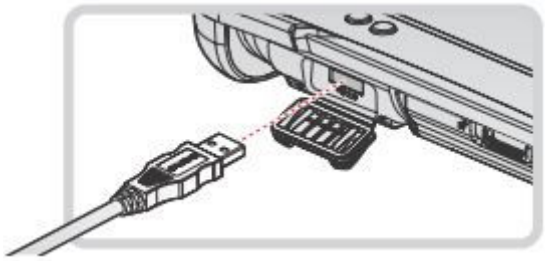


Figure 25. Connect USB 2.0 Cabling

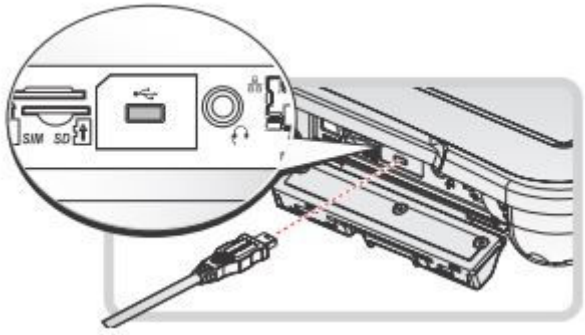


Figure 26. Connect Micro USB Cabling

Connect Ethernet Cabling

The PA-501 provide have a Ethernet port for connecting Ethernet.

Use a shielded cable is required to maintain emissions and susceptibility compliance.

1. Open the left I/O compartment cover. See *"Opening the I/O Compartment Cover"* on page 25.
2. Connect LAN cable to Ethernet port on the PA-501.

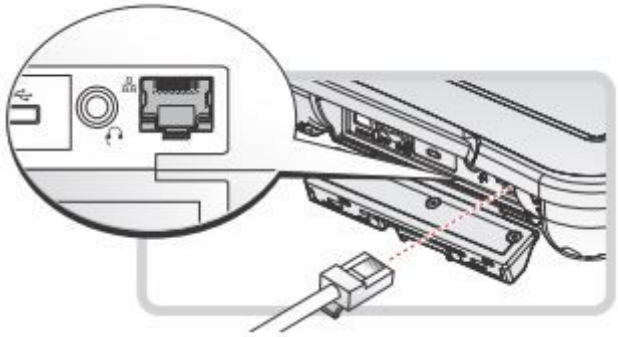


Figure 27. Connect Ethernet cabling

Connect Audio Cabling

For higher audio quality, you can send sound through external audio devices such as speakers, headphones, or earphone using audio connector.

1. Open the left I/O compartment cover. See *"Opening the I/O Compartment Cover"* on page 25.
2. Connect the audio cable.

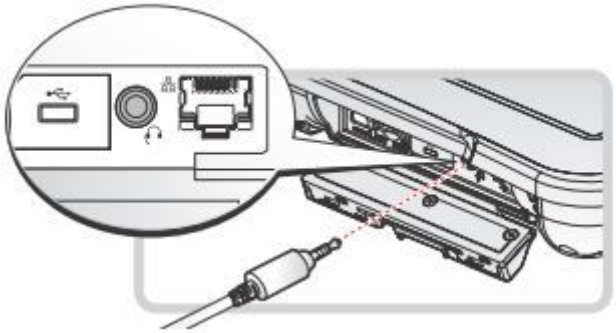


Figure 28. Connect Audio Cabling

Connect Micro HDMI Cabling

Connect to HDMI devices via micro HDMI cable.

1. Open the left I/O compartment cover. See *"Opening the I/O Compartment Cover"* on page 25.
2. Connect micro HDMI cable to micro HDMI port on the PA-501.

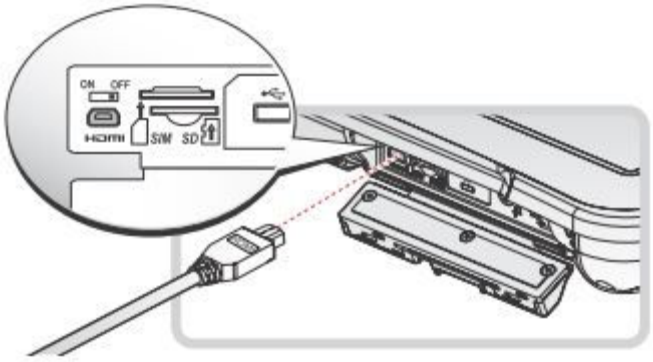


Figure 29. Connect Micro HDMI Cabling

Connect RS-232 Cabling

Connect to RS-232 devices via RS-232 cable.

1. Open the right I/O compartment cover. See *"Opening the I/O Compartment Cover"* on page 25.
2. Align the RS-232 cable with the port in the device and connect it.
3. Turn the locking screws on the cable to secure it to the device.

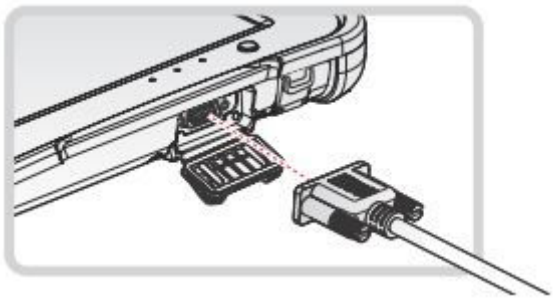


Figure 30. Connect RS-232 Cabling

Handstrap, Carrying Handle and Shoulder Strap

The PA-501 is equipped with a handstrap, a carrying handle and a shoulder strap for convenience and choice. Select the accessory that is right for your needs.

The handstrap can be installed with either the shoulder strap or the carrying handle. However, the handle and shoulder strap can not be installed together due to space constraints.

For more information, see *"Connecting the Handstrap"* on page 30, *"Connecting the Carrying Handle"* on page 32 and *"Connecting the Shoulder Strap"* on page 33.

Connecting the Handstrap

1. Remove the screws securing the bumpers.

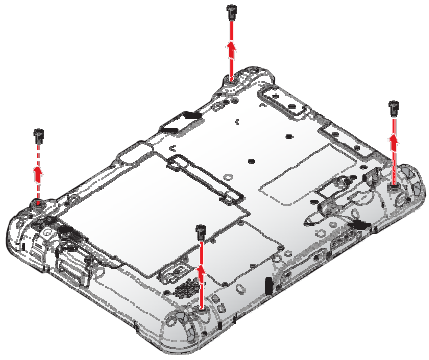


Figure 31. Removing the Screws

2. Install the D-rings.

Make sure the D-rings are tightly secured before installing the handstrap.

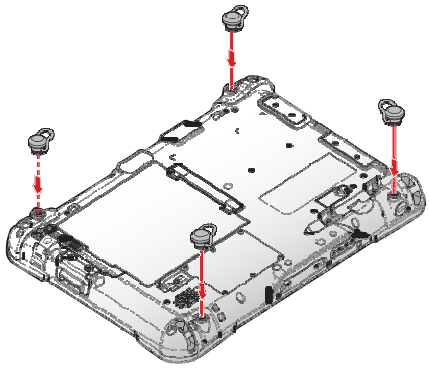


Figure 32. Installing the D-rings

3. Connect the handstrap on the D-rings.

When the handstrap is installed, the stylus can be placed under the strap.

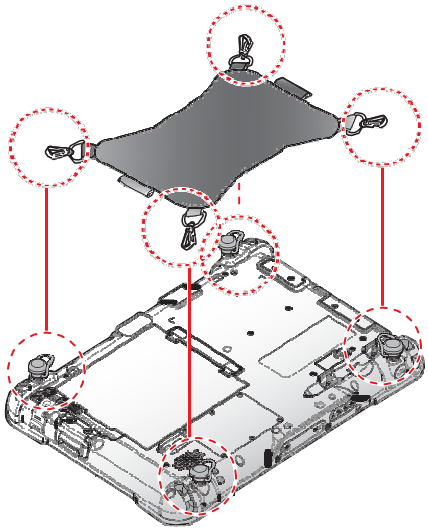


Figure 33. Connecting the Handstrap

Removing the Handstrap

1. Unlock the handstrap from the D-rings.

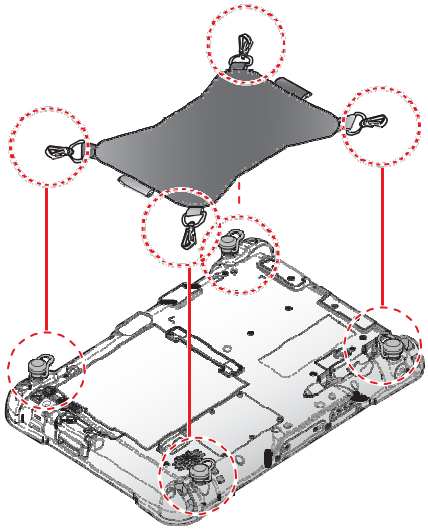


Figure 34. Removing the Handstrap

2. Remove the D-rings.

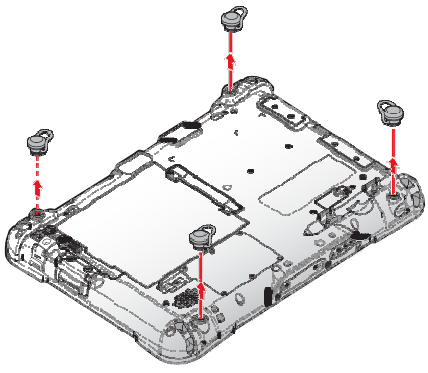


Figure 35. Removing the D-rings

3. Secure the bumper and the PA-501 with screws.

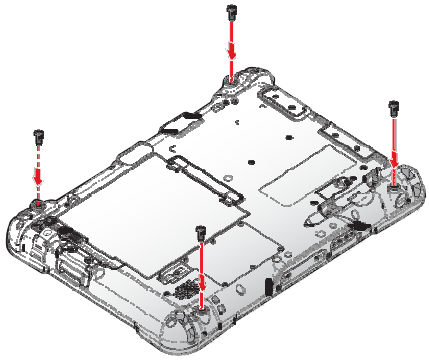


Figure 36. Securing the Screws

Connecting the Carrying Handle

1. Attach the clips to the metal loop on the bumper.

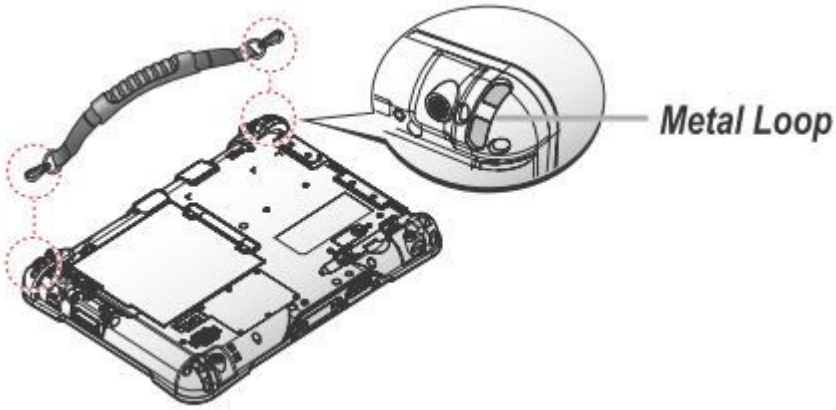


Figure 37. Connecting the Carrying Handle

Removing the Carrying Handle

1. Press in the clips to release them from the metal loop.
2. Remove the clips.

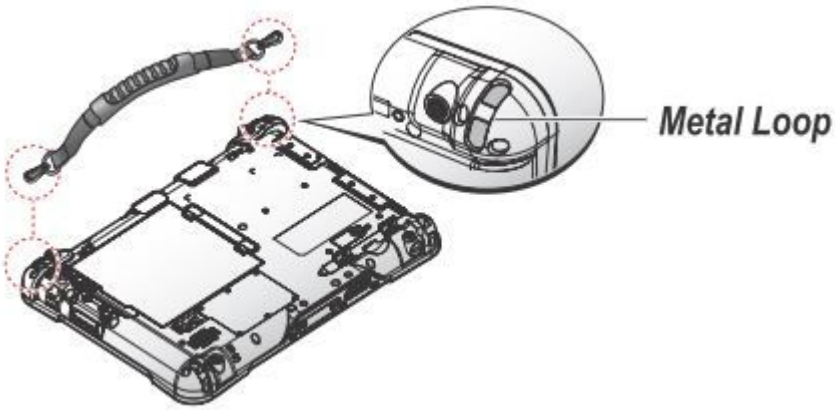


Figure 38. Removing the Carrying Handle

Connecting the Shoulder Strap

1. Attach the clips to the metal loop on the bumper.

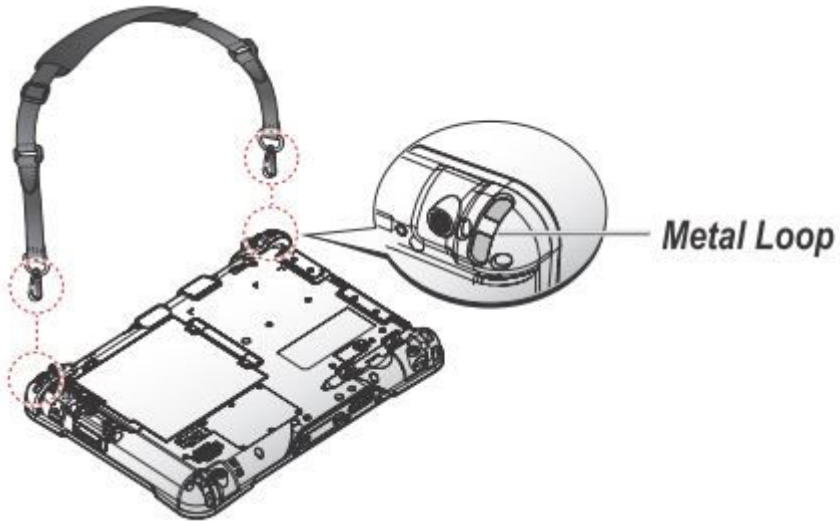


Figure 39. Connecting the Shoulder Strap

Removing the Shoulder Strap

1. Press in the clips to release them from the metal loop.
2. Remove the clips.

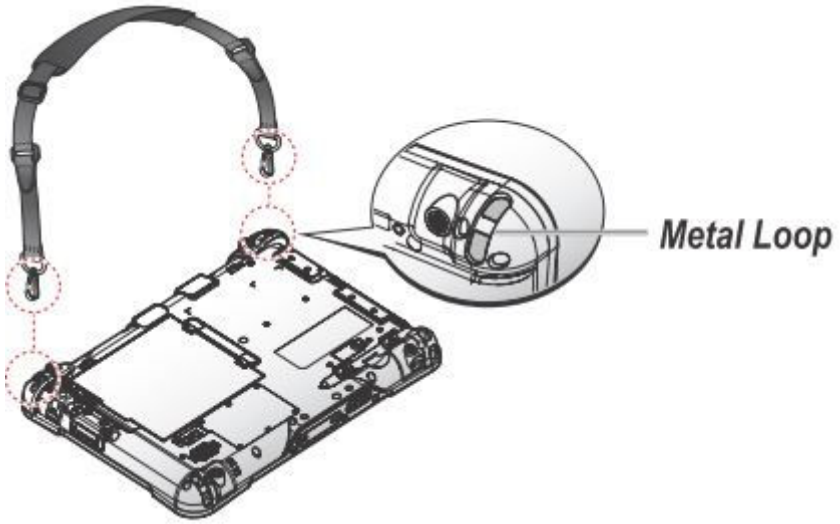


Figure 40. Removing the Shoulder Strap

Installing the Standard Battery

The following instructions are for both standard and external batteries. The external battery is an optional component. Only use components specifically designed for this device. Contact your local representative for ordering information.

Make sure the power switch is switched to ON before installing the standard/external battery. See *"First Time Use"* on page 18.

1. Place the device display side down on a clean work surface.
2. Locate the battery.

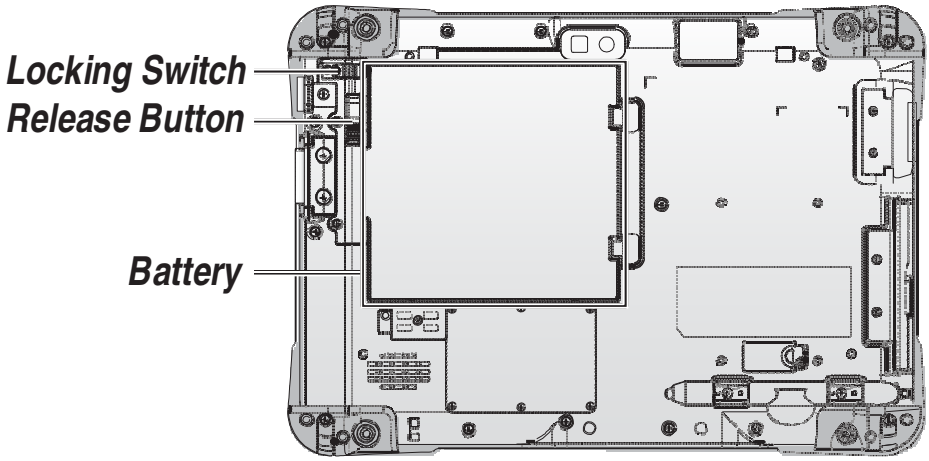


Figure 41. Rear View: Locating the Battery

3. Align the tabs on the battery with the slots on the chassis.
4. Angle the battery in place and set the tabs in the chassis slots.
5. Lower the raised end of the battery and press in place until an audible click is heard.

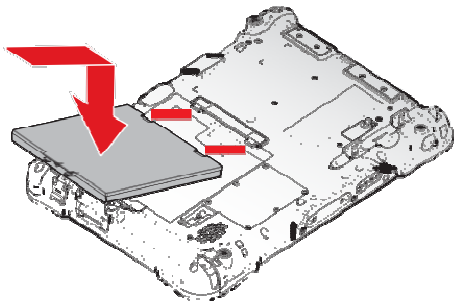


Figure 42. Installing the Battery

6. Slide the locking switch on the top-left side to lock the battery.

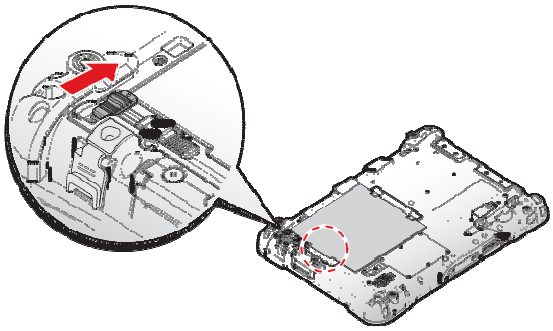


Figure 43. Locking the Battery

Make sure the latch is securely locked to prevent the battery from falling.

Removing the Standard Battery

1. Place the device display side down on a clean work surface.
2. Locate the battery.

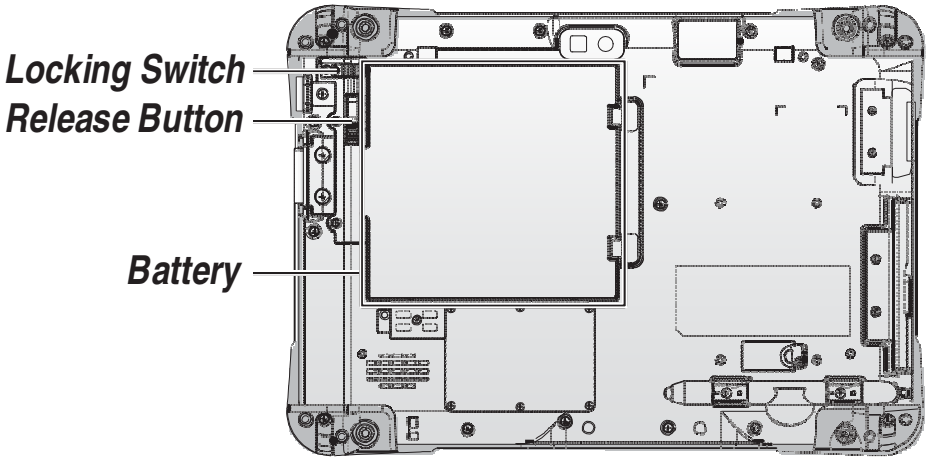


Figure 44. Rear View: Locating the Battery

3. Slide the locking switch on the top-left side to the unlock position.

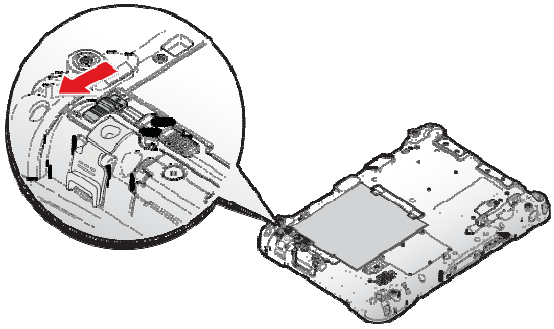


Figure 45. Unlock the Battery

4. Press and hold the release button as shown in the image to release the battery.

5. Hold the battery and angle the left side up to remove.

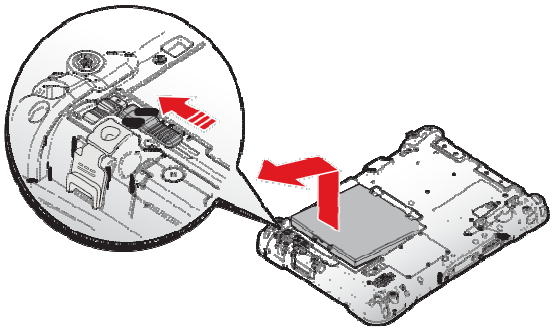


Figure 46. Removing the Battery

Connecting to a Wireless Network

PA-501 Supports two ways to connect to the internet by using LAN and Wireless.

LAN

Before you setup the Ethernet, please connect to the RJ45 port.

To turn on the Ethernet, please follow the steps:

1. DHCP mode
    1. Tap **APPS** > **Setting** > **WIRELESS & NETWORKS**.
    2. Tap **Ethernet configuration** > enable **Ethernet**.
    3. Enter the Device name and tap **DHCP** mode.
    4. Tap **Save**.
2. Static IP mode
    1. Tap **APPS** > **Setting** > **WIRELESS & NETWORKS**.
    2. Tap **Ethernet configuration** > enable **Ethernet**.
    3. Enter the Device name and tap **Static IP** mode.
    4. Enter the IP address, Netmask, DNS address, Gateway address.
    5. Tap **Save**.

Connecting to Wireless Network

Before you can make use of the PA-501 wireless functions, you will need to connect to a network. Wi-Fi communication requires access to an existing Wireless Access Point (WAP). WAPs can be Open (unsecured, as with most hotspots) or Secured (requiring you to provide login credentials). Your device supports Wi-Fi 802.11 a/b/g/n.

- Before beginning, make sure you are within range of a wireless network.

Use your device's Wi-Fi feature to:

- Access the internet for browsing or to send and receive email.
- Access your corporate network.
- Use hotspots provided by hotels or airports while traveling.

The following is a set of procedures for connecting to a wireless network:

1. Tap **APPS** > **Setting** > **WIRELESS & NETWORKS**.
2. Tap **Wi-Fi** to turn Wi-Fi on.
3. Tap a Wi-Fi to connect. If the Wi-Fi is open (unsecured), the PA-501 connects automatically. If the Wi-Fi is secured, enter the password at the prompt to connect.

Add a Wi-Fi Network Manually

1. Tap **APPS** > **Setting** > **WIRELESS & NETWORKS**.
2. Tap **Wi-Fi** to turn Wi-Fi on.
3. Tap **ADD NETWORK** and enter the following:
   - Network SSID: Enter the name of the Wi-Fi Wireless Access Point (WAP).
   - Security: Select the type of security used by the WAP.

   Depending on the security protocol used by the WAP, additional network information may be required, such as a password.

   - Password: If the WAP is secured, enter the password.
4. Tap **Save**.

Chapter 4. Troubleshooting

Refer to this resource page for useful information about the Android 4.2 Jelly Bean (JB) operating system loaded in your tablet.

You may also go to the Android JB page (http://www.android.com/about/jelly-bean/) for more details.

Q. How do I change the home screen wallpaper?

A. To change the wallpaper, tap and hold your finger on the Home Screen to open your wallpaper options. Choose your wallpaper from the three options that may be available:

- Gallery – allows you to set one of your own pictures as the wallpaper. Tap **Gallery** and select your preferred picture. You can crop the part of the picture you want to use as the wallpaper. Then, tap **Crop** to set the picture as your background.
- Live Wallpapers – provides you with a set of animated backgrounds. Tap **Live Wallpapers** and select the live wallpaper you wish to use. Next, tap **Set wallpaper** to set the live wallpaper as your background.
- Wallpapers – a collection of pre-installed wallpapers. Tap **Wallpapers** and select the one you prefer. Next, tap **Set wallpaper** to set the picture as your background.

Q. How do I add and remove apps, widgets, shortcuts and folders to the home screen?

A. You can add and group your apps and shortcuts logically using home screen folders, just by dragging app icon onto a particular folder. Also, in **All Apps launcher**, you can simply drag an app to get information about it or immediately uninstall it, or disable a pre-installed application.

You can drag apps, shortcuts, folders, and other priority items in or out of the favorite's tray for instant access from any home screen. You can also remove them by dragging the item unto the **Remove** icon.

Q. How do I unlock the screen?

A. The security settings for your tablet must first be set. The settings include: None, Slide, Pattern, PIN, and Password. After the settings are configured, they must be entered as defined in the security screen at the display prompt to unlock your screen.

Q. What are other ways to lock the screen?

A. Use a PIN (Personal Identification Number) or screen lock pattern.

Q. What if I forget my screen lock pattern or password?

A. Contact your system administrator to reset your password.

Q. How can I access the Internet through my PC or someone else's mobile device?

A. By tethering to a smart phone, you can use its data service to connect to the internet.

To wireless tether your smart phone, first you will need to create the wireless hotspot the tablet will connect to. Please follow the method recommended by the manufacturer of your smart phone or wireless carrier.

Once the mobile hotspot has been created and your device Wi-Fi is enabled, tap **Wi-Fi settings** to search for the wireless hotspot you created previously.

Choose hotspot you created and, if necessary, enter the password if you have chosen to use one. After a few seconds, you should be able to access the internet through your smart phone's data connection.

This only works if your smart phone is capable of creating a wireless hotspot. Please check with your wireless carrier to see if tethering is an available option. Extra charges from your carrier may apply if you use this feature.

Q. How do I shut down applications running in the background on Android PA-501?

A. You can dismiss individual apps running in the background from the Recent Apps list with a swipe of your finger. To dismiss or end apps running in the background follow the steps below:

1. Tap on the **Recent Apps** icon in the lower-middle corner of the screen.
2. From the **Recent Apps** list, you can swipe your finger over the app or apps you wish to end. You can also tap and hold your finger over the app, then tap **Remove from list**.
3. To exit from the Recent Apps list you can tap the **down arrow** in the lower-left corner or tap your screen outside of the apps list.

Q. How do I remove the browser history on my PA-501?

A. Internet browsers store a list of all the sites you visit called history. If you wish to delete browser history on your Android tablet, use the following steps:

1. Open the internet browser and tap the menu button in the upper-right corner of the screen.
2. Tap **Settings** > **Apps** > **All tag** > **Browser**. On this page you can select which information to delete:

   Clear Cache – removes temporary stored files, such as images.

   Clear form data – removes information you entered in web forms.

Q. How can I explore files on my PA-501 Android tablet?

A. Although the Android operating system does not come with a native file managing application, Open Manager is available to better manage the space on your tablet's internal memory or SD card.

To install additional APKs, save the files onto your micro SD or USB storage device and install them by connecting your storage media to the device.

Q. Can I transfer files from a micro SD card to a PC?

A. To transfer files from an SD card to a PC, remove the micro SD card from your tablet and insert the micro SD card in a card reader or USB adapter to access the files on the SD card from your computer.

Q. How do I improve a weak signal to my wireless network?

A. When the signal strength is low, your wireless connection may become unreliable, slow or erratic. Wireless networks can be hindered by objects in between the antenna of the router or access point, and the wireless adapter in your computer.

To improve the signal strength, reduce the distance between the devices, and have a minimal amount of physical objects such as walls or ceilings, in between.

You may also correct the interference by re-orienting or relocating the receiving antenna. Another way is to connect the equipment into an outlet on a circuit different from that of the connected receiver.

Q. Can I connect my PA-501 to a Windows PC via a USB cable?

A. Yes, just open the left I/O compartment cover, then plug-in a micro USB cable at the micro USB On The Go (OTG) port of PA-501 to connect it to a Windows PC.

Make sure that the other end of the cable is properly connected to your PC.

The PA-501 does not come with a micro USB cable.

Q. How do I reset the hardware and software to factory defaults of PA-501?

A. You can reset the hardware software back to factory default configurations and have a fresh start. To do this, you can use the following method:

1. Power off the device.
2. Press and hold the **F2** key and **Power** key simultaneously, when the Power LED lights, release the **Power** key.
3. Wait until the **Android System Recovery** Screen is displayed.
4. Press the **F1** or **F2** button to select wipe data/factory reset.
5. To confirm, press **Home** key.

This process will erase all of your personal information, all stored contacts, configurations and any programs you have installed on your tablet. Make sure to perform a backup before proceeding.

Q. My PA-501 does not display correct time and date even after adjusting the settings. How can I fix this?

A. Replace the 3V lithium battery with a new one. The device uses a battery to retain system information.

Q. How do I transfer files to another device using Bluetooth?

A. You may transfer files using by ensuring Bluetooth is on/enabled for both devices and that these devices are properly paired if they have Bluetooth connection passwords set. After that follow these steps:

1. Locate the file you wish to transfer.
2. Tap on the **Share** icon and choose **Bluetooth** transfer.
3. Choose the device name from the list of Bluetooth devices.
4. Tap the **Next** button.
5. The devices may signal a notification alert, which lets you know that a file transfer is taking place.
6. Tap the **Accept** button.
7. The device will prompt a message once transfer is complete.

You won't see the device list if Bluetooth is off.

Q. What can I do if my tablet does not power on?

A. If your PA-501 does not power on, try the following to resolve the issue:

- Ensure that the power cord and/or AC adapter are plugged into the PA-501 and that the connection is solid and not loose fitting.
- Verify that the power cord is plugged into the AC adapter completely.
- If the power cord or AC adapter is plugged into a surge protector, verify that the surge protector is powered on.
- Attempt to use a different electrical outlet.

Q. How do I change the language on my PA-501?

A. Your Android tablet has the option to change the display language. Follow the steps below to change your display language:

1. Locate and tap the **Settings** icon.
2. Tap the **Language & Input** option.
3. Locate and choose the language you would like to use.

Chapter 5. Maintenance

Cleaning the Device

Danger to electric shock when cleaning or maintaining the PA-501.

To avoid electric shock, turn the PA-501 off and disconnect it from the power supply before cleaning or maintaining it.

Housing

- The housing of the PA-501 is best cleaned with a damp cloth.
- Use compressed air, a high-pressure cleaner or vacuum cleaner may damage the surface.
- Use a high-pressure cleaner, the additional risk of water entering the PA-501 may damage the electronics or touch screen.

Touch Screen

- Use neutral detergent or isopropyl alcohol on a clean soft cloth to clean the panel surface.
- Prevent using any kind of chemical solvent, acidic or alkali solution.

Returning the Device

Please put the contents in the original package gently when you need to return the PA-501.

Contacting RuggON

If you experience technical difficulties, please consult your distributor or contact the technical services department:

www.ruggon.com

RUGGPAC