

iRUGGY G10/G10s Mobile Tablet

User Manual



Version 1.7

September 25, 2017



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Safety

Regulatory Information

Caution: Only use approved and UL Listed accessories, battery packs and battery chargers. Do NOT attempt to charge damp/wet mobile computers or batteries. All components must be dry before connecting to an external power source.

Power Supply

Use only the approved power supply shipped with the unit. Use of an alternative power supply will invalidate any approval given to this device and may be dangerous.

Warning for Use of Wireless Devices

Please observe all warning notices with regard to the usage of wireless devices.

Potentially Hazardous Atmospheres

You are reminded of the need to observe restrictions on the use of radio devices in fuel depots, chemical plants, etc., and areas where the air contains chemicals or particles (such as grain, dust, or metal powders) and any other area where you would normally be advised to turn off your vehicle engine.



Safety in Aircraft

Switch off your wireless device whenever you are instructed to do so by airport or airline staff.

Pacemakers

Pacemaker manufacturers recommend that a minimum of 15cm (6 inches) be maintained between a handheld wireless device and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with independent research and recommendations by Wireless Technology Research.

Persons with Pacemakers

Persons with pacemakers should ALWAYS keep the device more than 15cm (6 inches) from their pacemaker when turned ON and hence they should not carry the device in a breast pocket. They should use the ear furthest from the pacemaker to minimize the potential for interference. If you have any reason to suspect that interference is taking place, turn OFF your device.

Hearing Aids

The wireless device may interfere with some hearing aids. In the event of interference you may want to consult your hearing aid supplier to discuss solutions.

Other Medical Devices

Please consult your physician or the manufacturer of the medical device, to determine if the operation of your wireless product may interfere with the medical device.

FCC/EU RF Exposure Guidelines

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

This device complies with FCC SAR exposure limits set forth for an uncontrolled environment. 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.



Caution!

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CE Marking and European Economic Area

The use of 2.4GHz RLAN's, for use through the EEA, have the following restrictions:

- Maximum radiated transmit power of 100 mW EIRP in the frequency range 2.400 -2.4835 GHz
- In France, outside usage is restricted to 2.4 2.454 GHz.
- Italy requires a user license for outside usage.

Bluetooth® Wireless Technology for use through the EEA has the following restrictions:

- Maximum radiated transmit power of 100mW EIRP in the frequency range 2.400 -2.4835 GHz.
- In France, outside usage is restricted to 10mW EIRP.
- Italy requires a user license for outside usage.

Battery Information

Our rechargeable battery packs are designed and constructed to the highest standards within the industry. However, there are limitations to how long a battery can operate or be stored before needing replacement. Many factors affect the actual life cycle of a battery pack, such as heat, cold, harsh environmental conditions and severe drops. When batteries are stored over six (6) months, some irreversible deterioration in overall battery quality may occur. Store batteries discharged in a dry, cool place, removed from the equipment to prevent loss of capacity, rusting of metallic parts and electrolyte leakage. When storing batteries for one year or longer, they should be charged and discharged at least once a year. If an electrolyte leakage is observed, avoid any contact with the affected area and properly dispose of the battery. Batteries must be charged within the 0° to +35°C (32° to 95° F) ambient temperature range. Replace the battery when a significant loss of run time is detected.



Battery Caution

There is a risk of explosion if the battery is replaced by an incorrect type. Dispose of used battery according to the local disposal instructions.



Waste Electrical and Electronic Equipment (WEEE)

For EU Customers: All products at the end of their life must be returned to the reseller for recycling.



Revision Table

Version	Date	Changes
1.3	Nov 16, 2016	Initial release
1.4	Jan 10, 2017	Updated battery level indicator status definition in 4.6.2
1.5	Apr 24, 2017	Added stylus, mPOS brackets to 1.2 Accessories; removed references to rotating hand strap (discontinued); aligned 2.3 Specification with current datasheet; updated instruction for installing mPOS brackets in 5.3; added caution on placing tablet correctly in the POS dock in 6.3
1.6	July 15, 2017	Added G10s (Cherry Trail), additional ADD- $f(x)$ accessories and kits. Added section on disabling tactile feedback/vibration motor. Updated information on Battery Status LED Indicator.
1.7	Sep 25, 2017	Added note regarding power button settings and bridge battery (4.1.3, 4.7.1), and touch sensor default mode (4.2).



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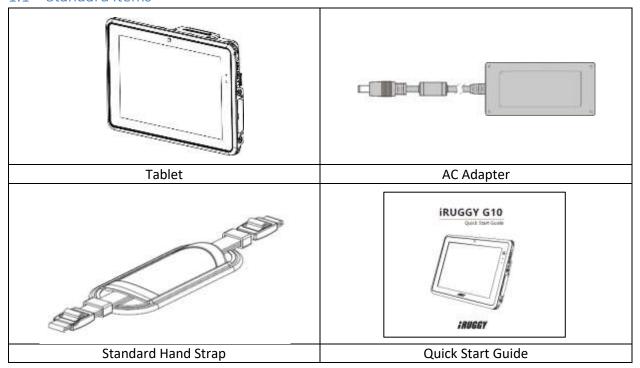
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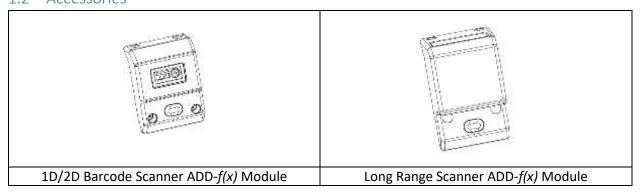
1 Unpacking the unit

The following items may be shipped with each unit.

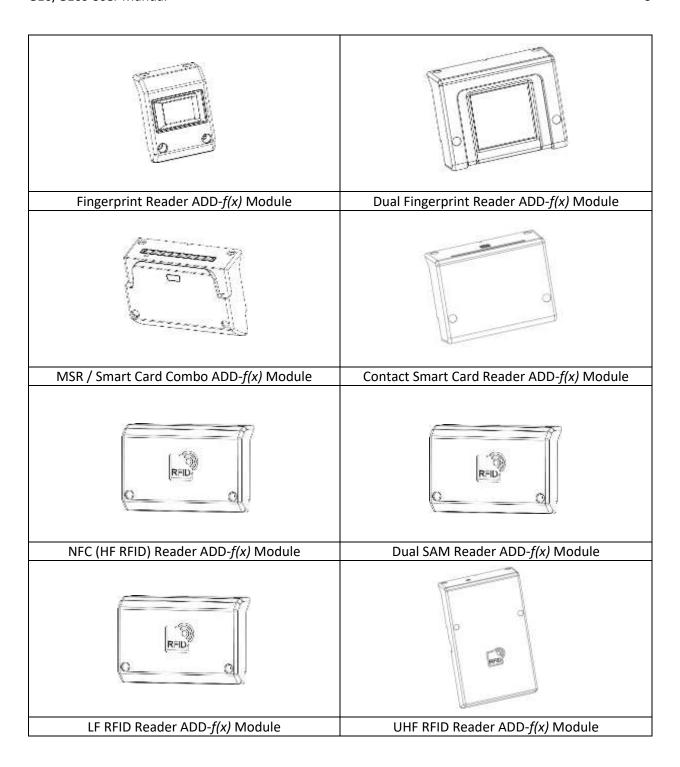
1.1 Standard items



1.2 Accessories

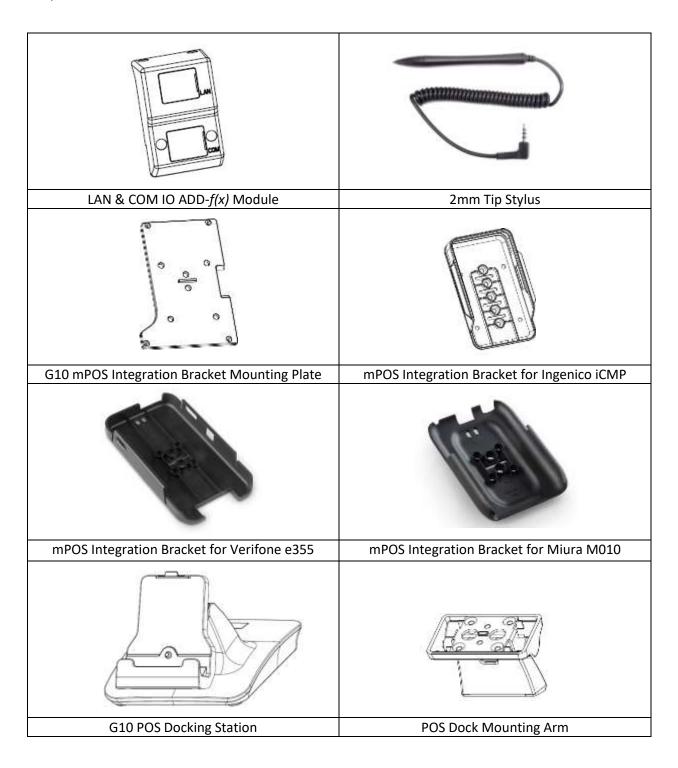




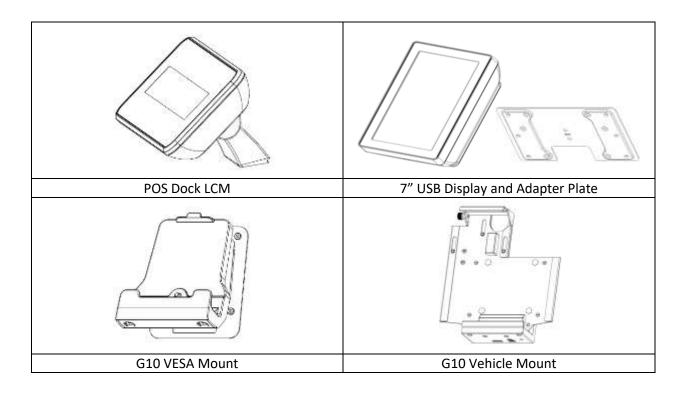










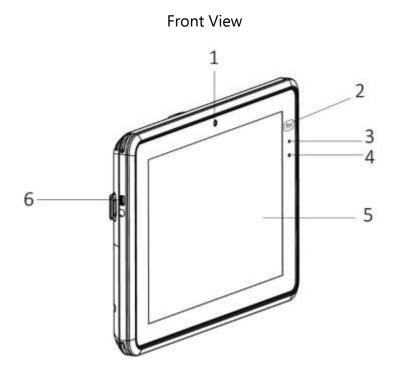


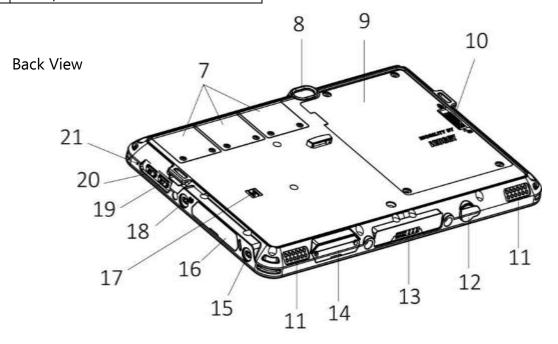


2 Hardware Overview

2.1 Features

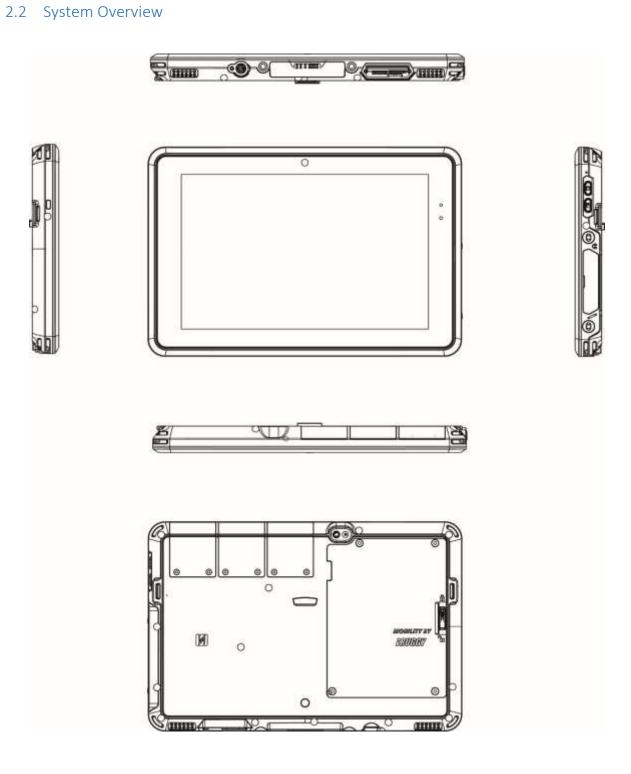
1	2MP webcam
2	Programmable capacitive function key
3	Battery status indicator
4	Ambient light sensor
5	Touch screen
6	Kensington lock slot
7	ADD-f(x) expansion module bays (3)
8	AF camera with LED flash
9	Battery
10	Battery release latch
11	Speakers (2)
12	DC-in
13	Docking connector
14	Access cover for 3G/LTE, microSD slots
15	Stylus port
16	Access cover for USB 2.0, Micro USB
	(OTG) and Micro HDMI port
17	Location of internal NFC reader
18	Audio jack
19	in4Touch™ touch mode control
20	Power On/Off
21	Microphone





Confidential and Proprietary Information







2.3 Specifications	G10	G10s		
	10.1" (1920 x 1200 resolution) projected capacitive multi-touch display			
Touch Display	User-selectable touch mode for Hand, Glove, Stylus or Rain			
	Programmable capacitive function key on	front-bezel		
Processor	G10: Intel® Quad-Core 1.83GHz	Intel® Quad-Core 2.56GHz		
Operating systems	Windows® 10 IoT Enterprise for Tablet			
Operating systems	G10: Android™ 4.4.4	Android™7.0		
	2GB DDR3L memory / 64GB storage	4GB DDR3L memory / 64GB storage		
Memory / Storage ¹	(Android Model: 32GB)	(Windows and Android)		
	microSDXC socket for expansion			
Camera	5MP AF rear camera with LED flash	8MP AF rear camera with LED Flash		
	2MP front-facing camera			
	USB 2.0			
Expansion I/O ports	Micro HDMI			
	Micro USB (supports OTG)			
	Additional peripheral I/O available through optional POS Docking Station			
	1W stereo speakers			
Audio	Audio jack			
	Microphone			
	WLAN 802.11 ac			
Communications	Bluetooth 4.0 + LE (class 2)			
	NFC contactless card reader			
	3G data ² and dedicated GPS (factory option) LTE data ² and dedicated GPS (factory option) 3.7V 8000 mAh battery, hot swappable* with up to 8 hours per charge ³			
Power Supply	DC-in, with external AC adapter (Output 5V DV, 4A, Input 100-240VAC, 50/60Hz) for			
rower supply	charging			
	IP65 rated protection from liquid and dust ingress			
	Designed to MIL-STD-810G 1.2M drop specification			
	Operating temperature: -10°C ~ 50°C (14°F ~ 122°F);			
Environmental	max. 35°C (95°F) when charging battery			
	Storage temperature: -20°C ~ 70°C (-4°F ~ 158°F)			
	Humidity: 90% RH non-condensing			
Dimensions (W x H x D)	227 x 185 x 20 mm (10.9" x 7.3" x 0.78")			
Weight (with Battery)⁴	997g (2.19 lbs)			
	1D/2D optical barcode scanner, 1D/2D lor	ng range scanner		
	Fingerprint readers			
ADD 4/)	LF, NFC (HF), UHF RFID readers			
ADD-f(x) modules⁵	Contact smart card reader (EMV Level 1 and 2 certified) and 3 track encrypted MSR			
	Rear mounting bracket for mPOS devices			
	LAN and COM I/O Module			
	POS docking station (1x LAN, 3x USB 2.0, 1	x COM, 1x CD)		
Optional accessories ⁵	VESA charging mount			
Optional accessories	Vehicle charging mount			
	2m tip stylus			

^{1 1}GB=1 billion bytes; actual formatted capacity will be less

² Subject to service provider's broadband subscription and coverage area; additional charges may apply

³ Standard configuration with Intel Z3735F CPU, 2GB memory and 64GB eMMC tested using PCMark® 8 battery life benchmark. Results may be used for product comparison and may vary under different situations including hardware configuration, software, operating conditions, power management settings and other factors. Battery life will decrease with time and use

⁴ Weight shown represents base configuration with battery, excluding any optional accessories

⁵ Accessories may vary depending on your configuration. Accessories are sold separately

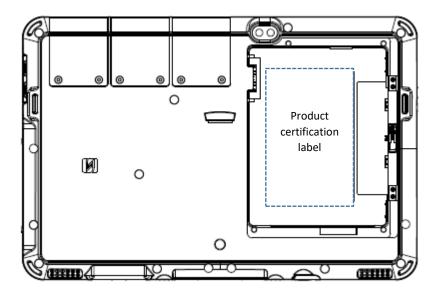
^{*}Hot swappable feature is only available with 3G or LTE data communication and dedicated GPS option.



3 Product Labelling

Safety certification and other compliance labels may be found on the inside of the battery compartment, along with product serial number and Windows license sticker. See section on *Removing the Battery* for instructions on removing the battery module to view this information.

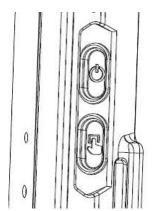
All tablets are labelled with a unique serial number. This number is important in tracking units through production and shipment and may be required for servicing the product under the warranty.





4 Basic Operation

4.1 Power On/Off Button



← Power On/Off button

← in4Touch[™] touch mode control button

4.1.1 Turning on the Unit

Press and hold the power button down to turn on the system. Release the button once you feel the vibration. **NOTE**: The tablet must be docked, plugged into AC or battery charged before turning on the unit for the first time.

4.1.2 Turning off the Unit

The unit should be shut down normally via the operating system. To force shutdown and manually power off the unit, press and hold the power button for 5 seconds or longer.

4.1.3 Turning off the Display Backlight

System settings can be used to turn off the backlight automatically for power savings when the system is idle. When the unit is powered on, pressing the power button momentarily will turn off and on the backlight unless power button settings have been changed by the user. NOTE: If the tablet is equipped with a backup battery, keep factory default power button setting (Sleep) unchanged to prevent autoshutdown when hotswapping the main battery module.

4.2 in4Touch™ Touch Mode Control Button

Press and hold the in4Touch button to display and cycle through a menu of graphic icons representing four different modes for touch operation. Once the icon for desired touch mode is highlighted, release the button to activate that touch mode and exit the menu.



Hand Supports normal touch operation using a bare finger. This mode is the default mode; system will automatically return to this mode after cold reboot.



Glove Enables touch operation when the user is wearing gloves.



Stylus Restricts input to stylus, ignoring finger or palm contact. Must be used with a G Series stylus connected to the stylus port on the tablet.



Rain

Supports touch operation using bare finger while reducing interference from random drops of liquid on the screen.



4.3 Adjusting Screen Brightness

Windows display settings allow screen brightness to be set manually or adjusted automatically for power savings or for comfort under different lighting conditions. There are 4 manual settings: 100%, 75%, 50% and 25%. Factory default setting for the display is fixed at 100% brightness.

An ambient light sensor located on the front of the display may be used to sense and reduce the brightness level for comfort in low light environments. This feature is disabled at the factory but can be enabled through system software settings.

4.4 Adjusting System Volume

Volume levels on the integrated dual stereo speakers and devices connected through the audio jack must be set manually through Windows or Android system software settings.

4.5 Programmable Function Key

The capacitive button on the top right of the tablet display is activated by touch. For Windows and Android models, this button is pre-programmed in the factory as the Windows or Home key, but the button may be re-programmed by the user to open applications or access specific functions. For information on re-programming this key, contact your iRuggy Systems authorized distributor or reseller.

4.6 Charging the Battery

The G10 Mobile Tablet is equipped with an interchangeable 8000mAH battery module supporting up to 8 hours per charge depending on usage.

4.6.1 Charging via Cable to AC Adapter



The battery may be charged by connecting the supplied AC power adaptor directly to the DC-in connector located on the bottom of the tablet. Pull the protective rubber seal out to plug the cable directly into the connector. Then plug the adaptor directly into an AC outlet.



4.6.2 Battery Level Indicator on Tablet

A battery level indicator LED on the front of the tablet signals charge status:

GREEN Battery charge level at 95% or higher (Tablet is plugged in or placed in dock)

ORANGE Battery is charging (Tablet is plugged in or placed in dock)

RED/Flashing Battery level below 15%
RED Battery level below 10%

4.6.3 Battery Charge Level Indicator on Battery



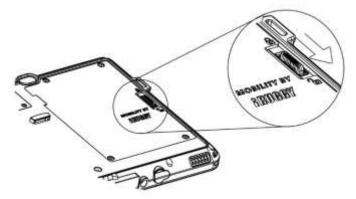
With the battery module removed from the unit, press the icon shown above. The row of LEDs will light up for 3-4 seconds indicating battery charge level as follows:

- ■□□□ < 10% charged (Single flashing LED)
- ■□□□ 11-24% charged (1 LED on)
- 25-49% charged (2 LEDs on)
- 50-74% charged (3 LEDs on)
 75-100% charged (All LEDS on)



4.7 Replacing the Battery

4.7.1 Removing the Battery

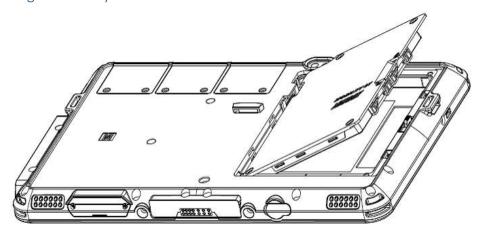


Unless the tablet is equipped with a bridge battery supplied on LTE or 3G-enabled models, always power down the system first. Unplug the AC cable if connected directly to the DC-in port on the tablet. Place the tablet face down on a flat surface. Next, slide the latch down as shown to unlock and release the battery module so it can be lifted out of the unit.

If the tablet is equipped with a bridge battery, the system will automatically enter Connect Standby Mode and turn off the screen backlight. The battery level indicator LED on the front bezel will flash and the system will beep every 3 seconds for the first 3 minutes. After 3 minutes, the LED will flash and a beep will sound every half second. System will automatically shut down at 4 minutes.

NOTE: If the tablet is equipped with a backup battery, keep factory default power button setting (Sleep) unchanged to prevent auto-shutdown when hotswapping the main battery module.

4.7.2 Installing the Battery



Angle the battery module so that the left side with exposed connector pins is inserted first into the battery compartment. The press the battery into place and slide the latch upward to lock the battery module back into position.



5 Installation and Setup

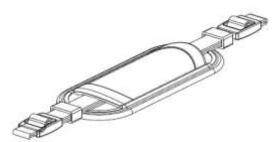
5.1 System Software

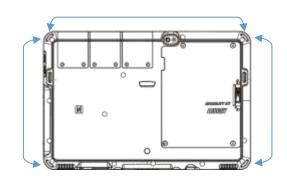
System is factory-installed with the supported Windows or Android operating system and required drivers for most device options, whether or not the device is installed on the unit when shipped. No additional software or device drivers must be installed to begin using the system.

On initial bootup of a system loaded with Windows, the Windows activation screen will show and prompt the user through the activation process.

See section on Software Configuration for more information on drivers supplied with the system.

5.2 Attaching the Hand Strap





Use of the standard hand strap shipped with the tablet is optional. Depending on the situation, the user may attach the hand strap between any two of six anchor points across the top or either side of the tablet. To attach the strap to the tablet, thread both ends of the strap into an anchor point, fold back and tighten in the plastic buckle. Any excess length can be tucked into the sleeve handle at the center of the strap.

5.3 Disabling Tactile Feedback

By default, the vibration motor is enabled to provide tactile feedback during touch operation. If desired, vibration can be disabled in the system BIOS settings.

To access BIOS settings, plug a keyboard into the USB port on the tablet, dock or mount and boot up the system while pressing the Delete key.

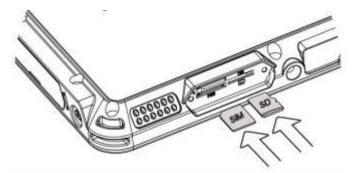
When the BIOS main menu appears, touch to open the **Setup Utility**. Select **Advanced** to display the **Vibrator Control** setting. Touch the setting to change the value to **Disabled**. Finally, touch the F10 or ESC button on the touchscreen or keyboard to save and exit. The vibration motor will be disabled upon completing boot into Windows or Android and will remain disabled the next time the system is restart. To re-enable the vibration motor, simply repeat the steps above and change value back to **Enabled**.



5.4 Installing a microSD card or Micro SIM for 3G or LTE data

The user may install a user-supplied SDXC or compatible microSD card on the unit to load or save files, or expand working data storage capacity. On select tablet models configured for 3G or LTE data communication, a separate slot is available for installing a user-supplied Micro SIM card.

To install either type of card, first power down the system. Both slots are accessed by removing the two screws securing a protective, watertight seal located on the bottom of the tablet.

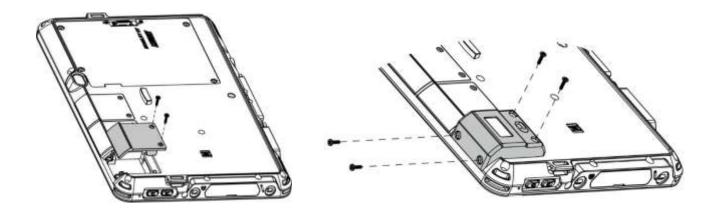


Orient either card so that the gold contact edge faces down towards the front of the tablet. Slide the card in until it clicks in place. To remove the card, press the outer edge to click and release the card.

5.5 Installing ADD-*f*(*x*)™ Modules

Optional ADD-f(x) modules are available to expand tablet functionality. To install any module, first power down the system. Locate the three universal expansion bays on the top, back side of the tablet. Depending on the number and size of the modules selected, one or all three bays may be used to install 1, 2 or up to 3 ADD-f(x) modules.

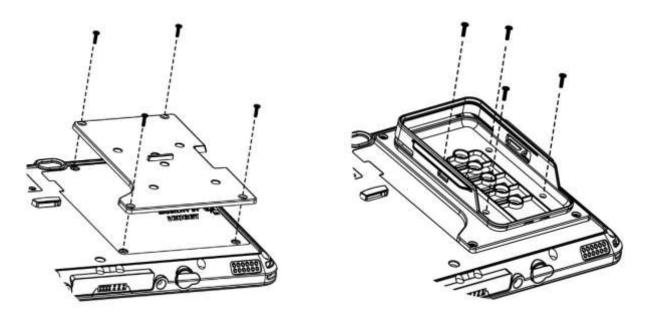
Remove the two screws and lift off the plastic cover covering each bay. This cover may be saved or discarded. Slide the module in place and fasten in place with the four screws provided with the ADD-f(x) module kit





5.6 Attaching an mPOS Integration Bracket

Custom brackets are available for on-tablet integration of third-party mobile point-of-sale (mPOS) payment devices, such as the Ingenico iCMP.



To attach the bracket, place the tablet face down. Position the universal G10 mPOS Mounting Plate over the battery module as shown and attach with the four screws provided (you may need to first remove and discard cosmetic rubber covers placed over the screw holes).

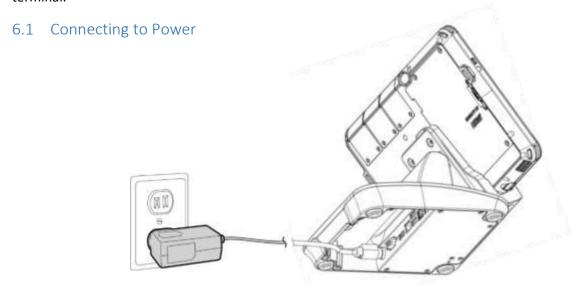
Use another set of two screws provided to attach the device-specific bracket to the mounting plate.

The mPOS device may slide into the bracket from the top or bottom, depending on design. Charging port will remain accessible to allow connection of a charging cable (supplied by the vendor) without removing the device from the tablet.



6 Using the G10 POS Docking Station

An optional countertop mount is available to allow the G10 tablet to be operated at different angles when docked for charging, LAN communication and/or connection with wired peripherals. The docking station also supports optional mounting of an LCM or 7" customer display or third-party payment terminal.



Before the docking station can be used to charge the tablet or connect to peripherals, the dock must be connected to AC power via the 19V/65W AC adaptor shipped with the dock. Locate the DC-in connector on the dock and plug in the power cable from the AC adaptor.

6.2 Connecting to Network and Peripherals

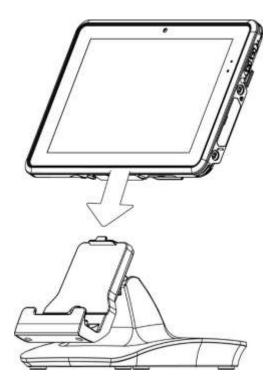


Disconnect the power cable from the docking station. Plug network or peripheral cables into available ports located in the base:

- RJ45 10/100 Ethernet LAN
- Cash drawer port, 12V or 24V selectable through jumper settings (default 24V)
- One RJ45 RS-232 port, OV, 5V or 12V selectable through jumper settings (default 0V)
- Three 5V USB 2.0 ports



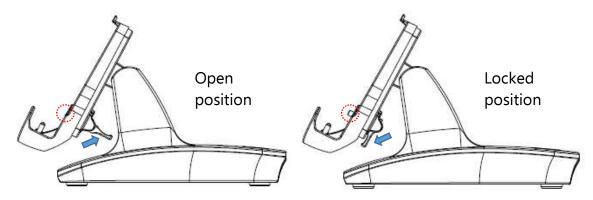
6.3 Placing the Tablet in the Dock



The tablet may be placed on the dock either powered on or off.

NOTE: When placing the tablet on the dock, take care to locate the extension on the back center of the tablet and make sure this slides over and covers the tab on the dock. If this tab is not engaged as shown below, the docking connection will be loose and the tablet may not charge or connect to LAN or peripherals.





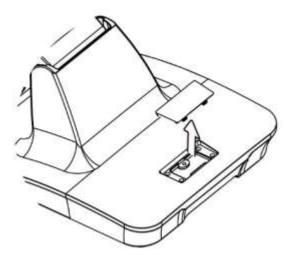
There is a latch mechanism to secure the tablet in the dock, accessed on the back of the mount. Before placing the tablet in the dock, check to make sure the latch is in the open position.

When removing the tablet from the dock, you may encounter some resistance as there is a strong magnet to hold the tablet firmly in place and ensure docking connectors remain in contact during operation.

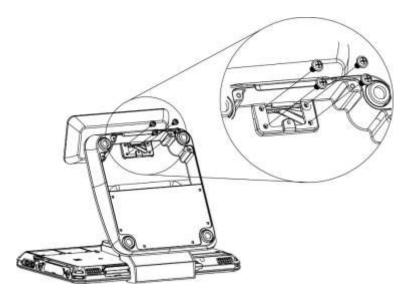


6.4 Installing the LCM Customer Display

An optional 2 line x 20 graphic LCM customer display may be mounted on the back of the docking station. Contact your iRuggy Systems or authorized sales representative for a copy of the separate user guide and OPOS driver for the customer display option.



To install the customer display, remove the single screw securing a cover over the rear mount area and discard.

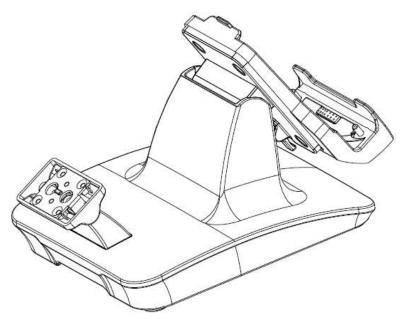


Thread the customer display cable through the opening and fasten the display mount into place with the four screws provided. Connect the host end of the cable to any of the available USB ports.



6.5 Installing a third-party payment device

An optional mounting post is available to attach a third-party payment device or 7" USB Display on the back of the docking station. The post is compatible with device-specific mPOS brackets supplied by iRuggy Systems.



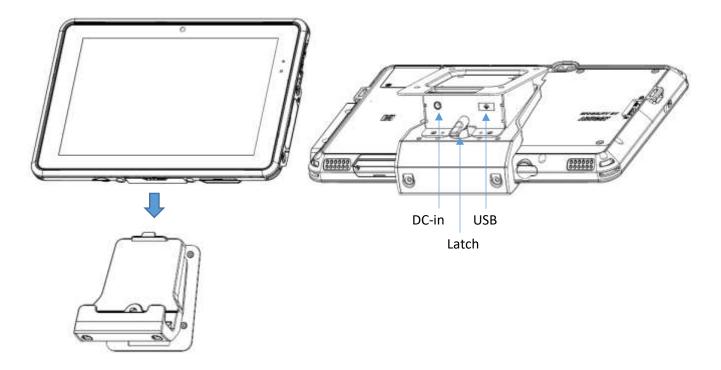
To install the device mount, remove the screw and discard the blanking cover over the rear mount access (see previous section). Attach the post to the base with the four screws provided before attaching the iRuggy Systems mPOS bracket.



7 Using the G10 VESA Mount

An optional fixed position mount is available to operate the tablet while charging. This mount features a 75 x 75 mm VESA hole pattern for attaching the mount to any VESA compatible wall or post bracket. The AC adapter shipped with the tablet may then be plugged directly into the DC-in connector on the charging dock. A PC USB port is also available on the dock.

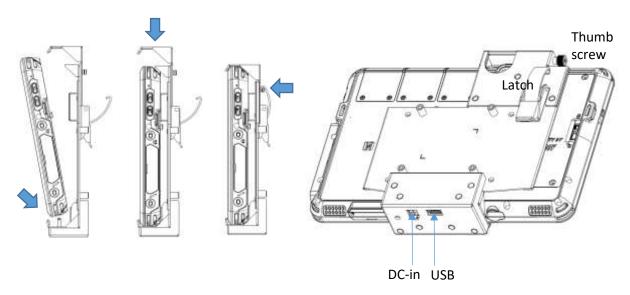
The tablet may be placed on the dock powered on or off. The G10 VESA Mount includes a latch mechanism to hold the tablet securely in position, similar to the G10 POS Docking Station. See illustration in Section 6.3 for illustration on engaging and disengaging the latch.





Using the G10 Vehicle Mount

An optional vehicle mount is available to secure the tablet onto a vehicle-specific bracket. This mount features a 75 \times 75 mm VESA hole pattern. A cigarette lighter adapter shipped with the vehicle mount is plugged into the mount and standard cigarette lighter outlet to keep the tablet charged. The vehicle mount also features a 5V PC USB port to connect a USB device.



To mount the tablet, lift the top frame and place the tablet into the base at an angle. Push the frame down and fasten the rear latch to secure the top frame into position. Align and tighten the thumbscrew to hold the tablet firmly in place.



9 Software Configuration

System is factory-installed with the supported Windows or Android operating system and required drivers for most device options, whether or not the device is installed on the unit when shipped. No additional software or device drivers must be installed to begin using the system.

Contact your iRuggy Systems authorized distributor or reseller for technical information required for software integration or specific device configuration. Most answers can be found in iRUGGY *Tech Notes* created for reference by system integrators or software developers.

9.1 Integrated NFC reader tags supported:

All G10 models ship with an integrated NFC reader, with read-only support for the following tag types:

NXP Mifare Ultralight NXP DESFire Sony FeliCa Broadcom Topaz