

***iRUGGY* G8s Mobile Tablet**

User Manual



Version 1.1

September 4, 2017

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Manual Version 1.1

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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
1.0	Jul 17, 2017	Initial release
1.1	Sep 04, 2017	Added mPOS brackets for PAX D180, D200. Added G8 5-bay Battery Charger. Added references to Microsoft Azure certification and SOTI MobiControl. Add detail on enabling adaptive brightness feature. Updated battery removal procedure.

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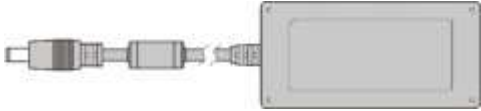
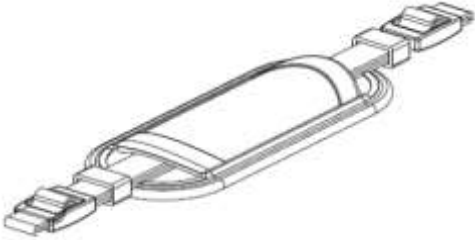

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1 Unpacking the unit

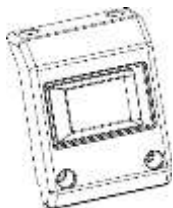

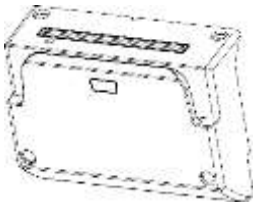





The following items may be shipped with each unit.

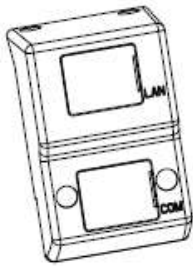

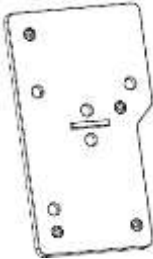
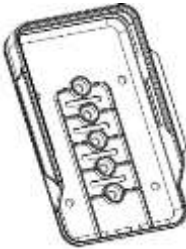


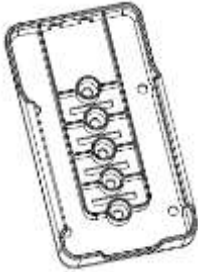
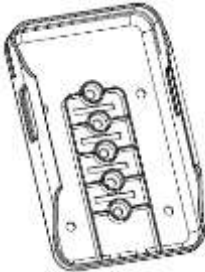
1.1 Standard items


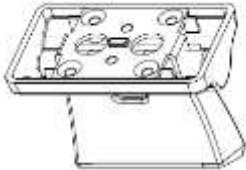
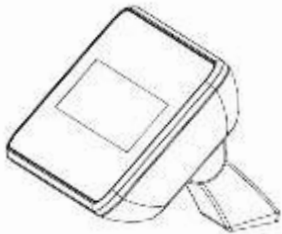

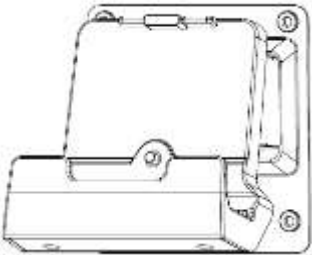

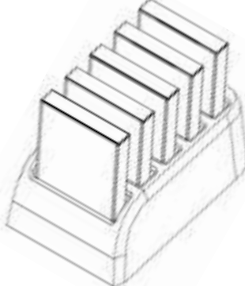
	
Tablet	AC Adapter
	
Standard Hand Strap	Quick Start Guide

1.2 Accessories

	
1D/2D Barcode Scanner ADD- $f(x)$ Module	Long Range Scanner ADD- $f(x)$ Module

	
Fingerprint Reader ADD- <i>f(x)</i> Module	Dual Fingerprint Reader ADD- <i>f(x)</i> Module
	
MSR / Smart Card Combo ADD- <i>f(x)</i> Module	Contact Smart Card Reader ADD- <i>f(x)</i> Module
	
NFC (HF RFID) Reader ADD- <i>f(x)</i> Module	Dual SAM NFC Reader ADD- <i>f(x)</i> Module
	
LF RFID Reader ADD- <i>f(x)</i> Module	UHF RFID Reader ADD- <i>f(x)</i> Module

	
LAN & COM IO ADD-f(x) Module	2mm Tip Stylus
	
G8 mPOS Mounting Plate	mPOS Bracket for Ingenico iCMP
	
mPOS Bracket for Verifone e355	mPOS Bracket for Miura M010
	
mPOS Bracket for PAX D180	mPOS Bracket for PAX D200

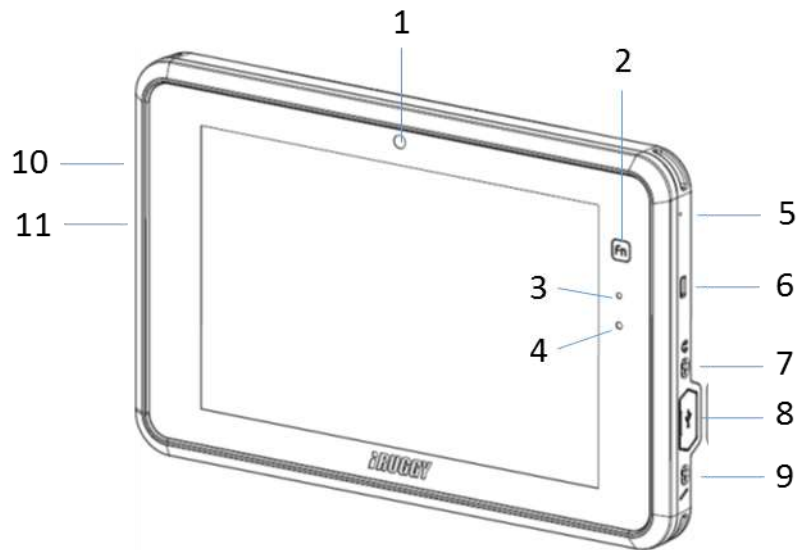
	
G8 POS Docking Station	POS Dock Bracket Rear Mount Arm
	
LCM Customer Display	7" USB Display and Adapter Plate
	
G8 VESA Mount	G8 Vehicle Mount
	
5-Bay Battery Charger	

2 Hardware Overview

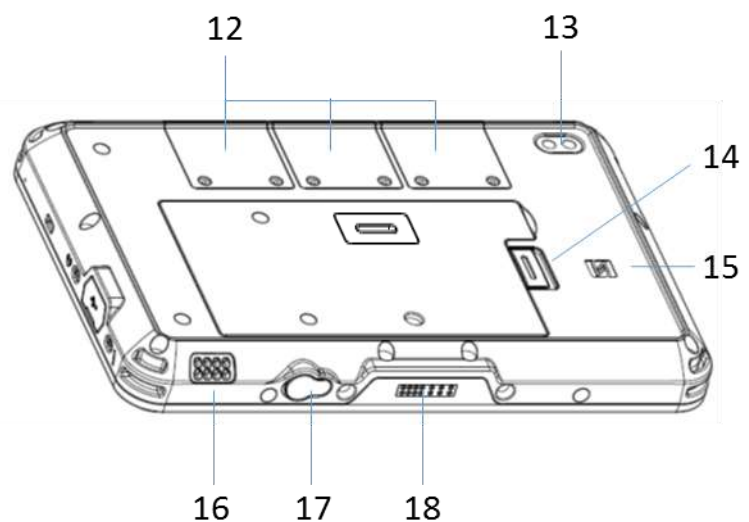
2.1 Features

1	2MP webcam
2	Programmable capacitive function key
3	Battery status indicator
4	Ambient light sensor
5	Microphone
6	Kensington lock slot
7	Audio jack
8	Access cover for micro USB (OTG) slot
9	Stylus port
10	Power On/Off button
11	in4Touch™ touch mode control button
12	ADD-f(x) module bays (3)
13	8MP camera with LED illumination
14	Battery release latch
15	Location of internal NFC reader
16	Speaker
17	DC-in
18	Docking connector

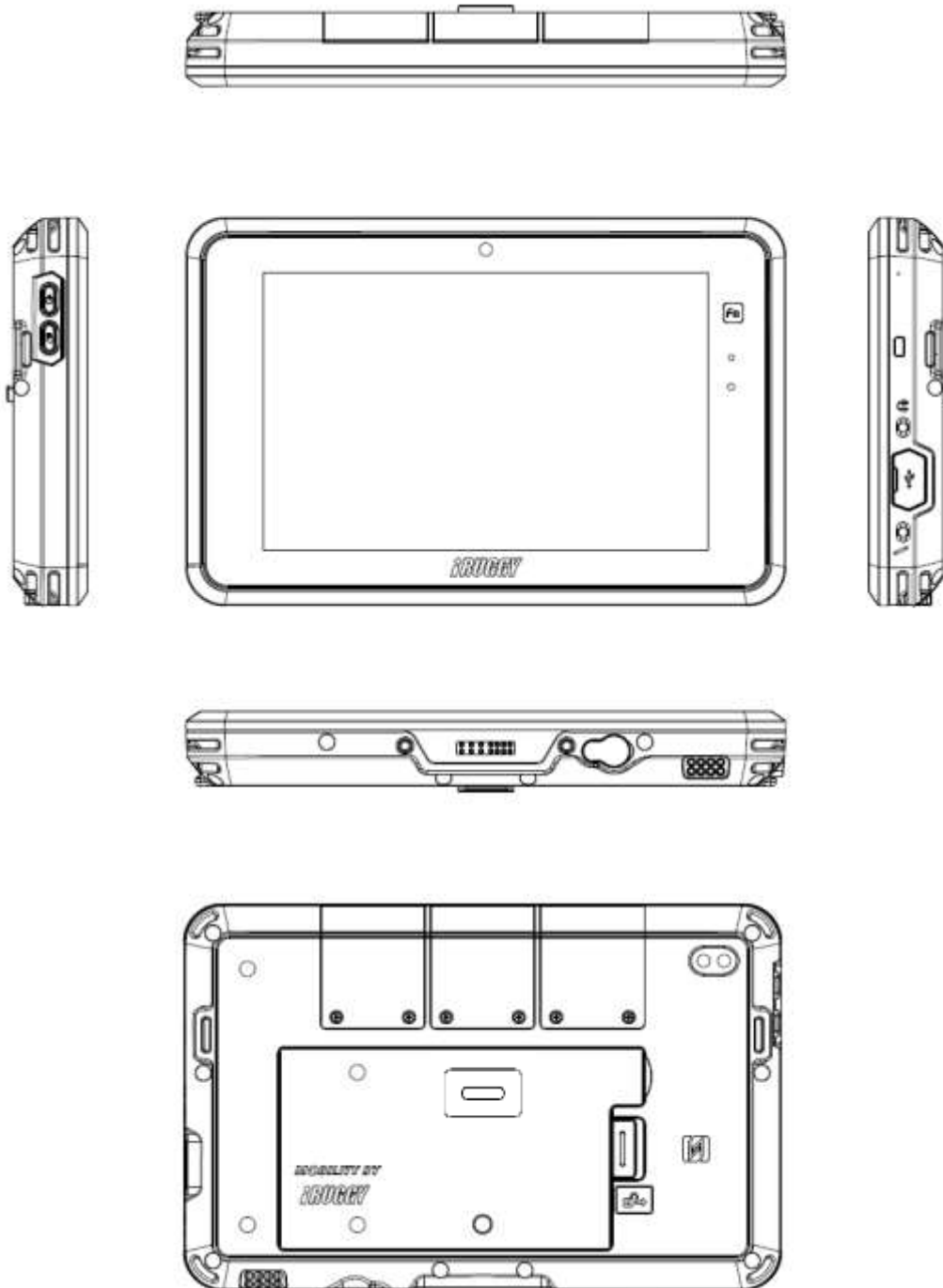
Front View



Back View



2.2 System Overview



2.3 Specifications

Touch Display	8.0" (1280 x 800 resolution) projected capacitive multi-touch display User-selectable touch mode for Hand, Glove, Stylus or Rain Programmable capacitive function key on front-bezel
Processor	Intel® Quad-Core CPU 2.56GHz
Operating systems	Windows® 10 IoT Enterprise for Tablets, Microsoft Azure certified Android™ 7. Certified with SOTI MobiControl
Memory / Storage¹	4GB memory / 64GB storage microSDXC socket for expansion
Camera	8MP autofocus rear camera with LED flash 2MP front-facing camera
Expansion I/O ports	Micro USB 2.0 (supports OTG) Additional peripheral I/O available through optional POS Docking Station
Audio	1W speaker Audio jack Microphone
Communications	WLAN 802.11 ac Bluetooth 4.0 + LE (class 2) NFC contactless card reader LTE data ² and dedicated GPS (factory option)
Power Supply	3.7V 8000 mAh battery, hot swappable* with up to 8 hours per charge ³ DC-in, with external AC adapter (Output 5V DV, 4A, Input 100-240VAC, 50/60Hz) for charging
Environmental	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); 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)	234 x 152 x 26 mm (9.21" x 5.98" x 1.02")
Weight (with Battery)⁴	850 g (1.87 lbs)
ADD-f(x) modules⁵	1D/2D optical barcode scanner, long range scanner Fingerprint readers LF, NFC (HF), UHF RFID readers 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
Optional accessories⁵	POS docking station (1 x LAN, 3 x USB 2.0, 1 x COM, 1x CD) VESA mount Vehicle mount 2mm tip stylus 5-bay battery charger

¹ 1GB=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 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

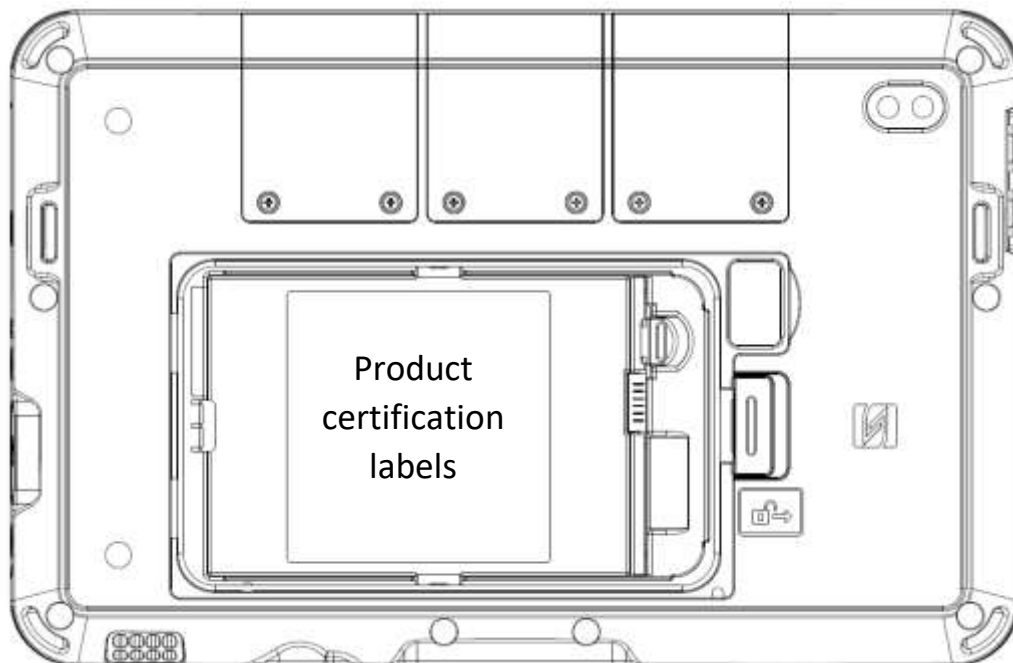
⁵ Accessories may vary depending on your configuration. Accessories are sold separately

*Hot swappable feature is only available with LTE data communication and dedicated GPS option.

3 Product Labelling

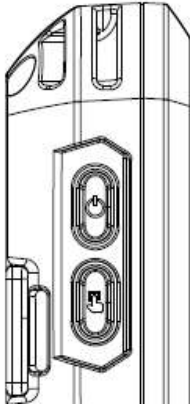
Safety certification and other compliance labels may be found on the inside of the battery compartment, along with product serial number and Windows license sticker. See section on *Removing the Battery* for instructions on removing the battery module to view this information.

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 once quickly will turn off and on the backlight, unless default settings have been changed by the user.

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.



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. For Windows 10, go to **Settings / Systems / Display** and select choice under **Adjust my screen brightness automatically**. Follow a similar path for Android.

4.4 Adjusting System Volume

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

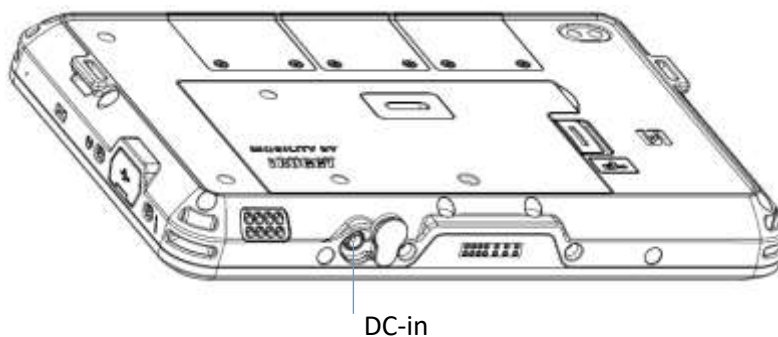
4.5 Programmable Function Key

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 iRugby Systems authorized distributor or reseller.

4.6 Charging the Battery

The G8s 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. Push the protective rubber seal aside and plug the cable directly into the connector. Then plug the adaptor directly into the AC outlet.

4.6.2 Battery Level Indicator on Tablet

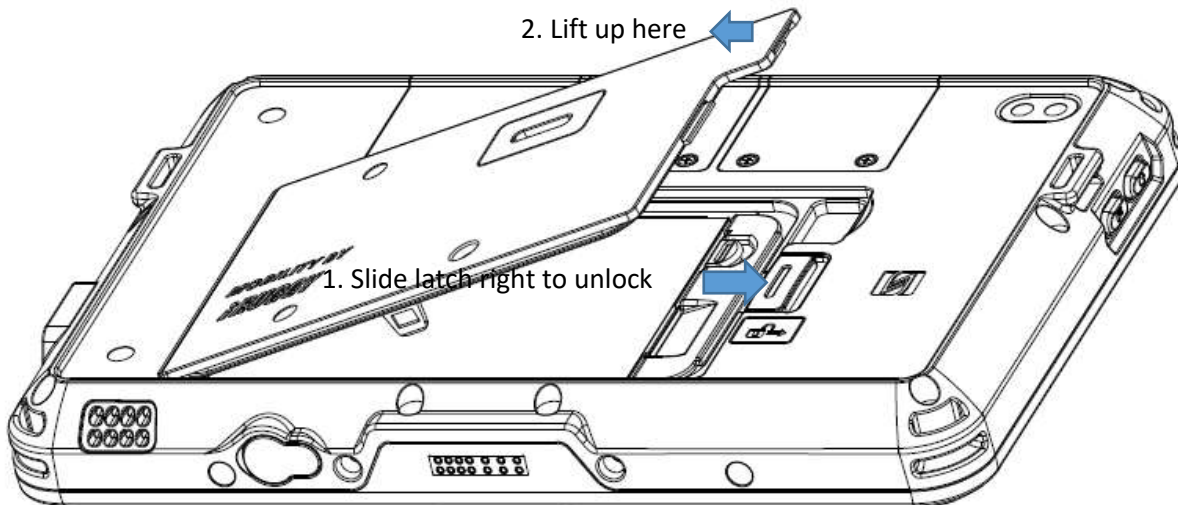
A battery level indicator LED on the front of the tablet signals charge status:

GREEN	Battery charge level is 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%

4.7 Replacing the Battery

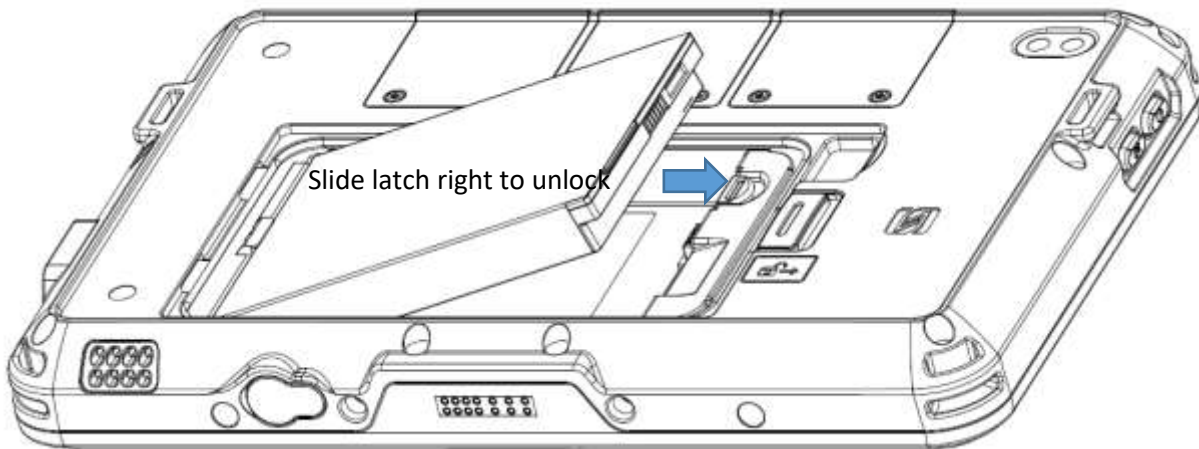
4.7.1 Removing the Battery

Unless the tablet is equipped with the bridge battery supplied on LTE-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. Slide the latch to the right as shown and lift off the battery compartment access cover. If the tablet is not powered down, the system will beep to alert the user.



Next slide the latch holding the main battery module in place and lift out the battery at an angle as shown below.

If the tablet is equipped with a bridge battery and powered on, 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.



4.7.2 Installing the Battery

Angle the battery module so that the left side is inserted first into the battery compartment. Then press the battery into place and slide the latch left to lock the battery module back into position.

5 Installation and Setup

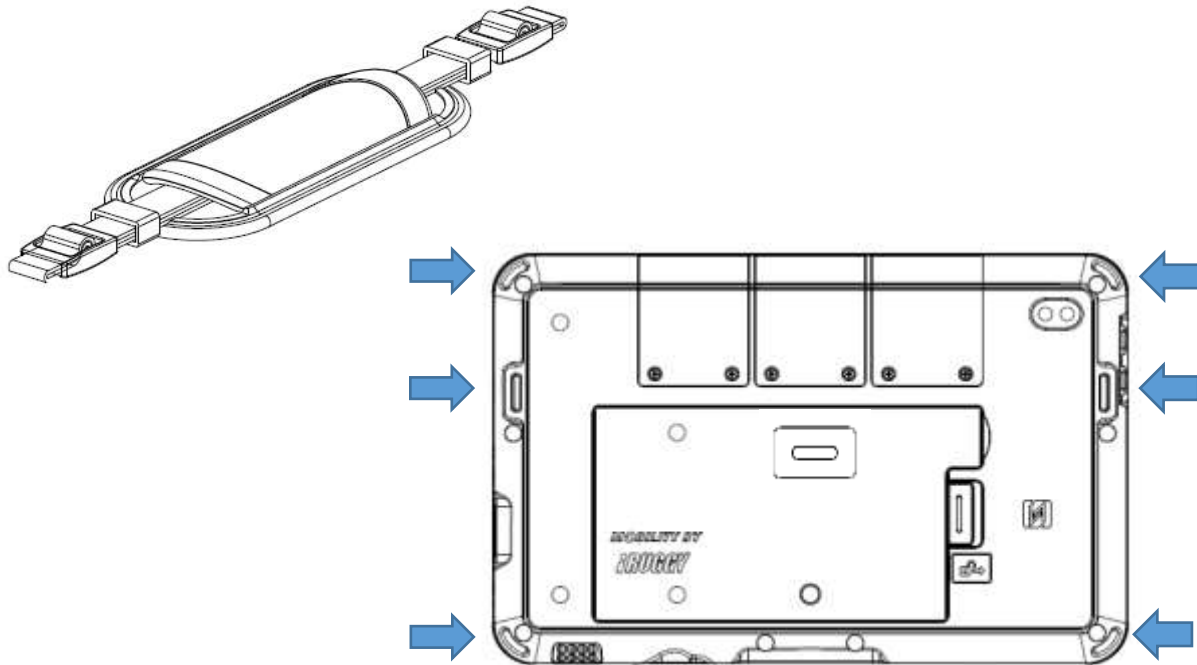
5.1 System Software

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.

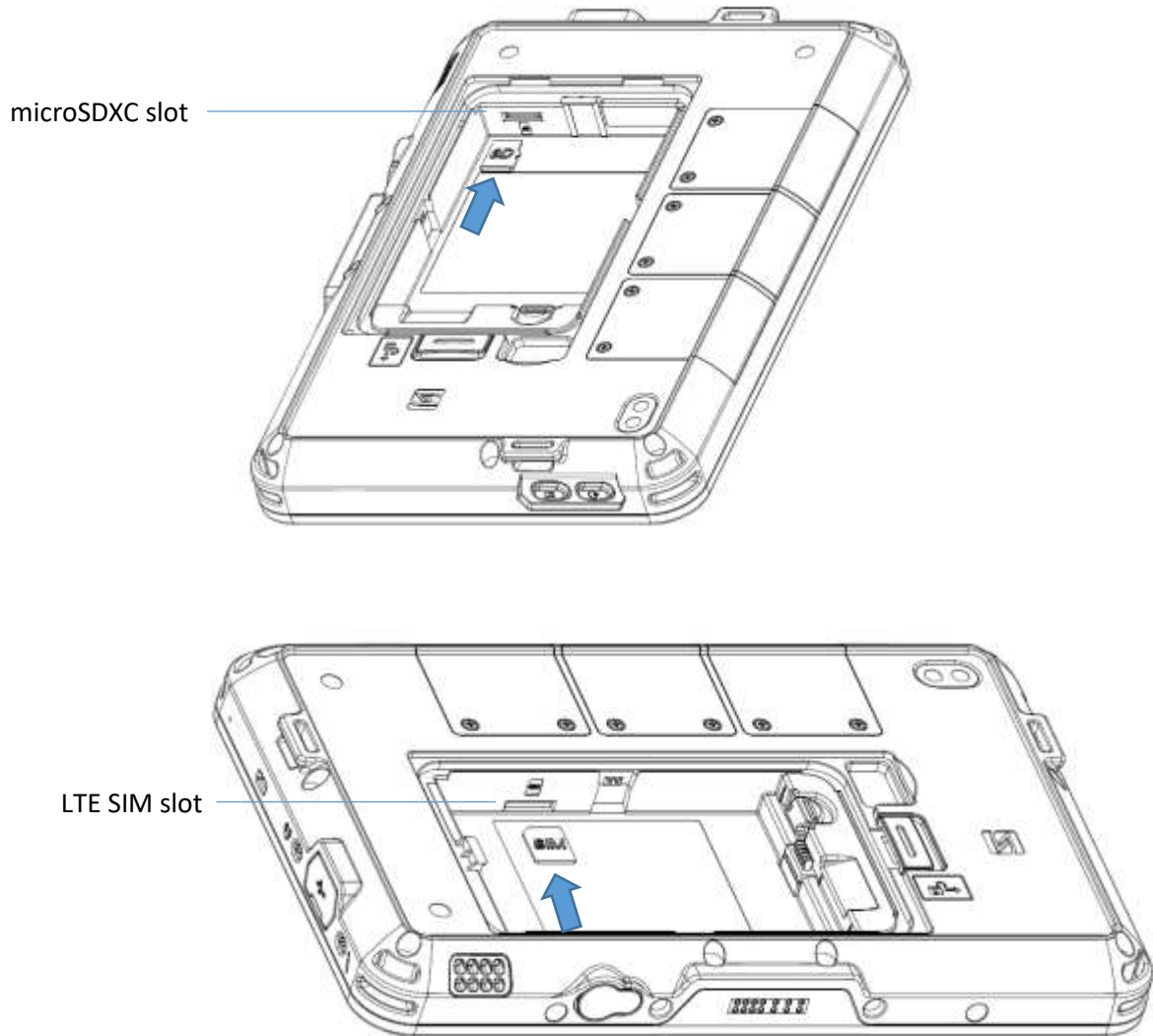
To access BIOS settings, plug a keyboard into the USB port on the tablet, dock or mount and boot up the system while pressing the Delete key.

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**. Press 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 LTE data

The user may install a compatible microSD card on the unit to load files, backup data, or expand working data storage capacity. On select tablet models with support for LTE data communication, a separate slot is available for installing a Micro SIM card.

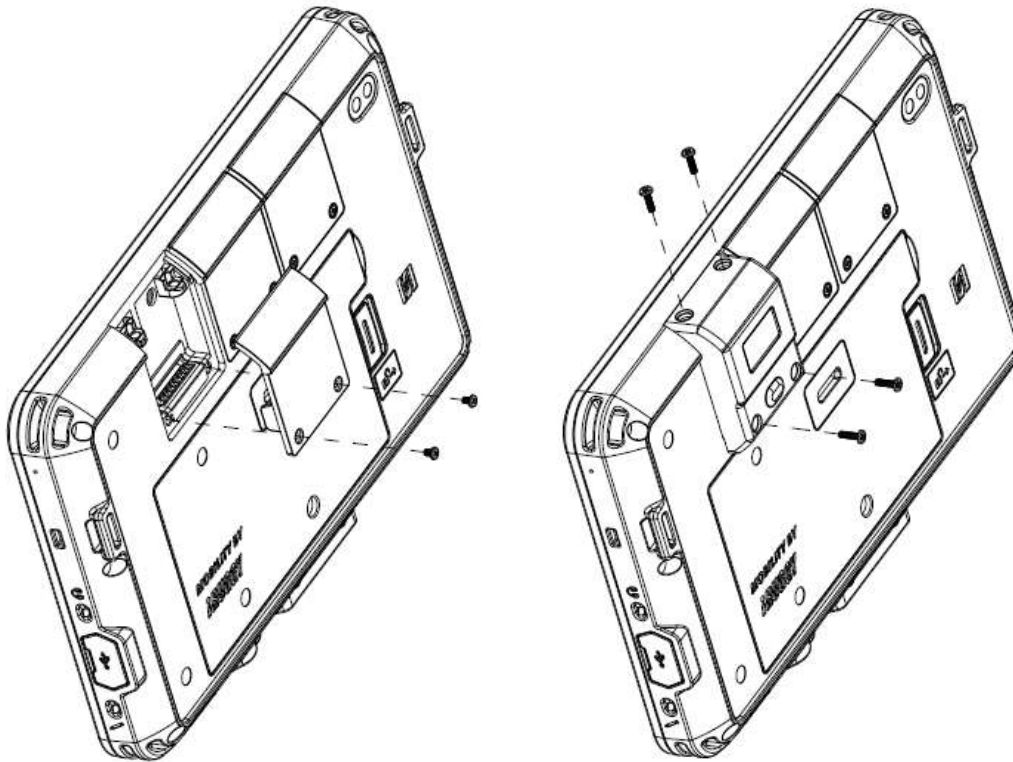
Slots are located inside the main battery compartment. To install either type of card, first power down the system. Remove the main battery and locate the correct slot as shown below.



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 a card, press the outer edge to click and release the card.

5.5 Installing ADD-f(x)[™] Modules

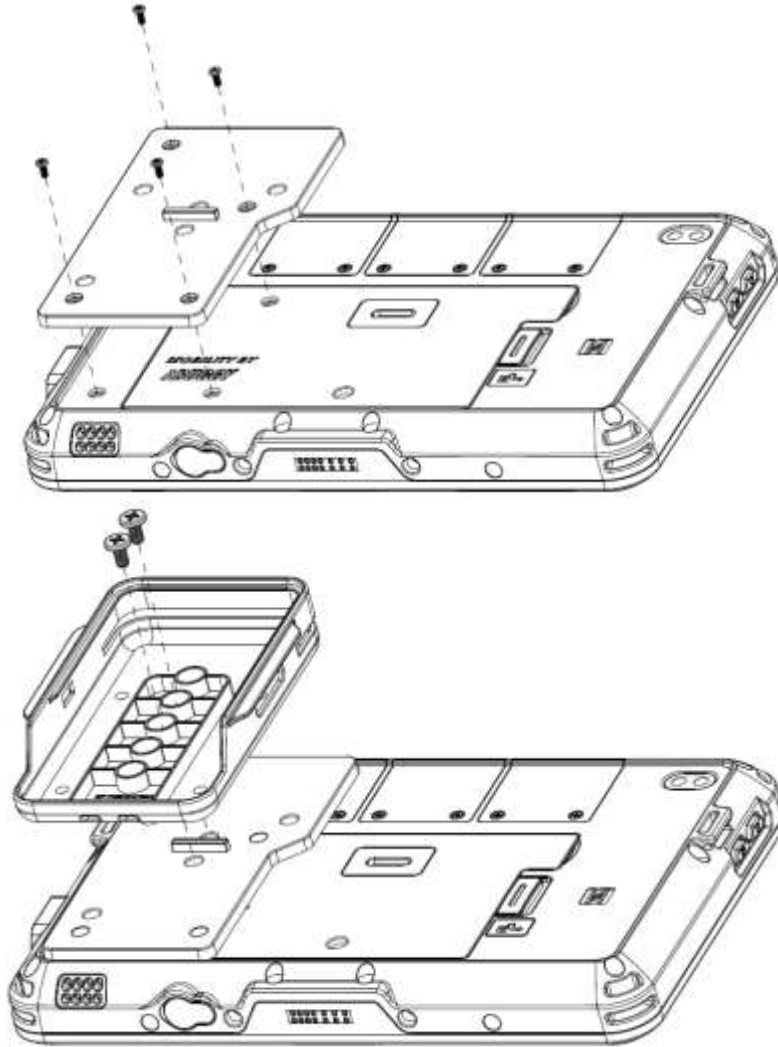
Optional ADD-f(x) modules are available to expand tablet functionality. To install any module, first power down the system. Locate the three universal expansion bays on the top, back side of the tablet. Depending on the number and size of the modules selected, one or all three bays may be used to install 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 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 G8 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).

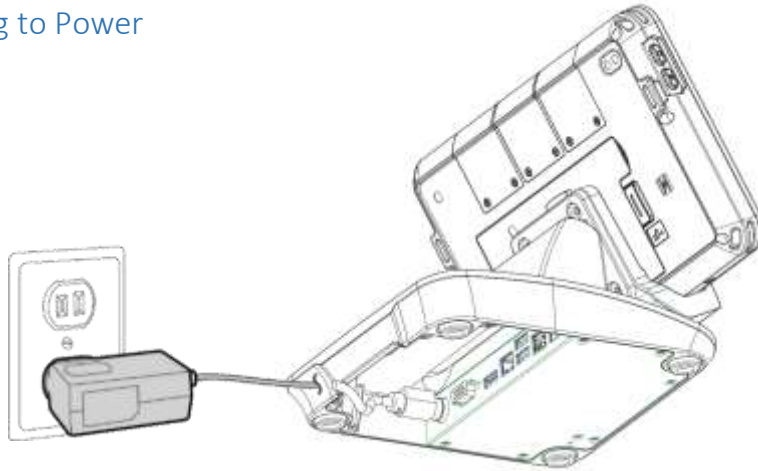
Use another set of two screws provided to attach the device-specific bracket to the mounting plate.

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 G8 POS Docking Station

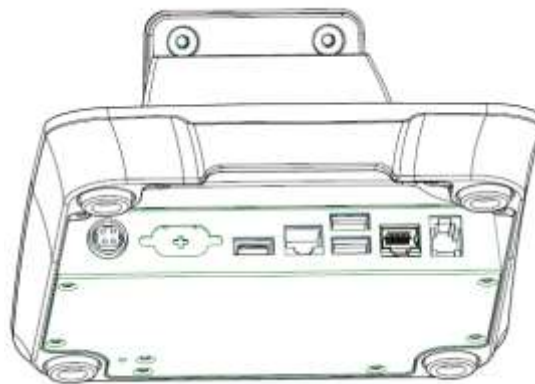
An optional countertop mount is available to allow the G8s tablet to be operated at different angles when docked for charging, LAN communication and/or connection with wired peripherals. The docking station also supports optional mounting of an LCM or 7" customer display or third-party payment terminal.

6.1 Connecting to Power



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.

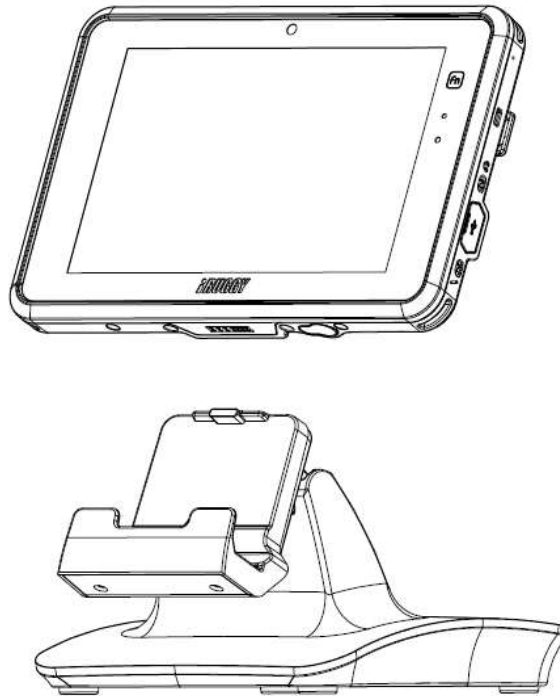
6.2 Connecting to Network and Peripherals



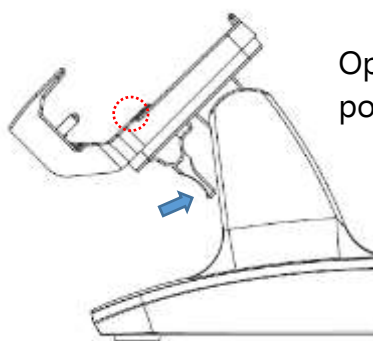
Disconnect the power cable from the docking station. Plug network or peripheral cables into available ports located in the base:

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

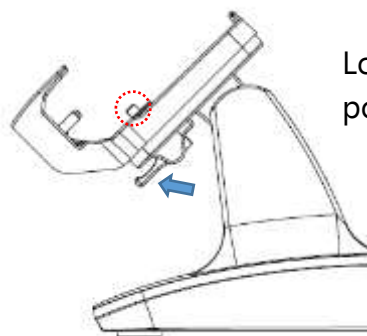
6.3 Placing the Tablet in the Dock



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



Open
position



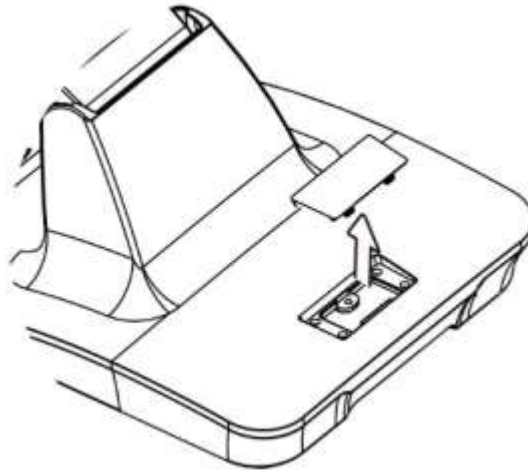
Locked
position

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.

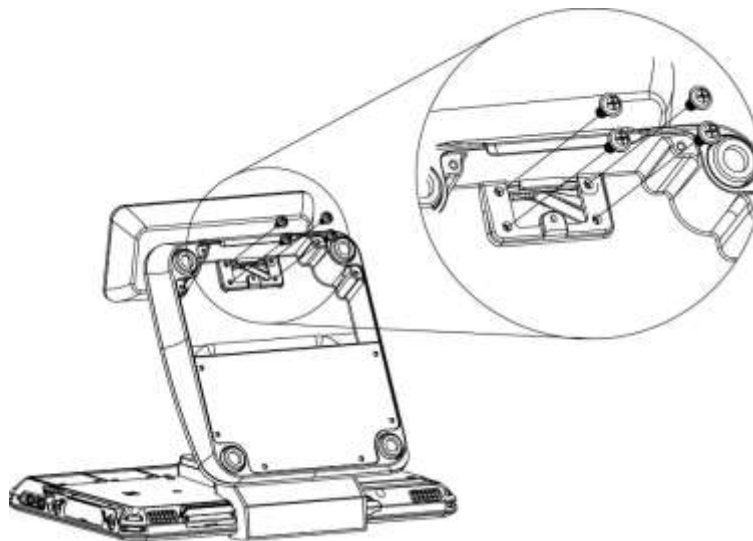
When removing the tablet from the dock, you may encounter some resistance as there is a strong magnet to hold the tablet firmly in place and ensure docking connectors remain in contact during operation.

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 iRugby Systems or authorized sales representative for a copy of the separate user guide and OPOS driver for the customer display option.



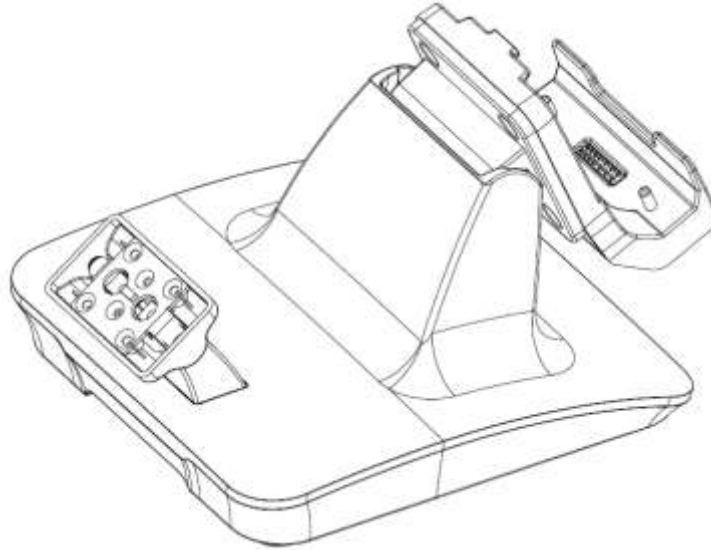
To install the customer display, remove the single screw securing a cover over the rear mount area and discard.



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 iRugby Systems.

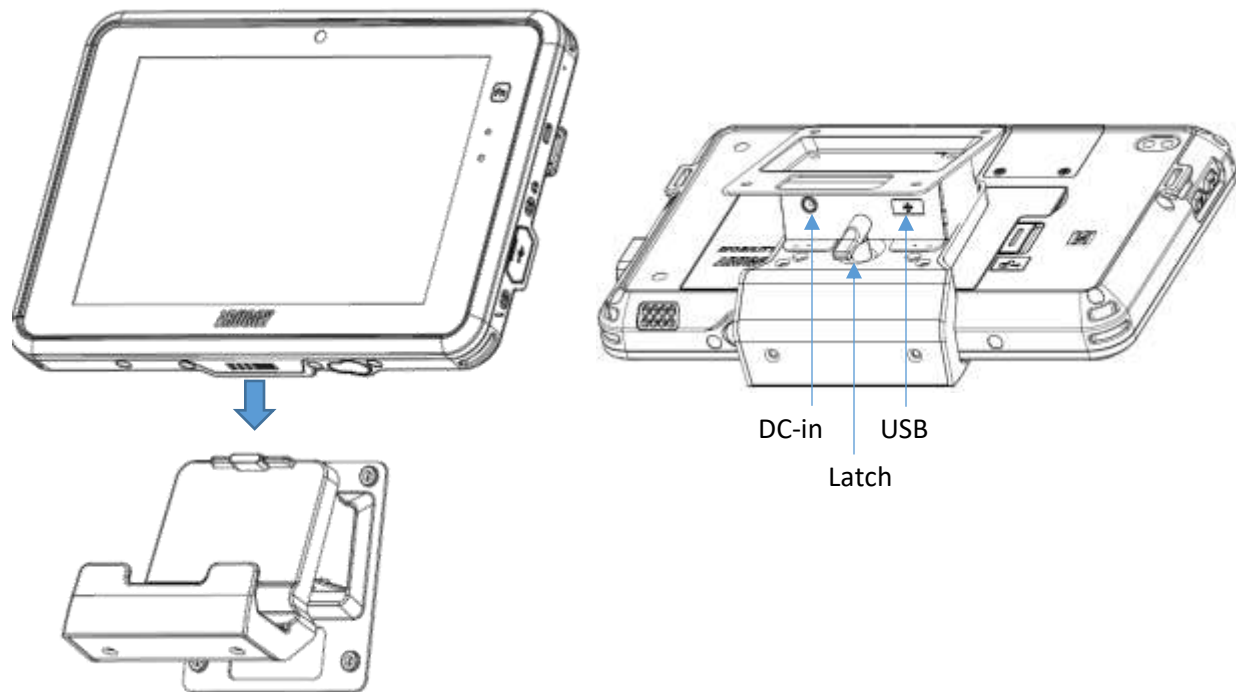


To install the device mount, remove the screw and discard the blanking cover over the rear mount access (see previous section). Attach the post to the base with the four screws provided before attaching the iRUGGY mPOS bracket.

7 Using the G8 VESA Mount

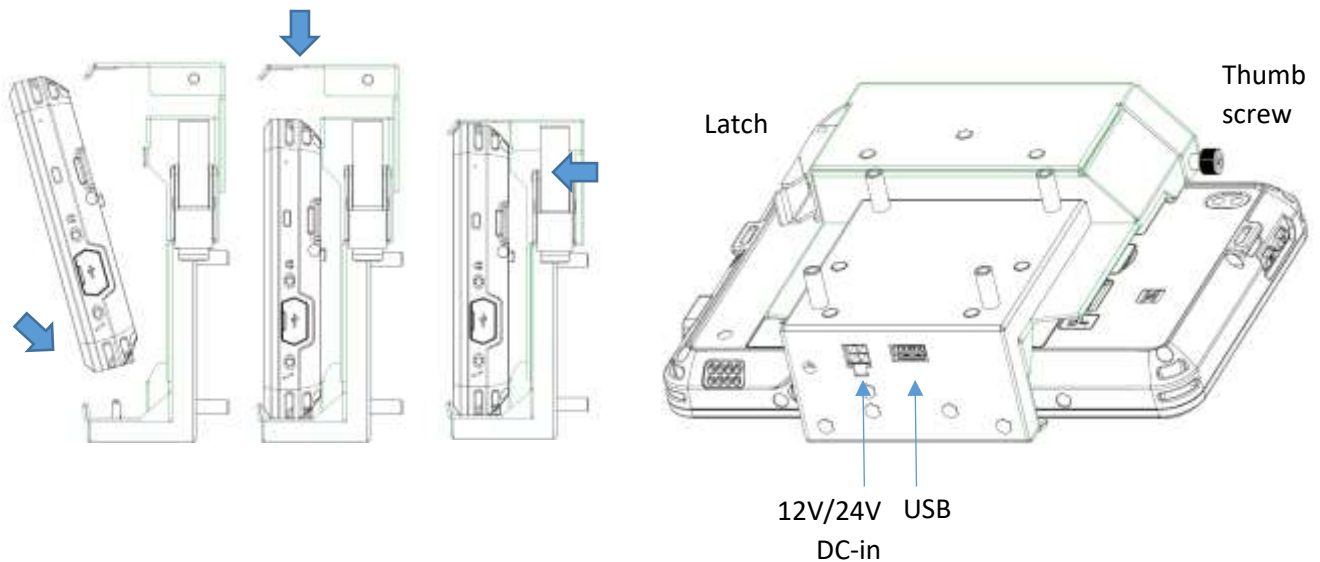
An optional fixed position mount is available to operate the tablet while charging. This mount features a 75 x 75 mm VESA hole pattern for attaching the mount to any VESA compatible wall or post bracket. The AC adapter shipped with the tablet may then be plugged directly into the DC-in connector on the 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 G8 VESA Mount includes a latch mechanism to hold the tablet securely in position, similar to the G8 POS Docking Station. See illustration in Section 6.3 for details on engaging and disengaging the latch.



8 Using the G8 Vehicle Mount

An optional vehicle mount is available to secure the tablet onto a vehicle-specific bracket. This mount features a 75 x 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 side 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 iRugby 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 G8s 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