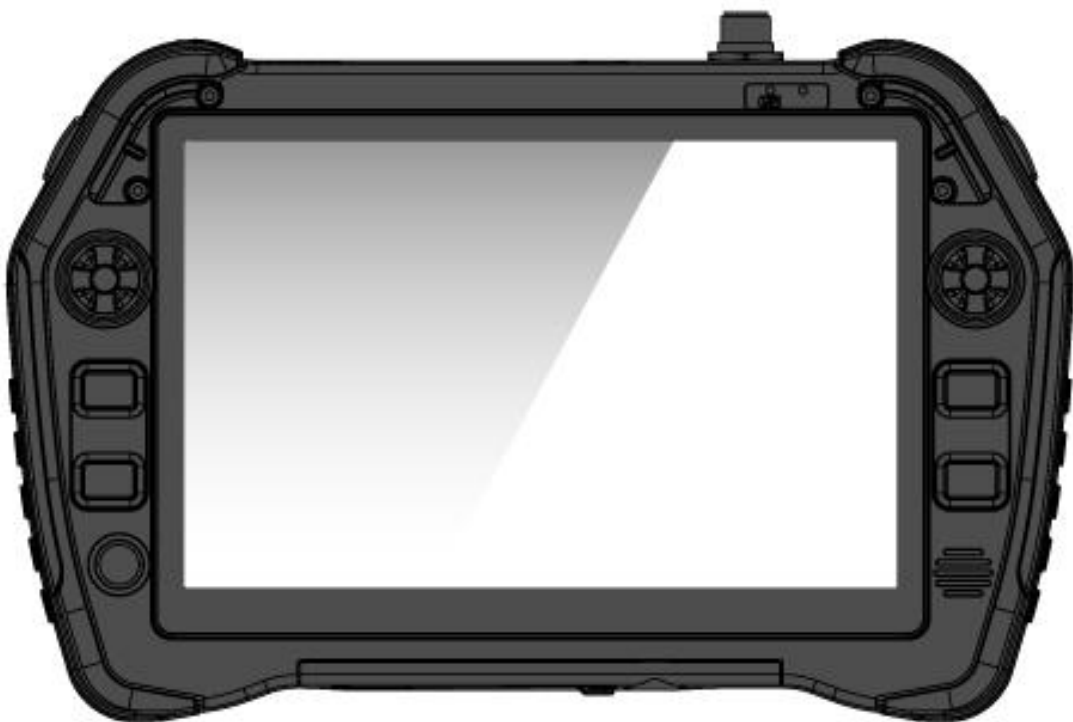


G900AD Ground Control Station

8" Rugged Robotic Controller

Intel Core i5-1235U @ 3.3GHz (turbo boost up to 4.40 GHz)



User Guide

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Chapter 1: Read Me First

1.1 Advisory Conventions

Four types of advisories are used throughout the user manual to provide helpful information or to alert you to the potential for hardware damage or personal injury. These are Notes, Important, Cautions, and Warnings. The following is an example of each type of advisory.

**Note:**

A note is used to emphasize helpful information

**Important:**

An important note indicates information that is important for you to know.



Caution A Caution alert indicates potential damage to hardware and explains how to avoid the potential problem.

Attention Une alerte d'attention indique un dommage possible à l'équipement et explique comment éviter le problème potentiel.



Warning! An Electrical Shock Warning indicates the potential harm from electrical hazards and how to avoid the potential problem.

Avertissement! Un Avertissement de Choc Électrique indique le potentiel de choc sur des emplacements électriques et comment éviter ces problèmes.

1.2 Safety Information



Precaution on Battery Pack **Précaution avec le bloc-pile**

Do Not Disassemble, Modify, or Insert Sharp Objects Into the Battery Pack. Electrolyte leakage, generation of heat, ignition, or rupture may result.

[FR] Ne pas démonter, modifier, ou insérer des objets pointus à l'intérieur du bloc-pile. Une fuite d'électrolyte, la génération de chaleur, l'amorçage ou la rupture peuvent être occasionnés.

Do Not Short the Positive (+) and Negative (-) Terminals of the Battery. Generation of heat, ignition, or rupture may result. When carrying or storing the device, do not place the battery pack with articles that may contact electricity.

[FR] Ne pas court-circuiter les bornes Positive (+) et Négative (-) de la pile, la génération de chaleur, l'amorçage ou la rupture peuvent être occasionnés. Lors du transport et du rangement de l'appareil, ne pas placer le bloc-pile en même temps que des articles pouvant créer un contact électrique.

Do Not Apply Shocks to the Battery by Dropping It or Applying Strong Pressure to It. Electrolyte leakage, generation of heat, ignition, or rupture of the battery may occur.

[FR] Ne pas faire subir de choc à la pile en la laissant tomber ou en appliquant une forte pression dessus. Une fuite d'électrolyte, la génération de chaleur, l'amorçage ou la rupture peuvent être occasionnés.

Do Not Charge the Battery Other Than Methods Those Specified In This Manual. If the battery is not charged using one of the specified methods, electrolyte leakage, generation of heat, ignition, or rupture may result.

[FR] Ne pas charger la pile par d'autres méthodes que celles spécifiées dans ce manuel. Si la pile n'est pas chargée en utilisant l'une des méthodes spécifiées, une fuite d'électrolyte, la génération de chaleur, l'amorçage ou la rupture peuvent être occasionnés.

When the Battery Pack Has Deteriorated, Replace It with a New Battery. Continued use of a damaged battery pack may result in heat generation, ignition, or battery rupture.

[FR] Lorsque la pile est détériorée, la remplacer par une nouvelle pile. L'utilisation continue d'une pile endommagée peut occasionner une génération de chaleur, l'amorçage ou la rupture de la pile.

Do Not Expose the Battery Pack to Excessive Heat or Extreme Heat (for example, Near Fire, in Direct Sunlight) Generation of heat, ignition, or rupture may result

[FR] Ne pas exposer le bloc-pile à une Chaleur Excessive, ou une Chaleur Extrême (Près d'un feu, sous la lumière du soleil par exemple) Une production de chaleur, l'amorçage ou la rupture peuvent être occasionnés

Do Not Use the Battery Pack With Any Other Products. The battery pack is rechargeable and is only designed for this specific product. Electrolyte leakage, generation of heat, ignition, or rupture may result if used with a product other than the specified product.

[FR] Ne pas utiliser avec un autre produit La batterie est rechargeable et a été conçue pour un produit spécifique. Si elle est utilisée sur un produit différent

de celui pour lequel elle a été conçue, des pertes d'électrolytes et une production de chaleur sont possibles, elle risque également de prendre feu ou de casser.

Do Not Use This Product With Battery Other Than the One Specified.

[FR] Ne pas utiliser ce produit avec une batterie autre que celle spécifiée

Discontinue using the device immediately if you notice the battery is swelling or looks puffy or misshapen. Do not attempt to charge or use the device. Do not handle a damaged or leaking battery. Do not let leaking battery fluid come into contact with your eyes, skin, or clothing.

[FR] Si vous remarquez une pile gonflée, élargie ou anormale, cesser l'utilisation de l'appareil immédiatement. N'essayez pas de recharger l'appareil ou de l'utiliser. Ne pas manipuler une pile qui fuit ou qui est endommagée. Ne laissez pas de liquide qui fuit entrer en contact avec vos yeux, votre peau ou vos vêtements.



General Product Safety *Sécurité générale des produits*

- Do not block any ventilation openings. Do not place the product against a wall or in an enclosed space, as doing so might impede the flow of cooling air.
- *[FR] Ne pas bloquer les ouvertures de ventilation. Ne pas placer le produit contre un mur ou dans un espace clos de façon à entraver la circulation de l'air de refroidissement.*
- Do not place the product near any heat sources such as radiators, warm air intakes, stoves, or other heat-generating devices (including amplifiers or other heat-producing equipment).
- *[FR] Ne pas placer le produit près d'une source de chaleur comme des radiateurs, les arrivées d'air chaud, poêles ou autres produits générant de la chaleur (y compris les amplificateurs ou autre équipement produisant de la chaleur.)*
- Protect the power cord from being crushed or pinched, particularly in the area of the plugs, any receptacles used, and the point of exit from the apparatus. Do not break off the ground pin of the power cord.
- *[FR] Empêcher le cordon d'alimentation d'être écrasé ou pincé, en particulier dans les zones de prises, des containers utilisés, et du point de sortie de l'appareil. Ne pas casser la broche de terre du cordon d'alimentation.*
- Do not disregard the safety that a polarized or grounded connection can provide. A polarized connection consists of two plugs, one of which is larger than the other. A grounded connection has two blades and a third one that is grounded. If the main plug provided cannot be inserted into your outlet, consult an electrician to replace your obsolete outlet.
- *[FR] Ne pas ignorer la sécurité qu'une prise polarisée ou une prise de terre peut prévoir. Une prise polarisée se compose de deux fiches, dont l'une est plus large que l'autre. Une prise de terre possède deux lames et une troisième qui est la terre. Si la fiche principale fournie ne peut être insérée dans votre prise, consultez un électricien pour remplacer votre prise obsolète.*
- Use only accessories specified by the manufacturer.
- *[FR] Utiliser uniquement les accessoires spécifiés par le fabricant.*

- This product should not be used near water such as bathtubs, sinks, swimming pools, wet basement, etc.
- *[FR] Ce produit ne doit pas être utilisé près de l'eau comme les baignoires, les éviers, les piscines, les sous-sols humides, etc.*
- Use only with its transport carriage, stand, tripod, console, or table specified by the manufacturer or sold with the product. When using a carriage, move the carriage assembly with the product carefully to avoid damage from falling over.
- *[FR] Utiliser uniquement avec son chariot de transport, support, trépied, console ou table spécifiés par le fabricant ou vendu avec le produit. Lors de l'utilisation d'un charriot, déplacez l'ensemble chariot avec le produit avec soin pour éviter tout dommage de chute.*
- Unplug this apparatus during lightning storms or when it is not being used for long periods.
- *[FR] Débrancher cet appareil durant les orages ou lorsqu'il n'est pas utilisé pendant de longues périodes.*
- Refer all servicing to qualified service personnel. A technical intervention is required when the apparatus has been damaged in any way, for example, if the power cord or plug is damaged, liquid has been spilled, or objects have fallen inside the unit if the product has been exposed to rain or moisture, if it does not operate normally or if it has been dropped.
- *[FR] Confier toute réparation à du personnel qualifié. Une intervention technique est nécessaire lorsque l'appareil a été endommagé de quelque façon, par exemple si le cordon d'alimentation ou la fiche est endommagé, du liquide a été renversé ou des objets sont tombés à l'intérieur de l'unité, si le produit a été exposé à la pluie ou à l'humidité, s'il ne fonctionne pas normalement ou s'il a été jeté.*



General Guideline *Directive générale*

It is recommended to reboot the device when some functions are defective or inactive. If it still can't solve the problems, please contact your dealer or agent.

Il est recommandé de redémarrer l'appareil lorsque certaines fonctions sont défectueuses ou inactives. Si le problème persiste, veuillez contacter votre revendeur ou votre agent.

1.3 Handling and Maintenance



General Guideline *Guide Général*

Keep the product at least 13 cm (5 inches) away from electrical appliances that generate a strong magnetic field such as TV, refrigerator, motor, or a large audio speaker.

[FR] Garder le produit au moins à 13 cm (5 pouces) de distance des appareils électriques qui peuvent générer un fort champ magnétique comme une télévision, un réfrigérateur, un moteur, ou un important haut-parleur.

Do not place heavy objects on top of the controller as this may damage the display.

[FR] Ne pas placer d'objets lourds sur le dessus de l'ordinateur contrôleur cela peut endommager l'écran.

The screen surface can be easily scratched. Use with care. Do not use paper towels to clean the display but use the included cleaning cloth. Avoid touching it with a pen or pencil.

[FR] La surface de l'écran peut être facilement rayée. Utiliser avec précaution. Ne pas utiliser de serviette en papier pour nettoyer l'écran mais utiliser le chiffon de nettoyage inclus. Éviter de toucher avec un stylo ou un crayon.

To maximize the life of the backlight in the display, allow the backlight to automatically turn off as a result of power management. Avoid using a screen saver or other software that prevents the power management from working.

[FR] Pour maximiser la durée de vie du rétroéclairage de l'écran, autoriser le rétroéclairage résultant de la gestion de l'alimentation. Éviter d'utiliser un économiseur d'écran ou un autre logiciel empêchant la gestion de l'alimentation de fonctionner.



Cleaning Guideline *Guide de nettoyage*

Use a soft cloth moistened with water or a non-alkaline detergent to wipe the exterior of the product.

[FR] Utiliser un chiffon doux humidifié avec de l'eau ou un détergeant non alcalin pour essuyer l'extérieur du produit.

Gently wipe the display with a soft, lint-free cloth. Do not use alcohol or detergent on the product.

[FR] Essuyer délicatement l'écran avec un chiffon doux non pelucheux. Ne pas utiliser d'alcool ou un détergent sur le produit.



Touchscreen Guideline *Guide de l'écran tactile*

Use your finger or the stylus on display. Using sharp or metallic objects may cause scratches and damage the display, thereby causing errors.

[FR] Utiliser votre doigt ou le stylet sur l'écran. L'utilisation d'un objet pointu ou métallique peut provoquer des rayures.

Use a soft cloth to remove dirt on display. The touchscreen surface has a special protective coating that prevents dirt from sticking to it. Not using a soft cloth may cause damage to the special protective coating on the touchscreen surface. To clean off hard to remove dirt, blow some steam on the particular area and gently wipe away using a soft cloth.

[FR] Utiliser un chiffon doux pour enlever la poussière sur l'écran. La surface de l'écran tactile a un revêtement protecteur spécial empêchant la saleté de se coller à lui. Ne pas utiliser un chiffon doux peut endommager le revêtement spécial sur la surface de l'écran tactile. Pour nettoyer les saletés plus difficiles à enlever, souffler de la buée sur la zone particulière et essuyer doucement avec un chiffon doux.

Do not use excessive force on display. Avoid placing objects on top of the display as this may cause the glass to break.

[FR] Ne pas utiliser une force excessive sur l'écran. Éviter de placer des objets au dessus de l'écran cela pourrait provoquer une cassure du verre.

When there is a noticeable discrepancy in the operation of the touchscreen function (your touch does not correlate to the proper location on the screen), recalibrate the touchscreen display.

[FR] Lorsqu'il y a un écart sensible dans le fonctionnement de l'écran tactile (votre contact ne correspond pas à la bonne position sur l'écran), recalibrer l'écran tactile.

1.4 Declaration of Conformity (DoC)

FCC Statement

This device complies with part 15 FCC rules.



Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation

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.

CE Notice (European Union)

This equipment is in conformity with the requirement of the following EU legislation and harmonized standards. The product also complies with the Council's directions.

Electromagnetic Compatibility Directive (2014/30/EU)



- EN55035: 2017/ A11: 2020
 - IEC61000-4-2: 2009
 - IEC61000-4-3: 2020
 - IEC61000-4-4: 2012
 - IEC61000-4-5: 2014
 - IEC61000-4-6: 2014
 - IEC61000-4-8: 2010
 - IEC61000-4-11: 2004
- EN55032: 2015
- EN61000-3-2:2019
- EN61000-3-3:2013

Low Voltage Directive (2014/35/EU)

- EN 62368-1:2014

1.5 Copyright Notice

No part of this document may be reproduced, copied, translated, or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the prior written permission of the original manufacturer.

1.6 Trademark Acknowledgement

Brand and product names are trademarks or registered trademarks of their respective owners.

1.7 Disclaimer

Winmate Inc. reserves the right to make changes, without notice, to any product, including circuits and/or software described or contained in this manual in order to improve design and/or performance. We assume no responsibility or liability for the use of the described product(s) conveys no license or title under any patent, copyright, or masks work rights to these products, and make no representations or warranties that these products are free from patent, copyright, or mask work right infringement unless otherwise specified. Applications that are described in this manual are for illustration purposes only. We make no representation or guarantee that such application will be suitable for the specified use without further testing or modification.

Chapter 2: Getting Started

This chapter tells you step by step how to get the Controller up and running.

2.1 Introduction

Congratulations on purchasing Winmate® 8-inch Ground Control Station.

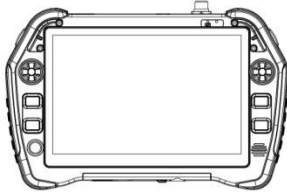
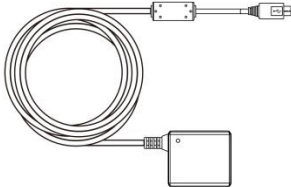
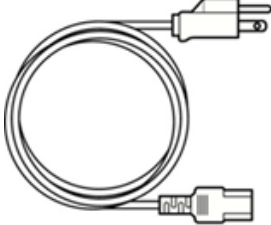
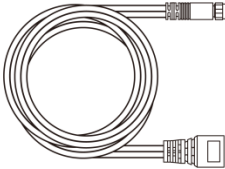
G900AD is a rugged handheld controller with robust features designed to withstand industrial use while providing tech solutions that increase productivity, improve safety, and reduce operational costs. The processor power comes from the 12th generation Intel® Alder Lake processor for high performance. The controller features a brilliant, in-plane switching with anti-glare screen, projective capacitive touch screen, which is outdoor viewable and offers 1920 x 1200 pixel resolution with real-time video viewing capabilities.

Highlights

- 12th generation Intel® Alder Lake processor
- Anti-glare & touch treatment
- All weather, dust and water-resistant design (IP65) MIL-grade drop, shock and vibration
- Support WIFI, BT and optional 4G/5G
- With one removable battery

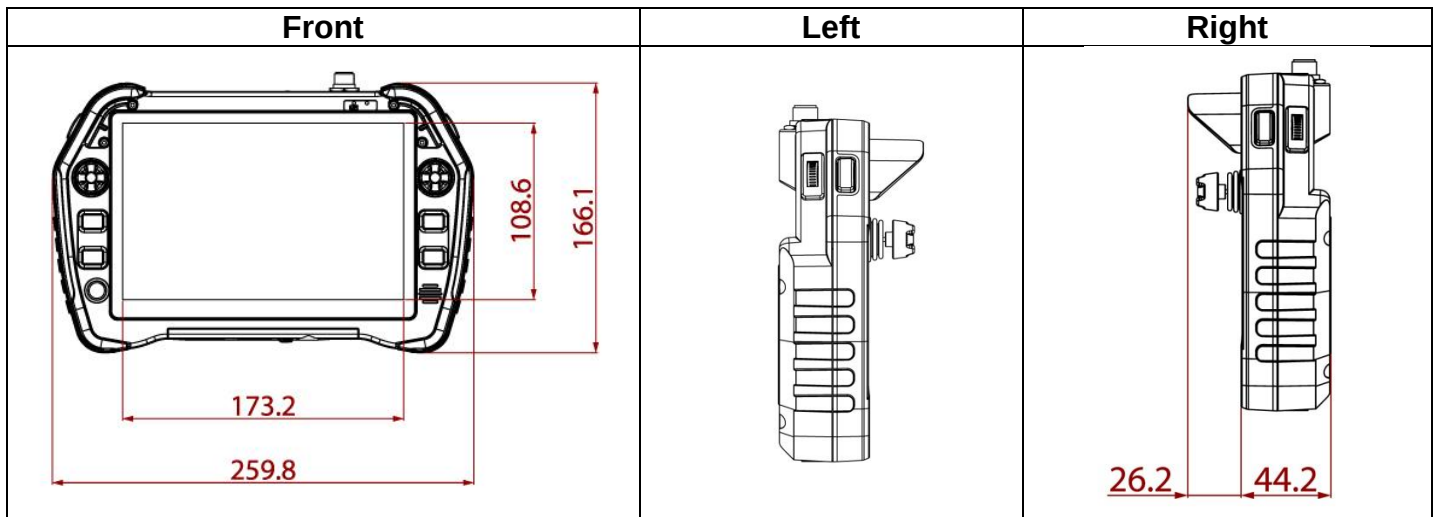
2.2 Unpacking

Check and identify the supplied accessories:

• Handheld controller 	• User Guide  (9152090K1006)
• Power Adapter 	• Power Cord and Plugs 
• Lan Cord 	

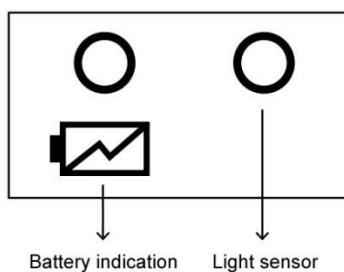
2.3 Description of Parts

Dimensions: 366x 219 x 49.5 mm



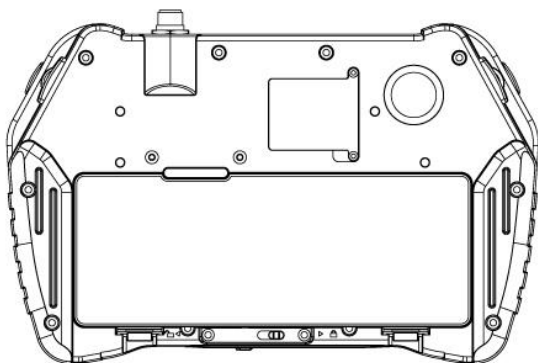
No	Item	Description
1	8" Touch Screen	Display and act as one of the inputs for the Controller
2	Roller Switches	A round wheel connects the controller

Front LED Indicator Details:

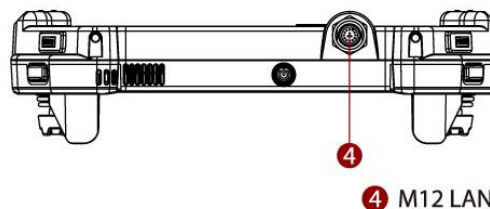


No	Item	Description
3	Joysticks	An input device consisting of a stick that pivots on a base and reports its angle or direction to the device it is controlling
4	Buttons	Programmable function buttons
5	Speaker	Converting an electrical audio signal into a corresponding sound.
6	Tripod Screw Hole	Connecting the controller to the tripod through a hole in the tripod head
7	Power Button	Power on/off the controller
8	DC power Input	USB type-C PD 100w
9	USB and micro HDMI Output	USB port connects to USB devices. Micro HDMI port connects to micro HDMI devices.

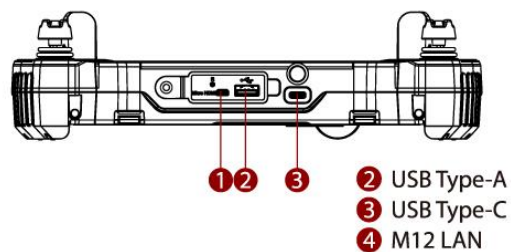
Rear



Top



Bottom



No	Item	Description
10	LAN	M12 LAN connector
11	USB	1 x USB 3.0 Port (Type-A) 1 x USB 3.2 Gen 1x1 (Type-C)
12	Removable Battery	11.4V type 3500mAh Lilon Removable Battery(3S1p)

2.4 Indicators

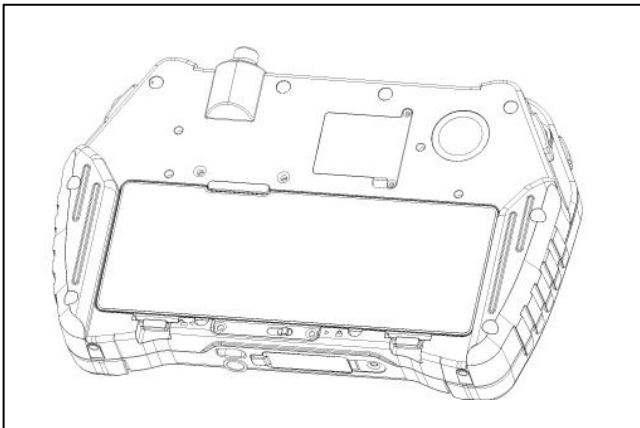
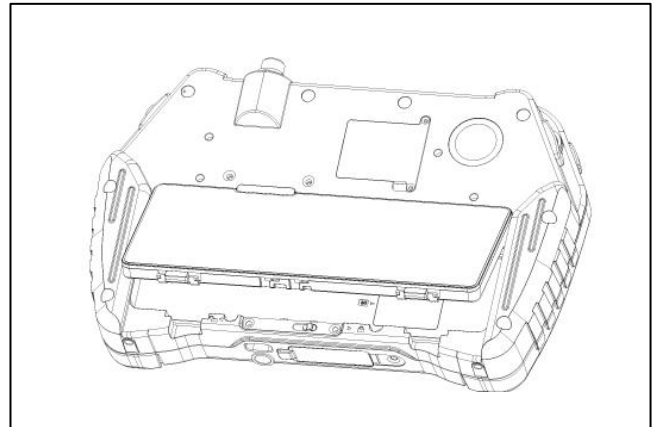
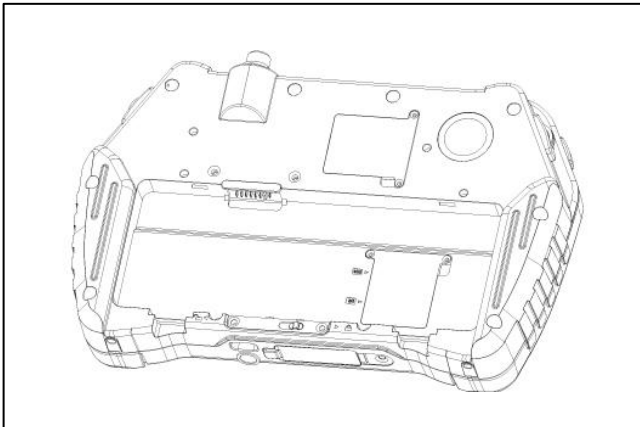
Icon	Indicator	Description
	Battery indication	Red light – low battery Green light – high battery Orange light – battery charging

2.5 First-Time Operation

2.5.1 Installing Battery

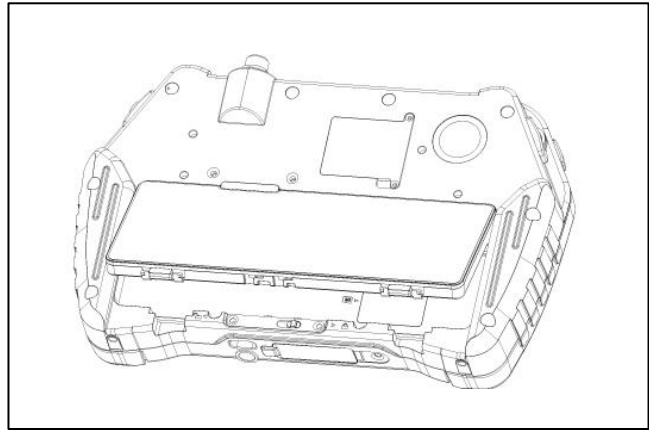
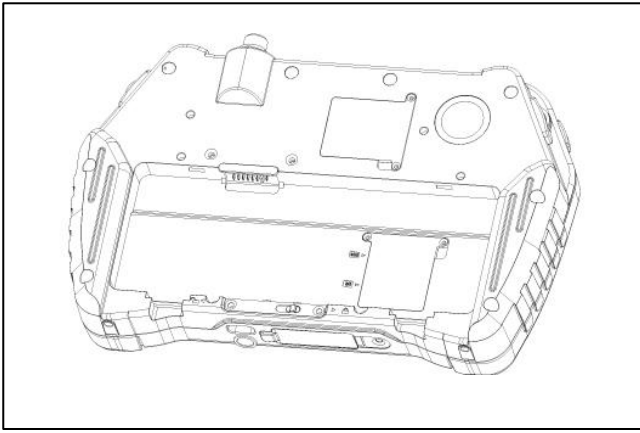
To install the standard battery pack:

1. Disconnect any cords connected to the controller and turn it over, back facing up.
2. Locate the Battery Lock and slide it to the "Unlocked" position.
3. Insert the battery with the connector-pins side first, and then lower the battery into the battery compartment. The battery will be flat against the housing once fully inserted.
4. Slide the Battery Lock to the "Locked" position.



To remove the battery pack:

1. Shut down the controller (or put it into sleep mode). Disconnect any cords connected to the controller.
2. Turn the controller over, back facing up.
3. Locate the Battery Lock and slide it to the "Unlocked" position.
4. Push and hold the Battery Release Latch while lifting the battery out of the compartment.



2.5.2 Charging Your Controller

The controller operates either on external AC power or internal battery power. It is recommended to use AC power when you start up the controller for the first time.

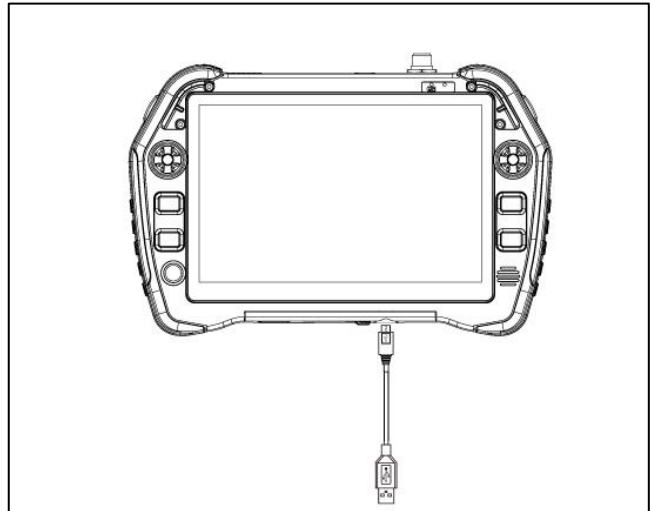
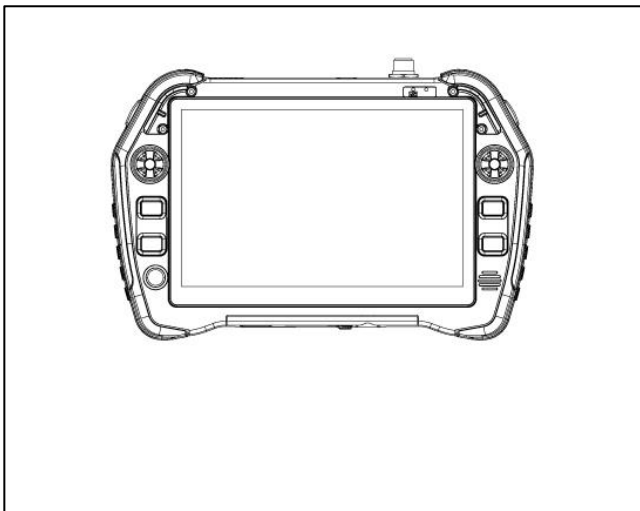


Caution Use only the AC adapter included with your controller. Using other AC adapters may damage the controller and the Battery.

Attention Utilisez uniquement l'adaptateur secteur fourni avec votre contrôleur. L'utilisation d'autres adaptateurs secteur peut endommager la contrôleur et la batterie.

To connect a controller to AC power:

1. Plug the converter cord into the controller
2. Plug the DC cord of the AC adapter into the power type-C of the converter cord.
3. Plug the AC power cord into the AC adapter.
4. Plug the AC power cord into the electrical outlet.



The battery LED indicator shows different

battery states:

Red light—It is low battery.

Green light—It is high battery.

Orange light—It is battery charging

2.5.3 Starting the Controller

**Important:**

When powering on the device for the first time, please make sure there's no interruption during the Windows setting up process, for example, accidentally powering off. If it happened, please access the recovery menu by pressing **Fn1** button to initiate the recovery process.

Press and hold the power button for **1 seconds**. (AC mode / Battery mode) until the blue LED power indicator light up.

**Note:**

Do not press the power button repeatedly.

Do not perform the following operations until the controller is booted to Windows.

- Connecting or disconnecting the AC adapter
- Pressing the power button
- Touching the controller buttons, screen, or external keyboard/mouse

To power off the Controller:

1. Make sure you have closed any programs that are open on the desktop. Start Screen apps don't need to be closed.
2. Tap on **Power**.
3. Tap on **Shut Down**.
4. Wait for controller to power off.

**Note:**

The controller will forcibly be powered off if the power button is pressed and held for **10 seconds or longer**.

Chapter 3: Setting Up Windows for the First Time

This chapter details how to setup the Windows that may be installed on the controller for the first time.

3.1 Introduction

The G900AD handheld controller operates on Windows 10 IoT Enterprise operating system.



Caution Make sure the battery is full charged before starting the controller for the first time with internal battery power.

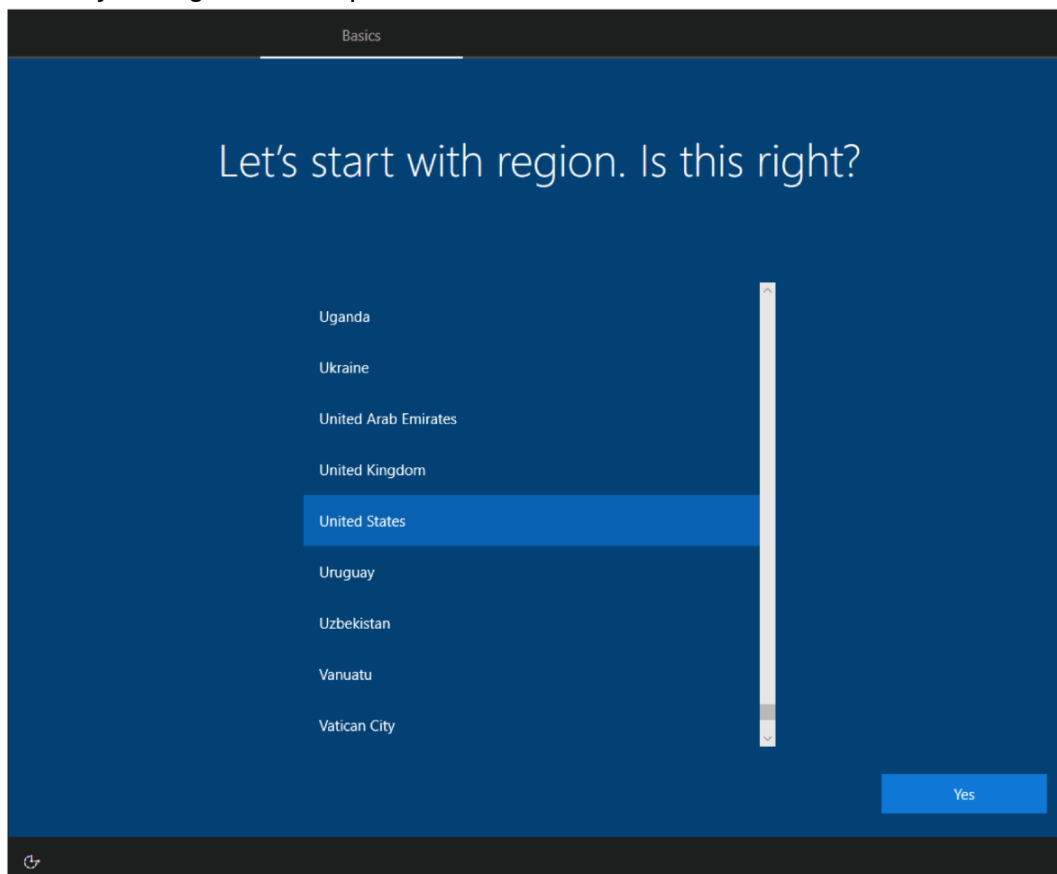
Attention Assurez-vous que la batterie est complètement chargée avant de démarrer la contrôleur pour la première fois avec l'alimentation par batterie interne.

- **Public network:** Select this location if you do not recognize all the controller on the network. (For example, you are in a coffee shop or airport or have mobile broadband) with a public network and is *not* trusted. Select the location where you will most often use the controller.

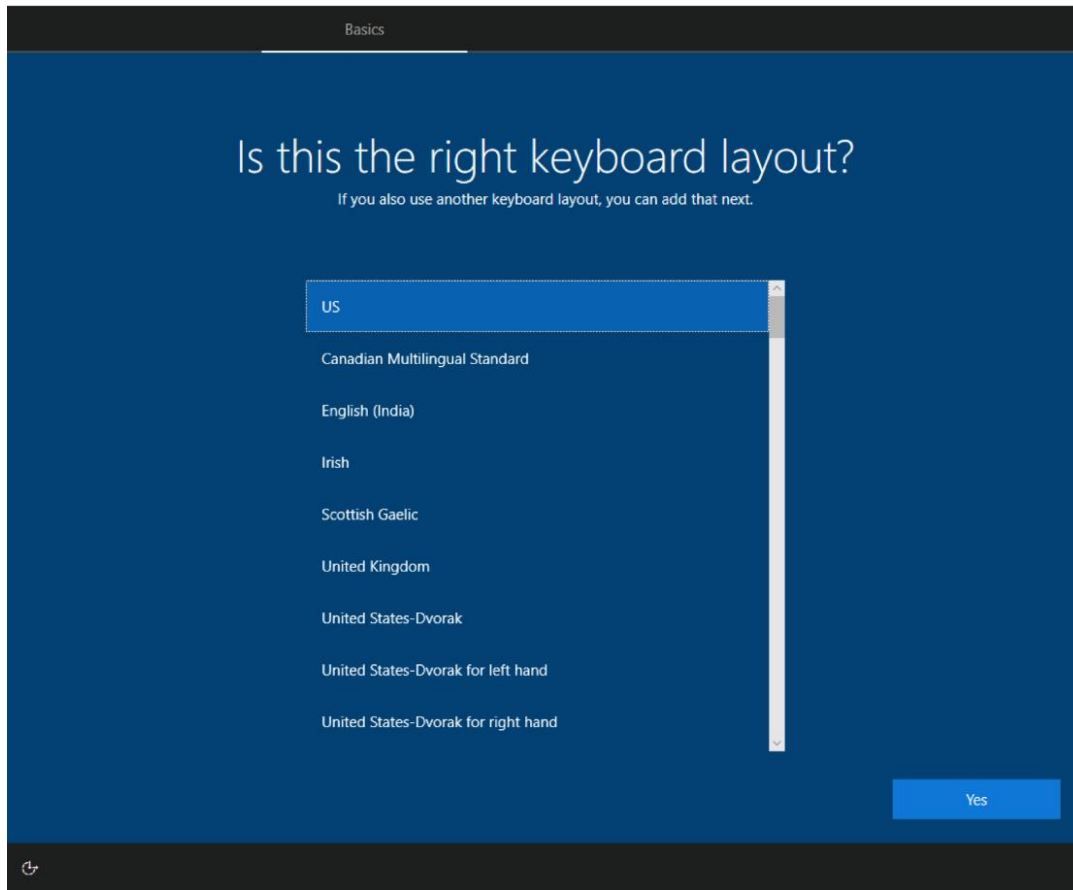
3.2 Setting up Windows 10 IoT Enterprise

Follow the steps below to complete the Windows 10 IoT Enterprise set-up process.

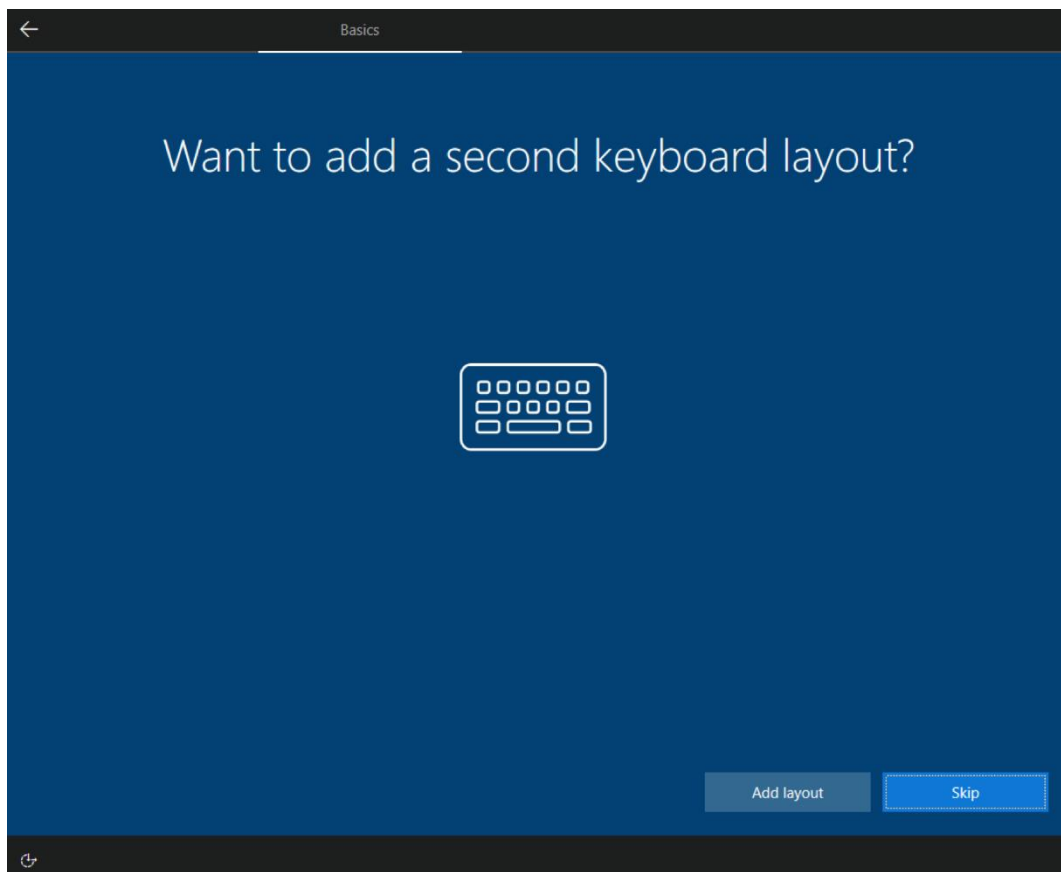
1. Press the button to turn on the controller.
2. Select your region, then tap Yes.



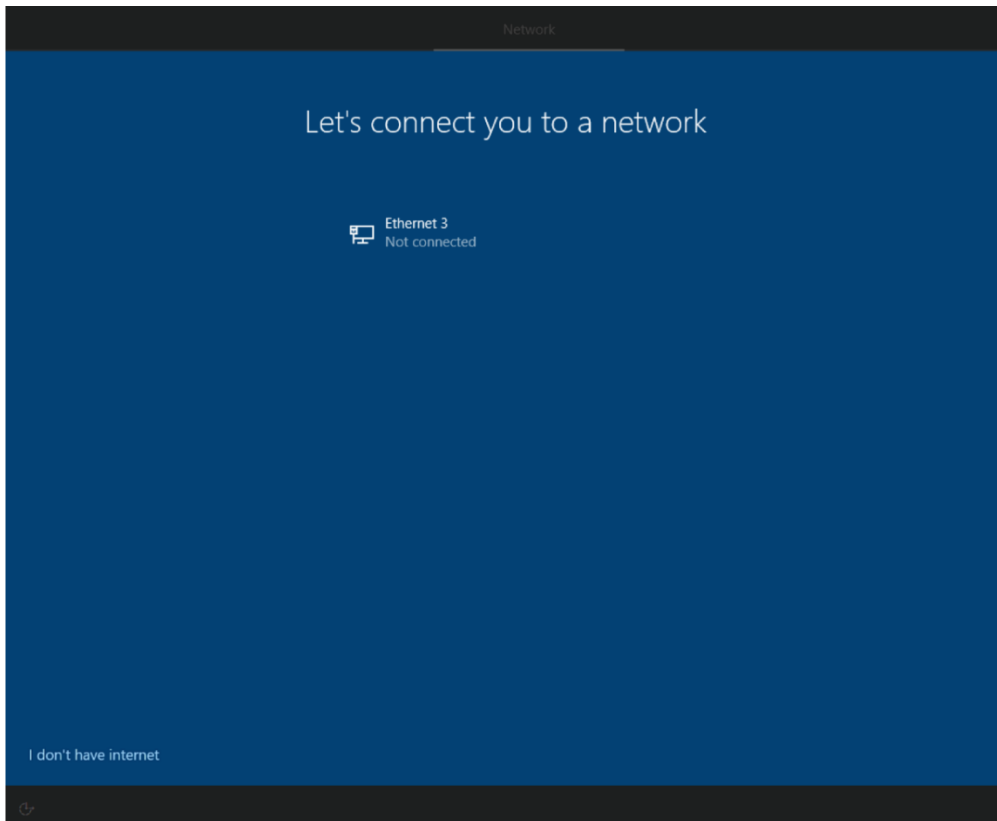
3. Select your preferred keyboard layout, then tap **Yes**.



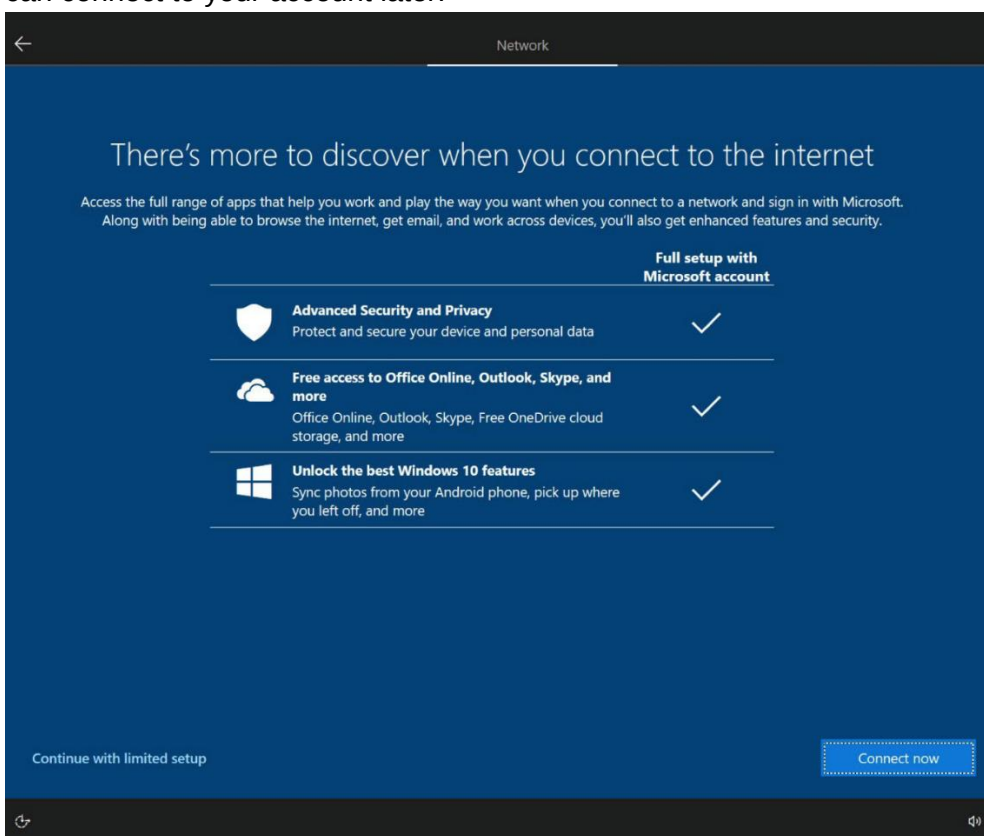
4. Tap **Add layout** if you want to add a second keyboard layout, or tap **Skip** for the next step.



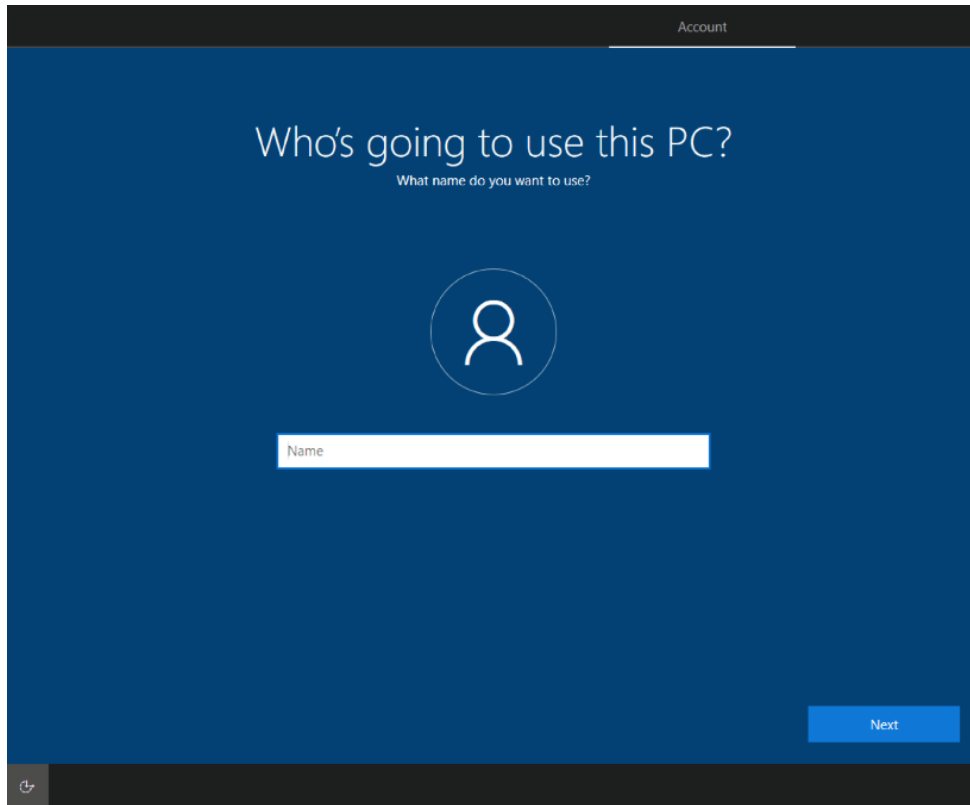
5. Windows will then try to connect you to a network. Select your network or tap **I don't have internet** to continue without a wireless connection, as you can set up the network later. You'll then jump to 7. if you don't connect to a network.



6. Tap **Connect now** to connect to your Microsoft account so that you could get the features and security, or tap **Continue with limited setup** to continue without connecting to the account, as you can connect to your account later.

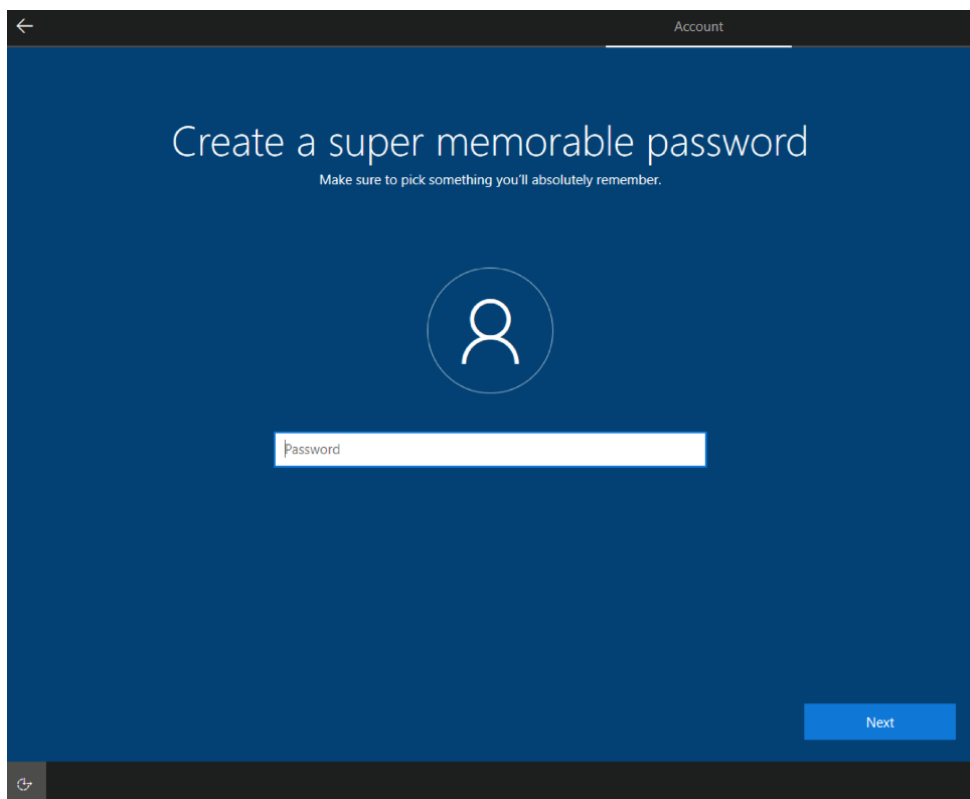


7. Type your name, then tap **Next**.



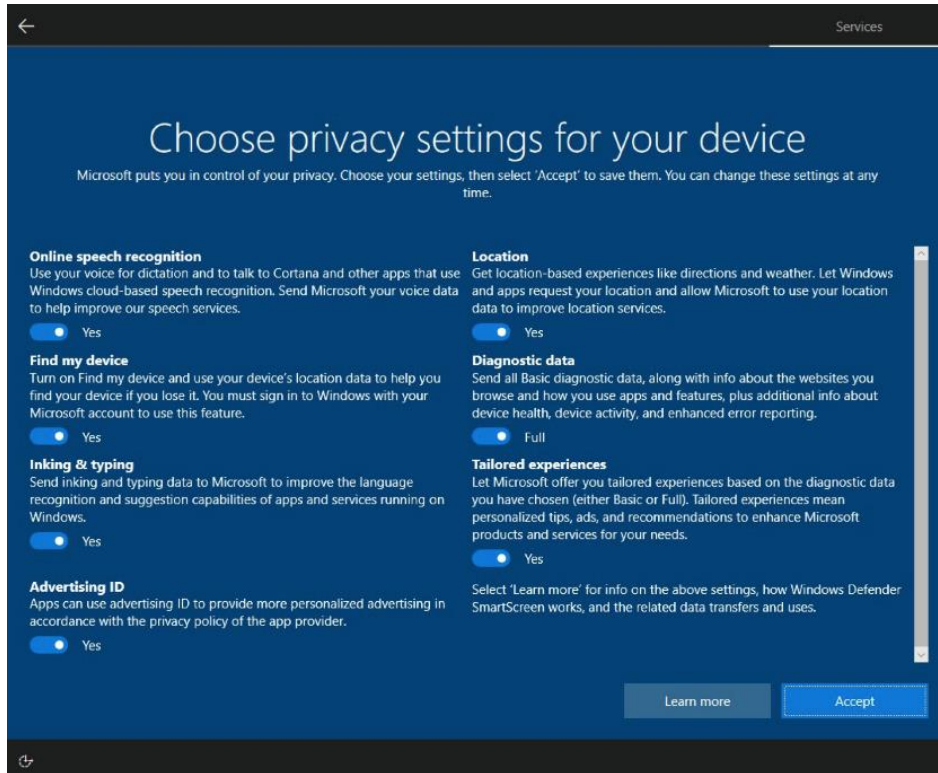
This screenshot shows the 'Who's going to use this PC?' screen during Windows setup. The background is a solid blue color. At the top, there is a dark header bar with the word 'Account' on the right. The main text in the center reads 'Who's going to use this PC?' with a subtitle 'What name do you want to use?' below it. In the center of the screen is a white circular icon containing a stylized person silhouette. Below this icon is a white rectangular text input field with the placeholder text 'Name'. In the bottom right corner, there is a blue button with the text 'Next'. At the very bottom of the screen, there is a dark grey bar with a small white icon on the left.

8. Create your password, then tap **Next**.



This screenshot shows the 'Create a super memorable password' screen during Windows setup. The background is a solid blue color. At the top, there is a dark header bar with a back arrow on the left and the word 'Account' on the right. The main text in the center reads 'Create a super memorable password' with a subtitle 'Make sure to pick something you'll absolutely remember.' below it. In the center of the screen is a white circular icon containing a stylized person silhouette. Below this icon is a white rectangular text input field with the placeholder text 'Password'. In the bottom right corner, there is a blue button with the text 'Next'. At the very bottom of the screen, there is a dark grey bar with a small white icon on the left.

9. Read each privacy settings and choose it, you can tap **Learn more** for more information, or tap **Accept** to save them. You can change these settings at any time.



10. Read any introductory screens describing features of your controller, and tap **Next** upon completing each. You are now done with the initial setup process.

Chapter 4: Operating the Device

This chapter describes how to operate the G900AD controller, including, Hottab , WWAN, WLAN features.

4.1 Hottab Introduction

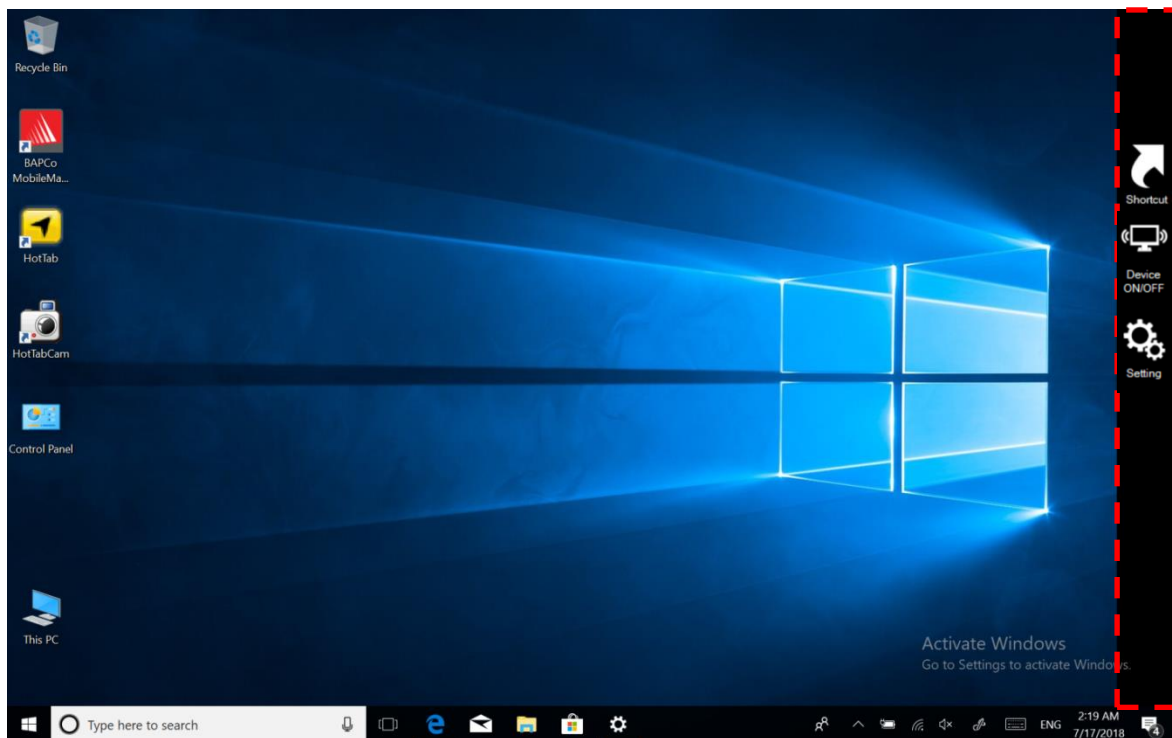
Hottab provides quick access to the controller 's functions and features, such as setting up shortcuts, using powering on/off built-in devices.

As Windows starts up, Hottab starts and runs in the background. To display the Hottab control utility, launch the Hottab Utility application.

Hottab Utility Icon:



The main user interface is located on the right side of the screen. There are 3 main menu options: Shortcuts, Device ON/OFF, and Settings. Operations and functions on each menu option are explained in detail in the coming section.

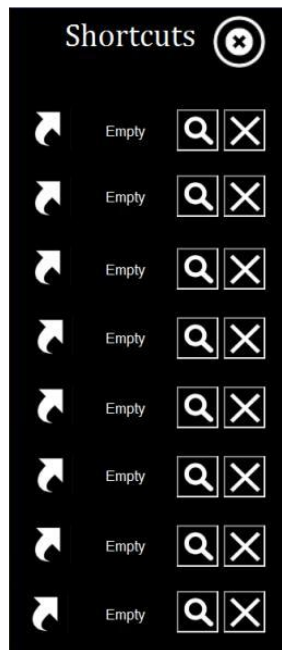


Icon	Description
 Shortcuts	Allows users to configure short cut to access programs quickly with a few tabs.
 Device ON/OFF	Enables/disables controller's hardware functions. The configurable functions are WLAN, WWAN, GPS, Bluetooth, LED indicators, and GPS Antenna routing options.
 Settings	Provide PC information, battery status, device settings such as Brightness and volume.

4.2 Shortcuts

Hottab Shortcuts Menu provides a user-friendly interface to configure onscreen software shortcuts and allow users to access programs quickly with a few taps. The Shortcuts menu offers 8 empty slots to store user's desired quick access. Shortcuts can be mapped to any of the executable files (.exe) installed on the controller.

Short Cut Menu:



To store a new shortcut:

1. Launch the Hottab Utility application.
2. Tap on the **Shortcuts** button.
3. Tap on  button of any empty slot.
4. An onscreen file browser will appear.
5. Browse to find the desired application to have a shortcut.
6. Click "Open" to save the shortcut.

To remove a saved shortcut:

1. Launch the Hottab Utility application.
2. Tap on the **Shortcuts** button.
3. Tap on the  button of any saved slot to remove
4. The shortcut will be removed and show "Empty" to indicate the slot is empty.

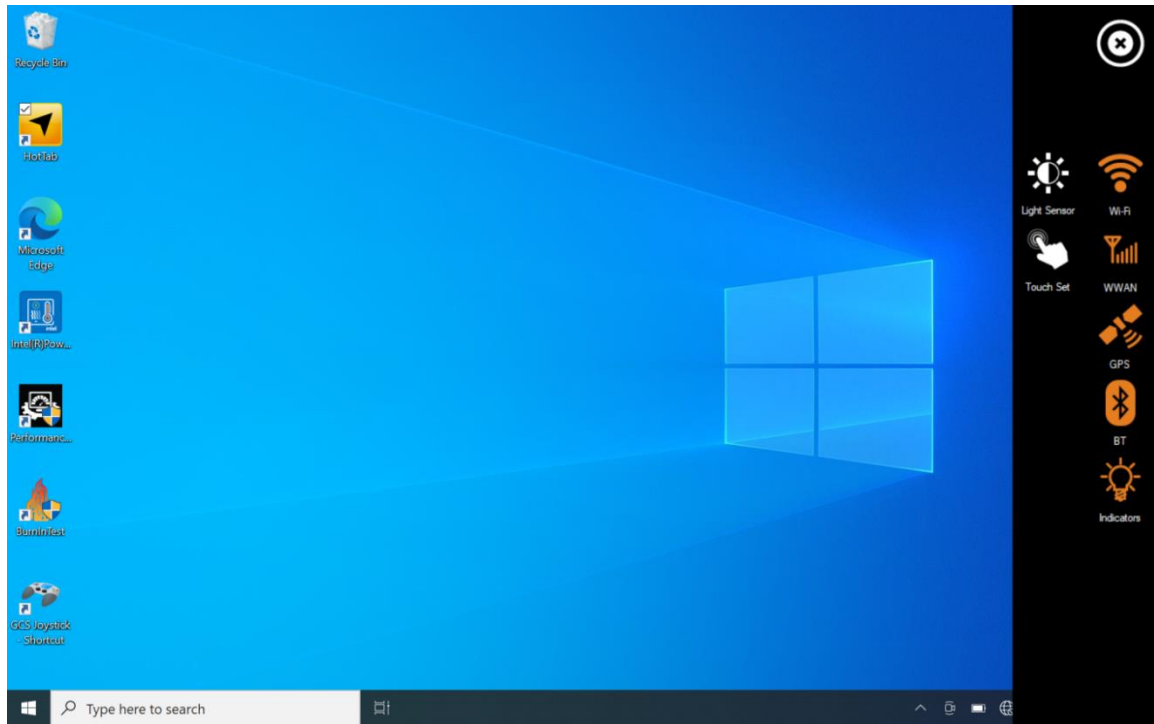
Tap on the  button will hide the Hottab Utility Menu.

Using the Hottab shortcuts:

1. Launch the Hottab Utility application.
2. Tap on the **Shortcuts** button.
3. Tap on the saved shortcut items to access saved programs.

4.3 Built-in Devices On/Off

This section describes how to get quick access to set up built-in devices, including turning on/off RF modules and setting up.



4.3.1 Using the Wireless LAN

To use the wireless LAN (WLAN) feature to connect to the network, perform the following procedure:

1. Launch the Hottab Utility application.
2. Tap on the **Device ON/OFF** button.
3. Check the status color of the **Wi-Fi** icon:

Item	Status Color	Description
 Wi-Fi	Orange	WLAN is enabled.
	White	WLAN is disabled.

4. If the WLAN feature is disabled (white), tap on the Wi-Fi icon to enable it (orange).
5. Click the wireless network connection status icon in the Windows notification area. A list of available wireless networks is displayed.
6. Double-click a network to connect to it. Provide required authentication information if needed.
7. To check the connection status, observe the wireless network connection status icon in the Windows notification area. The more bars the icon shows, the better the wireless LAN connection strength is.
8. Now wireless LAN connection is set up, try to connect to the network with an internet browser such as Internet Explorer.

4.3.2 Using the Wireless WAN (Optional)

The controller supports data connection with 4G/LTE modules.

4.3.2.1 Using Wireless WAN Feature (Optional)

To connect to the network using wireless WAN:

1. Launch the Hottab Utility application.
2. Tap on the **Device ON/OFF** button.
3. Check the status color of the **WWAN** icon:

Item	Status Color	Description
 WWAN	Orange	WWAN is enabled.
	White	WWAN is disabled.

4. If the WWAN feature is disabled (white), tap on the WWAN icon to enable it (orange).
5. You can check the wireless WAN connection status through the wireless network connection status icon in the Windows notification area. The more bars encompassed, the better the signal is.

4.3.3 Using the GPS

To enable the GPS:

1. Launch the Hottab Utility application.
2. Tap on the **Device ON/OFF** button.
3. Check the status color of the **GPS** icon:

Item	Status Color	Description
 GPS	Orange	GPS is enabled.
	White	GPS is disabled.

4. If the GPS feature is disabled (white), tap on the GPS icon to enable it (orange).
5. Now the GPS feature is ready to be used with an application utilizing the GPS.

4.3.4 Using the Bluetooth

To enable the Bluetooth:

1. Launch the Hottab Utility application.
2. Tap on the **Device ON/OFF** button.
3. Check the status color of the **Bluetooth** icon:

Item	Status Color	Description
 Bluetooth	Orange	Bluetooth is enabled.
	White	Bluetooth is disabled.

4. If the Bluetooth feature is disabled (white), tap on the **Bluetooth** icon to enable it (orange).
5. Click the **Bluetooth** icon in the Windows notification area. A contextual menu for Bluetooth is displayed.
6. To add a device, tap on **Add a Bluetooth Device**. Windows will search any Bluetooth device automatically.
7. Choose the Bluetooth device to connect and follow the onscreen prompt to continue the pairing procedure and use the Bluetooth device.

4.3.5 Turning On/Off LED Indicators

The LED Indicators for Power and Battery status can be turned on/off from Hottab menu.

To enable/disable the LED indicators:

1. Launch the Hottab Utility application.
2. Tap on the **Device ON/OFF** button.
3. Check the status color of the **Indicator** icon:

Item	Status Color	Description
 Indicators	Orange	LED indicator is enabled.
	White	LED indicator is disabled.

4. If the indicator is disabled (white), tap on the Indicator icon to enable it (orange).

4.3.6 Turn on/off the Light Sensor

The Light Sensor can be turned on/off from the Hottab menu. To enable/disable the Light Sensor, perform the following procedure:

1. Launch the Hottab Utility application.
2. Tap on the **Device ON/OFF** button.
3. Check the status color of the **Light Sensor** icon:

Item	Status Color	Description
 Light Sensor	Orange	Light Sensor is enabled.
	White	Light Sensor is disabled.

4.3.7 Changing Touchscreen Modes

The controller supports three built-in operating modes for different usage scenarios:

Mode	Description
 Hand/ (Default)	In <i>Hand</i> mode, the touchscreen rejects false inputs from liquid drops. When the liquid is removed, the touchscreen accepts touch inputs from bare fingertips. <i>Supports input by:</i> • Rubber tip passive stylus • Bare fingertips
 Rain	In <i>Rain</i> mode, the touchscreen rejects false inputs from liquid drops. When the liquid is removed, the touchscreen accepts touch inputs from bare fingertips. <i>Supports input by:</i> • Rubber tip passive stylus • Bare fingertips
 Glove	In <i>Glove</i> mode, the touchscreen supports inputs while the user is operating the touchscreen with gloves on. <i>Supports input by:</i> • Glove • Rubber tip passive stylus • Bare fingertips

To change touch mode:

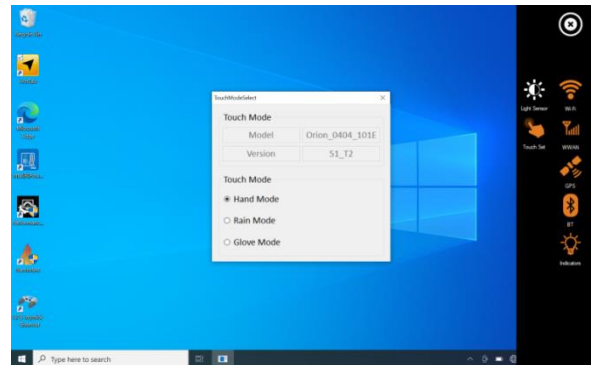
- (1) Launch HotTab Utility application. Choose “**Device ON/OFF**”, and then click “**Touch Set**” icon.



4.4.7.1 Switch via Built-in HotTab Utility

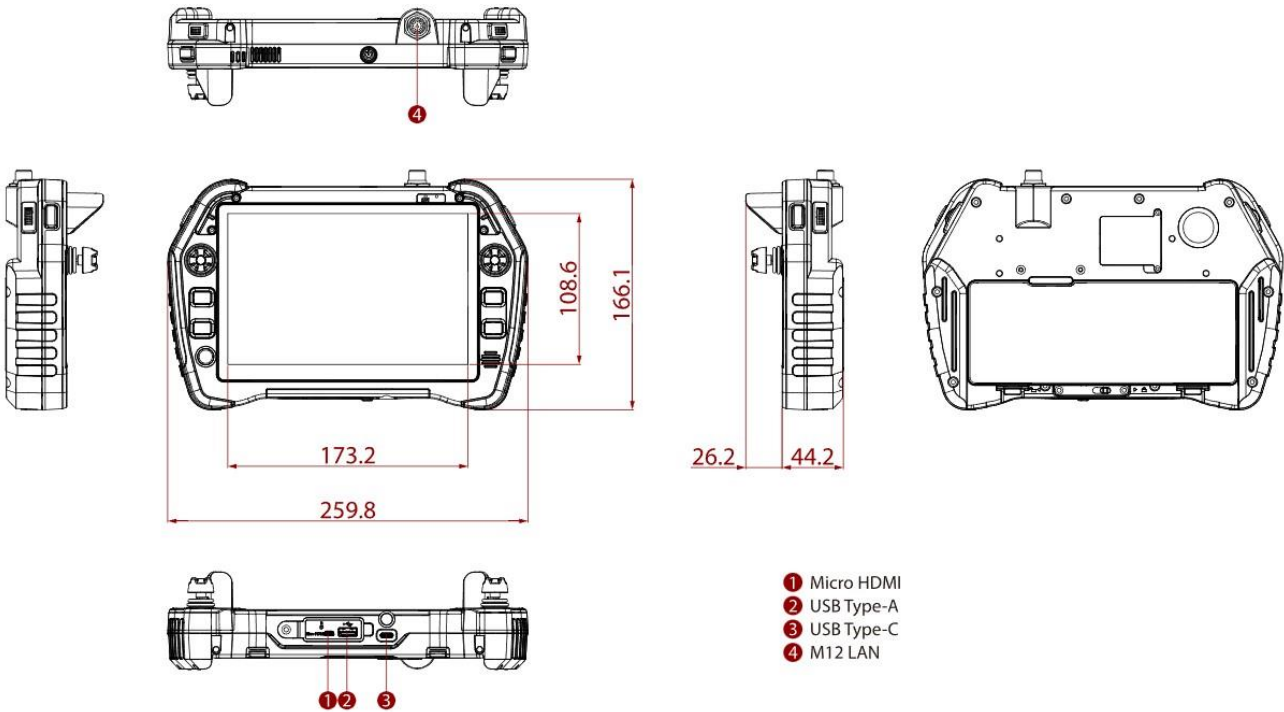
To switch touchscreen mode via the HotTab:

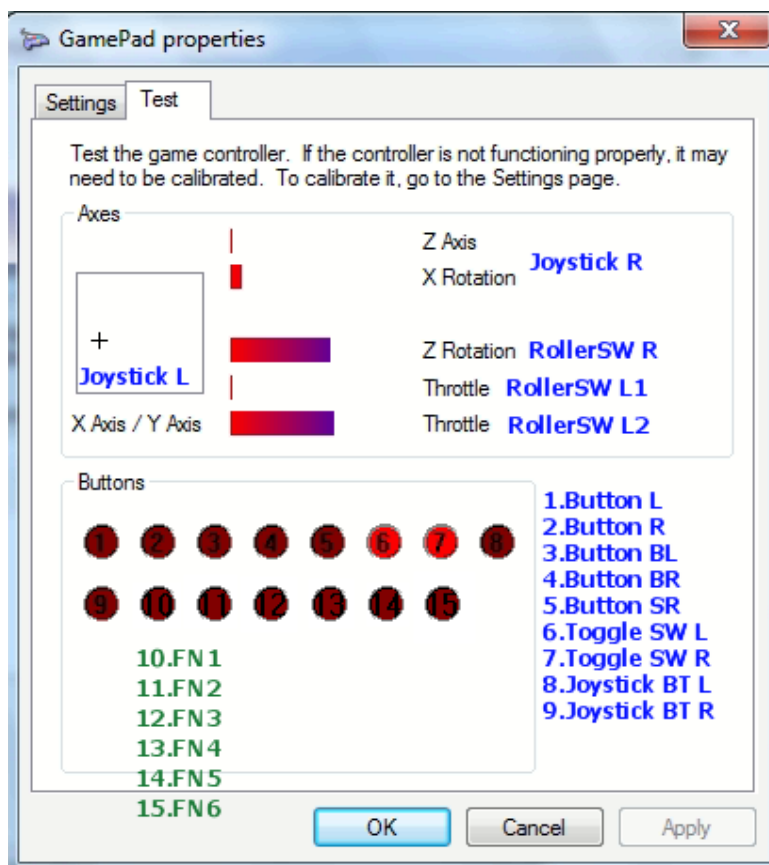
1. Launch the Hottab Utility application.
2. Choose “**Device ON/OFF**” and then click on **Touch Set** icon  → .
3. Under the **Touch Mode**, select the desired touch modes by tapping on the radio button.
4. Here's also additional touch-related settings to switch the touchscreen input between mouse mode with a cursor or with multi-touch mode:
Mouse Mode: Single touch point supported, with mouse cursor shown.
Multi-touch Mode: The default setting of the touch screen supports multi-touch mode (up to 10 points)



4.4 USB Report Protocol

							BIT							
BYTE							7	6	5	4	3	2	1	0
0							REPORT ID = 0x01							
1							Roller Switch L1 0~255							
2							Roller Switch L2 0~255							
3							Joystick RX -127~127							
4							Joystick RY -127~127							
5							Joystick LX -127~127							
6							Joystick LY -127~127							
7							Roller Switch R 0~255							
8							Joystick Button L	Toggle Switch R	Toggle Switch L	Button SR	Button BR	Button BL	Button R	Button L
9	reserved	FN3	FN2	FN1	FN6	FN5	FN4	Joystick Button R						

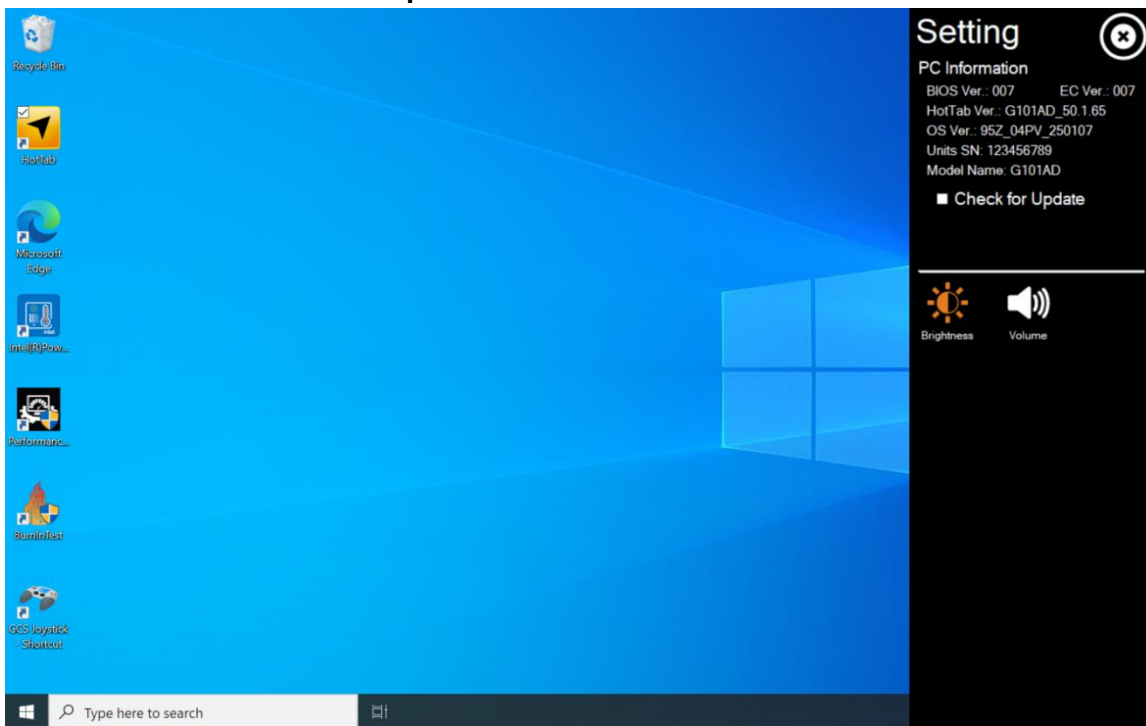




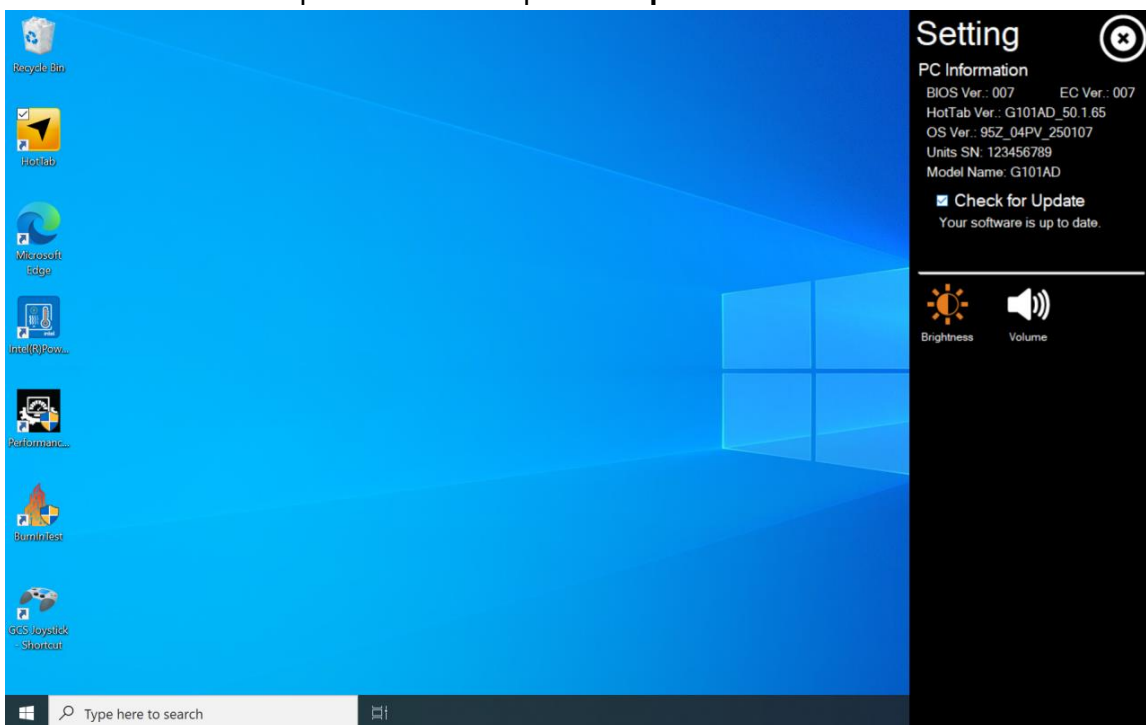
4.5 Check for Update

To check for software update, perform the following procedure:

1. Launch the Hottab Utility application.
2. Tap on the **Setting** button.
3. Check the **Check for Update**.



4. The available update will show up. Click **Update** to download and install it.



Chapter 5: Frequently Used Settings

5.1 Screen Resolution Setting

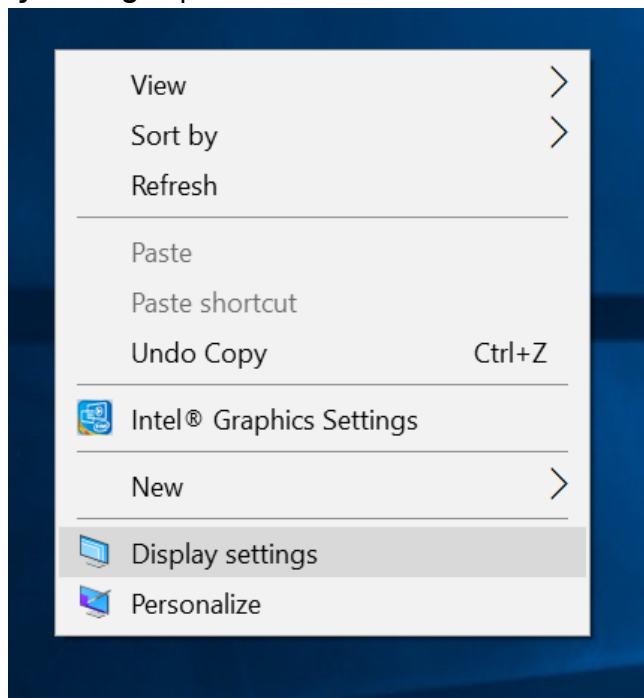
The G900AD's 1920 x 1200 high-resolution display is perfect for viewing images, videos, or other applications. However, when the device is used alone or connected to other device, the Windows user interface (icons, buttons, and other elements) may be too small to read and operate at the default Windows settings. For optimal viewing, it is recommended to change the display setting of the device.

**Note:**

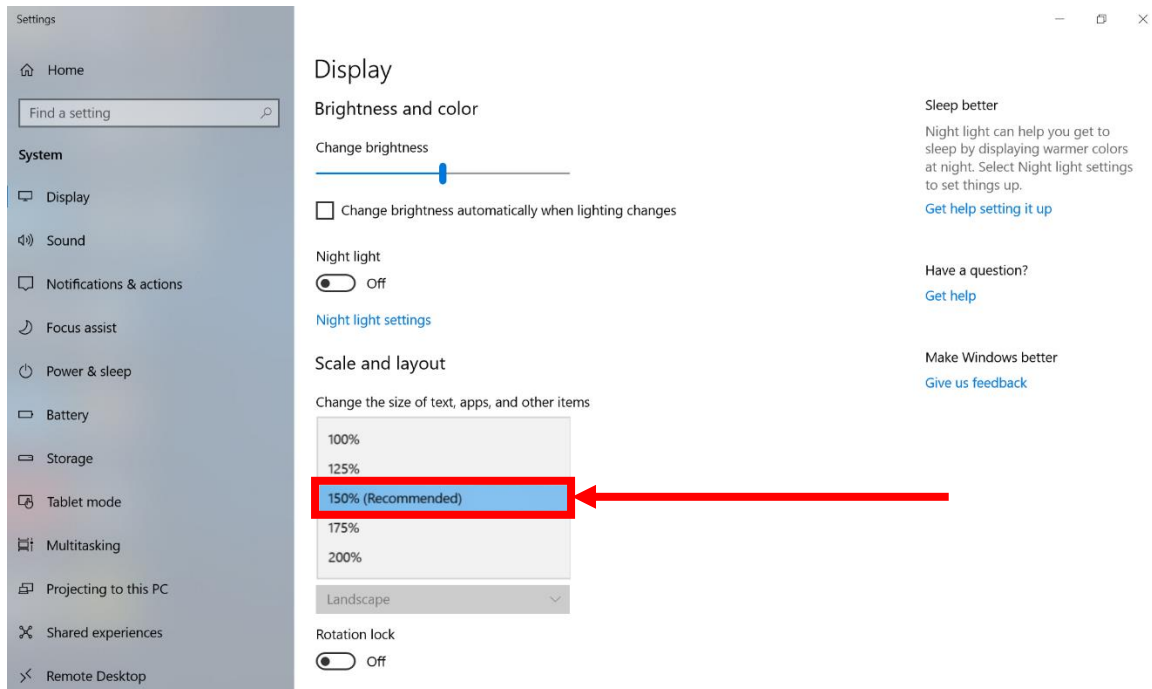
The controller is shipped with a display scaling set at **Larger - 150%**. We recommend the users set the scaling to this setting for optimal text and image viewing. Before proceeding to change the scaling option, make sure any opened document is saved and close also, all running applications are closed before proceeding to change the display scaling because this procedure requires users to log out of their account to apply display scaling change.

5.1.1 Changing Display Scaling (Recommended)

1. Tap and hold anywhere on the desktop for 3 seconds and release to bring up the context menu, and select the **Display settings** option as shown below:



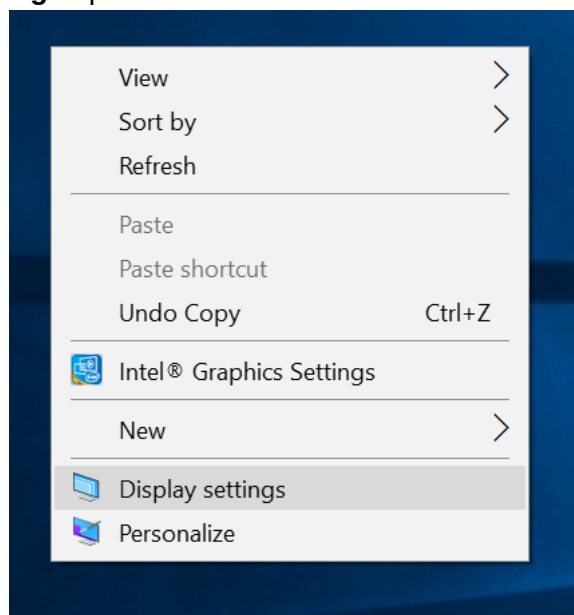
- On Display Window, click on the drop-down option under the **Scale and layout** and change the scaling option to **150% (Recommended)** or any other desired display scaling.



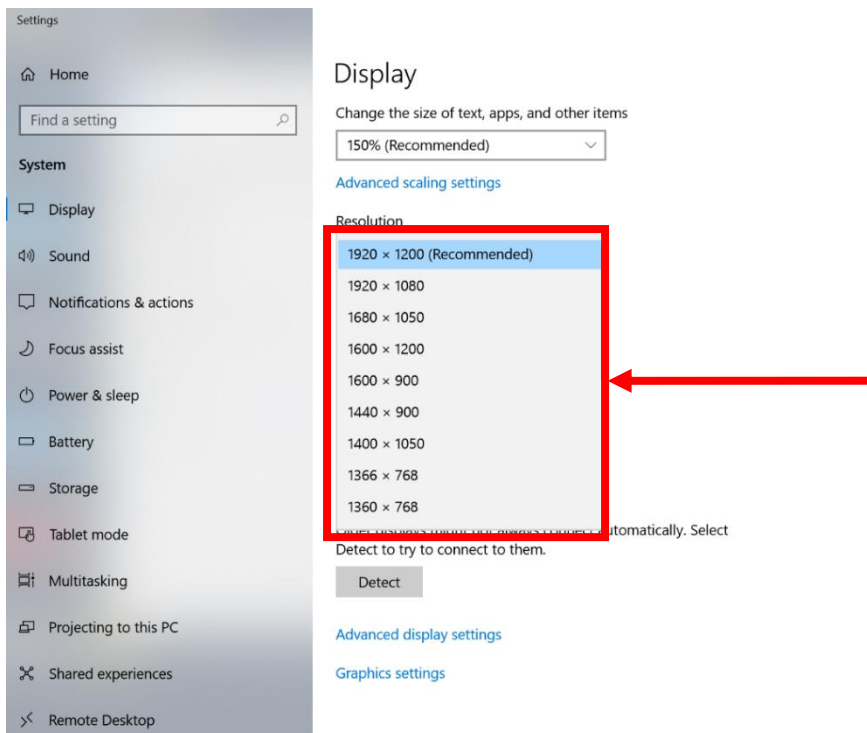
5.1.2 Changing Screen Resolution

Alternatively, instead of changing the display scaling setting, user may choose to change the overall resolution setting to make screen elements bigger.

- Tap and hold anywhere on the desktop for 3 seconds and release to bring up the context menu, and select the **Display settings** option as shown below:



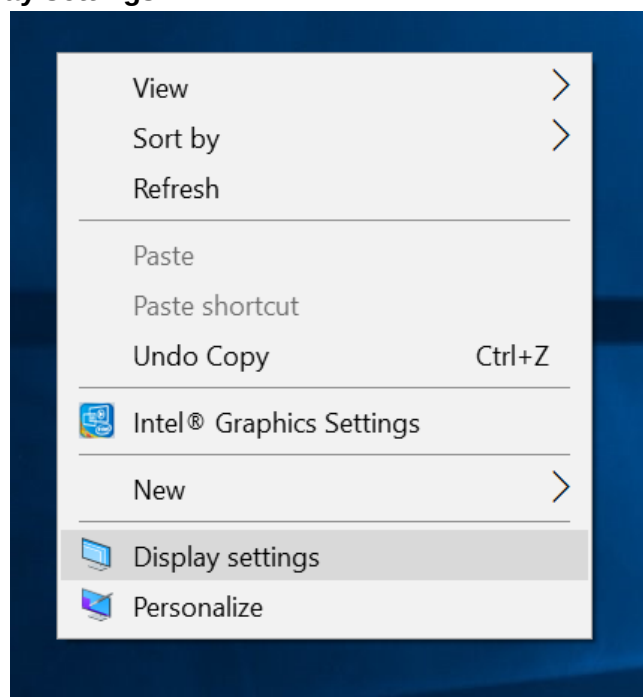
- Click on the drop-down option next to **Resolution** and select the desired resolution by tapping on the scale.



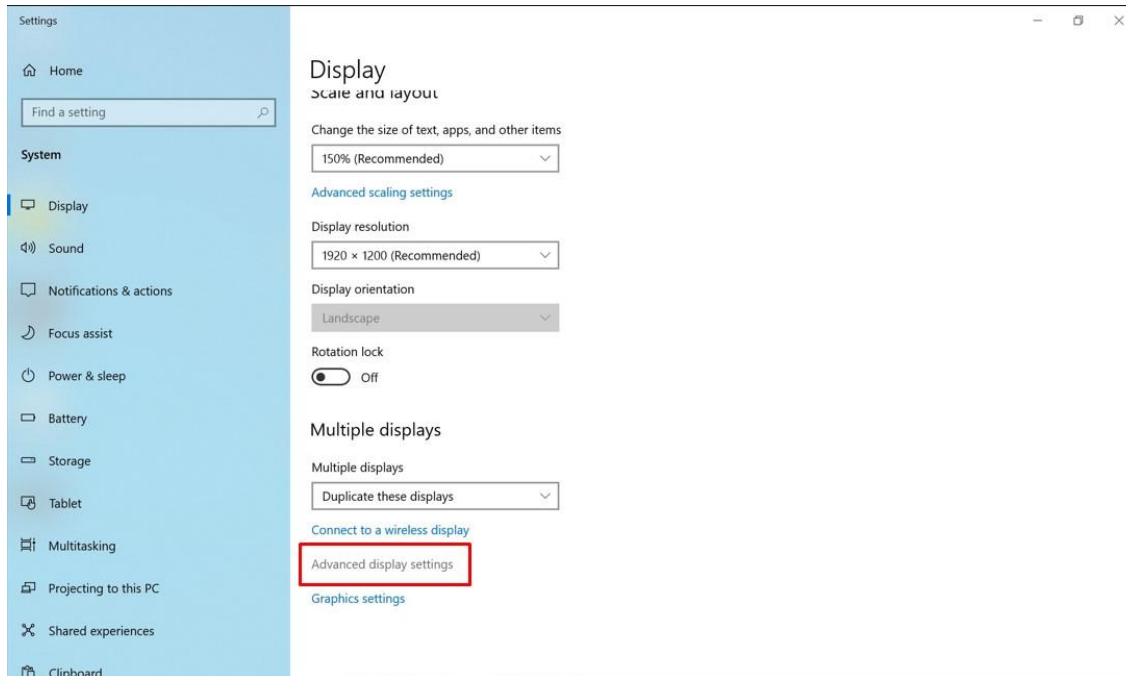
- Hit **Apply**. A **Display Settings** prompt will show up to ask the user if the applied resolution is usable.
- If the new resolution is the desired display setting hit **Keep changes** and continue to next step. If the new resolution is not desirable, hit **Revert** and select a different resolution to change to, and start again from step 2.
- The user may now use the device with the new resolution setting.

5.1.3 Advanced Display Setting

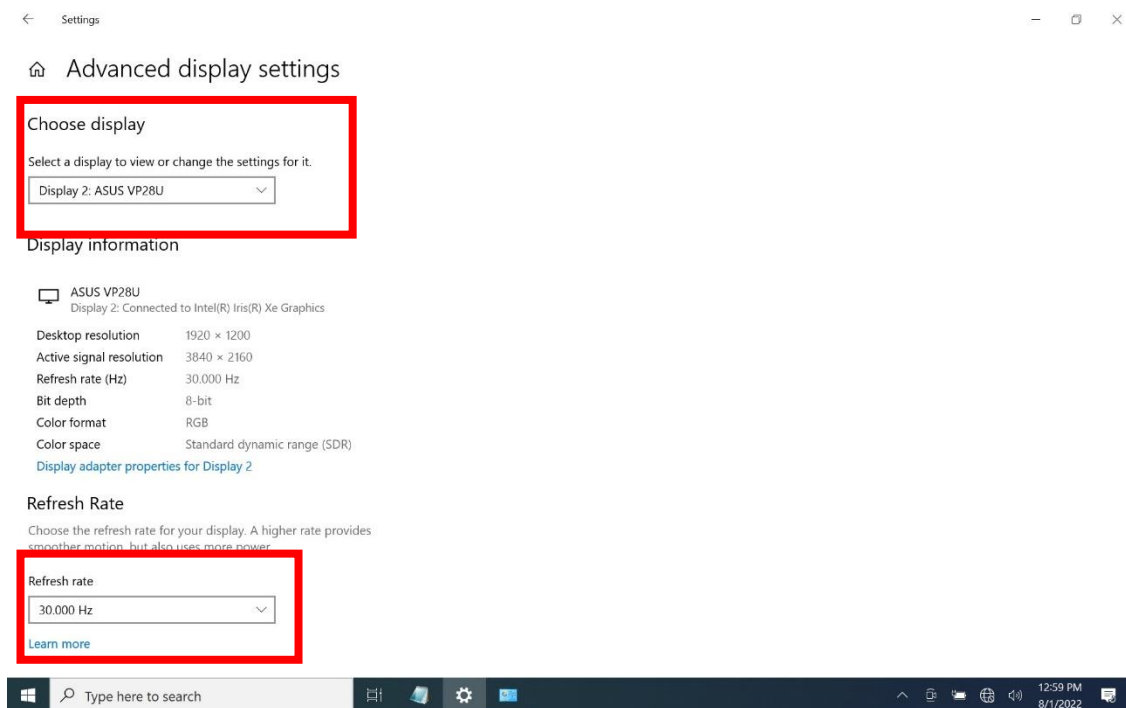
- Tap and hold anywhere on the desktop for 3 seconds and release to bring up the context menu, and select the **Display settings**.



2. When the G900AD is connected to external display, the Advanced display setting options is available. Click **Advanced Display settings**.



3. On the **Choose display**, change the display then change the refresh rate to **30.000 Hz**.



5.2 Using Recovery Wizard to Restore Controller

G900AD Controller has a dedicated recovery partition stored on the controller's hard drive to enable a quick one-key recovery process. This partition occupies about 11GB of the storage space and comes built-in to each G900AD Controller.



Warning! Before starting the recovery process, be sure to backup all user data, as all data will be lost after the recovery process.

Avertissement! Avant de démarrer le processus de récupération, assurez-vous de sauvegarder toutes les données utilisateur, car toutes les données seront perdues après le processus de récupération.

Follow the procedure below to enable quick one-key recovery:

1. Plug in the AC adapter into the controller. Make sure the controller stays plugged into the power source during the recovery process.
2. Power on the controller, and when the boot screen shows up or press **F6** when using an external USB keyboard to initiate the Recovery Wizard.
3. The following screen shows the Recovery Wizard. Click on the **Recovery** button to continue.



4. A warning message about data loss will show up. Make sure data is backed up before recovery, and click on **Yes** to continue.



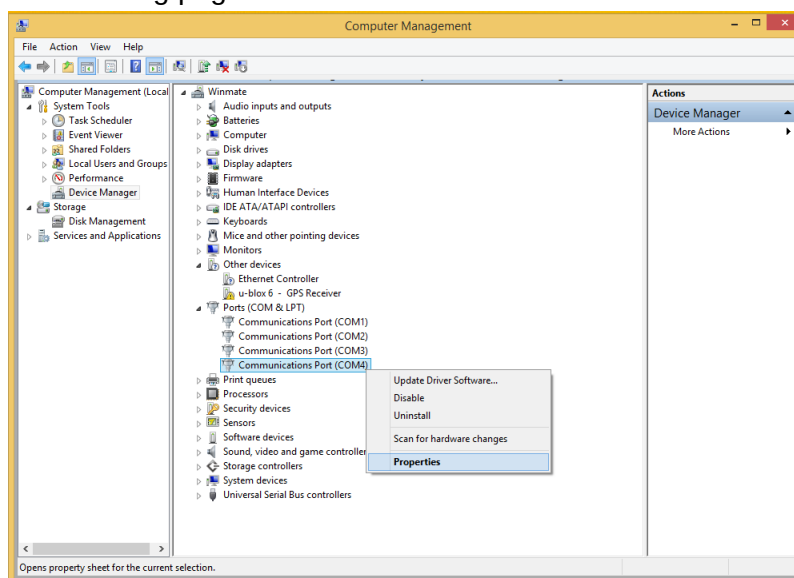
5.3 COM Port Definition

G900AD controller uses Hottab utility for built-in peripherals control. All the COM port numbers have been defined in the OS image coming with the package.

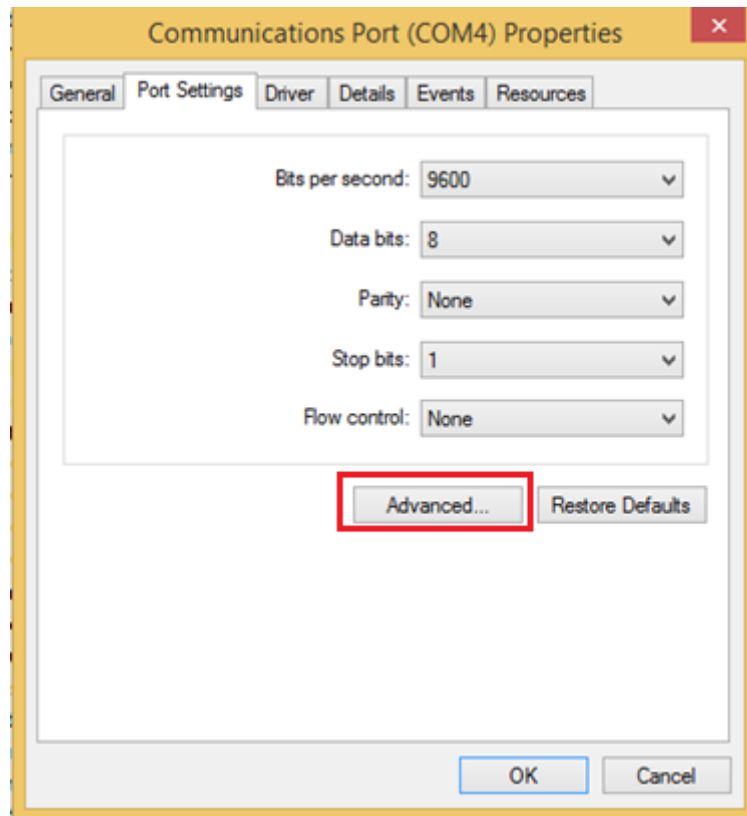
COM Port	Device
COM 4	Bule tooth
COM 9	USB series device (GPS)
COM 1	USB series Port

For some special applications, user might re-install OS and lose the COM port settings. To make sure the features work properly with Hottab utility, please follow the procedure below to re-define the COM port numbers:

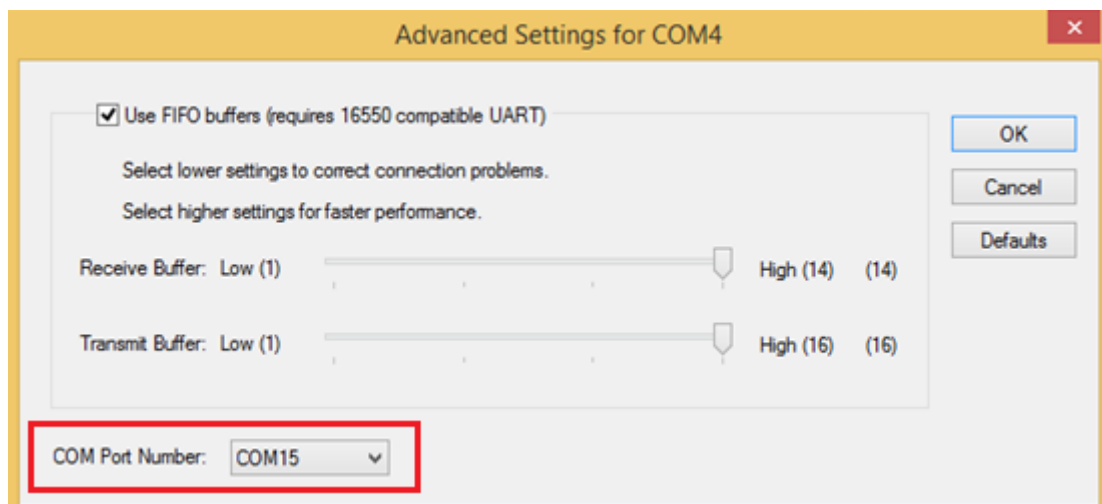
1. Go to **Device Manager**, right-click on the COM number that need to be changed, and tap on **Properties** to open the setting page.



2. Tap on the **Port Setting** tab and click on **Advanced** button.



3. Tap on the drop-down list, choose the correct COM Port Number (refer to the COM Port Definition Table), and click **OK**.



4. Double-check **Device Manager** to make sure the COM Port number has been re-defined successfully, and then restart the system.

Chapter 6: Troubleshooting

6.1 Basic Troubleshooting

Problem	Solution
The removable battery is not charging.	Make sure the AC adapter is properly connected and that the removable battery is properly inserted.
Nothing appears on the screen.	- The controller may be in sleep mode. Press the power button to wake up the display. - The brightness level may be too low. Increase brightness.
The screen suddenly turns blank and the power indicator goes off.	- Make sure that the LED indicator is not powered off in Hottab. - Make sure the AC adapter is properly connected. - If running on battery power, the battery may be depleted, charge the battery.
Wireless LAN signal quality is poor.	- The controller may be out of range. Move the controller closer to the access point or another wireless LAN device associated with it. - Check if your surroundings have interferences, such as microwave ovens, cordless phones. Move the controller away from objects causing interference.
I cannot connect to another wireless LAN device.	- Make sure that the wireless LAN feature is powered on. - Make sure that the SSID setting is the same for every wireless LAN device in the network. - Restart the controller - Make sure the IP address or subnet mask setting is correct.
I cannot connect to another device with Bluetooth.	- Ensure that both devices have Bluetooth powered on (Check Hottab to see if Bluetooth is powered on). - Ensure that the distance between the two devices is within 10 meters and that there are no walls or large obstructions between the devices. - Make sure both devices are powered on and configured to be discoverable. - Make sure that both devices are compatible.
No sound is produced.	- Adjust the volume of the controller by pressing on the volume rocker. - If using an external audio device, make sure that the cable is properly connected.
Battery leaking or swollen	- The lithium battery used in this controller may swell after being charged/ discharged many times, but there is no problem regarding safety. - Continued use in such a state may result in the battery getting jammed, so please stop using the battery, and purchase a new one.

Appendix

Appendix A: Product Specifications

Model Name	G900AD	
Display	Size	8 inches
	Resolution	1920x1200
	Panel Brightness	1000 nits/ 2000 nits(optional)
	Contrast Ratio	1000:1 (typ)
	View Angles	85,85,85,85
	Type	Projected Capacitive Multi-Touch
	Bonding	Optical Bonding for Sunlight Viewability
	Viewability	AG touch treatment
	Touch Mode	Support Hand / Gloves and Rain Mode
System Specification	Processor	Intel Core i5-1235U 3.3GHz (up to 4.40GHz) Intel Core i3/i7 Processor (Optional)
	Memory	8GB DDR5 SDRAM, up to 32GB (Optional)
	Storage	256GB SSD, up to 2TB
	Operating System	Windows 10 IoT Enterprise LTSC (64 bit) Windows 11 IoT Enterprise LTSC (64 bit) (Optional) Linux Ubuntu 22.04 (Optional)
	WLAN	Support
	Bluetooth	Support
	GNSS	GPS, GLONASS
	WWAN	4G LTE (Optional) / 5G (Optional)
	Sensors	Light sensor
Mechanical	Dimensions	259.8 x 166.1 x 44.2 mm
	Cooling System	Fan design
I/O Ports	USB Port	1 x USB 3.0 (Type-A), 1xUSB3.2 Gen 1x1 (Type C)
	Video	1 x micro HDMI output
	LAN	1 x M12 LAN Connector (10/100 Mbps,Max to 250 Mbp)
	Audio	1x Speaker
Environment	Operating Humidity	10% to 90% RH, non-condensing
	Operating Temperature	-20°C to 60°C (AC mode), -10°C to 50°C (Battery mode)
	Storage Temperature	-30°C to 70°C (-22°F to 158°F)

Model Name	G900AD	
	Shock	MIL-STD-810H Method 516.8 Procedure I
	Vibration	MIL-STD-810H Method 514.8 Procedure I
	IP Rating	IP65
Control	Button	2x joystick 2x roller switch 6x buttons
Power	Battery	11.4V, typ. 3500 mAh Li-Ion Removable Battery (3S2P)
	Power Rating	1x USB (Type C) (charging)
	Adapter	PD adapter 100w
Accessory	Accessory	1x PD adapter 100w 1x M12 LAN external cable 1x Power cord
Certification	Certification	CE, FCC

NOTE:

1. Accessories and Integrated Options may vary depending on your configuration. The product shown in this document is a standard model. For diagrams that contain customized or optional I/O, please contact the Winmate Sales Team for more information.
2. All specifications are subject to change without prior notice.



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