

# **VWAG Head Unit User Manual**

**Model Name : ICAS3GP**

## 1. Overview and Specifications

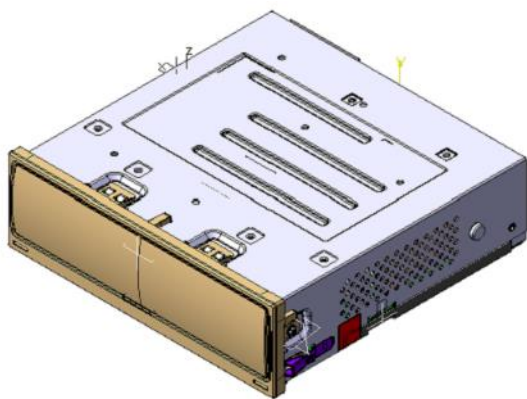
### (1) Overview

- 1) The Infotainment system provides infotainment in a car, using the latest technology. See your dealer to have the system or software updated and upgraded.
- 2) The radio can be easily used by registering up to 36 AM, FM or DAB with the PRESET button.
- 3) The Infotainment system can play the USB storage device or iPhone products.
- 4) The Bluetooth phone connection function allows for the use of wireless hands-free Phone calls, as well as a phone music player.  
In addition, the WiFi function is provided.

### (2) Product Specifications

| Item          | Categories                    | Specifications |
|---------------|-------------------------------|----------------|
| Specification | Product Name                  | ICAS3GP        |
|               | Model                         | ICAS3GP        |
|               | Dimensions                    | Refer to image |
|               | Weight                        | 1.3 kg         |
|               | Power source                  | DC 12 V        |
|               | Operational temperature range | -40 °C ~ 80 °C |

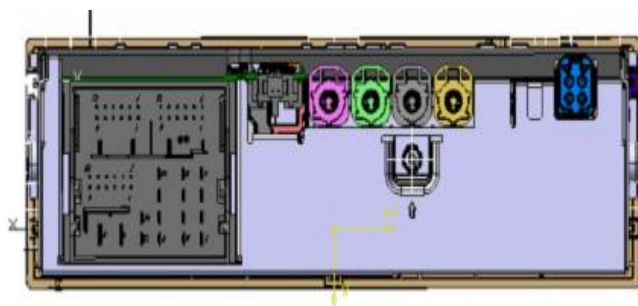
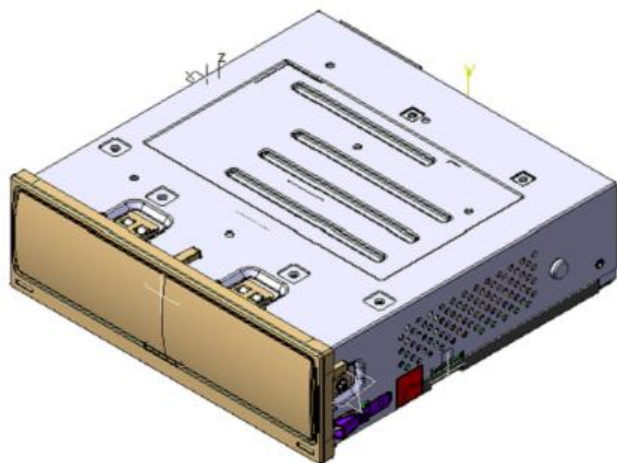
ICAS3GP



|             |           |                  |
|-------------|-----------|------------------|
| System      | CPU       | Samsung V7       |
|             | RAM       | LPDDR4x 12GB     |
|             | Storage   | UFS V2.1 128GB   |
|             | OS        | Android 1.0      |
|             | MICOM     | NXP SC668108CMJ2 |
| Audio/Radio | DSP       | NXP Mercury      |
| Interface   | Interface | HUD, (Cluster)   |

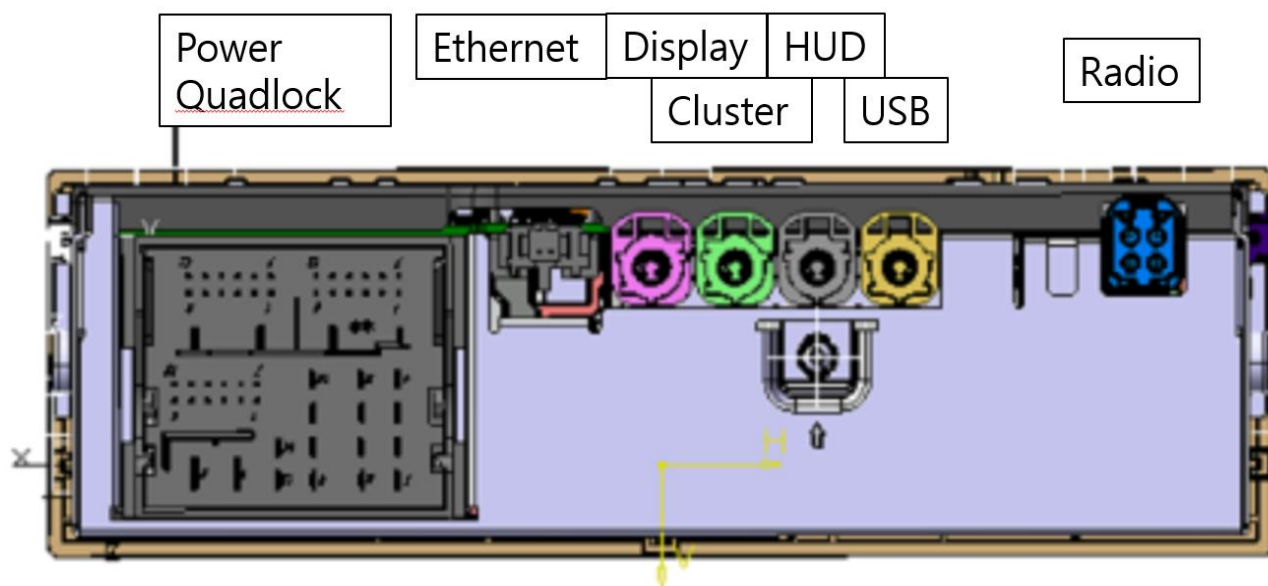
| Main Features                                                                 |
|-------------------------------------------------------------------------------|
| <b>Broadcast</b>                                                              |
| - Dual Tuner with TMC(RDS), DAB                                               |
| <b>Media</b>                                                                  |
| -USB                                                                          |
| <b>Connectivity</b>                                                           |
| -Bluetooth ver5.2 EDR, Wifi(IEEE 80.211 a/b/g/n/ac)<br>Car Play, Android Auto |
| <b>Ethernet network</b>                                                       |
| -OCU(Telematics)                                                              |
| <b>Audio</b>                                                                  |
| -Internal AMP                                                                 |
| <b>Navigation</b>                                                             |
| -Google Map                                                                   |
| <b>In-Vehicle Network</b>                                                     |
| -CAN                                                                          |

### (3) Dimension & Rear connector information



Size : 188.8 x 195.7 x 57.8

ICAS3GP



#### (4) RF specifications

##### Radio

| Item | Frequency range   | Unit |
|------|-------------------|------|
| FM   | 87.5 ~ 108.0      | MHz  |
| DAB  | 174.928 ~ 239.200 | MHz  |

##### Bluetooth

| Item            | Specification               | Unit |
|-----------------|-----------------------------|------|
| Frequency       | 2402 ~ 2480                 | MHz  |
| Modulation Type | GFSK, $\pi/4$ DQPSK, 8 DPSK |      |
| BT Power        | $2^2$<br>(BT Class 2)       | dBm  |
| Data rate       | 1 ~ 3                       | Mbps |
| Channel spacing | 1 ~ 2                       | MHz  |
| BT version      | Ver 5.2+EDR                 |      |

## Wifi

| Item       |      |           |     | Specification                                             | Unit |
|------------|------|-----------|-----|-----------------------------------------------------------|------|
| Standard   |      |           |     | IEEE 802.11 a/b/g/n/ac                                    |      |
| Frequency  | 2.4G |           |     | 2412 ~ 2472                                               | MHz  |
|            | 5G   |           |     | 5170 ~ 5250<br>5735 ~ 5835                                | MHz  |
| Bandwidth  |      |           |     | 20 / 40 / 80                                              | MHz  |
| Data rate  | 2.4G | 802.11 b  | 20M | 1, 2, 5.5, 11                                             | Mbps |
|            |      | 802.11 g  | 20M | 6, 9, 12, 18, 24, 36, 48, 54                              | Mbps |
|            |      | 802.11 n  | 20M | 6.5, 13, 19.5, 26, 39, 52, 58.5, 65                       | Mbps |
|            | 5G   | 802.11 a  | 20M | 6, 9, 12, 18, 24, 36, 48, 54                              | Mbps |
|            |      | 802.11 n  | 20M | 6.5, 13, 19.5, 26, 39, 52, 58.5, 65                       | Mbps |
|            |      | 802.11 n  | 40M | 13.5, 27, 40.5, 54, 81, 108, 121.5, 135                   | Mbps |
|            |      | 802.11 ac | 20M | 6.5, 13, 19.5, 26, 39, 52, 58.5, 65, 78                   | Mbps |
|            |      | 802.11 ac | 40M | 13.5, 27, 40.5, 54, 81, 108, 121.5, 135, 162, 180         | Mbps |
|            |      | 802.11 ac | 80M | 29.3, 58.5, 87.8, 117, 175.5, 234, 263.3, 292.5, 351, 390 | Mbps |
| Modulation |      |           |     | DSSS, CCK, OFDM(16-QAM, 64-QAM, 256-QAM)                  |      |
| Mode       |      |           |     | AP, Station                                               |      |

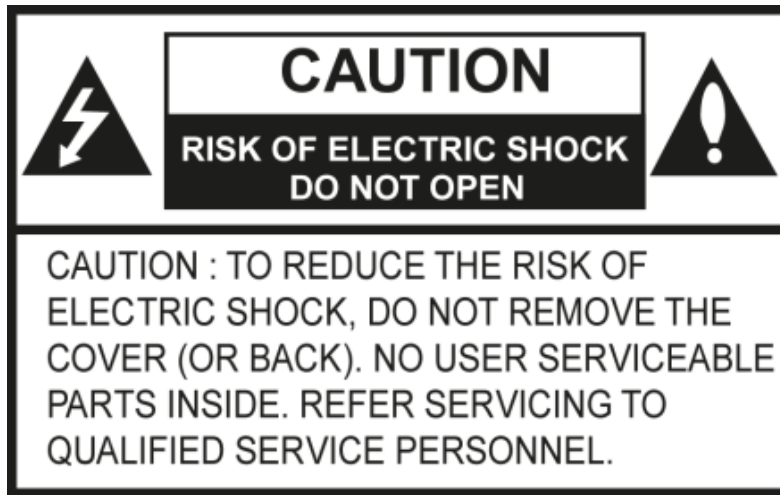
| Item          |         | Max. RF Power | Unit |
|---------------|---------|---------------|------|
| Power Setting | 2.4 GHz | 14            | dBm  |
|               | 5 GHz   | 14            |      |

\* Only CE Certified Country

## Altitude

Altitude during operation (m) ..... : 5000 m or less m  
 Altitude of test laboratory (m) ..... : 5000 m or less m

## 2. Precautions



- 1) Always operate the vehicle in a safe manner. Do not become distracted by the vehicle while driving and always be fully aware of all driving conditions. Do not change settings or any functions. Pull over in a safe and legal manner before attempting such operations. To promote safety, certain functions are disabled unless the parking brake is on.
- 2) To reduce the risk of electric shock, do not remove the cover or back of this product. There are no user-serviceable parts inside. Refer servicing to qualified service personnel.
- 3) To reduce the risk of fire or electric shock, do not expose this product to dripping or splashing water, rain, or moisture.
- 4) When driving your vehicle, be sure to keep the volume of the unit low enough to allow you to hear sounds coming from the outside.
- 5) Do not drop it and avoid heavy impacts at anytime.
- 6) The driver should not watch the monitor while driving. If the driver watches the monitor while driving, it may lead to carelessness and cause an accident.

## SIMPLIFIED EU DECLARATION OF CONFORMITY

Hereby, [LG Electronic Inc.] declares that IR12PT is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:

<http://www.lg.com/global/support/cedoc/cedoc#>

The antenna(s) must be installed such that a minimum separation distance of at least 20 cm is maintained between the radiator (antenna) and all persons at all times. This device must not be collocated or operating in conjunction with any other antenna or transmitter.

Postal Address:

10, Magokjungang 10-ro, Gangseo-gu, Seoul, 07796, Korea

The use of the 5150 ~ 5350 MHz band is restricted to indoor use only. This restriction will be applied in all member states.

### FCC Information to User

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 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.

### Caution

Modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Compliance Information : 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.

### IMPORTANT NOTE:

#### FCC RF Radiation Exposure Statement:

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 5 centimeters between the radiator and your body. This transmitter must not be collocated or operating in conjunction with any other antenna or transmitter.

## French Canadian Compliance Statements

"Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device."

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil n' doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

"This Class B digital apparatus complies with Canadian ICES-003."  
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

"This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter."  
Cet appareil et son antenne (s) ne doit pas être co-localisés ou fonctionnant en conjonction avec une autre antenne ou transmetteur.

"This equipment should be installed and operated with a minimum distance of 5 cm between the radiator and your body"  
Cet équipement doit être installé et utilisé à une distance minimale de 5 cm entre le radiateur et votre corps.

## Industry Canada Statement (For Canada)

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s).

Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

NOTE : THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT.

SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

### RSS-247 Requirement

[For product having the wireless function using 5 GHz frequency bands]

(1) The device for operation in the band 5150 – 5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

- For device installed in vehicles point (1) is not required.

(2) For devices with detachable antenna(s), the maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit;

- For device does not included 5250-5350 MHz and 5470-5725 MHz

(3) For devices with detachable antenna(s), the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits as appropriate; and

- This device does not use a detachable antenna.

(4) where applicable, antenna type(s), antenna models(s), and worst-case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in section 6.2.2.3 shall be clearly indicated.

- For device does not included 5250-5350 MHz