XGPS170

OWNER'S MANUAL

GPS + ADS-B Weather and Traffic Receiver

Bluetooth®

Made for iPod iPhone iPad

FCC ID : GJW-XGPS170

IC ID : 4038A-XGPS170

Dual®

Introduction

Thank you for purchasing the XGPS170 GPS + ADS-B Weather and Traffic Receiver from Dual Electronics.

The XGPS170 is designed to receive signals from the FAA's ADS-B ground network, and from other aircraft operating ADS-B transmitters tuned to 978 MHz. The XGPS170 also receives signals from the GPS satellite system and can determine your location anywhere in the world.

NOTE: The XGPS170 is an "In-only" receiver. It is not a UAT transciever and does not broadcast ADS-B "Out" information to other ADS-B receviers.

It then can transmit your location information to many kinds of devices which have Bluetooth connectivity and support the Bluetooth Serial Port Profile (SPP). This includes:

- the iPad® (generations 1, 2 and 3)
- the iPod touch® (generations 2 through 5)
- the iPhone® (generations 2 through 5)

You can also connect the XGPS170 to many Android® smart phones and tablets.

NOTE: Not all manufacturers include SPP in their devices, even if the device has Bluetooth. Please consult the owner's manual for your specific device to determine whether it supports SPP. Some

devices, like Android-based devices, may need a helper app to connect to the XGPS170. See ***Pairing with your device*** for more information.

Controls and Indicators

Mode switch. The mode switch must be set for the device you want to use the XGPS170 with:

Switch Position	For these devices:
Apple	• iPod touch, iPad and iPhone.
Other	• All other devices

Power switch. Slide the power switch from “OFF” all the way to the right to the “ADS-B” postiion to receive both GPS and ADS-B signals. If you only need GPS information, slide the switch to the middle position, “GPS”.

Power indicator. This light will flash red when the battery level is low and the device requires recharging. (See ***Charging the XGPS170***.) During charging the light will glow red, and it will change to green when charging is complete. This light is normally off while the XGPS170 is running.

Bluetooth status indicator. This light will indicate whether the XGPS170 is searching for a device to

Controls and Indicators (cont'd)

connect to, or has successfully paired to a device. A slow flash (about once per second) indicates the XGPS170 is not connected to any devices but is ready to connect. A solid glow indicates that the XGPS170 has successfully paired with at least one device.

GPS status indicator. The GPS indicator will flash while the XGPS170 is searching for satellite signals. The light will change to a steady green when your location is successfully determined. NOTE: when paired with an iPad, iPod touch or iPhone the GPS status light will not illuminate until an app is actively requesting information.

ADS-B status indicator. The glows solid white when the ADS-B receiver is active. The indicator will quickly pulse brighter when it is receiving ADS-B data.

USB connection. The USB connector is used for charging the XGPS170.

Antenna connection. Remove the red rubber cap and screw on the included antenna to this jack on the device. An external antenna can also be used: a belly-mounted a non-amplified transponder antenna is an ideal external antenna option. (IMPORTANT: DO NOT connect the XGPS170 to

the existing transponder antenna on your aircraft. This will irreparably damage the XGPS170.)

The XGPS170 is very simple to use.

First, remove the red rubber cap on the front of the XGPS170 to expose the antenna connector. Attached the included ADS-B antenna, or connect an external non-amplified antenna using a high quality shielded co-axial cable.

Second, move the mode switch on the XGPS170 to the setting for the type of device you will be using.

Next, turn on pair the XGPS170 to your iPad or Android tablet (see ***Pairing with your device*** below). The XGPS170 will work with up to two iOS or Android devices simultaneously, but not one of each kind.

Lastly, position the XGPS170 on the dash or attach it to the window using the included non-slip pad.

The XGPS170 is intended to be used with an electronic flight bag app (not provided by Dual), and Dual is continually working app developers to ensure compatibility. Once the XGPS170 is paired with your tablet or smartphone, open the EFB app and it will automatically activate the XGPS170.

Setup (cont'd)

Please see the help section of your preferred EFB app for answers to specific questions about using the XGPS170 with that app.

Important note about heat

It is normal for the XGPS170 to become noticeably warm to the touch when operating. However, if you place the XGPS170 in the direct sun on a glareshield, the XGPS170 will also absorb this additional heat. **Please use caution when handling the XGPS170 after it has been running in the direct sun because it may be hot**.

Pairing with your device

Pairing is the process connecting two devices over Bluetooth to allow them to communicate. You will need to go through the pairing process the first time you use the XGPS170 with a new device. Once the XGPS170 is paired with a device, the two devices will remember their connection and you will not need to repeat the pairing process.

When powered on, the XGPS170 will automatically try to reconnect to the last device(s) it was paired with. Keep this in mind when trying to use it with multiple devices: if you are having trouble getting another device to recognize the XGPS170, make sure the last device you used with the XGPS170 is turned completely off or is out of Bluetooth range.

Once the XGPS170 is paired with your device, it is ready to use.

NOTE: The battery in the XGPS170 is already partially charged and the device should turn on the first time you take it out of the box. If the device does not turn on, please charge it from a USB source before continuing - see ***Charging the XGPS170*** on page 15.

The XGPS170 will pair to two iOS devices or two Android tablets. To pair to the second device, repeat the same instructions you followed for the first.

NOTE: If your device requests a code to connect during the pairing process, use "0000" or "1234".

Pairing the XGPS170 with the iPad, iPod touch or iPhone

(NOTE: these instructions were written using iOS version 6.0 and may be different if you are using a different version of the iPhone OS.)

- Make sure the mode switch on the XGPS170 is set to the "Apple" position.
- If not already on, turn on the XGPS170. The blue Bluetooth status light on the XGPS170 should be blinking slowly (about once per second).

• On the iPad/iPod touch/iPhone, go to:

Settings->Bluetooth

and turn on Bluetooth. The device will automatically begin looking for the XGPS170.

• After a few moments, the XGPS170 will appear as **XGPS170-xxxxxx** in the list of devices on the iPod touch/iPad/iPhone screen. (The last 6 digits are part of the XGPS170 serial number and will be different for each unit.) The word **Misc** may also appear momentarily before **XGPS170-xxxxxx** appears.

• Tap **XGPS170-xxxxxx** in the list of devices to connect to it. The words “Not Paired” will disappear and be replaced by the spinning cursor.

• After a few seconds, the **XGPS170-xxxxxx** name in the device list will change to blue text and the word **Connected** will appear. The blue LED on the XGPS170 will blink rapidly for a few seconds and then stay illuminated, confirming the two devices have successfully paired and are communicating.

• The iPad/iPhone/iPod touch will then display a message saying “*Application Not Installed: This accessory requires an application you do not have installed*.” **Despite what the message implies, the XGPS170 is ready to use with your iPad, iPhone or iPod touch and you**

do not need to download anything to make the XGPS170 work. We do recommend that you download a free app from the iTunes store, called the ***ADS-B Status Tool***, which shows you detailed information about the XGPS170 (device status & battery charge level) and the signal reception. Tap “Yes” to be redirected to the iTunes store to download this app, or “No” to download it later. The ***ADS-B Status Tool*** app is a completely optional download.

Pairing the XGPS170 with an Android device

(NOTE: these instructions were written using Android OS version 3.1 and may be different if you are using a different version of the Android OS.)

- Make sure the mode switch on the XGPS170 is in the “Other” position.
- If not already on, turn on the XGPS170. The blue Bluetooth status light on the XGPS170 should be blinking slowly (about once per second).
- On the Android device go to:

  Settings->Applications->Development

  and enable the option for **Allow mock locations**. This will let the Android device use GPS information from an external device like the XGPS170.
- On the Android device go to:

Settings->Wireless & networks

and turn on Bluetooth.

• On the Android device go to

Settings->Wireless & networks->
Bluetooth settings

and select **Scan for devices**.

• After a few seconds, the word **XGPS170-xxxxxx** will appear in the list of devices. (Note: the last 6 digits are part of the XGPS170 serial number and will vary from device to device.) At this point, the Android device may say **Paired but not connected** and the blue Bluetooth indicator on the XGPS170 will continue to blink slowly.

• In order for GPS-enabled apps to use information from an external GPS like the XGPS170, you will need to install a helper app on your Android device. This helper app runs in the background and will let apps communicate with the XGPS170. Several free helper apps are available on the Android Market. Please see the FAQ section on the Dual website (http://xgps170.dualav.com/faq.html) for specific recommendations and installation instructions.

If you need additional help connecting the XGPS170 to your device, please contact customer service (send email to cs@dualav.com or call 866-

382-5476). However, due to the enormous variety of available smartphones and tablets, you may need to contact the manufacturer of your specific device for additional instructions.

Charging

The XGPS170 is charged via the USB connector on the side of the device. To charge, simply connect the XGPS170 to the USB port on any computer using the included USB cable. You can also charge the XGPS170 from any standard USB wall charger, including the one which came with your iPad/iPod touch/iPhone.

A cigarette lighter adapter is also included for charging the XGPS170 in a car or aircraft.

NOTE: Laptop USB ports and most USB wall chargers do not supply enough power to simultaneously charge and run the XGPS170. So you must turn off the XGPS170 in order to charge the battery from a USB port. However, the included 12VDC adapter does provide enough power to charge and run the XGPS170 simultaneously.

Tips for best performance

• The GPS antenna in the XGPS170 is underneath the red circle on the top of the unit. For best GPS reception, put the XGPS170 in a location with a clear view of the sky.

• The ADS-B broadcast is a line-of-sight UHF signal originating from both terrestrial and airborne transmitters: weather is sent from ground stations, and traffic is transmitted from both ground stations and other aircraft. For the best ADS-B reception, place the XGPS170 where the ADS-B antenna has a clear view out of the cockpit window, i.e. not down on a seat where the fuselage blocks signals from reaching the antenna.

• The range of the Bluetooth connection will drop as the battery level drops. If you find that the wireless connection is failing, try recharging the XGPS170.

• Windshields with integrated heating elements or metalized films can severely attenuate GPS signals. If your car or aircraft has these, we recommend placing the XGPS170 in a side window for best reception.

• The XGPS170 includes a non-slip pad to keep it securely in place on the dash. You can also stick the pad vertically to a window. Slide the XGPS170 into the pad to secure it, making sure that the lip of the pad seals over the top edges of the XGPS170.

• You can renew the stickiness on the bottom of the non-slip pad by washing the pad with warm water and mild soap. Let the pad air dry upside down or dry with a lint-free cloth.

Troubleshooting

• In most locations, it is not possible to receive ADS-B weather or traffic signals from a ground transmitter unless you are airborne (sometimes as high as 2000 feet AGL.). ADS-B broadcasts are also not available in all areas of the US yet. Please see http://www.faa.gov/nexgen for the most current information on coverage.

• If you cannot pair the XGPS170 with a device:

Step 1. Make sure the Mode switch on the XGPS170 is in the correct position.

Step 2. Check to see if the XGPS170 is still connected to a previous device: if the blue light on the XGPS170 is not blinking, it is connected to another device. Turn off Bluetooth on the first device, or move out of Bluetooth range.

Step 3. Completely power down and reboot both the device and the XGPS170.

• The battery in the XGPS170 is not user-serviceable. For battery issues, please contact Customer Support for additional help: send email to cs@dualav.com or call 866-382-5476.

• Most connection problems with Android tablets are resolved by:

a. Enabling the option for **Allow mock locations** on the tablet. This option is found under:

Settings->Applications->Development

b. Installing the correct helper app. See the FAQ section of the XGPS150 website for more information on helper apps:

http://xgps150.dualav.com/faq.html.

c. For Android versions 3.x and above, select the option for “unsecure Bluetooth connection” in the helper app.

For other questions or addtional help, please contact Customer Support via email at cs@dualav.com or call 866-382-5476.

Specifications

Dimensions (WxHxD in mm)

- XGPS170: 110 x 68 x 22
- Non-slip pad: 94.0 x 144.0 x 22.0

XGPS170 Voltage

- Input voltage: 5 VDC

Cigarette Lighter Power Adapter Voltage

- Input voltage: 12-30 VDC
- Output: 5 VDC, 2.1A

GPS

- L1 frequency, SBAS (WASS, MSAS, EGNOS, GAGAN) supported.
- Cold start: < 29 sec. typ. (open sky)
- Warm start: < 25 sec. typ. (open sky)

Bluetooth

- CSR engine
- Version: 2.1+EDR
- Range: ~10m (~33 ft.) (open space)

ADS-B

- 978 MHz receive-only

Internal Battery

- Operating time: ~5 hours
- Charging time: ~3 hours

Environment Requirements

- Operating temp: 14˚F - 140˚F (-10˚C - 60˚C)
- Storage temp: -4˚F - 176˚F (-20˚C - 80˚C)
- Relative humidity: 5% - 95% non condensing

ICC Compliance

This Class [B] digital apparatus complies with Canadian ICES-003.

FCC Compliance

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.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for

compliance could void the user's authority to operate the equipment.

Note: 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.

Warranty

This warranty gives you specific legal rights. You may also have other rights which vary from state to state. Dual Electronics Corp. warrants this product to the original purchaser to be free from defects in material and workmanship for a period of one year from the date of the original purchase.

Dual Electronics Corp. agrees, at our option, during the warranty period, to repair any defect in material or workmanship or to furnish an equal new, renewed or comparable product (whichever is deemed necessary) in exchange without charges, subject to verification of the defect or malfunction and proof of the date of purchase. Subsequent replacement products are warranted for the balance of the original warranty period.

Who is covered? This warranty is extended to the original retail purchaser for products purchased from an authorized Dual dealer and used in the U.S.A.

What is covered? This warranty covers all defects in material and workmanship in this product. The following are not covered: software, installation/removal costs, damage resulting from accident, misuse, abuse, neglect, product modification, improper installation, incorrect line voltage, unauthorized repair or failure to follow instructions supplied with

the product, or damage occurring during return shipment of the product. Specific license conditions and copyright notices for the software can be found via http://www.dualav.com.

What to do?

1. Before you call for service, check the appropriate section in this manual. An simple adjustment may save you a service call.

2. If you require service during the warranty period, you must carefully pack the product (preferably in the original package) and ship it by prepaid transportation with a copy of the original receipt from the retailer to an authorized service center.

3. Please describe your problem in writing and include your name, a return UPS shipping address (P.O. Box not acceptable), and a daytime phone number with your shipment.

4. For more information and for the location of the nearest authorized service center please contact us by one of the following methods:

- Call us toll-free at 1-866-382-5476
- E-mail us at cs@dualav.com

Exclusion of Certain Damages: This warranty is exclusive and in lieu of any and all other warranties, expressed or implied, including without limitation the implied warranties of merchantability and fitness for a particular purpose and any obligation,

liability, right, claim or remedy in contract or tort, whether or not arising from the company's negligence, actual or imputed. No person or representative is authorized to assume for the company any other liability in connection with the sale of this product. In no event shall the company be liable for indirect, incidental or consequential damages.

Notes

This radio transmitter (4038A-XGPS170) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

- IC Warning
This device complies with Industry Canada licence-exempt RSS standard(s).
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 autoriséee aux deux conditions suivantes :
(1) l'appareil ne 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'encompromettre le fonctionnement.

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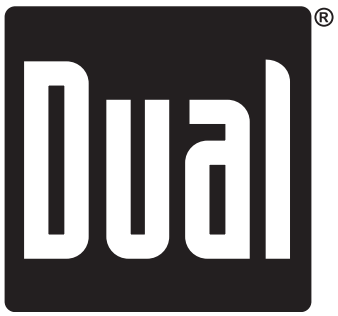

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NSA0112-V01