



# GTX 3X5 Series Transponder

Pilot's Guide



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This manual reflects the operation of GTX 3X5 Series Transponders.

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**WARNING:** Do not use data link weather information for maneuvering in, near, or around areas of hazardous weather. Information contained within data link weather products may not accurately depict current weather conditions.

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**WARNING:** Do not use the indicated data link weather product age to determine the age of the weather information shown by the data link weather product. Due to time delays inherent in gathering and processing weather data for data link transmission, the weather information shown by the data link weather product may be significantly older than the indicated weather product age.

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**WARNING:** To reduce the risk of unsafe operation, carefully review and understand all aspects of the GTX 3X5 Pilot's Guide. Thoroughly practice basic operation prior to actual use.

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**WARNING:** The display surface is coated with a special anti-reflective coating that is very sensitive to skin oils, waxes, and abrasive cleaners. It is very important to clean the lens using an eyeglass lens cleaner that is specified as safe for anti-reflective coatings with a clean, lint-free cloth.

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**CAUTION:** The Garmin GTX 3X5 should be turned off before starting or shutting down aircraft engine(s).

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**NOTE:** This product does not contain any user-serviceable parts. Repairs should only be made by an authorized Garmin service center. Unauthorized repairs or modifications could result in permanent damage to the equipment, and void your warranty and your authority to operate this device under FCC and FAA regulations.

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**NOTE:** This product, its packaging, and its components contain chemicals known to the State of California to cause cancer, birth defects, or reproductive harm. This notice is being provided in accordance with California's Proposition 65. If you have any questions or would like additional information, please refer to our website at [www.garmin.com/prop65](http://www.garmin.com/prop65).

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**NOTE:** The coverage expected from the GTX 3X5 is limited to line of sight. Low altitude or aircraft antenna shielding by the aircraft itself may result in reduced range. Range can be improved by climbing to a higher altitude.

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**NOTE:** *It is the responsibility of the GTX 3X5 owner to obtain proper licensing before using the transponder.*

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AC 90-100A Statement of Compliance:  
The Garmin navigational unit meets the  
performance and functional requirements  
of AC 90-100A.

## Product Registration and Support

Help us better support you by completing your online registration today! Registration ensures that you will receive notifications of product updates, new products, and provides lost or stolen unit tracking. Please, have the serial number of your unit handy and connect to our web site ([www.garmin.com](http://www.garmin.com)). Look for our Product Registration link on the Home page. Also, be sure to record your serial number in the space provided.

To obtain accessories for your unit, please contact your Garmin dealer.

This guide is available in pdf format at [www.garmin.com/manuals](http://www.garmin.com/manuals). If you have any questions, the Garmin Product Support department may be reached Monday through Friday, 7:00 AM to 7:00 PM Central Time.

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Record of Revisions			
Part Number	Revision	Date	Description
190-01499-00	1	12/18/15	Initial release

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# 1 GTX 3X5 SERIES TRANSPONDERS

The GTX 3X5 Series Transponders is a family of panel mount and remote transponders.

- GTX 345 Mode S transponder with built-in ADS-B UAT and 1090 MHz receivers
- GTX 335 Mode S transponder with ADS-B Out functionality

## 1.1 GTX 335

The GTX 335 is a TSO compliant mode S transponder with ADS-B Out Extended Squitter functionality.

Features:

- Traffic Information Service (TIS) traffic display output and aural alerting
- Altitude deviation alerting
- Timers: count up, count down, flight, trip
- Static (Outside) air temperature display
- Density altitude display
- Internal GPS (Optional)

## 1.2 GTX 345

The GTX 345 is a mode S transponder with TSO compliant ADS-B Out and ADS-B In functionality. The GTX 345 is a TSO compliant mode S transponder with ADS-B Out and ADS-B In functionality.

Features:

- Dual-band ADS-B traffic display output and aural alerting
- Helicopter specific Airport Area Alerting and On-Scene Mode
- Integration with TCAD/TAS/TCAS I traffic systems
- FIS-B weather and flight information display output
- Bluetooth portable device interface to traffic, weather, and AHRS
- Altitude deviation alerting
- Timers: count up, count down, flight, trip
- Static (Outside) air temperature display
- Density altitude display
- Internal GPS (Optional)

## 1.3 References

ADS-B Academy

## **1.4 Acronyms and Abbreviations**

AAD	Automatic Airborne Determination
ADSB	Automatic Dependant Surveillance Broadcast
ATCRBS	Air Traffic Control Radar Beacon System
ASR	Automatic Speech Recognition
PIREP	Pilot Report
SSR	Special Position Identification
SPI	Special Position Identification
TCAS	Traffic Collision Avoidance System

## 2 GTX 3X5 CONTROLS

The GTX 3X5 series transponders share common pilot interface.



### 2.1 Power Control Keys



#### NOTE

Regardless of the operating mode, the GTX 3X5 will not respond to Air Traffic Control Radar Beacon System (ATCRBS) or Mode S All-Call interrogations if Automatic Airborne Determination (AAD) senses the aircraft is on the ground.



**ON** — Powers on into ON mode.

**ALT** — Powers on into ALT mode.


**OFF** — Powers off.

**SBY** — Powers on into standby mode.

### 2.2 Mode Selection Keys

The transponder becomes an active part of the ATCRBS when either the **ON** or **ALT** function is selected. The transponder responds to interrogations from TCAS equipped aircraft.

**SBY** — Selects the standby mode. The transponder will not reply to any interrogations or transmit ADS-B Out.

**ON** — Selects the On mode. The transponder replies to interrogations. The Reply (  ) symbol indicates the transponder is actively responding.

The GTX 3X5 transmits ADS-B Out data. Replies and ADS-B Out data do not include altitude information.

**ALT** — Alt mode takes into account the air/ground state. The transponder

replies to identification and altitude interrogations as indicated by the Reply symbol (R).

The GTX 3X5 transmits ADS-B Out data. Replies to altitude interrogations and ADS-B Out data include the aircraft's standard pressure altitude.

## 2.3 Squawk Code Keys



There are eight squawk code entry keys (0 – 7) that provide access to all ATRCBS codes. Pushing one of these keys begins the code selection sequence. Digits that are not yet entered appear as underscored blanks.

The new code is activated when the fourth digit is entered. Pressing the **CLR** key moves the cursor back to the previous digit. Holding the **CLR** key moves the cursor back to the first digit. Pressing the **CLR** key when the cursor is on the first digit of the code, or pressing the **CRSR** key during code entry, removes the cursor and cancels code entry.



**Figure 2-1 Squawk Code Entry Field**

## 2.4 Function Keys

**IDENT** — The IDENT key activates the special position identification (SPI) pulse for 18 seconds, which distinguishes your transponder from others on the air traffic controller's screen. The word "IDENT" will appear in the upper left corner of the display during this time.

**VFR** — VFR sets the transponder code to the preprogrammed VFR code, which is selected during installation configuration (this is set to 1200 at the factory). Pressing the VFR key again restores the previous identification code.

**FUNC** — Cycles through top level function groups shown on the right side of the display. Menu groups include:

- Transponder (XPDR)
- Timers (TMR)
- Altitude (ALT)
- System (SYS)

**ENT** — Acknowledges selection of menu items and pilot data entry fields.

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**CRSR** — Activates the cursor to select items in menus and on pages.

**CLR** — Clears selected entry and exit menus.

**8/UP** — Enters the number eight in the Flight ID or Count Down timer. Navigates up in menus and within top level function groups.

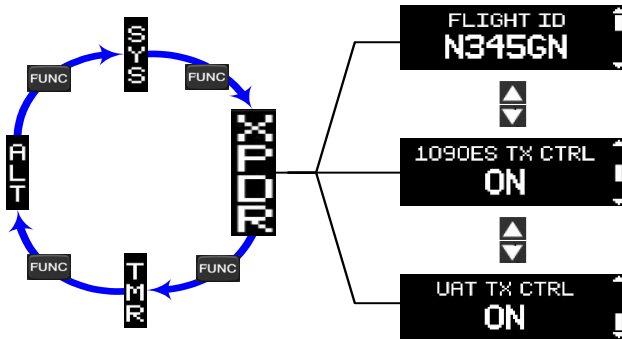
**9/DOWN** — Enters the number nine in the Flight ID or Count Down timer. Navigates down in menus and within top level function groups.

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### 3 FEATURES AND SETTINGS

#### 3.1 Transponder (XPDR)



##### FLIGHT ID



This page displays the active Flight ID. Access to pilot entry of the Flight ID is through this page when allowed by the system.

##### 1090ES TX CTRL



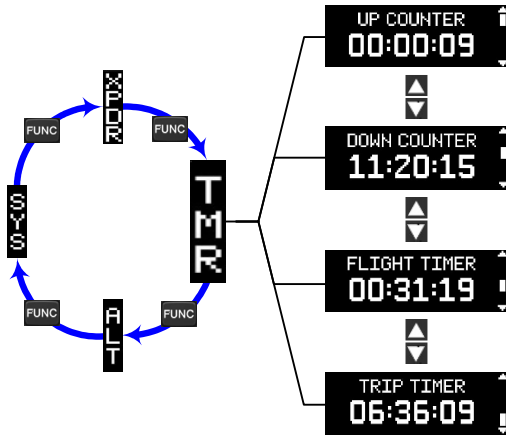
This page displays the current ON/OFF state of the 1090ES ADS-B Out function. Access to pilot control of the 1090ES ADS-B Out function is through this page when allowed by system configuration.

##### UAT TX CTRL



This page displays the current ON/OFF state of the UAT ADS-B Out function. Access to pilot control of the UAT ADS-B Out function is through this page when allowed by system configuration.

### 3.2 TIMERS (TMR)



#### UP COUNTER



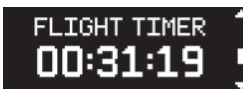
This page provides a stopwatch style counter, with start/stop/reset controls via the ENT and CLR keys.

#### DOWN COUNTER



This page provides a count down style timer, with a notification, when the timer expires and start/stop/set/reset controls via the ENT and CLR keys.

#### FLIGHT TIMER



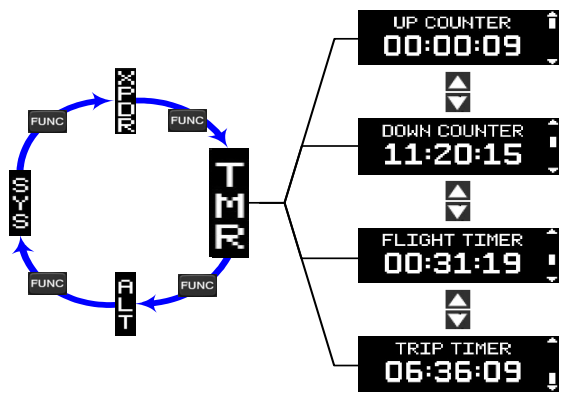
This page provides an airborne flight timer that starts and stops automatically with the GTX's automatic airborne determination. The timer measures the elapsed airborne time since the last on ground to airborne transition. Manual start/stop/reset controls are available via the ENT and CLR keys.

#### TRIP TIMER



This page provides an airborne flight timer that starts and stops automatically with the GTX's automatic airborne determination. The timer measures the elapsed airborne time since the last manual reset of the timer. Manual start/stop/reset controls are available via ENT and CLR keys.

### 3.3 ALTITUDE (ALT)



#### PRESSURE ALT



This page displays the current pressure altitude.

#### ALT MONITOR



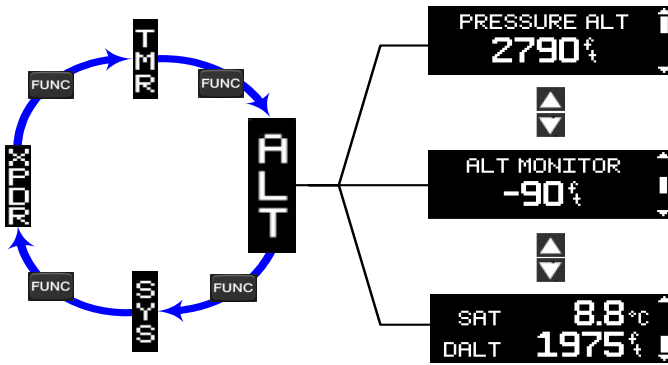
This page displays the current altitude deviation from the desired altitude to maintain. The desired altitude is automatically set when the altitude monitor is turned on. ON/OFF controls are available via the CRSR and ENT keys.

#### SAT/DALT



This page displays the current static air temperature (SAT) and density altitude (DALT), when available.

### 3.4 SYSTEM (SYS)



**BACKLIGHT** – This page displays the current backlight level and backlight level offset. The offset is pilot modifiable via the CRSR and UP/DOWN keys.



**CONTRAST** – This page displays the current contrast level and contrast level offset. The offset is pilot modifiable via the CRSR and UP/DOWN keys.



**MESSAGES** – This page displays the number of active system messages. Viewing active system messages is available via CRSR key menu selection.



**BLUETOOTH** – This page displays the status of the GTX 345 Bluetooth function. The Bluetooth function is automatically placed into pairing mode when this page is displayed.



**INTERNAL GPS** – This page displays the status of the internal GPS. GPS position fix details are available via CRSR key menu selection.