USER GUIDE

GTX335 / GTX345 Transponder Panel

Operating instructions for the RHSimTech replica Garmin GTX335/345-style transponder — squawk entry, IDENT, VFR recall, flight/trip timers, altitude monitor, and display contrast.

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Hand-built avionics for X-Plane & MSFS

A replica Garmin GTX335/345-style transponder for X-Plane / MSFS. This guide covers day-to-day operation once the panel is wired up and connected to SimLink.

SECTION 01

Display Layout

The display is split into two halves:

- **Left side** — the squawk code display, with a mode label (**ON**, **STBY**, or **ALT**), an IDENT indicator, a reply indicator, and the 4-digit transponder code
- **Right side** — a single information page, selected with the FUNC button (see Section 5)

SECTION 02

Basic Controls

CONTROL	FUNCTION
ON	Sets the transponder to ON mode (replies to interrogation, no altitude reporting)
STBY	Standby — transponder is powered but not replying
ALT	Altitude mode — replies with altitude reporting
IDENT	Sends an IDENT signal, shown on-screen
VFR	Recalls the standard VFR squawk code
0–7 keypad	Enters a new 4-digit squawk code
CLR	Steps back one digit during squawk entry, or clears a stopped timer
CRSR	Cancels squawk entry, or opens/confirms settings on the right-side page
ENT	Starts/pauses timers, or sets/clears the altitude reference
8 / 9 keys	Step between sub-pages within TMR and ALT, or adjust contrast in SYS (see Section 5)

FUNC	Cycles through the four main information pages on the right side of the display
OFF (hold)	Hold for 2 seconds to power the unit off

SECTION 03

Entering a Squawk Code

1. Press any number key (**0–7**) to begin — this starts a new 4-digit entry.
2. Continue pressing digits to fill in the remaining three positions.
3. Once the 4th digit is entered, the code is sent automatically — no separate “enter” press is needed.

> **Made a mistake?** Press **CLR** while entering to step back and re-enter from that digit onward.

To cancel entry at any point and keep the previous code, press **CRSR**. If you don't finish entering all 4 digits within a few seconds, entry cancels automatically and your previous code is restored.

> **Special codes:** entering **7700** shows an **EMERGENCY** banner, and **7600** shows a **LOST COMM** banner, matching real-world transponder behaviour.

SECTION 04

IDENT & VFR

Press **IDENT** to identify yourself to air traffic control — the display shows an IDENT indicator for the duration of the signal.

Press **VFR** to instantly recall the standard VFR squawk code without manually entering it.

SECTION 05

FUNC — Information Pages

Repeated presses of **FUNC** cycle through four main pages shown on the right side of the display. Three of these pages have their own set of sub-pages, stepped through using the **8** and **9** keys:

XPDR
Flight ID and a status bar

TMR
Up Counter, Count Down, Flight Timer, Trip Timer

ALT
Pressure Altitude, Altitude Monitor, SAT / Density Altitude

SYS
Display contrast

TMR — Up Counter

- Press **ENT** to start or pause the stopwatch
- Press **CLR** while stopped to reset it to zero

TMR — Count Down

- Press **CRSR** while stopped to set a new time — enter it as `HH:MM:SS` using the number keys
- Press **ENT** to start or pause the countdown
- Press **CLR** while stopped to reset it

TMR — Flight Timer & Trip Timer

Both are read-only and run automatically. Flight Timer tracks the current time in the air; Trip Timer accumulates across multiple take-offs and landings in the same session.

ALT — Pressure Altitude

A read-only display of the current pressure altitude.

ALT — Altitude Monitor

- Press **CRSR** or **ENT** to capture your current altitude as the reference and begin monitoring
- The display shows your deviation from that reference as you climb or descend
- If you drift more than around 250 ft from the reference, the display automatically switches to this page and shows a **LEAVING ALTITUDE** warning
- Press **CRSR** or **ENT** again to clear the reference and stop monitoring

ALT — SAT / Density Altitude

A read-only display showing outside air temperature and calculated density altitude.

SYS — Display Contrast

Use the **8** and **9** keys to lower or raise display contrast. The setting is saved automatically and remembered after power-off.

SECTION 06

Powering Off

Press and hold the **OFF** button for about two seconds. The display shows **HOLD TO POWER OFF**, then **POWERING OFF** once confirmed — release early and nothing happens.

> If the simulator's avionics master is switched off, the panel will power down automatically, and power back up again once avionics power is restored.

SECTION 07

Startup Behaviour

When power is applied:

1. The unit briefly shows its version and build information.
2. It then runs a short self-test sequence before becoming fully active.
3. Once connected to SimLink, it begins receiving live data and reporting button presses back to the simulator.

> **Tip:** if the display looks “stuck” or the code isn't updating, check that SimLink is running and pointed at the correct COM port for this panel before assuming a hardware fault.

SECTION 08

Troubleshooting Quick Reference

SYMPTOM	LIKELY CAUSE
Display blank	Check power and display connection
Code doesn't change with sim	SimLink not connected, or wrong COM port assigned
Keypad does nothing	Confirm the panel has finished its startup sequence and is receiving power
Stuck on “HOLD TO POWER OFF”	Release the OFF button — this clears once released
Display jumps to Altitude Monitor unexpectedly	Normal — this happens automatically if you've drifted from a set altitude reference

Covers the current SimTech GTX335 / GTX345 build.