TRIMLINE

# TS100 Transponder

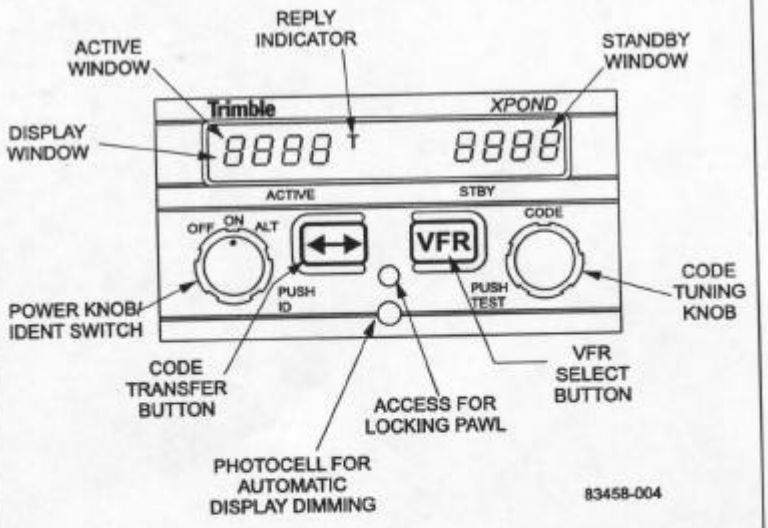
*Pilot Guide*

## Overview

The TrimLine TS100 Transponder operates with the Air Traffic Control Radar Beacon System (ATCRBS). The transponder receives interrogations from a ground-based secondary radar transmitter and transmits the aircraft's identification to the Air Traffic Control Center via Mode A transmissions. If the aircraft is equipped with an altitude encoder, the transponder can also transmit Mode C altitude information. The TS100 also has a one-touch automatic VFR squawk capability.

## Front Panel

The user interface of the TS100 transponder includes the display window, a rotary mode select switch with press for IDENT, a rotary code tuning knob with press to self-test, and two push-button keys.




The active code is displayed on the left side of the display window and the standby code is displayed on the right side. The transponder displays a "T" (reply indicator) to the right of the active code when it responds to an interrogation from a ground station indicating that the aircraft is being seen on radar. The "T" also verifies proper operation when using the self-test feature.

## Controls

Rotate the mode select switch to turn the transponder on or off and to select ALT for Mode C transmissions.

Press mode select switch to provide IDENT.

Rotate the code tuning knob located on the right side of the transponder to tune new codes.

Press and hold the code select switch for more than three seconds to test the transponder. If it is working properly, a "T" will appear on the display to the right of the active code.

After tuning a new code, press the code transfer button to make it the active code.

VFR Press the VFR button to program and select VFR codes.

## Operation

After takeoff clearance has been received, turn the mode select switch to the ON position. If you are using an encoding altimeter, turn the switch to the ALT position to transmit altitude.

### Squawk Mode

To use the automatic squawk, tune the code assigned by Air Traffic Control (ATC) and transfer it to the active window of the display. The transponder automatically replies to interrogations from ground stations and displays your position on the radar screen. Each time the transponder transmits your code to a ground station, "T" will be displayed next to the active code in the display window.

### Program A New Code

The TS100 displays the following for 5 seconds after it is turned on: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Then displays the VFR code that is currently programmed in memory on the left. The right side of the display shows the code that was in the active window when the transponder was last turned off.

To program a new code:

1. Rotate the tuning knob until the desired code is displayed in the standby window.
2. Press the ↔ button to transfer the new code to the active window.

**OR**

1. Press the tuning knob to cause the first digit in the standby window to blink.
2. Rotate the tuning knob until the correct digit is displayed.
3. Press the tuning knob to cause the next digit to blink.
4. Rotate the tuning knob until the correct digit is displayed in the second position.
5. Continue to press and rotate the knob alternately until the desired code is displayed in the standby window.
6. Press the ↔ button to transfer the new code to the active window any time during this process.

**NOTE:** Be careful not to program the emergency codes:

- 7600 - Loss of Communications
- 7500 - Hijack
- 7700 - Emergency

See the Airman's Information Manual (AIM) for a detailed explanation of identification codes.

### Program A Standby Code

To program a standby code for use after takeoff

1. While the aircraft is on the ground, program the code assigned by ATC using one of the methods described above
2. Transfer the code to the active window of the display.
3. Turn the TS100 OFF.
4. After receiving takeoff clearance, turn the transponder ON. The code that was in the active window when the transponder was last turned off will be in the standby window.
5. Press the ↔ button to transfer the code to the active window.

### IDENT Operation

When IDENT is requested by a ground station controller, press and release the IDENT switch (the left-hand knob). This will add the Special Position Identification Pulse (SPIP) to the normal reply information for the next 15-30 seconds.

**NOTE:** During this time, you cannot transfer a code from standby to active.

### VFR Mode

To conduct the flight under Visual Flight Rules, select code 1200 with the tuning knob or VFR button.

To program a new VFR code:

1. Press and hold the VFR button.
2. Rotate the tuning knob until the desired code is displayed in the standby window.
3. Release the VFR button.

OR

1. Press and hold the VFR button.
2. Press the tuning knob to cause the first digit in the standby window to blink.
3. Rotate the tuning knob until the correct digit is displayed.
4. Press the tuning knob to cause the next digit to blink.
5. Rotate the tuning knob until the correct digit is displayed in the second position.
6. Continue to press and rotate the knob alternately until the desired code is displayed in the standby window.
7. Release the VFR button.

### Test

To test the transponder, press and hold the test switch (right hand knob) for more than three seconds. If the unit is working properly, the letter "T" will be displayed to the right of the active code in the display window.

### Emergency Operation

In the event of an emergency, consult the FAR/AIM manual for the codes to use.

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**Modification of this product by the user without the prior approval of Trimble Navigation Limited may void the user's ability to legally operate this device.**

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