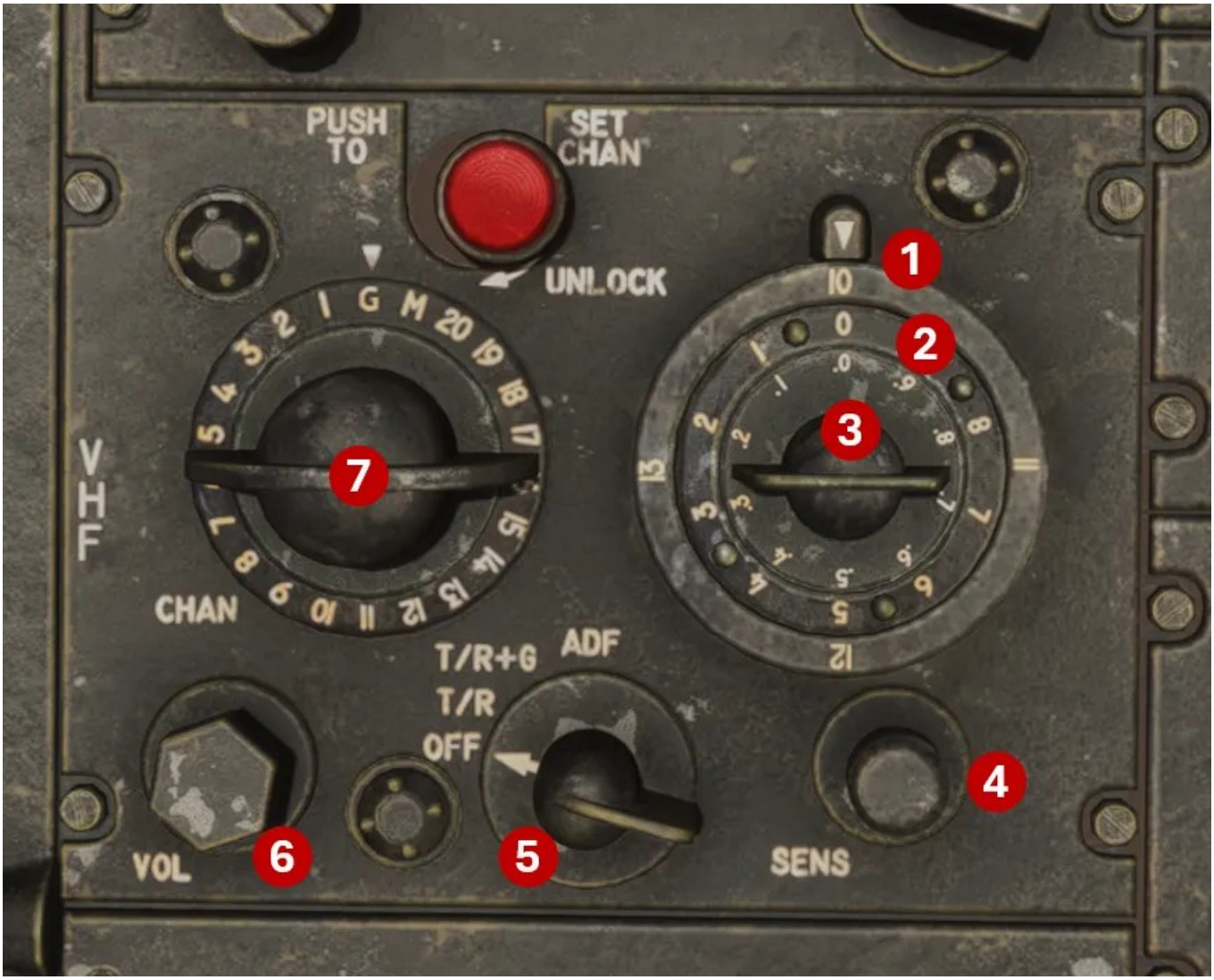
Miltech Simulations Skyraider

Communication and Navigation Systems

Communication Systems

VHF Radio

UHF Radios served as the primary means of communication on aircraft of this era (50s Skyraider). However, due to the limitations of the MSFS Platform, and compatibility with traffic addons (AI or Online), the UHF panel has been adapted to VHF. Additional radio controls are accessible through the PMS GTN750.



VHF Radio

1. ***Hundreds & Tens* Rings:** Used to set the first two digits of the VHF tuning frequency (e.g., **XX0.000**).
2. ***Units* Ring:** Sets the third digit of the frequency (e.g., **00X.000**).
3. ***First Decimal* Ring:** Controls the first digit after the decimal point (e.g., **000.X00**).

4. **Fine-Tune / *Second Decimal*◉ Knob:** Provides fine adjustment for the final two decimal digits (e.g., **000.0XX**). Because older radios do not show the full frequency clearly, refer to the tooltips or the GTN750 display to confirm the exact tuned value.
5. **OFF/Transmit/Receive/AFD:** Not used, only applies to UHF Radios.
6. **Radio Volume Knob.** No in-sim function, radio is set at max volume by default.
7. ◇ **Channel Selector:** Not used, only applies to UHF Radios.

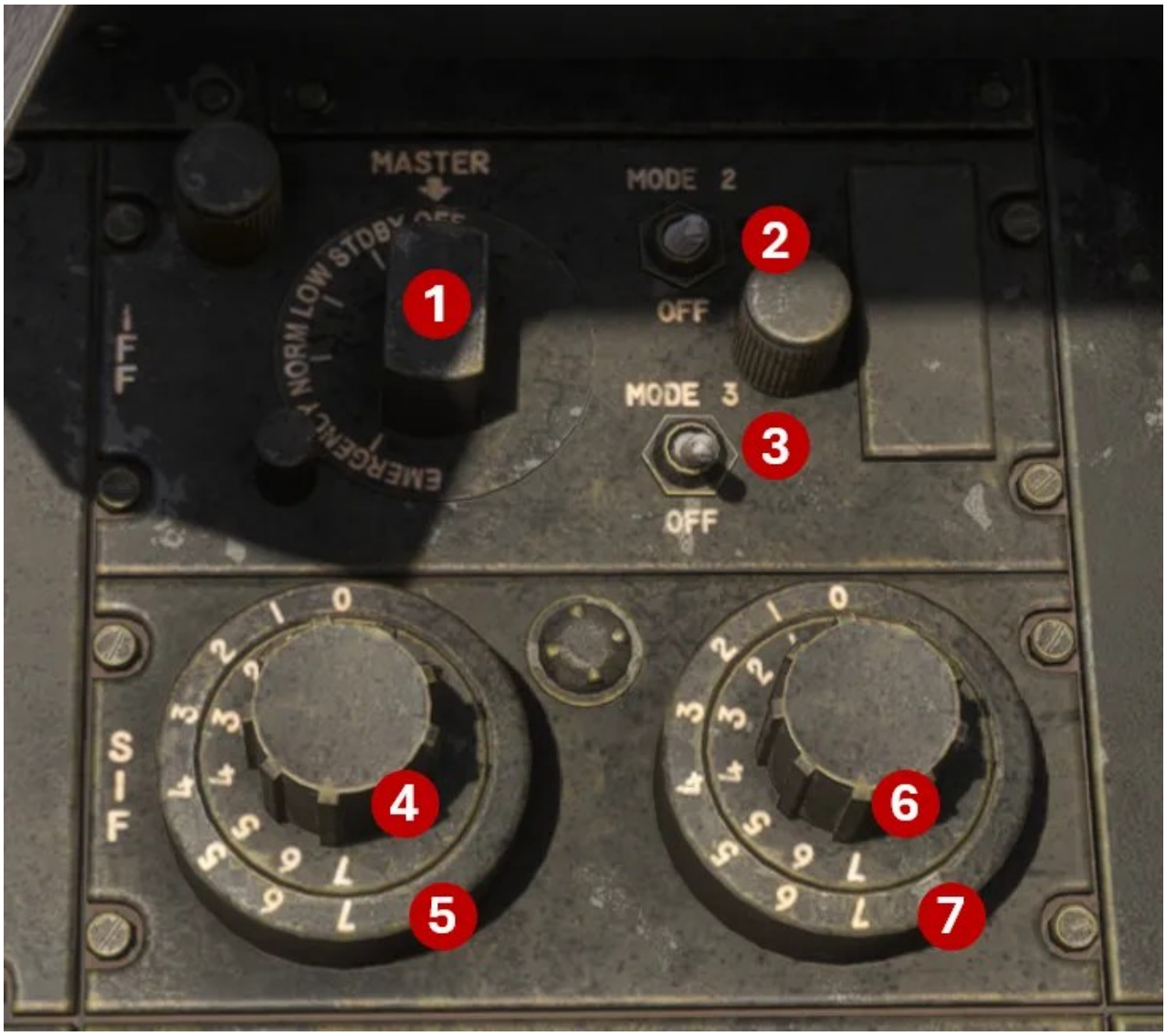
In the example shown above, the radio is set to 100.000, which is not a valid VHF frequency, so no communications will be received. By adjusting the tuning rings, you can set a proper frequency - such as 121.525 - which will allow normal radio operation.

Additionally, VHF/COMM Radios can be easily tuned and managed using the PMS GTN750 Unit.

Transponder

Information Friend or Foe or as known in Skyraider-era aircraft "Selective Identification Feature (SIF)", is an early military identification system that uses coded pulse patterns transmitted by the aircraft's IFF transponder. When interrogated, the aircraft replies with a specific programmed code, allowing friendly units to identify it. Its similar to transponders you may find on today's aircraft.

SIF Codes are entered as four digits, ranging from 0 to 7 (octal). It is the same format used in modern transponders.



Transponder Panel

1. **IFF Mode:** Select Transponder Mode - OFF, Standby, Low, Normal, Emergency.
2. **↔ IFF Mode 2 Switch:** Turn ON for Military Identification (does not apply to MSFS).
3. **↔ IFF Mode 3 Switch:** Turn ON for Civilian Identification (Squawk Code).
4. **SIF Digit 1:** Controls the *thousands* place of the SIF code (e.g., **X000**).
5. **SIF Digit 2:** Controls the *hundreds* place of the SIF code (e.g., **0X00**).
6. **SIF Digit 3:** Controls the *tens* place of the SIF code (e.g., **00X0**).
7. **SIF Digit 4:** Controls the *units* place of the SIF code (e.g., **000X**).

Accordingly, you set the SIF code by rotating each knob until the digits line up vertically. For example, the code **3257** would appear as: **Digit 1 = 3**, **Digit 2 = 2**, **Digit 3 = 5**, **Digit 4 = 7**.

Navigation Systems

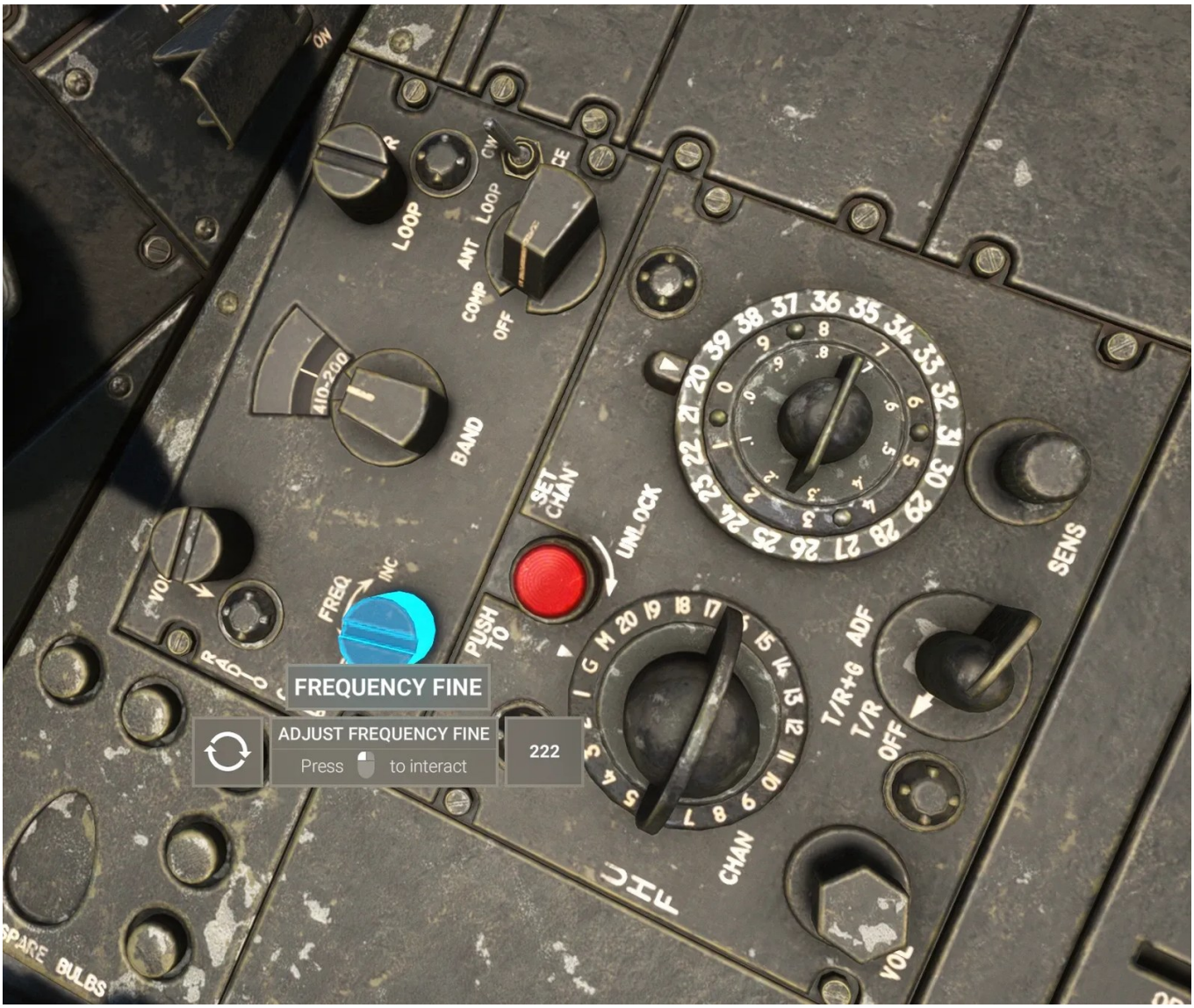
To maintain historical accuracy for this aircraft's era (50s Skyraider), ADF has been implemented as the primary means of navigation. For modern usability, an optional GPS unit (the PMS GTN750) has been integrated as a contemporary secondary navigation aid. VOR and ILS navigation aids are fully supported and can be used through the cockpit instruments. However, their frequencies must be tuned via the PMS GTN750 equipment.

Automatic Direction Finder (ADF)

The Automatic Direction Finder (ADF) is a radio navigation system that allows the aircraft to determine the direction to a ground-based Non-Directional Beacon (NDB). ADF Systems often only provide direction, enabling the pilot to navigate toward or away from the beacon.

Before digital tuners and precise frequency readouts, ADF receivers often used analog tuning dials that would be aurally tuned to the right frequency. The pilot would tune by ear - literally listening to the audio signal transmitted by the NDB beacon. The pilot would select a Band, and then slowly rotate the ADF Frequency knob until they could hear the beacon's Morse code identifier clearly in the headset.

In MSFS, Station Morse codes are not audible, and frequencies must be exact for ADF to function correctly. As such, we have made the exact ADF Code always available on the **tooltips when hovering above the FREQ Knob.**



Note the selected ADF frequency on the Tooltips (222kHz).

1. **Locate RADIO COMP Panel:** The panel is located on the right side panel, above the VHF Radio Panel (Radio Compass Control Unit).
2. ◉ **Use BAND Knob to select the desired Band Range:** The Band selector knob is used to select the desired frequency band of operation. The Band range is displayed on the screen above the knob.
3. 100-200 kHz
4. 200-410 kHz
5. 410-850 kHz
6. 850-1750 kHz
7. ◉ **Use the FREQ Knob to fine-tune to the desired frequency:** The Frequency (FREQ) tuning knob has two indicated directions - DEC and INC. Moving this knob to the right will increase the frequency within the selected band, and moving it to the left will decrease it. Tooltips on this knob will indicate the selected ADF Frequency.
8. ◇ **Set the Mode Selector Switch to COMP (Compass):** When in the COMP (ADF) position, the set receives the beacon signal.
9. **Use the Radio Magnetic Indicator needle** (#10 on the Front Instrument Panel Overview - Internal) to follow the direction of the beacon. The small needle will point towards the ADF Station.



Small Needle displaying bearing to ADF.

PMS GTN750 GPS

Caution
The **PMS GTN750 GPS** module is **required on PC** to enable full GPS and navigation functionality.\ You can download the PMS GTN750 for free from the official developer's website:\ https://pms50.com/msfs/
PMS GTN750 GPS Premium is now available on **MS Marketplace for Xbox**. A valid license of the unit is required on console if you wish to make use of the GPS Unit.

The PMS GTN750 is an advanced avionics suite designed to replicate the Garmin GTN 750 GPS/NAV/COM system within Microsoft Flight Simulator. Developed by PMS50, it integrates modern navigation, communication, and flight-planning features into a single, touchscreen-based interface.

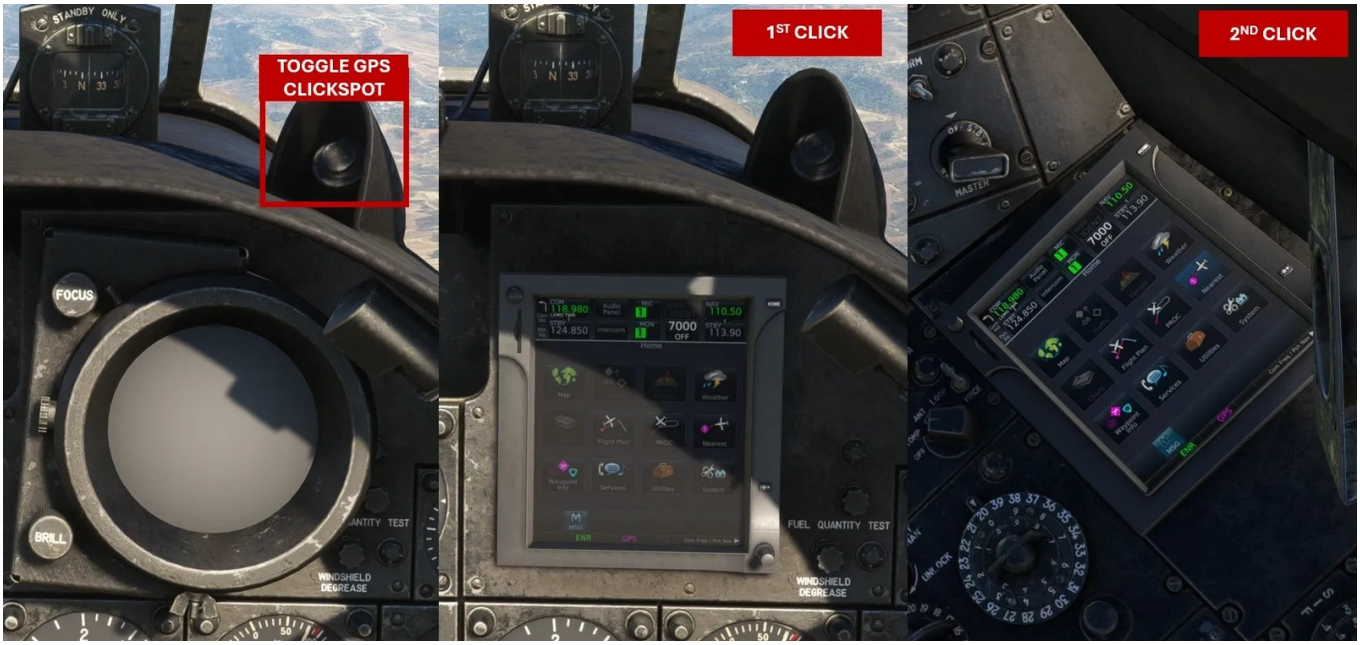
Available in Free and Premium versions, with the latter offering extended features such as weather radar, traffic, and more.

Toggle the GPS Unit

To toggle the GPS Unit, locate the clickspot on the top-right corner of the Front Panel.\ This control allows you to show or hide the GPS display and choose its placement:

- 1ST CLICK: Replace the LABS Radar (front panel position), or
- 2ND CLICK: Move it to the right-side console.
- 3RD CLICK: Hide GPS Unit

This feature lets you customize your cockpit layout, depending on whether you prefer to operate with the LABS Radar or the PMS GTN750 GPS.



Location of the PMS GTN750 Navigation Unit; and Toggle GPS Clickspot

1. GPS

The PMS50 GTN750 GPS provides advanced flight planning and route management capabilities. Pilots can create and modify flight plans directly from the touchscreen interface, including adding, deleting, or editing waypoints. The unit supports direct-to navigation, departure and arrival procedures (SIDs/STARs), and approach selection for both VFR and IFR operations. A moving map displays the active route with real-time aircraft position, terrain, airspaces, and navaids.

Routes are exclusively

2. VOR/ILS

The PMS50 GTN750 is the primary and only input method for VOR and ILS navigation aids on this aircraft. Pilots can manually enter the VOR/ILS Frequencies directly from the touchscreen interface.



NAV Frequency Input

The PMS50 Instrument includes integrated HSI/CDI navigation displays, allowing pilots to track navigation signals directly from the GPS screen. Additionally, the Course-Bearing/OBS Indicator, located on the right side of the front panel, displays the bearing to the tuned VOR station (indicated by the rounded-tip needle) and provides both glideslope and localizer indications during ILS approaches.



Course-Bearing/OBS Indicator on the bottom-right corner indicating direction of VOR Station

Additionally, the bearing to the VOR is displayed on the Radio Magnetic Indicator, where the thick needle indicates the direction of the station.

3. VHF Radio and Transponder

VHF/COMM radios and transponder settings can be conveniently tuned and managed through the PMS GTN750 interface. This does not replace the primary means of input (VHF/IFF Panels on the right ride console, respectively), however, it does provide a convenient input method for the pilot.