Pilot's Guide
for the

Remote Navigation/ Communication Transceiver

Model ADR-7050

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Remote Navigation/ Communication Tranceiver

Model ADR-7050

Introduction

This guide describes the features and operation of the Remote Navigation/Communication Transceiver, model ADR-7050 from L-3 Communications Avionics Systems, Inc. The ADR-7050 is controlled by individual cockpit displays. Refer to your Aircraft Flight Manual Supplement (AFMS) and the documentation supplied with your cockpit display for detailed instructions. This guide is to be used as an informational supplement. Users should already be familiar with their AFMS and the documentation supplied with the cockpit display.

Equipment Description

The ADR-7050 (figure 1) contains one communication radio and one navigation radio. The nav portion of the ADR-7050 receives navigational signals and Morse code IDs from VOR stations as well as from localizer and glideslope transmitters. The com portion of the ADR-7050 transmits and receives voice communications.

Com Radio Features

- Communication transmission and receiving capabilities at a specified frequency

- Voice communication in the range of 118.000–136.9917 MHz with 25 kHz or 8.33 kHz channel spacing

- Frequency monitor function (listens to the standby frequency while monitoring the active frequency)

Figure 1. ADR-7050

- Adjustable volume control

- Intercom function that enables the pilot and copilot to communicate with each other via their headphones without speaker output. This function is only used if the aircraft's audio panel does not have an intercom function.

- Auto squelch function with manual override. The ADR-7050's auto squelch feature sets a radio noise threshold to silence unwanted noise. The auto squelch level is set using a maintenance computer. Anything below the set threshold is silenced. When squelch is deactivated by the pilot, he will hear noise if no signal is present on the tuned channel. The ADR-7050 provides indication if the squelch is broken.

- Stuck mic condition indication. The ADR-7050 detects a stuck microphone switch if the Push To Talk (PTT) switch is active for more than 35 seconds. If the switch is stuck, the switch becomes unusable.

The com radio's volume, squelch setting, sidetone levels, channel spacing and squelch threshold can be set by the flight system.

NOTE

All ADR-7050 functions are controlled through various Multi-Function Displays (MFDs). Refer to the AFMS and specific documentation supplied with your cockpit displays for more detailed instructions.

Nav Radio Features

- VOR receiver operation in the range of 108.00–117.95 MHz in 50 kHz increments

- Localizer receiver operation in the range of 108.00–111.95 MHz

- Glideslope receiver operation in the range of 329.150–335.00 MHz

- Adjustable volume control

- Nav ID Filtering. When the filter is on, any voice-over is silenced and only the Morse code identifier is heard. The ADR-7050 decodes the Morse code IDs from the tuned localizer or VOR stations and sends the alphanumeric station IDs to be displayed.

VOR, Localizer, & Glideslope Receivers

The nav radio also provides VOR, localizer and glide slope signals to the flight system. When in the VOR mode, you can enter an OmniBearing Select (OBS) setting through the flight system. The VOR receiver determines the appropriate Course Deviation Indicator (CDI) output to send back to the flight system based on the received signal and the OBS input. The VOR receiver also outputs the nav audio signal and automatically decodes the Morse code identifier from the VOR station.

The localizer receiver is tuned when an appropriate localizer frequency is selected on the nav radio. The localizer receiver outputs the appropriate CDI signal to the flight system based on where the aircraft is, relative to the center line of the runway. The localizer receiver also outputs the nav audio signal and automatically decodes the Morse code identifier from the localizer station.

The glide slope receiver is automatically activated whenever the nav receiver is tuned to a localizer frequency. The glide slope receiver outputs the appropriate Glide Slope Indicator (GSI) signal to the flight system based on the aircraft position relative to the fixed glide slope of the Instrument Landing System (ILS).

Operating Instructions

NOTE

All ADR-7050 functions are controlled through various Multi-Function Displays (MFDs). Refer to the AFMS and specific documentation supplied with your cockpit displays for more detailed instructions.

Power-Up

At power-up, the ADR-7050 performs a power-up self test. The self test ensures that all major ADR-7050 functions, memory, and microprocessor are operating properly.

Changing & Swapping Frequencies

To change an active frequency, you must first edit the standby frequency. After editing the standby frequency, swap the standby frequency with the active frequency. Once swapped, the standby frequency is immediately and automatically tuned on the radio and becomes the new active frequency. The former active frequency becomes the standby frequency.

To Edit a Radio Frequency:

1. Select the desired com or nav radio.

2. Increase or decrease the radio frequency value using the associated flight display controls.

To Swap a Radio Frequency:

1. Select the desired com or nav radio.

2. Edit the standby frequency.

3. Swap the standby frequency with the active frequency using the associated flight display controls.

   Once swapped, the standby frequency becomes the active frequency and the

active frequency becomes the standby frequency.

Changing Volume

To Change Radio Volume:

1. Select the desired com or nav radio.

2. Operate the volume control using the associated flight display controls.

Activating Auto Squelch

To Activate/Deactivate Auto Squelch:

1. Select the desired com radio.

2. Activate/deactivate auto squelch using the associated flight display controls.

Filtering the Nav ID

To Filter the Nav ID:

1. Select the desired nav radio.

2. Turn the ID filter function "on" to silence voice-over or turn the ID filter function "off" to hear the voice-over and Morse code using the using the associated flight display controls.

Responding to an ADR-7050 Failure

If the ADR-7050 detects a non-fatal failure, only the affected com and/or nav radio functions will cease to operate. If a fatal fault occurs, all radio functions will cease to operate.

What To Do if the ADR-7050 Fails:

1. Do nothing. See a maintenance technician.

What To Do if the ADR-7050 Fails Intermittently:

1. Reset the circuit breakers.

Equipment Limitations

None.

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