



USER GUIDE

KX165 COM / NAV Radio Panel

Operating instructions for the RHSimTech replica King KX165-style COM/NAV radio — tuning, fast-tune mode, OBS course mode, and dual-radio COM1/COM2 setup.

RHSimTech Ltd

Rotherham, South Yorkshire, UK

Hand-built avionics for X-Plane & MSFS

SIMTECH KX165v2

A replica King KX165-style COM/NAV radio 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 shows four stacked rows:

- **COM Active** — the currently tuned COM frequency
- **COM Standby** — the COM frequency waiting to be swapped in
- **NAV Active** — the currently tuned NAV frequency
- **NAV Standby** — the NAV frequency waiting to be swapped in, with an OBS indicator

SECTION 02

Basic Controls

CONTROL	FUNCTION
COM knob (inner/outer)	Tunes the COM standby frequency. Push and turn the inner knob for fast tuning.
NAV knob (inner/outer)	Tunes the NAV standby frequency
NAV knob push	Toggles OBS (course) mode on the NAV display
COM swap button	Swaps COM Active and Standby frequencies
NAV swap button	Swaps NAV Active and Standby frequencies
Mode switch	Hold for COM1/COM2 setup (see Section 4)
Power switch	Powers the panel on/off
Volume knobs (COM/NAV)	Physical analog controls, read continuously while powered

SECTION 03

Tuning a Frequency

1. Turn the **outer knob** on the radio you want (COM or NAV) to set the whole-number digits.
2. Turn the **inner knob** to set the fine digits.
3. Press the **swap button** for that radio to move the new frequency from Standby into Active.

You always tune on the Standby side, then swap it active when ready — matching real-world KX165 operation.

SECTION 04

Setting COM1 vs COM2

If you're running two KX165 panels side-by-side (one for COM/NAV1, one for COM/NAV2), each unit needs to know which radio it represents:

1. Press and hold the **mode switch** for about two seconds until the display shows `c-n` followed by the current setting.
2. Press the **COM swap button** to set the unit to **1**, or the **NAV swap button** to set it to **2**.
3. Press the **NAV mode switch** to confirm — the display will briefly show `donE`, followed by a confirmation screen.

Saved automatically — this setting is remembered after power-off. You only need to set it once per physical unit, not every session.

This is a one-time setup step for each panel, not something you'd change in normal flight.

SECTION 05

OBS / Course Mode

Push the **NAV knob** to toggle OBS (course) mode, indicated on the NAV Standby row of the display. While active, the NAV knobs adjust course instead of frequency. Push the NAV knob again to return to normal NAV tuning.

SECTION 06

Backlight & Volume

Backlight brightness is set automatically by the simulator/SimLink (e.g. tied to the aircraft's panel dimmer) and is not adjusted manually on the panel itself.

COM and NAV volume are controlled by their respective physical knobs and reported live to the simulator.

SECTION 07

Startup Behaviour

When power is applied:

1. The unit boots and briefly tests its display.
2. It waits for the handshake from SimLink (`**INIT**`) before going “live.”
3. Once the handshake completes, it begins receiving live frequency/nav data and reporting its own control changes back to SimLink.
4. If SimLink isn't running or the COM port isn't connected, the unit will sit at its last-known/default display state until a connection is made.

Tip: if the display looks “stuck” or frequencies aren'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
Frequencies don't move with sim	SimLink not connected, or wrong COM port assigned
Knob does nothing	Confirm the panel has finished its startup sequence and is receiving power
NAV knob won't leave OBS mode	Push the NAV knob again to toggle back to normal tuning

Covers the current SimTech KX165v2 build.

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