

Fly! How-To: Bendix/King KX155 Comm/Nav Radio

This how-to document is a brief guide to the various functions of the Bendix/King KX155 radio present in the Cessna Skyhawk 172R, Piper Navajo, and Piper Malibu. It is meant as a supplement to the printed manual which shipped with Fly! to detail additional functionality in this system. Please refer to your original owners manual for a description of using radio systems if you have not yet been introduced to these systems.

Note: To fully use all of the functions described here, you need to have Fly! version 1.01.75 or later installed. Choose Help/About to check your currently installed version. If your version is older than 1.01.75, please visit <http://www.iflytri.com> for a downloadable product update.

Basic Overview

The KX155 is a combination Comm/Nav radio receiver-transmitter. The radio includes a 760-channel VHF communications receiver-transmitter, and a 200-channel VHF navigation receiver. A 40-channel glideslope receiver is also included, which is automatically tuned when a localizer frequency is selected.



Comm Functions

The Comm receiver-transmitter can operate within the frequency range of 118.00MHz to 136.975MHz, with 25kHz or 50kHz spacing. The radio display shows both the active and standby COM frequencies on the left side of the display, with a divider line between the COM and NAV frequencies. The active frequency, on the left, represents the frequency that the receiver-transmitter is actively tuning. The standby frequency, on the right, can be tuned in advance, then immediately transferred to the active frequency using the Transfer button (<->). The KX155 also allows the pilot to pre-program up to 32 frequencies in non-volatile memory, which can instantly be retrieved and tuned.

Tuning the Active Frequency

To tune the active frequency, move the mouse over the whole or fractional portion of the active frequency. Click the left mouse button to decrement the value, or the right mouse button to increment the value. By default, the Comm frequency will step by 25kHz.

Note: While directly tuning the active frequency, ATC communications may be broken or established while tuning the radio. It is recommended that you first tune new frequencies into the standby frequency, and then use the Transfer button (<->) to make the frequency active.

Tuning the Standby Frequency

You tune the standby frequency in the same manner as the active frequency above, except that no transmissions will be interrupted or established. Alternately, you may use the NAV tuning knob (under the standby frequency) to enter the frequency. Left clicking the tuning knob will increment the whole portion of the frequency, and right clicking will increment the fractional portion of the frequency. To make the current standby frequency the active frequency, press the Transfer button (<->) located just below the COM frequency displays.

Changing the Frequency Stepping

By default, the COM radio will step in 25kHz spacings. To toggle between 25kHz and 50kHz spacings, double-click the Comm tuning knob located below the standby frequency display.

Swapping the Active and Standby Frequencies

To swap the active and standby frequencies, press the Transfer (<->) button located just below the COM frequency displays.

Programming Frequencies In Advance

You may pre-program up to 32 Comm frequencies in advance for quicker tuning during your flight. Once programmed, you can easily page through each "channel" you have defined, and make any of these frequencies the active frequency very quickly, with minimal input.

To program the Comm channels, press and hold the small circular "Chan" button located just below the Transfer (<->) button for 2 seconds or more. The radio will switch into program mode, and you will see the active frequency display changed to the currently selected Channel. By default, Channel 1 will be the first channel. The Channel display will flash showing that you can modify it's value. Use the left or right mouse button to decrement or increment the channel number, respectively. Alternately, you may left or right click on the Comm tuning knob (located below the Standby frequency) to change the Channel.

Once you have picked a channel, click the Transfer button (<->) to make the frequency editable. Pressing Transfer repeatedly will allow you to return edit control back to the Channel field. While the frequency is blinking, use the left and right mouse buttons to decrement or increment the frequency, or alternately use the Comm tuning knob to change the frequency.

While in the programming mode, you can change to any channel, from 1 to 32, and set the frequency value. When finished, momentarily press the small circular "Chan" button to return to normal operation.

Selecting a Pre-Programmed Frequency

During flight, to recall any pre-programmed frequency, momentarily press and release the "Chan" button. This will put the Comm radio in Select mode. Once in select mode, use the left or right mouse button to decrement or increment the Channel, or alternately use the Comm tuning knob to scroll through the channels. If you do not make a selection within 2 seconds, the unit will exit Select mode and return to normal operation.

Once you have located the channel you wish to tune, press the Transfer (<->) button to swap the frequency into the active frequency. The previous active frequency will be moved to the standby frequency.

Nav Functions

The Nav receiver can operate within the frequency range of 108.00MHz to 117.95MHz, with 50kHz spacing. The radio display shows both the active and standby NAV frequencies on the right side of the display, with a divider line between the COM and NAV frequencies. The active frequency, on the left, represents the frequency that the receiver is actively tuning. The standby frequency, on the right, can be tuned in advance, then immediately transferred to the active frequency using the Transfer button (<->). The Nav receiver also offers a Bearing To/Radial From mode, a course deviation indicator mode, and an elapsed timer mode.

Tuning the Active Frequency

To tune the active frequency, move the mouse over the whole or fractional portion of the active frequency. Click the left mouse button to decrement the value, or the right mouse button to increment the value.

Note: While directly tuning the active frequency, navaid reception may be broken or established while tuning the radio. It is recommended that you first tune new frequencies into the standby frequency, and then use the Transfer button (<->) to make the frequency active.

Tuning the Standby Frequency

You tune the standby frequency in the same manner as the active frequency above, except that no navaid reception will be interrupted or established. Alternately, you may use the NAV tuning knob (under the standby frequency) to enter the frequency. Left clicking the tuning knob will increment the whole portion of the frequency, and right clicking will increment the fractional portion of the frequency. To make the current standby frequency the active frequency, press the Transfer button (<->) located just below the NAV frequency displays.

Swapping the Active and Standby Frequencies

To swap the active and standby frequencies, press the Transfer (<->) button located just below the NAV frequency displays.

Active/CDI Mode



To use the digital Course Deviation Indicator format (CDI), press and release the "Mode" button located just below the NAV Transfer (<->) button. The standby frequency will be replaced with a digital OBS indicator. If the active frequency is tuned to a valid VOR or localizer signal, the lower portion of the NAV display will show a course deviation

indication, along with a To/From indicator. When in this mode, the Transfer (<->) button performs a blind transfer with the standby frequency.

The KX155 OBS operates independently of any analog CDI/OBS knobs in the aircraft. To set the OBS, directly click on each digit, using the left or right mouse button to decrement or increment the digit respectively.

Active/Bearing-To Mode



To use the Bearing-To Mode, press and release the "Mode" button a second time to skip past the CDI mode. The standby frequency will be replaced with a current Bearing-To reading to the actively tuned navaid. If no valid navaid is tuned, this field will show dashes. When in this mode, the Transfer (<->) button performs a blind transfer with the standby frequency.

Active/Radial-From Mode



To use the Radial-From Mode, press and release the "Mode" button a third time to skip past the CDI and Bearing-To modes. The standby frequency will be replaced with a current Radial-From reading from the actively tuned navaid. If no valid navaid is tuned, this field will show dashes. When in this mode, the Transfer (<->) button performs a blind transfer with the standby frequency.

Active/Timer Mode



To use the Elapsed Timer mode, press and release the "Mode" button a fourth time to skip past the CDI, Bearing-To, and Radial-From modes. The standby frequency will be replaced with the Elapsed Timer.

By default, this timer begins at 00:00 once power is given to the unit. It will continue counting by seconds throughout the flight, and by default can be used to determine

elapsed flight time. The timer may be programmed, however, as a countdown timer, in advance of some future event (turning, switching fuel tanks, etc.)

Resetting the Timer

To reset the timer to 00:00, press and hold the Transfer (<->) button for 2 seconds. The timer will reset to 00:00, and will remain static. To begin the timer, press the Transfer button a second time.

Programming the Countdown Timer

To program the countdown timer, switch to the Active/Timer mode, then press and hold the Transfer (<->) button for 2 seconds. Use the left and right mouse buttons to decrement or increment the minutes and seconds values. Alternately, you may use the NAV tuning knob to set minutes and seconds. When using the tuning knob, the left mouse button will increment minutes, and the right mouse button will increment seconds.

To begin the timer, press and release the Transfer (<->) button. The timer will begin counting down from the time entered. Once 00:00 is reached, the timer will begin to count upwards automatically.

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