

# KXI55 and KXI65 Bendix/King NAV/COM Systems

## PILOT'S GUIDE



This manual has been compiled by RAAC based on following reference document:

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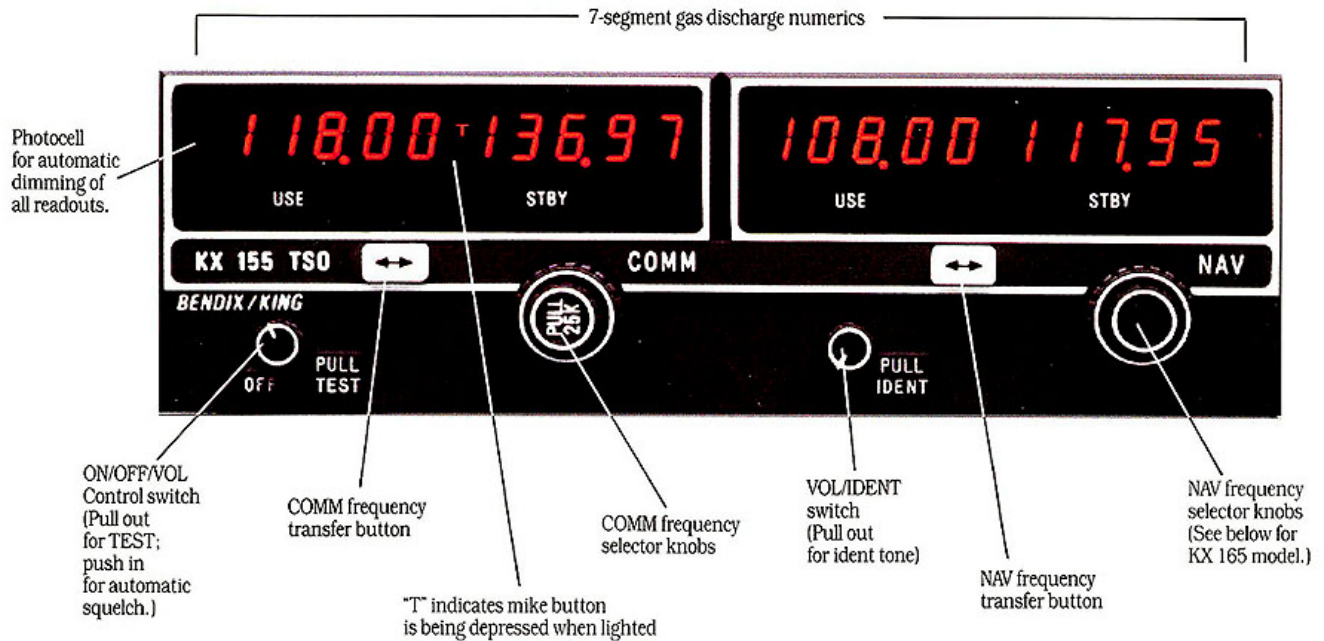
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Royal Antwerp Aviation Club

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# OPERATING INSTRUCTIONS



## TURN ON:

Rotate the ON/OFF Volume Control knob clockwise from the detented "OFF" position. Power will be activated and the unit will be ready to operate. No warm up time is required.

A non-volatile memory stores the "active" (USE) and "standby" (STBY) frequencies during power shutdown. So, when turned on, the "USE" and "STBY" windows will display the same frequencies that were selected before shutdown.

### NOTE:

As with all avionics, the KX 155 should be turned on only after engine start -up. In addition, the KX 155 should be turned off prior to engine shutdown. These simple precautions will help protect the solid-state circuitry and extend the operating life of your avionics equipment.

## **TO COMMUNICATE:**

### **Frequency Selection:**

By rotating the concentric COMM frequency selector knobs either clockwise or counterclockwise, the desired operating frequency can be entered into the "STBY" display window.

A clockwise rotation of the knobs will increase the displayed frequency number, while a counterclockwise rotation will decrease it. The outer, larger selector knob is used to change the MHz portion of the frequency display; the smaller knob changes the kHz portion.

This smaller knob is designed to change the indicated frequency in steps of 50 kHz when it is pushed in, and in 25 kHz steps when it is pulled out.

At either band-edge of the 118.000-136.975 MHz frequency spectrum, an off-scale rotation will wrap the display around to the other frequency band-edge (i.e., 136.00 MHz advances to 118.00MHz).

### **COMM Channeling:**

To tune the COMM transceiver to the desired operating frequency, the selected frequency must first be entered into the "STBY" display window and then activated by pushing the "flipflop" transfer button. This will interchange the frequencies in the "USE" and "STBY" displays, and the transceiver will be tuned to the operating frequency appearing in the "USE" display.

As you can see, this feature makes it possible to display two COMM frequencies - one each in the "USE" and "STBY" displays - and then switch back and forth between them just by pressing the transfer button. An additional transfer button may also be remote-mounted in the aircraft.

### **Transmit Indicator:**

Whenever the microphone is keyed, a lighted "T" will appear between the "USE" and "STBY" displays to indicate that the transceiver is operating in the transmit mode.

### **Volume Adjustment Test:**

To override the automatic squelch for audio test, or to aid in receiving a distant station, simply pull the volume control knob out and rotate to the desired listening level. Push the knob back in to activate the automatic squelch.

## TO NAVIGATE:

### NAV Frequency Selection:

By rotating the concentric NAV frequency selector knobs either clockwise or counter-clockwise, the desired operating frequency can be entered into the "STBY" display window.

A clockwise rotation will increase the displayed frequency number, while a counter-clockwise rotation will decrease it. As with the COMM frequency selectors, an off-scale rotation of the NAV frequency band-edge (108.00 to 117.95) will wrap the display around to the other edge of the frequency band (i.e., 117.00 advances to 108.00 with MHz knob rotation).

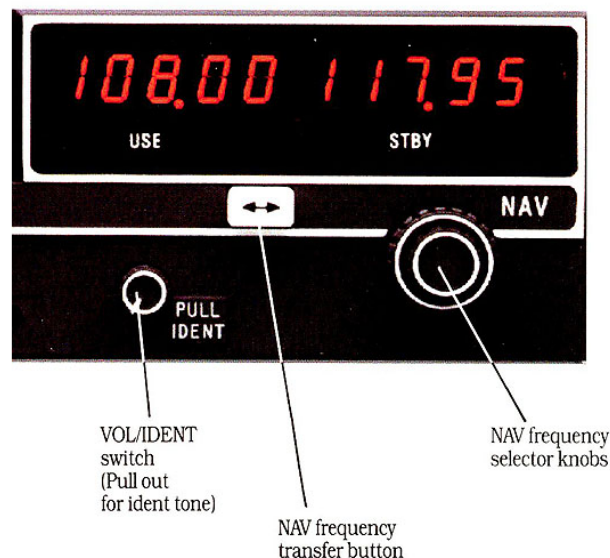
Remote DME and internal glideslope channeling are also controlled by these selector knobs.

### NAV Frequency Operation:

To tune the NAV receiver to the desired operating frequency, the selected frequency is first entered into the "STBY" display and then "flip-flopped" into "ACTIVE" status by pushing the transfer button. When the inner knob is pulled out, the active NAV frequency is tuned directly.

### IDENT:

The NAV "IDENT" knob is activated by pulling it outward, so that both voice and ident can be heard. When this knob is pushed in, the ident tone is muted. Volume of voice/ident can be adjusted by turning this knob-clockwise to increase, counterclockwise to decrease.



# SPECIFICATIONS

## TECHNICAL

### CHARACTERISTICS:

#### TSO COMPLIANCE:

- COMM Transmit:
  - C37b (DO-157, Class 4)
- COMM Receiver:
  - C38b (DO-156, Class C and D)
  - C38b (DO-156, Class A)
  - 50 kHz Selectivity
- NAV Receiver:
  - C40a (DO-153, Cat A and B)
  - C36c (DO-131, Class D)

#### ENVIRONMENTAL CATEGORIES:

- DO-160
- A1D1/A/KPS/XXXXXXXXZBAAA

#### PHYSICAL DIMENSIONS:

- Width: 6.25 inches (15.88 cm)
- Height: 2.05 inches (5.21 cm)
- Depth: 10.16 inches (25.81 cm) including connector

#### WEIGHT:

- KX 165 with GS—5.65 lbs. (2.56 kg)
- KX 165 without GS—5.10 lbs. (2.31 kg)
- KX 155 with GS—5.30 lbs. (2.40 kg)
- KX 155 without GS—4.75 lbs. (2.15 kg)
- KX 155 with Audio Amp. without GS—4.95 lbs. (2.24 kg)
- KX 155 with GS and Audio Amp. 5.5 lbs. (2.49 kg)

#### POWER REQUIREMENTS:

- KX 165 (27.5VDC) Receive—.4 A.  
Transmit—6.0 A
- KX 165 (13.75VDC) Receive—.7 A.  
Transmit—8.5 A
- KX 155 (27.5VDC) Receive—.4 A.  
Transmit—6.0 A
- KX 155 (13.75VDC) Receive—.7 A.  
Transmit—8.5 A

## COMMUNICATION SECTION

### FREQUENCY RANGE:

- 118.000 MHz to 136.975 MHz in 25 kHz increments

### FREQUENCY STABILITY:

- ±0.0015%

### COMM TRANSMITTER

#### POWER OUTPUT:

- KX 155/165—10 watts minimum

#### SIDETONE OUTPUT:

- Adjustable up to 100mW into 500 ohm headphones.

### MICROPHONE:

- Standard carbon or dynamic mike containing transistorized pre-amp. (Must provide 100mV RMS into 100 ohm load.)

### COMM RECEIVER

#### RECEIVER SENSITIVITY:

- 2 $\mu$ V (hard) or less (typically 1 $\mu$ V) for 6dB (S + N)/N with 1,000 Hz tone modulated 30%

#### RECEIVER SELECTIVITY:

- KX 155/165 25 kHz SEL: 6dB bandwidth ±8.1 kHz 60dB bandwidth ±20.0 kHz
- KX 155/165 50 kHz SEL: 6dB bandwidth ±14.5 kHz 60dB bandwidth ±43 kHz

#### RECEIVER AUDIO OUTPUT:

- 100mW into 500 ohms minimum. Audio leveling circuit attacks at less than 15% modulation.

### SQUELCH:

- Automatic squelch with manual override.

## NAVIGATION SECTION

### NAV RECEIVER

#### FREQUENCY RANGE:

- 108.00 MHz to 117.95 MHz in 50 kHz increments

#### FREQUENCY STABILITY:

- 0.0015%

#### VOR/LOC SENSITIVITY:

- ½ flag sensitivity 2 $\mu$ V (hard) or less (typically 1 $\mu$ V) on all channels

#### VOR/LOC CONVERTER

#### ACCURACY (KX 165 only):

- VOR—Typical bearing error of less than 0.5° with precision track selector (2° max. error)
- LOC—Typical centering error of less than 3 $\mu$ A (7 $\mu$ A max. error).

#### NAV RECEIVER SELECTIVITY:

- 6dB at 34.8 kHz minimum
- 80dB at 84.0 kHz maximum

#### AUDIO OUTPUT:

- With a 1 kHz tone 30% modulation at least 100mW output into 500 ohm loads.

### DME CHANNELING

- Serial DME channeling provided for KN 62/62A, KN 63, KN 64, KDM 706/706A DMEs.
- Slip code and 2x5 DME channeling available using KA 120 channeling adapter.

### GLIDESLOPE RECEIVER

#### NUMBER OF CHANNELS:

- 40 (150 kHz spacing)

#### FREQUENCY RANGE:

- 329.15 MHz to 335.00 MHz

#### AUDIO AMP

- (Optional on KX 155, N/A on KX 165)

#### 4 OHM OUTPUT:

- 4 watts minimum (13.75VDC)
- 8 watts minimum (27.5VDC)

#### INPUTS:

- Two (2) 500 ohm auxiliary inputs

**WARNING:** Avionics installations require special skills, tools and test equipment. The Bendix/King warranty is valid only for equipment installed per Bendix/King's Sales and Service policies.

In keeping with Bendix/King's practice of continual product improvement, design and specifications described herein may be altered without notice.

## **Bendix/King**

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