KR 87

Bendix/King
Digital ADF



AlliedSignal
AEROSPACE

KR 87

Restyled and equipped with enhanced backlighting and controls, the Bendix/King Silver Crown Plus™ KR87 automatic direction finder helps you stay on top and ahead of your flight plan. (Shown actual size)



Offering improved ergonomics, our entire line of Silver Crown Plus avionics features more extensive control backlighting and larger, sturdier knobs for easier use.



The Design You Trust

Featuring an all-new appearance, the KR 87 maintains its reputation for offering superb dependability. This compact TSO'd unit gives you accurate bearing-to-station in the 200 kHz to 1799 kHz frequency range, complete with ADF, ANT and BFO tuning modes, plus audio output for station identification and monitoring AM broadcasts.

The KR 87's advanced "coherent detection" design rejects unwanted frequency noise and achieves much greater range while remaining less susceptible to engine noise, static and atmospheric interference.

Its "flip-flop" frequency display allows you to switch between pre-selected standby and active frequencies with the press of a button. And both frequencies are stored in a non-volatile memory circuit, meaning you don't have to worry about battery power.

Outstanding Presentation

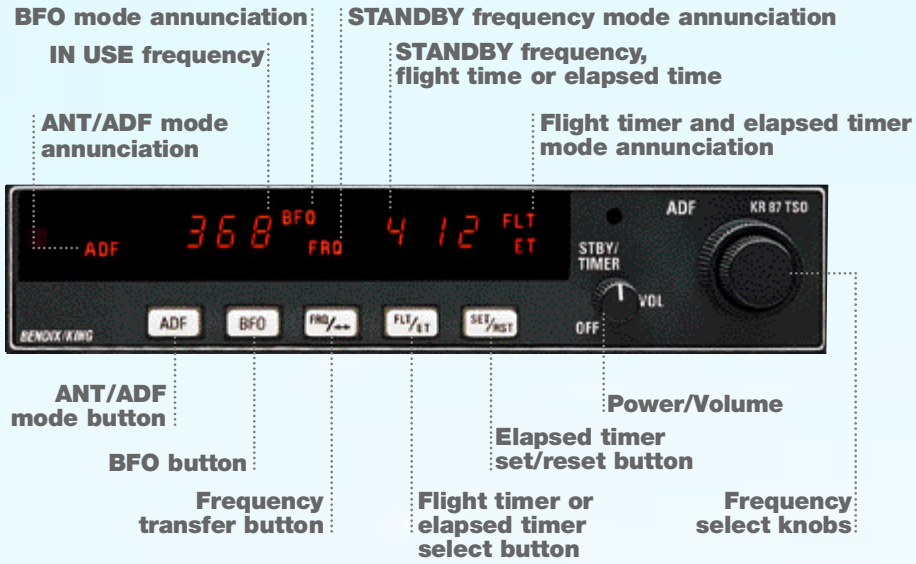
In the cockpit, you want instrumentation that's easy to read and responsive to your touch. Incorporating proven display technology and enhanced ergonomics, our KR 87–and the entire line of Silver Crown Plus panel-mounted avionics–deliver exactly what you want.

Now, the KR 87 is easier than ever to use, especially at night. Its more contemporary faceplate has backlit controls and nomenclature, and its larger, sturdier knobs give you even better fingertip control.

A Two-Way Timer

For either flight time or elapsed time, you simply can't beat the KR 87's internal timer. As an automatic flight timer, it's a real aid for fuel management, dead reckoning on long legs and other navigation functions, up to 59 hours and 59 minutes. And it can be checked any time during a flight by pressing the FLT/ET button.

The elapsed time function provides you with a "stopwatch" perfect for timing a holding pattern, a nonprecision approach or an individual trip leg. It can be programmed to clock forward from :00, or to count down from any preset time interval up to 59 minutes and 59 seconds.



While you're using the elapsed timer or checking the flight timer, you can recall your standby frequency at any time by pressing the 'FRQ' button.

When the timers are being used, the standby frequency won't be shown. So, select a new 'in use' frequency by direct tuning. It's an extremely useful feature, especially when searching for stations with unknown frequencies.

A Directional Sixth Sense

Everything you need to maintain control is included in our basic system. The KR 87 operates on any DC voltage from 11 to 33 volts. And because it draws only 12 watts of power, no external cooling is required.

The standard KI 227 ADF indicator has a manual compass card. As an option, you can install a KI 227-01 slaved indicator that takes heading input from the standard KCS 55A compass system to drive the compass card and display magnetic heading.

Another option is the KI 228 dual ADF Pointer indicator for use with dual KR 87 installations, available in both manual and slaved versions. The KR 87 will also drive KI 229 or KNI 582 RMI's directly.

The final component of the system is the KA 44B combined loop and sense antenna, containing preamplifier and modulator circuits which combine the antenna signals into a single input to the receiver.

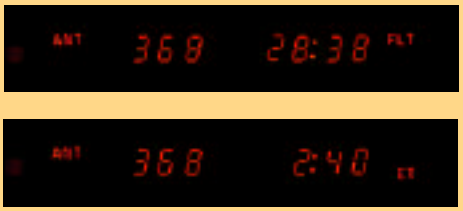
As a basic unit or with options, the KR 87 is like having a sixth sense.

Backed By The Best

Like our other panel-mounted avionics, the KR 87 is backed by our comprehensive two year Bendix/King "no-hassle" warranty. And, wherever you fly, you'll never be far from one of our 800 authorized service centers worldwide–the most extensive support network in general aviation.

Combining improved ergonomics, stand-out features, proven performance and legendary Bendix/King reliability, the Silver Crown Plus KR 87 puts ADF in a whole new light.

See your nearest AlliedSignal Sales & Service Center for complete details on all the new Silver Crown Plus avionics systems.



From top: 'Flight Time' mode and 'Elapsed Time' mode

About The KR 87

POWER/VOLUMESWITCH – This knob controls ON/OFF/VOL.

FREQUENCY SELECT KNOBS – The active frequency is displayed in the left side of the window, with a standby frequency displayed in the right side when 'FRQ' is annunciated. Pull the small inner knob out to tune 1's, push in to tune 10's. The outer knob tunes the 100's and the 1000's, up to 1799.

ADF (AUTOMATIC DIRECTION FINDER) BUTTON – Use the ADF mode ('in' position) for navigation. Use the ANT (Antenna) mode ('out' position) for improved audio reception.

BFO (BEAT FREQUENCY OSCILLATOR) BUTTON – This is used in some countries other than the U.S. to allow the Morse code identifier to be heard on unmodulated stations.

FRQ (FREQUENCY) BUTTON – Pressing this button 'flip-flops' frequency displays, switching between pre-selected 'standby' and 'active' frequencies. It's also used to retrieve the 'standby' frequency in the timer modes.

FLT/ET (FLIGHT TIMER/ELAPSED TIMER) BUTTON – Use this button to select flight time (FLT) or elapsed time (ET).

SET/RST (SET/RESET) BUTTON – Use this button to set and reset the Elapsed Timer.



The KI 227-00 (left, above) is the system's non-slaved, standard instrument; the KI 227-01 is a slaved, optional system element. The KR 87 system may also be ordered with a dual-pointer indicator, such as the slaved KI 228-01 indicator (right, above) or the KI 228-00 with a manually rotatable compass card.

KR 87 Specifications

ADF System

TSO Compliance: C41c
DO-160 Environmental Categories: A1D1/A/SKP/XXXXXX/ZBABA
Power Requirement: 11-33VDC at 12 watts
Temp. Extremes: -20° to +55° C.
Max. Altitude: 50,000 ft.

Physical Dimensions (includes mounting rack and connectors):

Width	6.31 in. (16.03 cm)
Height	1.38 in. (3.51 cm)
Depth	11.28 in. (28.65 cm)
Weight	3.2 lbs. (1.45 kg)

Frequency Range: 200kHz to 1799kHz in 1kHz increments
Receiver Sensitivity: ADF mode: Typically 150 µV/m maximum for (s+n)/n=6dB
ANT mode: Typically 70 µV/m maximum for (s+n)/n=6dB
Receiver Selectivity: 6dB Bandwidth: ±2kHz maximum off center frequency
80dB Bandwidth: ±7kHz maximum off center frequency
ADF Bearing Accuracy: ±3° from 70 µV/m to 0.5V/m RF input signal level
ADF Indicator Speed: 7 seconds max. with indicator 175° off bearing and 70 µV/m to 0.5V/m RF input signal level
Output To Indicator: DC sine and cosine voltages 4.5V ±3.0V (150mA max.)
Superflag Output: Valid high
Audio Output: 50 mW across 500Ω
Alarm Output: Maximum current 1.0A
Maximum open circuit voltage 33.0V

KI 227 Indicator

TSO Compliance: Same as Receiver
Power Requirements: Lighting- .16A @ 14V, .08A @ 28V
Compass Card Motor (-01 Model only)- 0.1A @ 12V
Signal Input: DC sine and cosine voltage- ±3.0V max. across each winding
Compass Card Input (-01 Model only)- 2 phase digital stepper signals

Physical Dimensions (includes mounting rack and connectors):

Width	3.26 in. (8.28 cm)
Height	3.26 in. (8.28 cm)
Depth	2.75 in. (6.99 cm)
Weight	0.7 lbs. (0.32 kg)

KA 44B Antenna Unit

Weight: 2.8 lb. (1.27 kg)
Power Requirements: +9VDC supplied from KR 87 (80mA max.)
Vertical Height (from fuselage): 1.8 in. (4.57 cm)
TSO Compliance: C41c
DO-160 Environmental Categories: B2D2/A/LJY/XXXXXX/ABABA

BENDIX/KING SGX SILVER CROWN PLUS

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3/98 006-18104-0000 5K Printed in U.S.A.

Policy Notice: Avionics installations require special skills, tools and test equipment. Our limited warranty is valid only for equipment installed in accordance with our sales and service policies.

In keeping with our policy of continual product improvement, designs and specifications described here may be altered without notice.

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