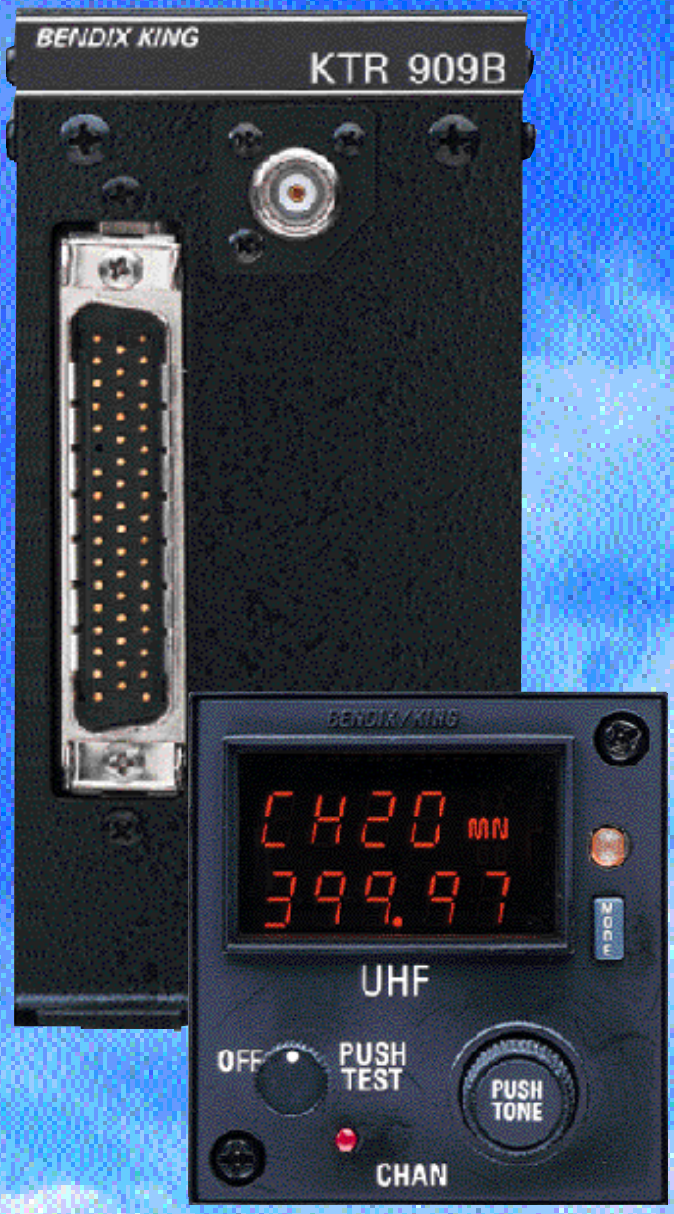
KTR 909/909B
Bendix/King
UHF Communication
Transceivers



AlliedSignal
AEROSPACE

The KTR 909 & 909B

Compact, lightweight and affordable, AlliedSignal's Bendix/King KTR 909 & 909B UHF Communication Transceivers offer the flexibility to meet your specific communications needs. Providing superior two-way AM voice communications, these units were specifically designed for international governmental, military and paramilitary applications, and have already been specified for use in U.S. Air Force and U.S. Navy training programs.

Both of these all-solid-state units access frequencies from 225.000 to 399.975 MHz in 25 kHz increments, and both are specifically designed for low maintenance and high reliability. The KTR 909B differs in that it offers full-time guard frequency (243.000 MHz) monitoring via a dedicated second receiver, while the KTR 909 scans other frequencies when the unit is not in use. The KTR 909B also incorporates an ARINC 429 bus interface.

The KFS 599A control head is used as an interface for the KTR 909, while the KFS 599B controls the KTR 909B. Both of these control heads feature 20 user-programmable channels and easy-to-read, gas-discharge displays. The KFS 599A is available with NVG capability.

Manual Frequency Selection

Both the KFS 599A and KFS 599B have similar operating protocols. For example, the Manual Frequency display mode is selected by momentarily depressing the Channel Mode select button. In this mode, the upper line of the frequency display is blank while the lower line displays the operating frequency. The frequency may be changed by rotating the concentric selector knobs, thus allowing direct entry of the desired frequency.

Preset Channel Selection

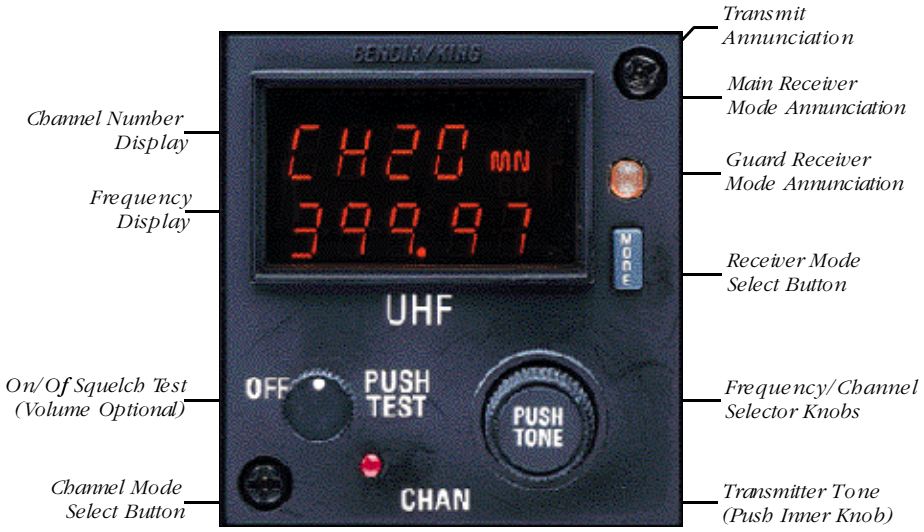
The Preset Channel display mode is selected by momentarily depressing the Channel Mode select button. In this mode, the upper line of the frequency display indicates the preset channel number.

Twenty user-programmable channels are available for quick access to commonly used frequencies. The guard channel is also available for transmission and reception in this mode.

Preset channels may be changed by rotating either of the concentric selector knobs.

ADF Mode

The KTR 909B can provide tuning for remote ADF systems. The ADF mode is selected by pressing the Receiver Mode Select button. The UHF transmitter is then disabled and the signal received by the KTR 909B is directed to the external ADF processor and its antenna



KFS 599B with Standard Gas-Discharge Display

The KTR 909B is controlled via the KFS 599B control head (shown above), which supports the ARINC 429 interface. The KTR 909 uses either the standard KFS 599A control head or an available NVG-compatible variant.

Remote Channel Mode Select

A remote-mounted switch may be installed to toggle both the KFS 599A/B between Manual Frequency display and Preset Channel display modes.

Remote Channel Increment

A remote-mounted switch may be installed to place the KFS 599A/B in the Preset Channel display mode and incrementally scan through the channels. Operating this switch will advance the preset channel number by one count.

Receiver Mode Selection

The KTR 909B receiver can monitor either the main or guard frequencies, or can monitor both simultaneously. The receiver mode is selected by momentarily depressing the Receiver Mode select button. Receiver modes are annunciated in the display's upper right hand corner.

and indicator, providing full ADF capability throughout the associated UHF band.

Transmitter "Push" Tone

When the transmitter is keyed and the inner Frequency Selector knob is depressed, the transmitter will transmit a 1000 Hz tone.

Stuck-Mic Protection

When a microphone is keyed for more than 90 seconds, the control unit reverts to receive mode and the display flashes, alerting the pilot to a stuck-microphone condition. This prevents the radio from jamming the selected frequency.

Configuration Options

Flight Management System Control

With its ARINC 429 interface, the KTR 909B may be controlled through an FMS. The KFS 599B may be installed as a backup controller for an FMS, but simultaneous FMS and KFS 599B operations are not supported.

Tandem Control Head Operation

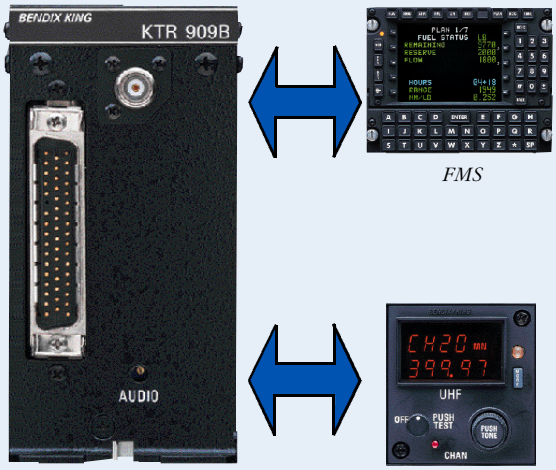
Dual control units can be installed for tandem operation of either the KTR 909 or KTR 909B, where one unit is designated the master and one is the slave.

In tandem operations, only those preset channels stored in the master control unit are available to the slave unit. A Control-Disable feature allows the installation of tandem KFS 599A/B units so that data entries may be made from either controller.

Support

As with all of our products, the KTR 909 and 909B are backed by our comprehensive 2-year "no-hassle" warranty and supported by over 750 factory-authorized service centers around the world.

FMS Control Head Option



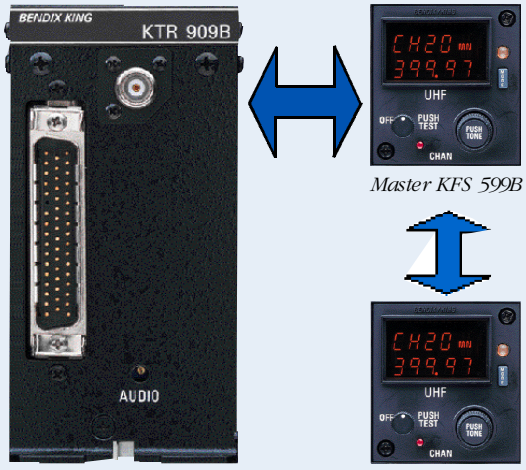
FMS

KTR 909B UHF XCVR

Backup KFS 599B

This installation option for the KTR 909B permits an FMS to control the system, with the KFS 599B used as a backup controller

Tandem Control Head Option



Master KFS 599B

KTR 909B UHF XCVR

Slave KFS 599B

Ideal for training purposes, this tandem installation permits either the KTR 909B or KTR 909 system to be managed via two control heads.

Specifications

KTR 909 & 909B T ransceiver

Environmental:
RTCA DO160C ENV CAT (909B)
A2D2/A/MNB/E XXXXXZBABA/TR/AZ
XXE3/XX
Temperature Range: -55ºC to +55ºC
Altitude Range: Up to 55,000 ft.

Physical Dimensions, 909B:
Height: 5.00 in. (12.70 cm)
Width: 2.64 in. (6.71 cm)
Length: 10.93 in.(27.76 cm)
Weight: 4.8 lbs. (2.17 kg)

Physical Dimensions, 909:
Height: 5.00 in. (12.70 cm)
Width: 1.75 in. (4.45 cm)
Length: 13.15 in.(33.40 cm)
Weight: 3.5 lbs. (1.59 kg)

Power Consumption (KTR 909B):
Receive: 27.5 V dc at 1.0 A max.
Transmit: 27.5 V dc at 10.0 A max.

Power Consumption (KTR 909):
Receive: 27.5 V dc at 1.0 A max.
Transmit: 27.5 V dc at 10.0 A max.

Frequency Range:
225 MHz to 399.975 MHz in
25 kHz increments.

Transmitter

Power Output:
NLT 8 W (10 W Nominal)
all frequencies. (25ºC)

Duty Cycle:
4:1 (4 min receive –
1 min transmit).

Modulation Capability:
NLT 85% and NMT 98%

Sidetone Output:
Up to 100 mW into 500 Ohm
load (adjustable).

Harmonic Content:
Greater than 55 dB down from
carrier level.

Spurious Outputs:
NLT 60 dB below carrier level.

Microphone:
Dynamic with transistorized
preamp or carbon. 120 mVRMS
into 100 Ohm load.

Main Receiver

Sensitivity:
3µV for NLT 6 dB signal plus
noise-to-noise with 1000 Hz.
(6µV wide band)

Selectivity (Narrow Band):
-6 dB bandwidth NLT 25 kHz with
NLT 12 kHz on one side.
-50 dB bandwidth NMT 50 kHz
with NMT 27 kHz on one side.

Selectivity (Wide Band):
-6 dB bandwidth NLT 70 kHz with
NLT 33 kHz on one side.
-60 dB bandwidth NMT 145 kHz
with NMT 75 kHz on one side.

Standard Audio Output:
NLT 100 mW into 500 ohm load.

Standard Audio Response:
NMT 6 dB variation from
350 to 2500 Hz.

Wide Band Audio Output:
NLT 2.75 VRMS into 600 ohm band;
balanced, unsquelched output.

Wide Band Audio Response:
NMT 6 dB variation from 70 to
25.000 Hz.

AGC Characteristics:
5 µV to 200 mV for audio level
change of less than 3 dB.

Squelch:
Automatic squelch (internally
adjustable carrier to noise) with
manual disable squelch override.

Spurious Responses and Cross Modulation Pr oducts:
At least 70 dB down.

Image Response:
At least 60 dB down.

3rd Order IM:
At least 60 dB down.

Guard Receiver (KTR 909B only)

Sensitivity:
Same as Main Receiver but with no
wide band.

Selectivity:
Same as Main Receiver but with no
wide band.

AGC:
Same as Main Receiver.

Squelch:
Same as Main Receiver but with
no manual override.

KFS 599A/B Control Head

Environmental (KFS 599B):
RTCA DO160C ENV CAT
A1D1/A/SPB/XXXXXXZBABA
T/RAXXEZ
Temperature Range: -20ºC to +55ºC

Environmental (KFS 599A):
RTCA DO160C ENV CAT
A1D1/A/SPB/XXXXXSZBABA
T/RAXXEZ
Temperature Range: -20ºC to +55ºC

Physical Dimensions:
Width: 2.19 in. (5.56 cm)
Height: 2.35 in. (5.97 cm)
Depth: 5.50 in. (13.97 cm)

Weight:
1.10 lbs. (0.50 kg)

Frequency Range:
225 MHz to 399.975 MHz in
25 kHz increments

Power Consumption:
Power supplied by KTR 909 or 909B

Lighting
5 V dc at 200 mA max.
Available with and without volume
control.

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