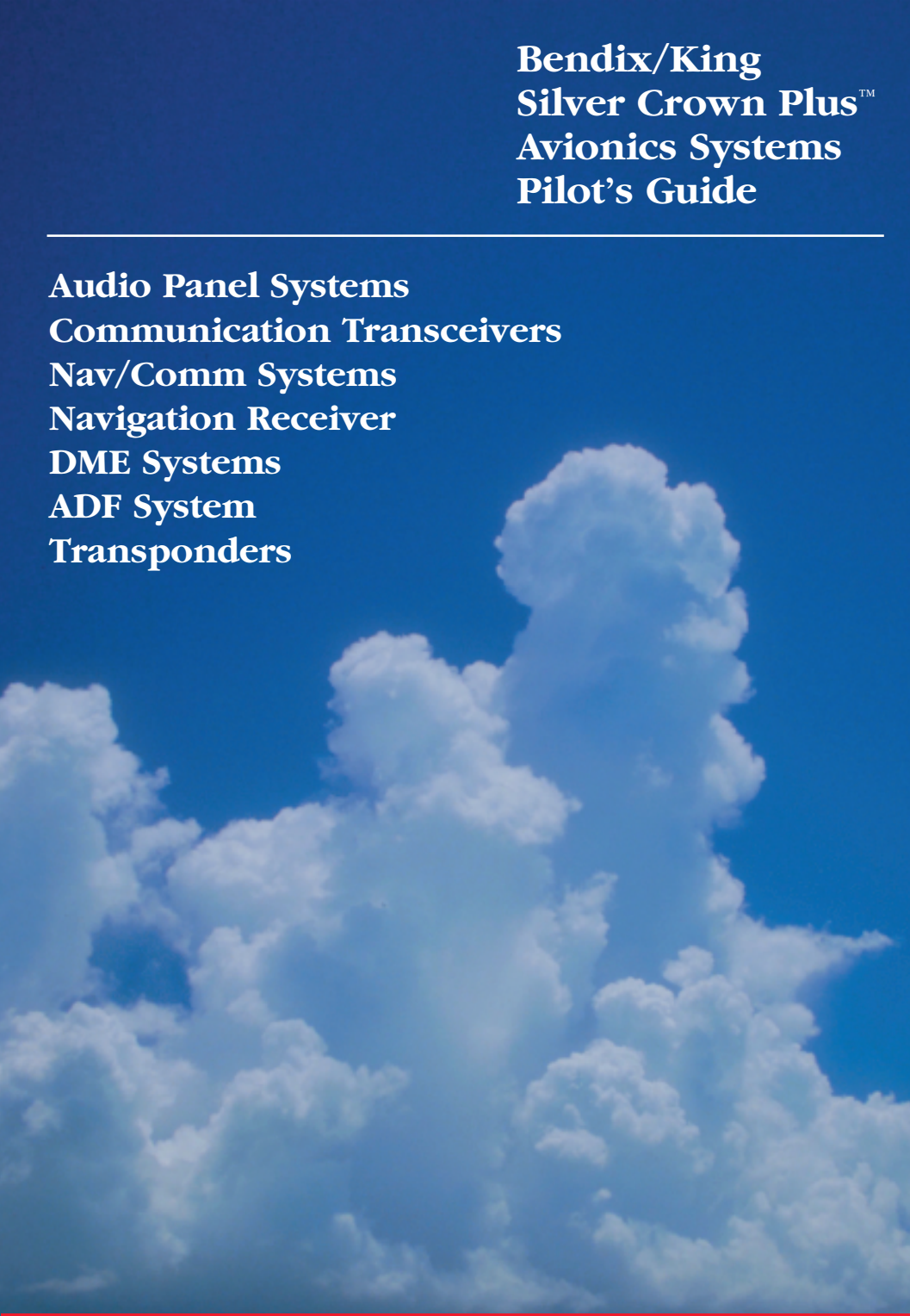
Bendix/King Silver Crown Plus™ Avionics Systems Pilot's Guide

Audio Panel Systems
Communication Transceivers
Nav/Comm Systems
Navigation Receiver
DME Systems
ADF System
Transponders



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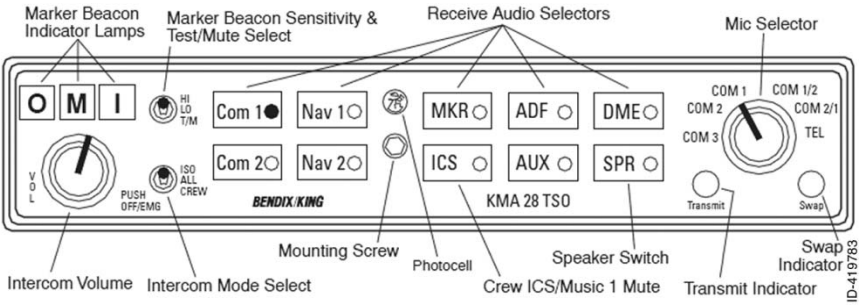
KMA 28
Audio Amplifier/Intercom/Marker Beacon Receiver

KMA 28 Operation



KMA 28 Control Function

Receive Audio Selectors

Receiver audio is selected through two momentary and six latched, pushbutton, backlit switches. Com 1 and Com 2 are the momentary switches.

Because the rotary microphone selector switch controls what transceiver is being heard, the Com l and Com 2 push-buttons are of the momentary type and do not remain in when selected. This is also part of the "auto" function. You will always hear the audio from the transceiver that is selected for transmit by the rotary mic selector switch.

The users can identify which receivers are selected by noting which of the green switch LEDs are illuminated. Push buttons labeled Nav 1, Nav 2, DME, MKR (Marker), ADF, AUX (auxiliary), and SPR (Speaker) are "latched" type switches. When one of these buttons is pressed, it will stay in the "in" position. Press the switch again and it be in the "out" position and remove that receiver from the audio.

Key "click"

The KMA 28 is equipped with an electronic "click" to provide additional feedback for button operation. To activate the key click, push and hold BOTH COM 1 and COM 2 receiver buttons for five seconds, and release. Repeat to defeat the click.

Speaker Amplifier

The "SPR" in the push-button section stands for speaker. This switch will place all selected audio on the cockpit speaker when this switch is selected.

Public Address (PA) Function

The KMA 28 has a public address capability when an optional external PA switch is installed. When this switch is put into the PA position, the pilot's microphone is placed on a speaker output. The copilot can continue to use the selected Com radio.

When this PA function is installed a separate cabin speaker (rather than the cockpit speaker) is usually utilized to prevent feedback.

Power Switch /Emergency (EMG) Operation

Unit power is turned on and off by pushing the volume knob. In the off or "Emergency" position, the pilot is connected directly to Com 1. This allows communication capability regardless of unit condition. Any time power is removed or turned off, the audio selector will be placed in the emergency mode.

The power switch also controls the audio selector panel functions, intercom, and marker beacon receiver. Unless the mic selector is in Com 3 mode, at least one of the selected audio LEDs will be on (Com 1 or Com 2).

Microphone Selector

When the mic selector switch is in the Com 1 position, both pilot and copilot will be connected to the Com l transceiver. Only the person who presses their Push To Talk (PTT), will be heard over the aircraft radio. Turning the rotary switch to the Com 2 position will place pilot and copilot on Com 2.

The KMA 28 gives priority to the pilot's PTT. If the copilot it transmitting, and the pilot presses his PTT, the pilot's microphone will be heard over the selected com transmitter.

Turning the mic selector fully counterclockwise places the pilot and copilot on Com 3. Com 3 receive audio is automatically placed in the headset (and speaker if selected). Com 1 and/or Com 2 receiver audio can be selected to monitor those transceivers.

The KMA 28 has an automatic selector mode. Audio from the selected transceiver is automatically heard in the headsets and speaker. You can check this function by switching from Com 1 to Com 2 and watch the selected audio light on the selector change from COM 1 to COM 2. This ensures the pilot will always hear the audio from the transceiver he is transmitting on.

When transmitting, the COM 1 or COM 2 LED in the KMA 28 audio selector will blink as a further indication of the selected transmitter. When switching the mic selector rotary switch from Com 1 to Com 2, while Com 2 audio had been selected, Com 1 audio will continue to be heard. This eliminates the pilot having to switch Com 1 audio back on, if desired. When switching from Com 1 to Com 2 while Com 2 has NOT been selected, Com 1 audio will be switched off. In essence, switching the mic selector will not effect the selection of Com audio.

Swap Mode (Switch from Com 1 to Com 2 remotely)

With an optional yoke mounted, momentary switch, the pilot can change from the current Com transceiver to the other by depressing this switch. When "Swap Mode" is active, an annunciator in the lower right corner of the unit will illuminate, indicating that the mic selector switch position is no longer current . To cancel "Swap Mode," the pilot may either press the yoke mounted switch again, or turn the mic selector switch to the Com that is active.

Split Mode

Turning the rotary switch to Com 1/Com 2 places the KMA 28 into "Split Mode." This places the pilot on Com 1 and the copilot on Com 2. An example of this useful feature is when the pilot

may want to talk to Air Traffic Control, while the copilot may be speaking to Flight Watch. Although this mode has limitations (see below) we believe you will find this to be a useful feature.

Switching to Com 2/Com l will reverse the "Split Mode" radio selection. The pilot will be on Com 2 and the copilot will be on Com 1.

NOTE: Due to the nature of VHF communications signals, and the size constraints in general aviation aircraft, it is probable that there will be some bleed-over in the Split mode, particularly on adjacent frequencies. In addition, if the Com radios in the installation utilize a "transmit interlock" system, the split mode may not work properly unless the interlock feature is disabled.

NOTE: Honeywell makes no expressed or implied guarantee regarding the suitability of Split Mode in a given installation.

NOTE: Split Mode does not turn off other (Nav, ADF, etc.) selected audio to pilot. However, the copilot will only hear the selected communications receiver and unswitched audio.

Split Mode ICS

In split mode, the pilot and copilot are isolated from each other on the intercom, simultaneously using their respective radios. Depressing the ICS button in Split Mode will activate VOX intercom between the pilot and copilot positions. This permits intercommunication when desired between the crew. Pressing the ICS button again disables this crew intercom function.

Telephone Mode

The "TEL" position, fully CW on the mic selector switch, is the pilot's "hook" switch. This is active only when the system is interfaced to an appropriate approved system, such as the AirCell™ system. Placing the mic selector in TEL places the pilot microphone and headphones on the cellphone. The pilot PTT will switch the pilot mic to the COM 1, and allow continued aircraft communications as well.

NOTE: Placing the mic selector switch in the TEL position will disable pilot and copilot intercom, as the intercom circuit is transferred to the telephone use. In crew or ISO mode, placing the switch in TEL mode removes the passengers access to the telephone.

If interface is desired with another type of wireless telecommunications unit, the aircraft owner can purchase an after-market interface cable. By Federal Communications Commission (FCC) regulations, these can only be used on the ground in the United States.

Interface cables are available for specific telephones. The following is a partial list of available interface cables:

Compatible Phones
Audiovox Series 5
Motorola TeleTAC, DPC 550,
DPC65-, Lite Series, Profile Series
Motorola Elite, M70, M75, SC-725
Motorola Bag Phones, Mobiles
NEC100 Series, 110, 120, 180, Sport
NEC 700 & 800 Series
OKI 900/910, AT&T 3730/3710
OKI 1150/1145, AT&T 3760
Fujitsu PCX
Mitsubishi 4000, DiamondTel

22X/20X/18X
NEC960
NEC DT2000 Digital Phone

NOTE: Unauthorized use of cellular telephone devices in aircraft is subject to FCC enforcement action, which may include a $10,000 fine per incident. Honeywell , Inc. does not endorse using unapproved cellular telephone equipment in flight, and takes no responsibility for the user's action.

Intercom System

‡ IntelliVox™ VOX-Squelch@@

No adjustment of the IntelliVox™ squelch control is necessary. Through three individual signal processors, the ambient noise appearing in all six microphones is constantly being sampled. Non voice signals are blocked. When someone speaks, only their microphone circuit opens, allowing him or her to communicate on the intercom.

NOTE: InteliVox™ is a registered trademark of PS Engineering, Inc. and is used by permission

The system is designed to block continuous tones; therefore people humming or whistling in monotone may be blocked after a few moments. For best performance, the headset microphone must be placed within º inch of your lips, preferably against them. It is also a good idea to keep the microphone out of a direct wind path. Moving your head through a vent air stream may cause the IntelliVox™ to open momentarily. This is normal.

For optimum microphone performance, Honeywell recommends installation of a Microphone Muff Kit from Oregon Aero (1-800-888-6910). This will not only optimize VOX acoustic performance, but will improve the overall clarity of all your communications.

Volume Control

The volume control knob adjusts the loudness of the intercom for the pilot and copilot only. It has no effect on selected radio levels, music input levels or passengers' volume level.

Adjust the radios and intercom volume for a comfortable listening level for the pilot. Most general aviation headsets today have built-in volume controls; therefore, passenger volume can be adjusted at the headset.

Mono headsets in Stereo Installation

All passenger headsets are connected in parallel. Therefore, if a monaural headset is plugged in to a Stereo KMA 28 installation, one channel will be shorted. Although no damage to the unit will occur, all passengers will lose one channel.

Intercom Modes

The lower switch on the left side is a 3-position mode switch that allows the pilot to tailor the intercom function to best meet the current cockpit situation.

ISO (Up Position): The pilot is isolated from the intercom and is connected only to the aircraft radio system. He will hear the aircraft radio reception (and sidetone during radio transmissions). Copilot will hear passengers' intercom and Entertainment 1, while passengers will hear copilot intercom and Entertainment 2. Neither will hear

aircraft radio receptions or pilot transmissions.

ALL (Middle Position): All parties will hear the aircraft radio and intercom. Crew will hear Entertainment 1, passengers will hear Entertainment 2. During any radio or intercom communications, the music volume automatically decreases. The music volume increases gradually back to the original level after communications have been completed.

CREW Down Position): Pilot and copilot are connected on one intercom channel and have exclusive access to the aircraft radios. They may also listen to Entertainment 1. Passengers can continue to communicate with themselves without interrupting the Crew and also may listen to Entertainment 2.

Anytime the KMA 28 is in either the Com 1/Com 2, Com 2/Com 1, ("Split Mode"), the pilot and copilot intercom is controlled with the ICS button. The passengers will maintain intercommunications, but never hear aircraft radios.

Mode	Pilot Hears	Copilot Hears	Passenger Hears	Telephone	Comments
Isolate	A/C Radios Pilot Sidetone (during radio transmission) Entertainment #1 is Muted	Popilot and passenger intercom Entertainment #1	Passenger and Copilot intercom Entertainment #2	"Phone Booth" mode Pilot has exclusive use of the telephone. In TEL, Pilot connected to Com 1 for PTT TX and receive.	This mode allows the pilot to communicate without the others bothered by the conversations. Copilot and passengers can continue to communicate and listen to music
All	Pilot Copilot A/C Radio Passengers Entertainment #1	Copilot Pilot A/C Radio Passengers Entertainment #1	Passengers Pilot Copilot A/C Radio Entertainment #2	All have access to phone through Hook Switch. Pilot access through TEL switch. All hear telephone audio.	This mode allows all on board to hear radio reception as well as communicate on the intercom. Music and intercom is muted during intercom and radio communications
Crew	Pilot Copilot A/C Radio Entertainment #1	Copilot Pilot A/C Radio Entertainment #1	Passengers Entertainment #2	Pilot and Copilot don't have phone access, unless mic sel in TEL. Passengers have phone through Hook Switch, Passengers hear phone audio.	This mode allows the Pilot and Copilot to concentrate on flying, while the passengers can communicate amongst themselves.

Table 2. Intercom Modes

Entertainment Input

The audio selector panel has provisions for two separate entertainment input devices. They operate independently in the KMA 28. The volume control does not affect music level.

While in the ISO (Isolate) mode, the copilot will hear Entertainment 1 while the four passengers will hear Entertainment #2. The pilot will hear Entertainment 1 at a level muted about 95%. In normal operation, whenever a person speaks, or if the aircraft radio becomes active, the music will automatically mute and then will gradually return to the original listening level when the intercom or radio conversation ceases.

When in the All mode, pilot and copilot will hear Entertainment 1 input while all passengers will hear the Entertainment 2 source. While in the Crew mode, pilot and copilot will hear entertainment input #1 while the passengers may listen to entertainment input #2.

Soft Mute and Soft Mute inhibit

The Soft Mute feature assures that the aircraft radio transmissions will not be missed due to entertainment playing. When there is radio reception or intercom conversation, the music level is dropped to a background level. When the radio or intercom traffic ceases, the level gradually returns to normal.

The front panel ICS switch controls muting of entertainment source #1. Pushing this button places the ICS in Karoake (or sing along) mode, which inhibits the soft mute feature. This allows the music to continue uninterrupted by intercom or radio traffic when cockpit workload is appropriate. Pushing the button again will release the mute inhibit function.

The passenger music, source #2, can be placed in the Karaoke mode if a remote switch is installed in the aircraft.

Marker Beacon Operation

The Marker Beacon Receiver uses visual and audio indicators to alert you when the aircraft passes over a 75 MHz transmitter. The audio from the Marker Beacon Receiver can be heard by selecting the "MKR" push-button switch.

A three-position switch is used to set the receiver sensitivity and to test the indicator lamps. Use "High" sensitivity initially. This allows you to hear the outer marker beacon about a mile out. Then select the "Low" sensitivity to give you a more accurate location of the Marker. When used only for approach markers, many pilots choose to leave the switch in the low sensitivity position.

The momentary down switch position is labeled "T/M" (Test/Mute) and illuminates all three lamps simultaneously to assure they are in working order.

The "T/M" position is also a Marker Beacon "Mute" function. Pushing this switch while receiving a marker beacon signal will cause the audio to be temporarily silenced. No action is required to restore the audio in time for the next beacon.

Telephone Operation (if equipped with approved system)

Each intercom position has a "hook switch." The pilot's hook switch is the "TEL" mode on the mic selector, the others are individual switches

mounted adjacent to the headset jacks.

When the intercom is in ALL mode, the pilot can speak on the phone only if the mic selector switch is in TEL position. All intercom positions will hear the telephone conversation. Anyone who places his or her switch into the "offhook" position will also be heard on the phone. All will hear selected audio. Com 1 audio is automatically heard in the headsets. The pilot will have transmit capability on Com 1, simply by using the PTT switch.

In CREW mode, the pilot and copilot may use the telephone, with their respective hook switch (the pilot selects TEL on the mic selector). Any passenger who places their switch into the offhook position will also have access to the phone, and all four passengers will hear the conversation.

In ISO intercom mode, when the KMA 28 is in the TEL mode, the pilot position is in the "Phone Booth." Only the pilot will hear the telephone, and only he will be heard. He will also have access to Com 1, and will transmit on that radio using the PTT. All selected audio is provided.

In all cases, only the pilot (and copilot in ALL or CREW) will hear the cellphone ring. At that time they can chose to allow a passenger to take the call, or answer the phone.

NOTE: Because the phone uses an intercom circuit, all stations on that circuit will lose intercom capability when it is in use.

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