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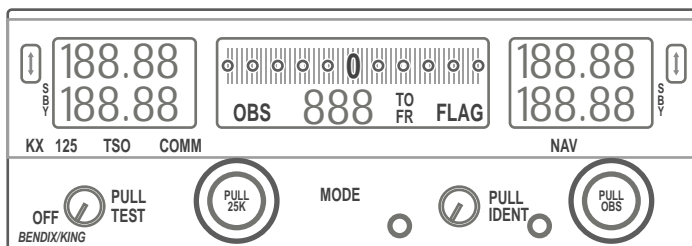
AVIONICS

9.1. KX125 COM/NAV



NOTE:

The manual of the KX125 unit only describes the functions in realistic mode. Otherwise the device operates like the FSX default radios.



The KX 125 TSO unites a communication and navigation radio.

9.1.1 DESCRIPTION

The Bendix King KX125 COM/NAV unites a transmitter/receiver for communications and a navigation radio featuring a Course Deviation Indicator (CDI). The frequency range for communications from 118.00 MHz to 136.975 MHz consists of 760 channels within a 25 kHz raster. Frequency range for navigation from 108.00 to 117.95 MHz consists of 200 VOR/LOC-channels within a 50 kHz raster.

The COM/NAV unit is mounted in the center instrument panel, the communications antenna on the vertical tail and the antenna for navigation within the elevator.

Both, the navigation and the communication part of the unit feature two frequencies. One active and the other one on standby to be activated with a click of a button.

All frequencies are saved if the unit is switched off and are available if it is back online.

9.1.3 PROTECTION

The COM/NAV circuit breaker protects the on-board power supply from high voltage in the case of a short circuit.

9.1.4 HANDLING

Engage main battery, generator and avionic switches.

Integrated lighting can be switched with the Instruments Light switch on the center console.

9.1.5 TURNING ON

Turning the ON-OFF-Volume knob out of the OFF-position will engage the radio. The unit will be instantly be operational displaying the frequencies that have been set before.

9.1.6 TUNING

Turning the COM and NAV rotaries will set the standby frequencies. The larger rotary will set the frequency in 1 MHz steps, the smaller one in 50 kHz steps. The COM frequency can also be set in 25 kHz steps if the rotary is pulled.

Pressing the frequency transfer buttons will exchange standby and active frequencies.

9.1.6 DIRECT TUNING

Pressing the frequency transfer buttons longer than 2 seconds will engage the direct control of the active frequency. The standby frequency will disappear from the display. A short press on the transfer button will quit direct tuning.

Direct tuning works independently for COM and NAV.

9.1.7 STATION IDENTIFICATION

The NAV volume knob can be pulled to enable the identification of the tuned station via morse code.

9.1.8 OPERATION MODES

If a VOR frequency has been tuned as active frequency, the NAV mode button can be used to cycle the three available modes for Nav information window:

Course Deviation Indicator	(CDI)
Bearing	(BRG)
Radial	(RAD)

When the unit has been switched on CDI is the default mode.

CDI MODE

While operating in CDI mode a course deviation indicator will be displayed in the nav information window. The deviation will be displayed vertical bars. Every circle on the scale represents three degrees of deviation.

Below the deviation indicator there is a three-digit display for OBS.

OBS can be set by pulling the small NAV frequency selection knob. OBS display will start flashing to indicate the OBS selection mode.

Additionally To (TO) and From (FR) flags are displayed of a station is tuned.

In the case the unit does not receive a signal, FLAG appears on the screen and all bars of the deviation indicator will be displayed.

BRG MODE

The Bearing Mode (BRG) displays the direct course to the tuned station. Neither the course deviation indicator nor OBS will be displayed. Instead the TO marker will appear and a three-digit number will indicate the direct bearing/direction to the station.

In the case the unit does not receive a signal, three dashes (---) will be displayed instead of the bearing digits.

RAD MODE

Selecting the Radial mode allows "radial from" information to be shown. Neither the course deviation indicator nor OBS will be displayed. Instead the FR marker will appear and a three-digit number will indicate the radial.

In the case the unit does not receive a signal, three dashes (---) will be displayed instead of the radial digits.

AUTO-TO

Pressing the nav mode button longer than two seconds will activate the Auto-TO mode no matter which navigation mode has been active before. CDI Mode will be activated and the OBS is set with direct course to the tuned station.

LOCALIZER

In the case a localizer frequency has been tuned only CDI-mode will be displayed. OBS, TO and FR markers will be hidden and the OBS windows displays the LOC marker.

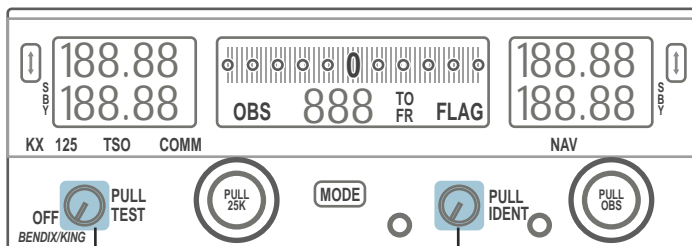
If the unit receives a signal, the deviation will be indicated by the vertical bars. If there is no signal, all bars will be shown and the FLAG marker will appear.



NOTE:

Power surges at engine startup can damage the avionic devices. So it is necessary to ensure the avionic to be switched off before starting the engine.

9.1.9 FSX OPERATION



COMM Volume/
Pull Test Knob

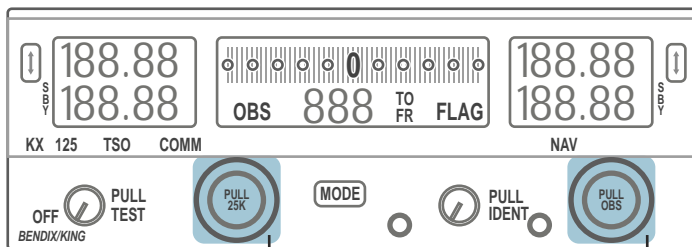
NAV Volume/
Pull Ident Knob



Left and Right Drag:
Turn knob left and
right.

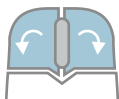


Left and Right Drag:
Turn knob left and
right.

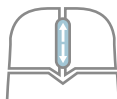


COMM Frequency
Selection Knobs

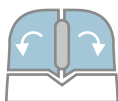
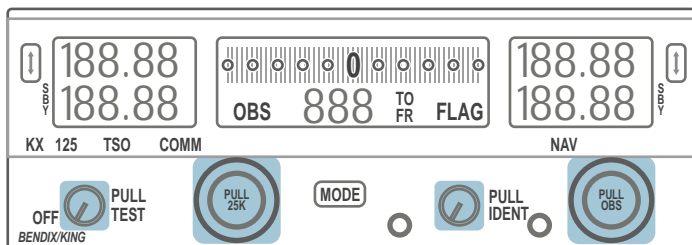
NAV Frequency
Selection Knobs



Left : Turn knob left
Right : Turn knob right

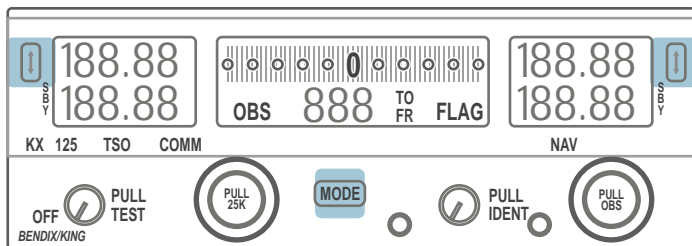


Up : Turn knob right
Down : Turn knob left



Left : Push knob in
Right : Pull knob out

All marked knobs can be pulled out or pushed in by a click on the faceplate.



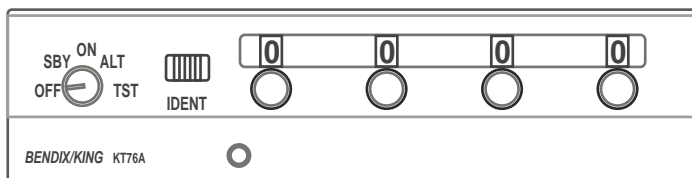
Left : Press and/or hold buttons

9.2. KT76A TRANSPONDER



NOTE:

The manual of the KT76A unit only describes the functions in realistic mode. Otherwise the device operates like the FSX default transponder.



The KT76A unit is very common in aircraft cockpits.

9.2.2 DESCRIPTION

The Bendix King KT76A is a radio transmitter and receiver working on the basis of radar frequencies. It receives radar signals from ground stations at 1030 MHz and send them back. Encoding in the range from "0000" to "7777" results in 4096 possible combinations.

The KT76A transponder unit is mounted in the center instrument panel. The antenna is placed at the bottom of the fuselage between the wings.

9.2.3 PROTECTION

The XPDR circuit breaker protects the on-board power supply from high voltage in the case of a short circuit.

9.2.4 HANDLING

Engage main battery, generator and avionic switches.

Integrated lighting can be switched with the Instruments Light switch on the center console.

9.2.5 SELF-TEST

- a) Turn mode-selector knob from OFF to SBY. Operate the transponder about 60 seconds in SBY mode for warming up and stabilizing the radio tube. Skipping the SBY knob position will not reduce the warming time.
- b) Turn and hold mode-selector knob to the TEST position. The Reply-light should illuminate.
- c) Return mode-selector knob to the SBY position.

9.2.6 MODE A

- a) Use the coding switches to set the necessary Mode A code.



NOTE:

The coding switches shall only be operated in SBY mode to avoid the accidentally setting and transmitting of an emergency code.

- b) Turn mode-selector knob from SBY to ON.

The transponder will now reply to requests with the set code.

9.2.7 IDENT BUTTON

On request of Air Traffic Control (squawk IDENT) the IDENT-button has to be pressed. That transponder will now transmit a signal of 20 seconds with a special identification impulse that will allow an immediate identification of the aircraft on the radar screen.

9.2.8 RELEVANT INFORMATION

To extend the life time of the transponder it should be switched off while starting up or shutting down the engine. These operations could lead to voltage peaks in the on-board power supply that may damage the device.



NOTE:

The coding switches shall only be operated in SBY mode to avoid the accidentally setting and transmitting of an emergency code.

The transponder shall not be operated with code number "75..", "76.." and "77..". Those are reserved for special purposes, for example emergencies.

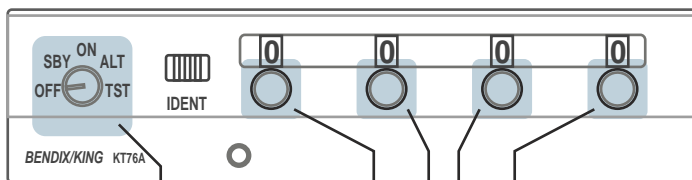
The transponder shall not be operated with code number "0000".

Following codes are reserved for emergencies:

7500	Air piracy
7600	Loss of communication system
7700	Emergency

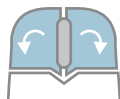
9.2.9 FSX OPERATION

The transponder knobs can be operated with left and right clicks as well with the mouse wheel. A right click will increase, left click will decrease selection. Rotating the wheel upwards will increase, turning downwards will decrease selection.

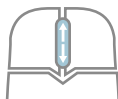


Mode Selector
TST position is springloaded

Coding Switches



Left : Turn knob left
Right : Turn knob right



Up : Turn knob right
Down : Turn knob left



NOTE:

The warming of the radio tube is simulated. ATC may complain about not receiving a signal also the code is set correctly. Watch out for the IDENT lamp indicating the proper operation of the device.

9.2.10 LIGHTING

The transponder integrated lighting is linked to the instrumentation lighting and is toggled with the switch on the center console.

9.3. GPS500

9.3.2 DESCRIPTION

The GPS500 is a 3d version of the FSX default GPS and is nearly identical in function. For operation instructions please refer to the FSX documentation.

9.3.3 PROTECTION

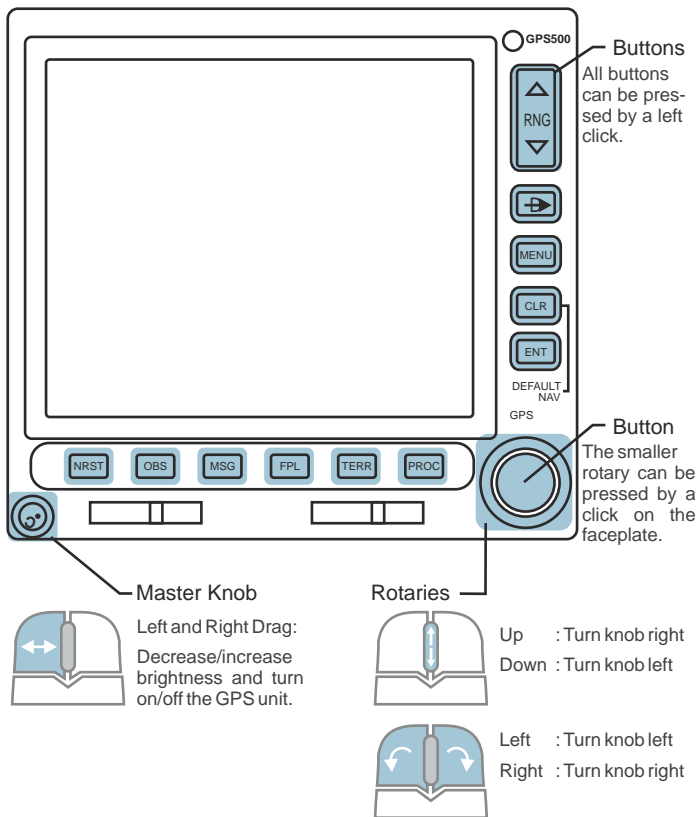
The GPS circuit breaker protects the on-board power supply from high voltage in the case of a short circuit.

9.3.4 HANDLING

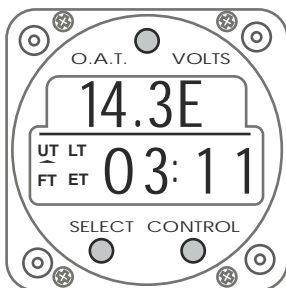
Engage main battery, generator and avionic switches. The unit can be switched off/on and dimmed with the master knob.

Integrated lighting can be switched with the Instruments Light switch on the center console.

9.2.9 FSX OPERATION



9.5. M803



9.5.1 DESCRIPTION

The Model 803 Digital Clock features two displays for the outside air temperature, system voltage and 4 different clock modes.

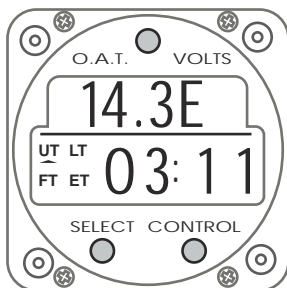
9.5.2 HANDLING

The clock is connected to the main bus and will be operative as soon as the master switch is engaged. Three buttons are available for operation and settings:

- Red button:** Cycle through: Voltage (E), Outside Air Temperature Fahrenheit (F) and Outside Air Temperature Celsius (C).
- SEL button:** Selection what is displayed: Universal Time (UT), Local Time (LT), Flight Time (FT) and Elapsed Time (ET).
- CTL button:** Control what is displayed: Resetting Flight Time, starting and resetting Elapsed Time, setting Universal and Local Time.

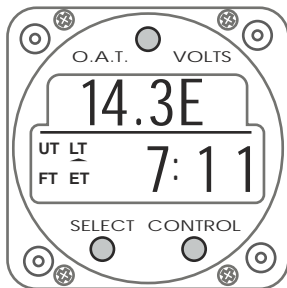
9.5.3 SETTING UNIVERSAL TIME

Use the SEL button to select the UT display. Press both, the SEL and the CTL button, at the same time to enter the set mode. The tens of hours digit will start flashing. Increase the flashing digit by one with the CTL button. Once a number is set, use the SEL button to switch to the next digit. After the last digit has been set, pushing the SEL button will exit the set mode and the clock is running.



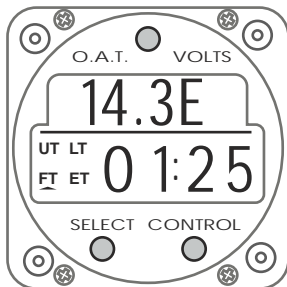
9.5.4 SETTING LOCAL TIME

Use the SEL button to select the LT display. Press both, the SEL and the CTL button, at the same time to enter the set mode. The tens of hours digit will start flashing. Setting the time is the same as described at LT except that the minutes are synchronized with UT and can not be set.



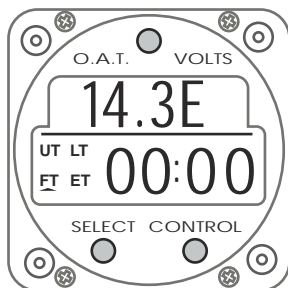
9.5.5 SETTING FLIGHT TIME ALERT

Use the SEL button to select the FT display. Press both, the SEL and the CTL button, at the same time to enter the set mode. The alarm time is entered the same way as the UT setting. When the FT is equal to the alarm time, the display will start flashing and the alarm sound will be activated. The display will automatically change to FT if another mode was selected. Pressing either SEL or CTL button will eliminate the alarm and alarm time.



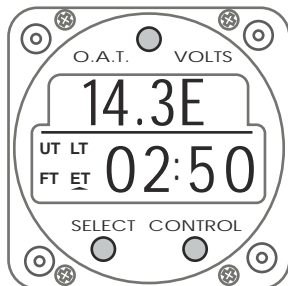
9.5.6 FLIGHT TIME RESET

Use the SEL button to select the FT display. Press and hold the CTL button for 3 seconds or until 99:59 appears on the display. FT will be reset to 00:00.



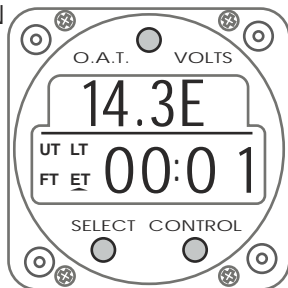
9.5.7 ELAPSED TIME COUNT UP

Use the SEL button to select the ET display. Press CTL button to start ET counting. ET will count up to 59 minutes and 59 seconds and will then be switched to hours and minutes, counting up to 99 hours and 59 minutes. Pressing the CTL button again will reset ET to zero.



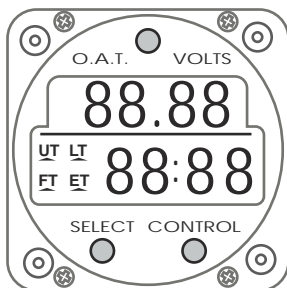
9.5.8 ELAPSED TIME COUNT DOWN

Use the SEL button to select the ET display. Press both, the SEL and the CTL button, at the same time to enter the set mode. A countdown from a maximum of 59 minutes and 59 seconds can be set and will start counting as soon as the last digit has been left with the SEL button. As the count down gets zero the alarm will be activated and the display starts flashing. Pressing either SEL or CTL button will reset the alarm. As the display reaches zero, it will count up.



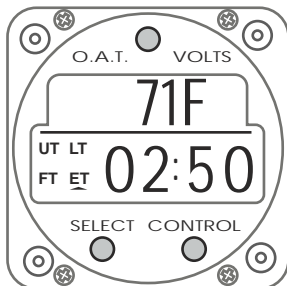
9.5.9 TEST MODE

Press and hold the SEL button for three seconds and the display will change into test mode.



9.5.10 OAT AND VOLTAGE

Pressing the red button will cycle through E, F and C displays. Voltage will always be displayed when the clock is powered up.



9.5.11 FSX OPERATION



Left:
Press or hold the button until release



Right:
The button will be hold for 3 seconds. Necessary to press two buttons at the same time.

