KT 70 and KT 71
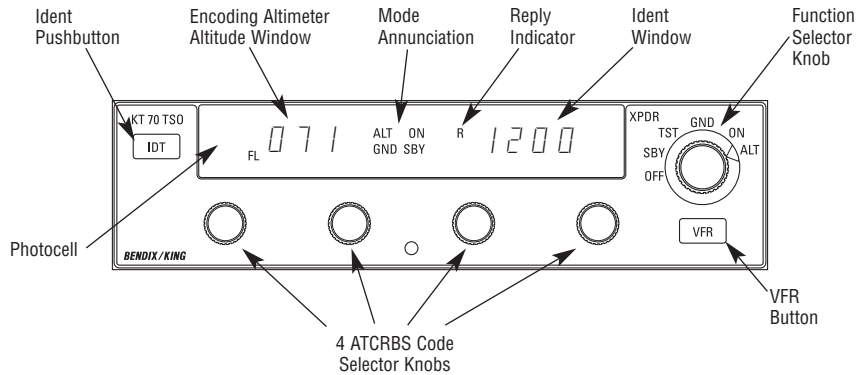## *Panel-Mounted Transponders*

Operating the KT 70 and KT 71

IDENT Button

Marked IDT, the KT 70/71's Ident button is pressed when ATC requests an "Ident" or "Squawk Ident" from your aircraft. When the Ident button is pressed, the reply indicator, an "R"-shaped annunciator light will glow for approximately 18 seconds. An optional Remote Ident switch may also be installed to perform the same function.

ID Code

The ATCRBS Transponder Identification code (squawk code) for the aircraft is displayed in the Ident Window on the right side of the display. Each of the four Transponder Code Selector Knobs selects a separate digit of the identification code.

Reply

The lighted "R" reply indicator blinks when the transponder is replying to a valid interrogation and illuminates for 18 seconds after the initiation of the Ident.

Altitude Display

The KT 70 and KT 71 display Flight Level Altitude, marked by the letters "FL" and a number in hundreds of feet,

on the left side of the display. For example, the reading "FL 071" corresponds to an altitude of 7,100 feet, referenced to 29.92 inches of mercury (or 1013 hP) at sea level. Flight Level Altitude represents "pressure altitude", and should not be confused with true altitude. Please note that the displayed altitude may not agree exactly with the aircraft's altimeter when flying below 18,000 feet, because encoders are preset to 29.92 inches of mercury. An encoder's altitude transmission is automatically corrected for proper altimeter setting by a ground-based computer, to present the correct altitude to the controller.

Ranging from -1,000 to +99,900 feet, Flight Level Altitude is displayed only when altitude reporting is enabled. If the altitude window is blank or shows a series of dashes (as in the case of an invalid altimeter code being reported), altitude reporting will be disabled.

VFR

Momentarily pressing the VFR Pushbutton/Function Selector Knob recalls the preprogrammed VFR code, superseding whatever code was previously entered. If the VFR Pushbutton

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is pressed inadvertently, the previous code may be retrieved by pressing the Function Selector Knob and holding it for two seconds.

If a preset VFR code other than the factory-set 1200 is desired, a new code may be programmed as follows:

1. Place the unit in Standby (SBY)

2. Select the desired VFR code

3. While holding the IDT (Ident) button in, momentarily press the VFR button (Function Selector Knob).

Function Selector Knob

The Function Selector Knob on the right side of the KT 70 and KT 71 enables you to choose from among the following operating modes:

OFF - The unit is not receiving power. *For the KT 70 only,* when the unit is turned to another mode, the installer-programmed aircraft address and the aircraft's maximum airspeed will be displayed, according to the following sequence:
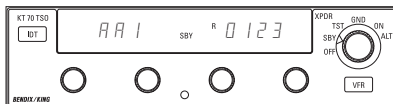
1.) The "FL" window will display "AA1", while, for two seconds, the Ident window will display the first four digits of the unique aircraft address code.
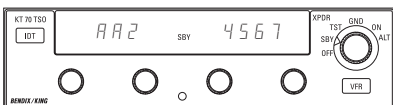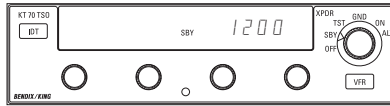

2.) The "FL" window will display "AA2" and the Ident window will display the last four digits of the aircraft address code.
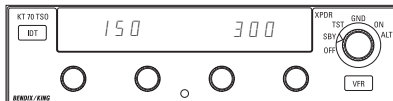

3.) The "FL" window will display the lower limit and the Ident window the

upper limit of the preprogrammed airspeed range, again for two seconds. The six programmable ranges include 0-75, 75-150, 150-300, 300-600, 600-1200 and greater than 1200 knots.


SBY (STANDBY) - In Standby on both the KT 70 and KT 71, the unit is energized but is inhibited from replying to any interrogation. "SBY" is shown on the display, while the altitude display is disabled.
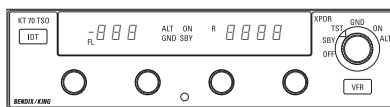
TST (TEST) - Replies are disabled in test mode, and the unit illuminates all segments of the display for at least four seconds. A series of internal tests is performed to check the KT 70/71's integrity, verifying all EEPROM data and making hardware and squitter checks.

Should a squitter error occur, the transmitter is considered inoperative, and the message "F01" will appear on the altitude display. Should an EEP-ROM error be detected, the messages "F02" (internal) or "F03" (external) will appear. If the KT 70 or KT 71 detect a hardware failure that prohibits normal operation, the message "F04" will be shown. If no errors are detected, the unit remains in test mode.
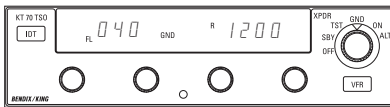

GND (GROUND) - In the KT 71, all interrogations are inhibited. In the KT 70, ATCRBS (Air Traffic Control Radar Beacon System) Mode A&C interrogations are inhibited, but the KT 70 will reply to all valid Mode S interrogations,

provided a Mode S status bit is set to indicate the aircraft is on the ground. In both units, the ID code is shown on the right side of the display, with altitude reported on the left side. The letters "GND" are also displayed in this mode.

NOTE: An optional remote "air/ground" switch may be installed on the aircraft's landing gear strut to keep the KT 70 and KT 71 in the GND mode until the airplane is airborne. This feature eliminates the need to activate the unit's ON or ALT modes after takeoff.
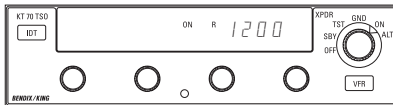
ON - The KT 70 is able to reply to all valid Mode A, C and S interrogations (Mode A and C on the KT 71). However, the altitude information will not be transmitted. In the ON mode, the altitude window is left blank, the ID code is shown on the right and the "ON" annunciation is shown on the display.
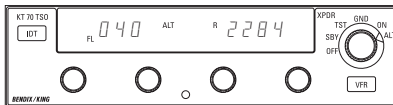
ALT - In the "ALTITUDE" mode, the KT 70 replies to all valid Mode A, C and S interrogations (Mode A and C on the KT 71). The ID code is displayed in the right window and altitude information (in hundreds of feet) is shown on the left.
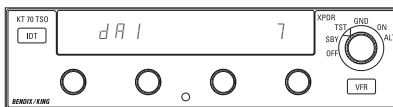
DISPLAY ADJUST MODE - The KT 70's and 71's displays feature three programmable adjustments: dA 1, dA 2 and dA 3. Display Adjust 1 (dA 1) is used to vary the dim/bright response time to changes in ambient light. A set-

ting of 1 provides immediate display brightness changes when there are changes in the light falling on the photocell. With dA 1 set to a value of 8, the response time is approximately eight seconds. dA 1 values of 2 through 7 provide intermediate response times. The factory setting is 1.

Display Adjust 2 (dA 2) is used to vary the display brightness when ambient light conditions are less than direct sunlight, such as in a dark cockpit at night. The factory setting is 20.

Display Adjust 3 (dA 3) varies the amount of ambient light required for the display to reach its full dim and bright levels. A common use of dA 3 is to adjust the KT 70 and KT 71 display brightness to match the brightness of other radios' displays and to provide display brightness compensation as the display ages. The factory setting is 0.

The following steps allow you to access these adjustments:

1. Turn the Function Selector Knob to TST.
2. Press and hold the IDT button for five seconds, until "dA 1" appears in the altitude window.
3. Select the desired display adjustment (dA 1, dA 2, dA 3) by pressing the VFR pushbutton.
4. Set the desired adjustment value in the IDENT window, using the Ident Code Selector Knob on the far right. Note the settings below:

    dA 1 (Photocell response):

    1-8, 1=Fastest, 8=Slowest

    dA 2 (Display brightness):

    0-64, 0=Dimmest,
    64=Brightest

    dA 3 (Vendor/Age compensation):

    0-255, 0=Normal/Dimmest,
    255=Brightest

5. Press the IDT pushbutton or turn the Function Selector Knob to exit the display adjust mode, saving the new values.