

SECTION III OPERATION

3.1 GENERAL

It is recommended that power to the KN 62/62A/64 be turned on only after engine start-up, as this procedure increases the reliability of the solid state circuitry.

The KN 62/62A/64 front panel controls consist of an ON-OFF switch, a function switch, and frequency selection knobs ([Figure 3-1](#)). The function switch determines both the information displayed and the channeling source for the KN 62/62A/64. In Remote (RMT) mode, the KN 62/62A/64 is channeled from an external control head, and the display shows range, speed, and time-to-station. In Frequency (FREQ) mode, the KN 62/62A/64 is channeled from its own frequency selection knobs, and the display shows range and frequency. In Ground Speed/Time-to-Station (GS/T) mode, the KN 62/62A/64 holds the last internally selected frequency and displays range, speed, and time-to-station.

The frequency hold feature in GS/T mode is necessary to prevent accidental rechanneling of the DME when frequency is not being displayed. To prevent the unit from displaying false information, the KN 62/62A/64 will display dashes and stay in "search" whenever power is turned on or momentarily interrupted in GS/T mode. Normal operation is re-established by switching to FREQ or RMT mode.

When the KN 62/62A/64 is locked to a ground station, range is displayed to the nearest 0.1 nautical mile from 0 to 99.9 nautical miles and to the nearest 1 nautical mile from 100 to 389 nautical miles. Ground speed is displayed to the nearest knot from 0 to 999 knots. Time-to-station is displayed to the nearest minute from 0 to 99 minutes. The display also indicates 99 minutes for any computed time-to-station greater than 99 minutes. When the KN 62/62A/64 is in search mode, dashes are displayed instead of range, speed, and time-to-station. An automatic dimming circuit adjusts the brightness of the display to compensate for changes in ambient light level. The dimming is controlled by a photocell mounted behind the front panel to the left of the display. Backlighting of nomenclature on 066-1068-04 and 066-1088-01 is connected and controlled directly by aircraft dimming bus.

The audio output of the KN 62/62A/64 can be set as high as 15 milliwatts into 600 ohms using the audio level adjustment accessible through the top cover. It is set for approximately 2mW output at the factory. It is desirable to use the audio to identify the DME ground stations being received.

The effective range of the KN 62/62A/64 DME depends on many factors; most important being the altitude of the aircraft. When the aircraft is on the ground, the KN 62/62A/64 usually will not receive DME stations due to line-of-sight signal limitations. Other contributing factors to the DME's effective range are the location and altitude of the ground transmitter, transmitter power output, and the degree of maintenance of the ground facility. The distance measured by the KN 62/62A/64 is slant-range distance (measured on a slant from aircraft to ground station) and should not be confused with actual ground distance. The difference between ground distance and slant-range distance is smallest at low altitude and long range. These distances may differ considerably when in close proximity to a VOR/DME facility. However, if the range is three times the altitude or greater, this error is negligible. In order to obtain accurate ground speed and time-to-station, the aircraft must be tracking directly to or from the station.

When operating dual KN 62/62A/64's, the respective DME's will interfere with each other when the NAV frequencies differ by 5.3MHz (for example, 108.00MHz and 113.3MHz). This interference results in premature flags or loss of "Lock-On". Should this occur, one of the KN 62/62A/64's should be either turned off or tuned to a different NAV frequency so that the 5.3MHz difference is eliminated.

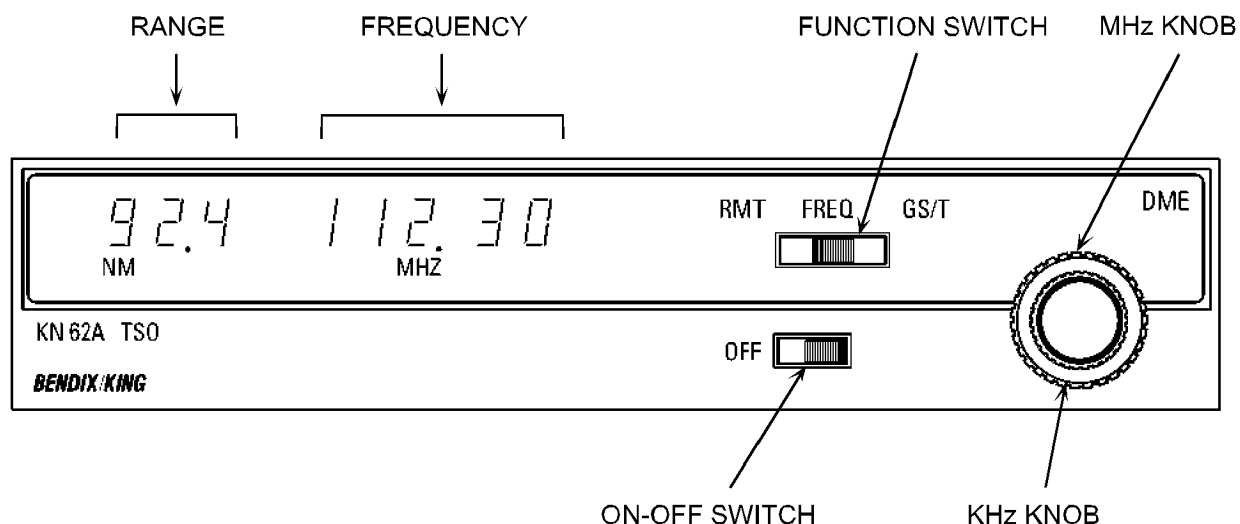


FIGURE 3-1 KN 62/62A/64 frequency mode

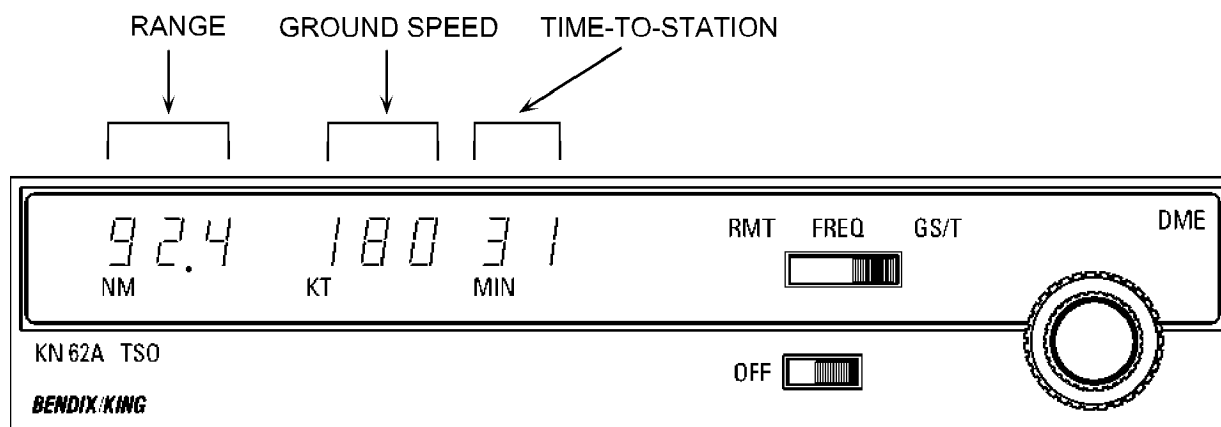


FIGURE 3-2 KN 62/62A/64 ground speed/time-to-station mode

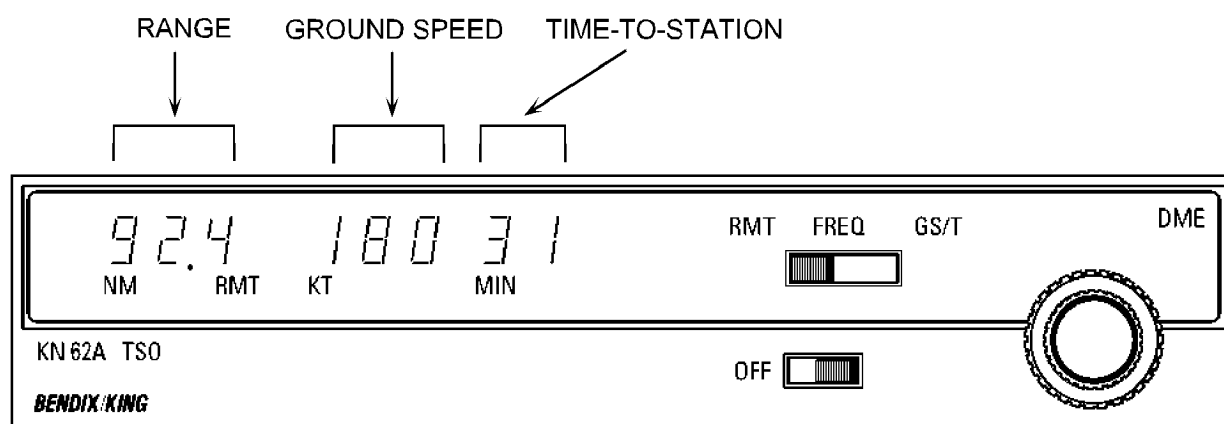


FIGURE 3-3 KN 62/62A/64 remote mode