

within the localizer and glide path coverage sectors. The localizer coverage sector must extend from the center of the localizer antenna system to distances of 18 nautical miles minimum within ± 10 degrees from the front course line, and 10 nautical miles minimum between ± 10 degrees and ± 35 degrees from the front course line. The ISMLS localizer signals must be receivable at the distances specified up from a surface extending outward from the localizer antenna and within a sector in the elevation plane from 0.300 to 1.750 of the established glide path angle (θ).

(j) Except as provided in paragraph (k) of this section, in all parts of the coverage volume specified in paragraph (i) of this section, the peak field strength may not be less than -87 dBW/m², and must permit satisfactory operational usage of ISMLS localizer facilities.

(k) The minimum peak field strength on the ISMLS glide path and within the localizer course sector from a distance of 10 nautical miles to a height of 100 feet (30 meters) above the horizontal plane containing the threshold, may not be less than $+87$ dBW/m².

(l) Above 16 degrees, the ISMLS localizer signals must be reduced to as low a value as practicable.

(m) Bends in the course line may not have amplitudes which exceed the following:

Zone	Amplitude (DDM) (95 pct. probability)
Outer limit of coverage to: ISMLS point "A"	0.031.
ISMLS point "A" to ISMLS point "B".	0.031 at ISMLS point "A" decreasing at linear rate to 0.015 at ISMLS point "B".
ISMLS point "B" to ISMLS point "C".	0.015.

(n) The amplitudes referred to in paragraph (m) of this section are the DDMs due to bends as realized on the mean course line, when correctly adjusted.

(o) The radio frequency carrier must meet the following requirements:

(1) The nominal depth of modulation of the radio frequency carrier due to each of the 90 Hz and 150 Hz tones must be 20 percent along the course line.

(2) The depth of modulation of the radio frequency carrier due to each of

the 90 Hz and 150 Hz tones must be between 18 and 22 percent.

(3) The frequency tolerance of the 90 Hz and 150 Hz modulated tones must be within ± 25 percent.

(4) Total harmonic content of the 90 Hz tone may not exceed 10 percent.

(5) Total harmonic content of the 150 Hz tone may not exceed 10 percent. However, a 300 Hz tone may be transmitted for identification purposes.

(6) At every half cycle of the combined 90 Hz and 150 Hz wave form, the modulation tones must be phase-locked so that within the half course sector, the demodulated 90 Hz and 150 Hz wave forms pass through zero in the same direction within 20 degrees with phase relative to the 150 Hz component. However, the phase need not be measured within the half course sector.

(p) The mean course line must be adjusted and maintained within ± 0.15 DDM from the runway centerline at the ISMLS reference datum.

(q) The nominal displacement sensitivity within the half course sector at the ISMLS reference datum, must be 0.00145 DDM/meter (0.00044DDM/foot). However, where the specified nominal displacement sensitivity cannot be met, the displacement sensitivity must be adjusted as near as possible to that value.

(r) The lateral displacement sensitivity must be adjusted and maintained within 17 percent of the nominal value. Nominal sector width at the ISMLS reference datum is 210 meters (700 feet).

(s) The increase of DDM must be substantially linear with respect to angular displacement from the front course line where DDM is zero, up to angle on either side of the front course line where the DDM is 0.180. From that angle to ± 10 degrees, the DDM may not be less than 0.180. From ± 10 degrees to ± 35 degrees, the DDM may not be less than 0.155.

(t) The localizer must provide for the simultaneous transmission of an identification signal which meets the following:

(1) It must be specific to the runway and approach direction, on the same radio frequency carrier, as used for the localizer function.