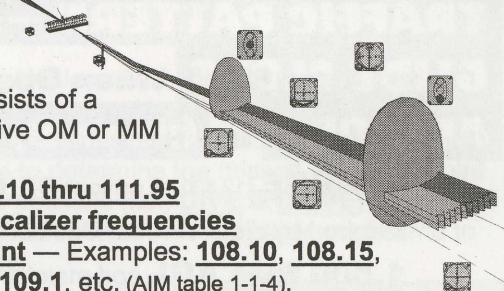


ILS (Instrument Landing System):

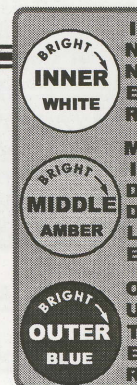
[91.175(k), AIM 1-1-9, P/C Glossary, OpsSpec C074]

1. A precision instrument approach system which normally consists of a localizer, glide slope, OM, MM, approach lights. An inoperative OM or MM does not preclude doing the approach.
2. Frequency range — **Odd tenths & hundreds** within the **108.10 thru 111.95** band are **reserved for ILS** and localizer frequencies. **ILS/localizer frequencies** always have an **odd number** to the **right** of the **decimal point** — Examples: **108.10, 108.15, 108.3, 108.35, 108.5, 108.55, 108.7, 108.75, 108.9, 108.95, 109.1**, etc. (AIM table 1-1-4).
3. For **Part 135** or **Part 91** operations all that is required is the **localizer, glide slope & FAF (GSIA)**. Therefore no increase in DH or Visibility if MM or Approach Lighting system is inoperative.
4. **Visibility** values **below ½ mile** are **not authorized**.
5. Mid RVR may be substituted for TDZ RVR if TDZ RVR is not available.
6. **RVR** value (if available) **takes precedence over tower visibility**.
7. The **Final Approach Fix** is **glide slope intercept** at **Glide Slope Intercept Altitude** (the "lightning bolt symbol" on NOS charts or the "end of the feather" on Jepp charts). When the approach chart shows an alternative lower glideslope intercept altitude, and ATC directs a lower altitude, the resultant lower intercept position is then the FAF.
8. **Minimums** for approach are predicated on **VISIBILITY NOT CEILING!**
9. When the **glide slope fails**, the ILS **reverts to** a nonprecision **localizer approach**.



MARKER BEACON: (AIM 1-1-9, 1-1-2, 91.175)

1. ILS marker beacons have a rated power output of **3 watts** or less and an antenna array designed to produce an **elliptical pattern** with dimensions, at **1,000 feet above the antenna**, of approximately **2,400 feet in width** and **4,200 feet in length**.
2. **Outer Marker**—**Blue** Light—dull tone—slow speed—"dash dash..." (2 per second)
 - a. A compass locator, PAR, ASR; or DME, VOR or NDB fixes may be substituted.
 - b. An aircraft on the glideslope will normally be approximately **1,400 feet** above the runway elevation at the outer marker.
3. **Middle Marker**—**Amber** Light—medium tone & speed—"dot dash dot dash..." (2 per second)
 - a. A compass locator or PAR may be substituted.
 - b. An aircraft on the glideslope will normally be approximately **200 feet** above the runway elevation at the middle marker (and about **3,500 ft** from the **threshold**).
4. **Inner Marker** (Fan)... **White** Light—high tone—high speed—"dot dot dot dot..." (6 per second)
The inner marker is associated with Category II & III ILS approaches.
5. **Back Course Marker**... **White** Light—high tone—"dot dot" (slight pause) **dot dot...**
A back course marker (when available) normally indicates the ILS back course final approach fix where approach descent is commenced.



An **inoperative middle marker** has **no effect** on straight-in landing minimums.

LOCALIZER / TRANSMITTER ANTENNA: (AIM 1-1-9b)

1. The localizer antenna is located at the **far end of** the approach **runway**.
2. The localizer signal is usable from a distance of **18 NM** from the antenna site.
3. The localizer signal provides an angular width of between **3° to 6°**, as necessary to provide a linear **width** of **700 feet** at the **runway threshold** (full-scale fly left — to — full-scale fly right).
4. **Full CDI deflection** occurs at approximately **2.5°** from the centerline of the localizer course.

GLIDE SLOPE ANTENNA: (AIM 1-1-9d)

1. The glide slope antenna is **located between 750 feet and 1,250 feet from the approach end** of the runway (near the "**aiming point marking**"), and offset 250 feet to 650 feet from the runway.
2. The glide slope is normally usable to a distance of **10 NM** (at some locations further than 10 miles).
3. The normal glide slope **angle** is **3°** so that intersects the **Outer Marker** at about **1,400 feet** and the **Middle Marker** at about **200 feet**.
4. The glide slope **beam** is normally **1.4 degrees wide** (full fly-up to full fly-down).