THE FAA STANDARD FOR ILS
- Category I, II, III certified
- Meets all FAA and ICAO requirements
- Approved for FAA maintenance takeover
- Available in all single and dual frequency configurations
- Wide range of antenna options available
- Built-in RMM and remote control capability
- Compatible with co-located DME
- Supports FAA NAS-MD-790 RMM protocol

Mark 20A Instrument Landing System
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SYSTEM FEATURES

Transmitter
- Transmitter configurations include single or dual transmitter and single or dual frequency
- Same synthesizer module used for both glide slope and localizer
- Synthesizer uses digital direct synthesis (DDS) assuring superior frequency accuracy and stability

Monitor
- Microprocessor-controlled signal analysis
- Automatic Integrity Test (AIT) validates the monitoring hardware and software at regular intervals

Antenna Systems
- Localizer arrays available in 8, 14, and 20 element Log Periodic Dipole (LPD) antennas
- Glide slope antenna configurations include Null Reference, Sideband Reference and Capture Effect

Control and Status
- Man Machine Interface utilizes Portable Maintenance Data Terminal (PMDT) using a standard PC equipped with Thales ATM application software (WinMDT) running under MS Windows

TECHNICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>System</th>
<th>Localizer</th>
<th>Glide Slope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coverage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course</td>
<td>25 nm / ± 10°</td>
<td>10 nm / ± 8° azimuth</td>
</tr>
<tr>
<td>Clearance</td>
<td>17 nm / ± 35°</td>
<td></td>
</tr>
<tr>
<td>Course width</td>
<td>2.5° to 6° adjustable</td>
<td>± 0.24°</td>
</tr>
<tr>
<td>Glide angle</td>
<td>2° to 4° adjustable</td>
<td></td>
</tr>
<tr>
<td>Course stability</td>
<td>&lt; ± 1 m (typical)</td>
<td>&lt; ± 0.04°</td>
</tr>
</tbody>
</table>

Transmitter
- Frequency
  - Range: 108 to 112 MHz
  - Stability: < 0.0005 %
  - Course/clearance frequency separation: 8 kHz ± 0.01 %
- Nominal CSB power output
  - Course: 15 W ± 4 %
  - Clearance: 7.5 W ± 4 %
- Spurious/harmonics: 60 dB down
- Modulation frequency accuracy: ± 0.01 %
- SDM stability: ± 0.3 %
- DDM stability: ± 0.002 DDM
- Total harmonic distortion: < 1 %
- Course/clearance phase lock: < 0.5°

Monitoring
- RF-level measurement stability: ± 2 %
- DDM measurement accuracy (DDM=0): ± 0.002 DDM
- DDM measurement accuracy (DDM=0.175): ± 0.004 DDM
- SDM measurement accuracy: ± 1.0 %

Environmental Conditions Indoor
- Ambient temperature: -10°C to 55°C
- Relative humidity: Max. 95 % (-10 to 35°C), max. 60 % > 35°C

Environmental Conditions Outdoor
- Ambient temperature: -50°C to 70°C
- Relative humidity: Up to 100 %
- Wind: Operational up to 160 km/h, survivability 200 km/h
- Ice: Up to 1.25 cm

Power Supply
- Input voltage: 85-265 VAC, 47 to 63 Hz
- Battery voltage: 24 V Nominal

Safety
- Mean time between outages: 26,239 hours
- Integrity: 2.9 x 10-11
- Continuity of service: 2.5 x 10-7
- Availability: 99.99 %
- Mean time to repair: < 30 minutes

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