



**21-20-185-1**  
**DUAL VOR/ILS Antenna System**  
**108 - 118 MHz and 328 - 336MHz**

## FEATURES

- **Aerodynamic lightweight fiberglass blades**
- **Low drag**
- **High ratio between horizontal and vertical polarization**
- **Feeds Twin VOR/LOC Glideslope Receiver**
- **Environmental Design to MIL-STD-810**
- **Loop design for omnidirectional VOR/LOC pattern**
- **Fully sealed for environmental integrity**



The 21-20-185-1 VOR/ILS LOCALISER AND GLIDESLOPE antenna system comprising of a pair of low drag blades (P/N 21-20-185A and 21-20-185B) for horizontal mounting, one on each side of a vertical stabiliser, together with an external cable harness (P/N 21-80-56).

When installed, the blades act as a loop for VOR/LOC and as a forward looking dipole for GLIDESLOPE. The combined output from the 21-80-56 is connected to a diplexer (P/N 21-80-39) which divides the signal into separate VOR/LOC and GLIDESLOPE signals, both of which derive equally from each half of the antenna system, and then splits each signal in phase and amplitude. The system is thus capable of feeding twin VOR/LOC and glideslope receivers.

Mechanical design of each blade comprises an internal printed circuit half loop, foamed-in-place into a glass loaded thermoplastic radome fitted to an aluminum alloy base block having an integral mounting flange.

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# SPECIFICATIONS

## Cooper Antennas Model 21-20-185-1 VOR/ILS Antenna System

### ELECTRICAL

<b>Frequency Range</b>	<b>Localiser : 108-118 MHz</b> <b>Glideslope : 328-336 MHz</b>
<b>Gain (typical)</b>	<b>Localiser : -5 dBi</b> <b>Glideslope : -5 dBi</b>  (Antennas only, excluding cable harness and diplexer/ splitter losses)
<b>VSWR</b>	<b>Localiser : ≤ 5.0:1</b> <b>Glideslope : ≤ 3.0:1</b>
<b>Impedance (nominal)</b>	<b>50 Ohms</b>
<b>Polarization</b>	<b>Horizontal</b>
<b>Radiation</b>	<b>VOR/Localiser : Omnidirectional</b> <b>Glideslope : Forward looking lobe</b>
<b>Antenna RF Connector</b>	<b>TNC Female</b>
<b>System comprises of</b>	<b>Qty 1 - 21-20-185A (Antenna)</b> <b>Qty 1 - 21-20-185B (Antenna)</b> <b>Qty 1 - 21-80-56 (Cable harness)</b> <b>Qty 1 - 21-80-39 (Diplexer)</b>

### MECHANICAL

<b>Construction</b>	<b>Glass loaded thermoplastic moulding with integral aluminum base flange</b>
<b>Height</b>	<b>6 inches (152mm) for single antenna</b>
<b>Weight</b>	<b>1.8 lb (0.8kg) for single antenna</b>
<b>Fixing Holes</b>	<b>4 x Ø 0.209 inches (5.3mm) holes, counter sunk 100° Ø 0.413 inches (10.5mm)</b>

### FINISH

<b>Antenna</b>	<b>Lusterless Black</b>
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**Other finish options are available. Please specify finish required when ordering.**

**Note: Cooper Antennas Ltd has a policy of continuous product improvement and data herein is therefore subject to change.  
Please check with Cooper Antennas Ltd that this data sheet is at latest issue before initiating contract activity.**