

The 5 Element LPDA Beam VHF UHF Antenna is available for large quantity purchase orders.

LPDA vs Yagi

Comparison: LPDA vs. Yagi

Antenna	Log-Periodic Dipole Array (LPDA)	Yagi-Uda Antenna
Typical Bandwidth	50% to 100%+ across supported frequencies	5% to 10% (e.g., 144-146 MHz)
Gain at Center Frequency	7-12 dBi (gain continues across all frequencies)	12-19 dBi (gain is limited to a very narrow frequency range)
VSWR Performance	< 2.8:1 across entire supported frequencies	< 1.5:1 at a single/center frequency, – SWR rapidly increases off the single/center frequency

Conclusion:

1. LPDA has gain across more usable frequencies where SWRs are lower than a Yagi.
2. Yagi has maximum gain on 1 specific frequency with limited use due to high SWR on other frequencies.

Uses

Defense & Tactical Communications – Military and tactical systems deploy LPDAs for VHF/UHF communications, Cellular signal jamming, and surveillance due to their wideband coverage and rugged design.

Electronic Warfare & Surveillance – LPDAs are used in electronic warfare systems to track multiple communication protocols simultaneously, exploiting their frequency-agnostic radiation pattern for multi-spectrum surveillance.

Scientific Research & RF Monitoring – Used in RF monitoring, EMC testing, and other research where consistent performance across a wide band is essential

Amateur Radio (Ham Radio) – LPDAs are valued for their wide frequency coverage, making them suitable for HF and VHF/UHF communications without retuning.

Description

Commercial quality, heavy duty beam antenna suitable for directional reception and/or transmission, where your coax attaches to a female N-Connector on the dual boom design. This dual boom design provides incredible strength for extreme conditions. This beam can be Horizontally mounted or Vertically mounted with the optional “Vertical conversion mount”. It can also operate on both VHF and UHF using only one coax, which makes for a great VHF/UHF multi-band system or 390-1000+Mhz jamming antenna.

Electrically, the dual boom design feeds the antenna elements. This Log Periodic Dipole Array (LPDA) is built to resonate on one frequency and have reasonable SWR results and gain on many other frequencies.

Mounting hardware for a 1.25 inch mast is included, which can be replaced with custom 2 inch mast hardware upon request and at no extra charge.

The antenna is constructed using two 1 inch square aluminum 3 foot booms with 1/8 inch walls. The elements are constructed of .625" aluminum. The included mounting kit, which makes the total length of the antenna just over 4 feet, is an H-Beam type Stand-Off that can be installed on top of a mast or side mounted on a commercial tower.

VHF Analysis



UHF amateur radio band coverage 430-450MHz



382-1000MHz Sweep

Designed for 126-154 MHz and 430-450MHz & 450-495MHz, then operational on other frequencies even beyond 1000MHz.

Maritime, Ham (Amateur), & Air Band Coverage

Maritime

All maritime-only bands in the VHF high band covered by this antenna, specifically 156-158MHz.

Ham (Amateur)

The ham-only bands in the VHF high band are fully covered by this antenna from 144-148MHz.

Air Band

All of the air-only bands in the VHF high band are covered by this antenna,

Alpha SKY – 5 Element LPDA VHF UHF Beam

specifically 128.8250-136.9750MHz.

Details

Beam Antenna Type: Log Periodic (LPDA)

Beam Antenna Elements: 5

Antenna Power Rating: 500 W

Beam Antenna Boom Length: 3 ft. (with Mounting Hardware 3.75 ft.)

Beam Antenna Longest Element, when deployed: 71.000 in.

Mast Mounting Clamp: 1.250 in. is the default, with custom 2 in. upon request.

Mast Mounting Clamp Maximum: 1.25 in., with custom 2.00 in. upon request.

Beam Antenna Frequency Coverage: 126-154 MHz and 430-450MHz & 450-495MHz

Feedpoint Impedance: 50 ohm

Antenna Feedline Connection Type: Type N, female

Antenna Weight: 7.44 lbs.

Beam Antenna Elements (app): 5

Beam Antenna Gain: 8.5 dBi

Beam Antenna F/B (dB): 15.0 dB

E-Plane 3 dB Beamwidth: 60 degrees

H-Plane 3 dB Beamwidth: 110 degrees

Bandwidth at <2:1 SWR: Over 24.0 MHz

Maritime Coverage (MHz)

153-154 Maritime VHF

Other Coverage (MHz)

Air

138.000-138.500
138.875-138.925
139.600-140.000
140.375-140.425
141.525-151.925
142.125-142.300
143.425-143.475
143.750-143.925
148.050-148.250
148.450-148.550
149.150-149.325
149.475-149.550
149.925-150.050
150.150-150.350

Sea

138.525-138.850
138.950-138.875
139.475-139.575
140.025-140.350
140.450-141.000
141.950-142.100
142.500-142.850
143.500-143.725
148.275-148.425
148.950-149.125
149.350-149.450
150.075-150.125
150.375-150.400

Land

139.000-139.450
141.025-141.500
142.325-142.475
142.875-143.400
143.950-143.975
148.000-148.025
148.575-148.925
149.575-149.900
150.425-150.775

Ham (Amateur) Coverage (MHz)

144-148 – 2 Meters

Commercial Aircraft Coverage (MHz)

128.8250-132.0000 Operational Control
132.0250-136.4750 Air Traffic Control
136.5000-136.8750 Domestic VHF
136.9000-136.9750 International and Domestic VHF

ARINC En Route Service
128.9000 Southwest USA
129.4000 Northeast USA / Canada West Coast and Anchorage
129.4500 East Central USA
131.8000 Northwest USA
129.9000 Maritime Net (Northeast Coast USA)
130.7000 Mexico / Caribbean
131.1750 Southeast USA
130.4000 West Central USA
131.9500 Pacific Net (West Coast USA and Hawaii)

Aircraft Communications Addressing and Reporting System (ACARS) – BM, CSQ, AM, Data

129.12500 ACARS 129.125 ACARS
130.02500 ACARS 130.025 ACARS
131.12500 ACARS 131.125 ACARS (High Traffic Areas)
131.55000 ACARS ARINC Base ARINC-Americas Base Frequency

Alpha SKY - 5 Element LPDA VHF UHF Beam

130.45000 ACARS 130.450 ACARS (High Traffic Areas)

136.80000 ACARS 136.8 ACARS

136.75000 ACARS 136.75 ACARS

136.97500 VDL Mode 2 VHF Data Link (VDL) Mode 2

129.52500 ACARS 129.525 ACARS

131.72500 ACARS SITA Base SITA Base Frequency

129.35000 ACARS 129.35 ACARS