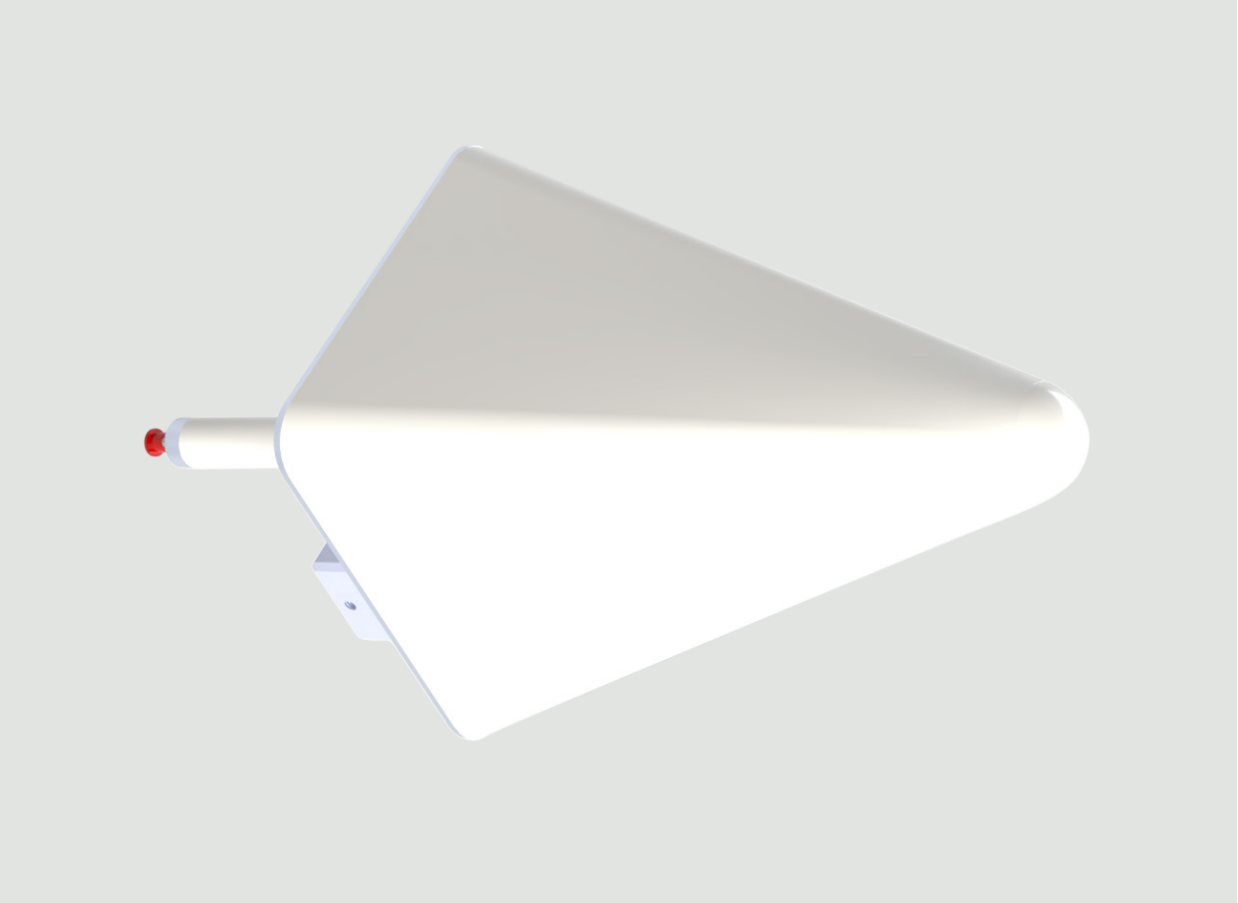
ETS·LINDGREN®
An ESCO Technologies Company

Dual Stacked Log Periodic Dipole Array (LPDA)

Model 3186B

User Manual



1807988 Rev A
September, 2026

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NOTES, CAUTIONS, AND WARNINGS

	Note: Denotes helpful information intended to provide tips for better use of the product.
CAUTION	**CAUTION:** Denotes a hazard. Failure to follow instructions could result in minor personal injury and/or property damage. Included text gives proper procedures.
WARNING	**WARNING:** Denotes a hazard. Failure to follow instructions could result in **SEVERE** personal injury and/or property damage. Included text gives proper procedures.

See the ETS-Lindgren *Product Information Bulletin* for safety, regulatory, and other product marking information.

SAFETY INFORMATION

Refer to Manual: When product is marked with this symbol, see the instruction manual for additional information. If the instruction manual has been misplaced, download it from www.ets-lindgren.com, or contact ETS-Lindgren Customer Service.

High Voltage: Indicates presence of hazardous voltage. Unsafe practice could result in severe personal injury or death.



INTRODUCTION

The **ETS-Lindgren Model 3186B Dual Stacked Log Periodic Dipole Array (LPDA)** is comprised of two individual 100 Ω LPDAs. When assembled in parallel, the results are a 50 Ω input impedance array. This array provides increased gain when compared to a single LPDA, and provides a very constant pattern across the entire frequency range.

Covering a frequency range of 1 GHz to 18 GHz, the Model 3186B is ideal as a receive antenna for CISPR 16-based testing above 1 GHz. It can also be used with the ETS-Lindgren Model 3183 End Fed Mini-Bicon antenna to perform the site VSWR chamber validation method per CISPR 16.

The Model 3186B was designed to provide a constant illumination from 1 GHz to 18 GHz. The beamwidth in the two principal planes is 59.8 degrees for the E-plane (the polarization plane) and 57.0 degrees for the H-plane (the orthogonal plane), while the directivity is about 10 dB across the entire frequency range.

The Model 3186B includes a stinger mount and standard 1/4–20 thread mounting hardware. For all mounting options available for the Model 3186B, see Mounting Instructions on page 15.

Standard Configuration

- Model 3186B Dual Stacked LPDA
- Individually calibrated factors at 3m per SAE ARP 958

Tripod Options

ETS-Lindgren offers the following non-metallic, non-reflective tripods for use at both indoor and outdoor EMC test sites.

- **4-TR Tripod**—Constructed of linen phenolic and delrin, designed with an adjustable center post for precise height adjustments. Maximum height is 2.0 m (80.0 in), and minimum height is 94 cm (37.0 in). This tripod can support up to an 11.8 kg (26.0 lb) load.



- **7-TR Tripod**—Constructed of PVC and fiberglass components, providing increased stability for physically large antennas. The unique design allows for quick assembly, disassembly, and convenient storage. Allows several different configurations, including options for manual or pneumatic polarization. Quick height adjustment and locking wheels provide ease of use during testing. Maximum height is 2.17 m (85.8 in), with a minimum height of 0.8 m (31.8 in). This tripod can support a 13.5 kg (30 lb) load.



ETS-Lindgren Product Information Bulletin

See the ETS-Lindgren Product Information Bulletin included with your shipment for the following:

- Warranty Information
- Safety, regulatory, and other product marking information
- Steps to receive your shipment
- Steps to return a component for service
- ETS-Lindgren calibration service
- ETS-Lindgren contact information

MAINTENANCE

⚠ CAUTION Before performing any maintenance, follow the safety information in the ETS-Lindgren Product Information Bulletin included with your shipment.





Maintenance of the Model 3186B is limited to external components such as cables or connectors.

If you have any questions concerning maintenance, contact ETS-Lindgren Customer Service.

Annual Calibration

See the Product Information Bulletin included with your shipment for information on ETS-Lindgren calibration services.

Optional Parts

ETS-Lindgren may substitute a similar part or new part number with the same functionality for another part/part number. Contact ETS-Lindgren for questions about part numbers and ordering parts.

Following are the part numbers for ordering optional parts for the Model 3186B Dual Stacked Log Periodic Dipole Array (LPDA). Optional parts are sold separately. Contact ETS-Lindgren for additional information.

Part Description	Part Number
4-TR Tripod	4-TR
7-TR Tripod	7-TR

Service Procedures

For the steps to return a system or system component to ETS-Lindgren for service, see the Product Information Bulletin included with your shipment.

SPECIFICATIONS

Electrical Specifications

Frequency Range:	1 GHz—18 GHz
VSWR (Average):	2:1
Maximum Continuous Power:	20 W
Pattern Type:	Directional
Polarization:	Linear
Peak Power:	30 W
Impedance:	50 Ω
Connector:	SMA female

Physical Specifications

Length:	45.6 cm (17.94 in)
Width:	18.4 cm (7.25 in)
Height:	18.4 cm (7.25 in)
Weight:	1.2 kg (2.6 lb)

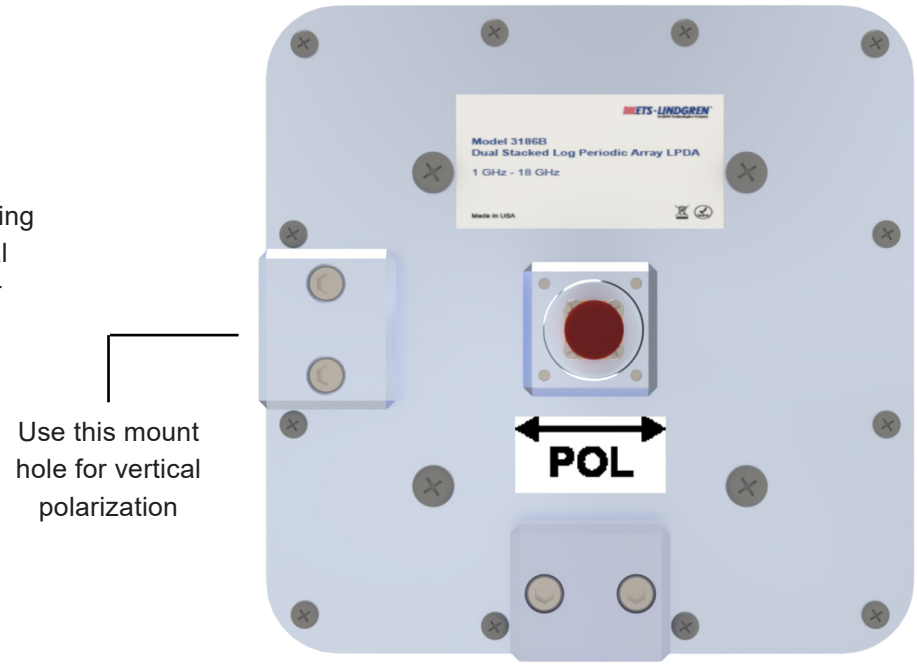
MOUNTING INSTRUCTIONS

⚠ CAUTION Before performing any maintenance, follow the safety information in the ETS-Lindgren Product Information Bulletin included with your shipment.

⚠ CAUTION The Model 3186B antennas are precision measurement devices. Handle your antenna with care.

Mounting to a 4-TR

The Model 3186B Dual Stacked Log Periodic Dipole Array (LPDA) includes two standard 1/4–20 threaded mounting holes, one for horizontal polarization and one for vertical; no additional hardware is required to mount to a 4-TR.

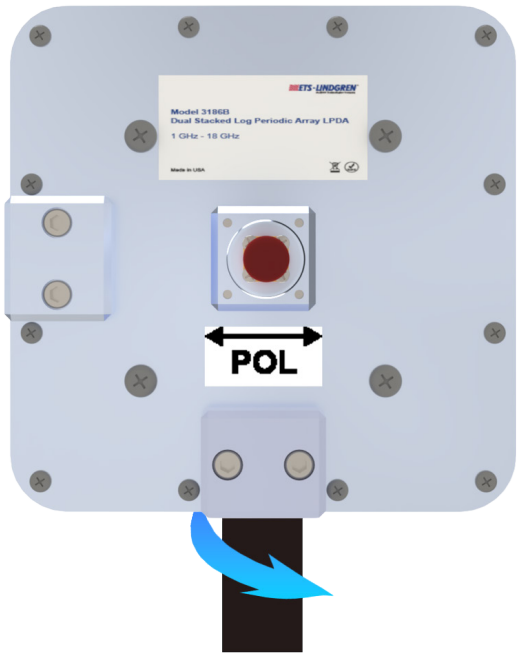


Use this mount hole for vertical polarization

Use this mount hole for horizontal polarization

Bottom plate of Model 3186B shown

To attach the Model 3186B to a 4-TR, insert the horizontal or vertical mounting hole onto the top of the tripod, and then rotate the center pole of the 4-TR to tighten the antenna into place.



Model 3186B shown mounted to tripod for horizontal polarization

Additional Mounting Options

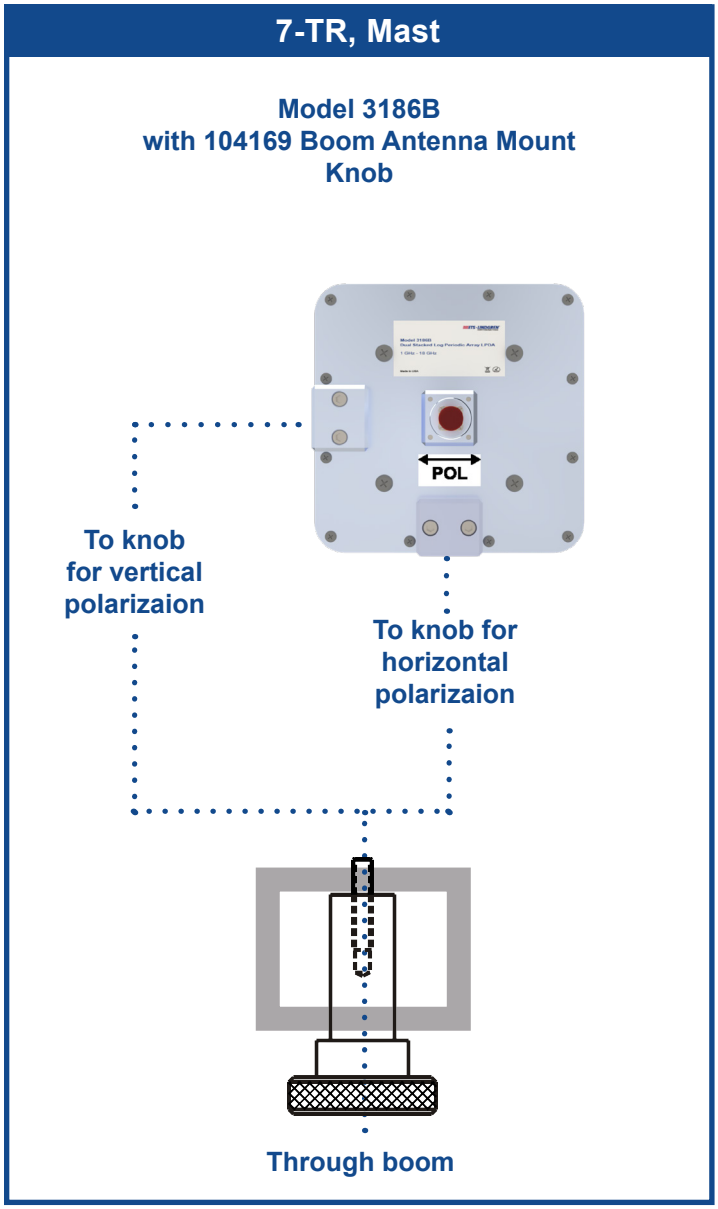
Contact the ETS-Lindgren Sales Department for information on ordering optional mounting hardware.

7-TR and Mast Mounting Options

Following are options for mounting the Model 3186B onto an ETS-Lindgren 7-TR Tripod or mast.

Mast refers to 2070 Series, 2075, and 2175 Antenna Towers. 7-TR refers to these booms:

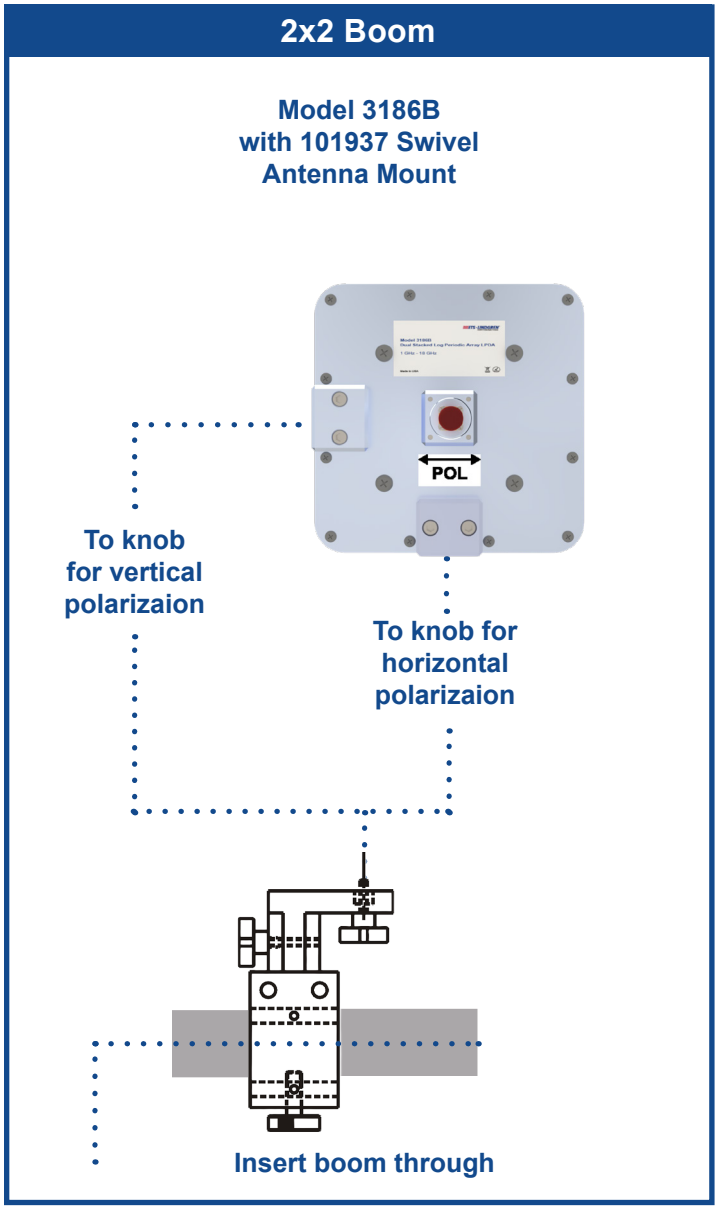
- 109042 boom—Straight boom; for general antenna mounting on a 7-TR
- 108983 boom—Offset boom; for general antenna mounting on a 7-TR with pneumatic or manual polarization; can also be used to mount stinger-type antennas
- 118947 boom—For stinger-mount antennas only
- 108507 boom—Centerline rotation boom for Model 3106 Series antennas only; when changing polarization, maintains centerline rotation



2X2 Boom Mounting Options

Following are additional options for mounting the Model 3186B onto a 2x2 boom.

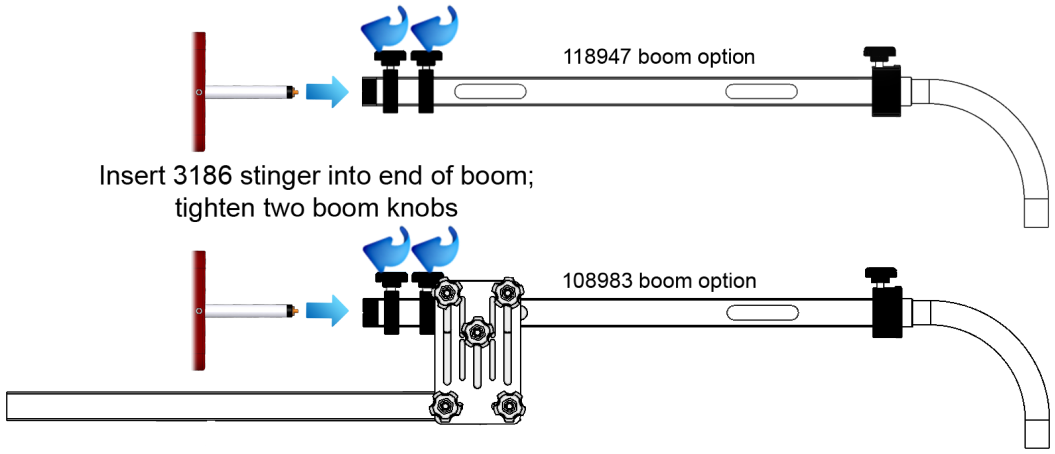
2x2 boom refers to a typical 2-inch by 2-inch boom.



Using the Stinger Mount

To stinger-mount the Model 3186B to a 7-TR, an ETS-Lindgren mast, or an ETS-Lindgren 2x2 boom, you need a 108983 boom or 118947 boom. If you have a non-ETS-Lindgren or previous generation EMCO positioning system, contact ETS-Lindgren for stinger mounting options.

The Model 3186B includes a stinger that can be used to mount to a 7-TR, an ETS-Lindgren mast, or an ETS-Lindgren 2x2 boom.



1. Thread the antenna feed or receiving cable through the center of the boom so that the antenna connector emerges a few inches out of the clamp end of the boom.
2. Loosen the two boom knobs at the end of the boom.
3. Connect the antenna cable to the end of the stinger.
4. Insert the stinger into the end of the boom.
5. Re-tighten the two boom knobs to secure the antenna into place.