Product Overview

The **Alpha Titan 160** is a full-size wire antenna system that is designed for operation on **160, 80, 40, 20, and 10 meters**, with maximum efficiency on 160-meter operation near 1.900 MHz.

The Alpha Titan 160 provides two distinct installation configurations:

Elevated OCF Configuration: Approximately **173-foot and 73-foot elements are both elevated**, forming an approximately 70/30 Off-Center-Fed Dipole with approximately 246 feet of total radiating wire.

Ground-Counterpoise Configuration: The approximately **173-foot primary element is elevated**, while a dedicated return wire is deployed along the ground to provide the antenna's RF counterpoise.

These configurations are electrically different. When both elements are elevated, both wires function as active radiating elements. When configured with a ground counterpoise, the ground-laid wire provides the primary RF return path and interacts with the surrounding soil.

An Alpha impedance-transforming matching system provides the interface between the antenna and 50-ohm coaxial feedline.

Key Specifications

Specification	Details
Model	Alpha Titan 160
Operating Bands	160, 80, 40, 20, and 10 Meters
Power	250W PEP SSB; 125W CW; 25W Digital
Antenna Type	Configurable OCF / end-fed wire antenna system
Primary Element	Approximately 173 ft
Elevated OCF Short Element	Approximately 73 ft
OCF Total Wire Length	Approximately 246 ft
OCF Feedpoint Position	Approximately 70/30
Matching System	Alpha impedance-transforming matching system

Specification	Details
Feedline	50-ohm coaxial cable
Feedline Counterpoise Required	No intentional reliance on a specific coax length when a dedicated return element is deployed
Element Ends	Electrically open with end insulators
Installation Options	Elevated OCF or elevated primary element with ground-laid counterpoise

Best For

- 160, 80, 40, 20, and 10 meter HF operation
  - An external tuner may be used if the antenna is not placed high and in the clear of surrounding obstacles.
- Operators wanting a physically substantial 160-meter antenna
- 160-meter DX and general HF communications
- Stations with sufficient space for a full-size elevated OCF configuration
- Installations requiring flexibility in how the RF return is deployed
- Permanent base installations
- Field installations with appropriate supports
- Operators who do not want antenna operation intentionally dependent upon a prescribed coax-feedline length

What’s Included

- Alpha impedance-transforming matching system
- Approximately 173-foot primary wire element
- Return/short wire element for the selected deployment configuration
- Wire-end insulators
- Feedpoint hardware
- SO-239 coaxial connection
- Installation and tuning guidance

Setup and Operation

Elevated OCF Configuration

Install the Alpha matching system at the elevated feedpoint.

Deploy the approximately **173-foot and 73-foot elements in opposite directions**. Both wires function as active radiating elements of the approximately 70/30 Off-Center-Fed Dipole.

Keep the elements elevated and as clear as practical from buildings, utility wiring, metal structures, trees, and other conductive objects.

Each far end remains electrically open. Terminate each antenna wire at an insulator and use nonconductive rope beyond the insulator to secure the antenna to its support.

The approximately 173- and 73-foot dimensions provide the starting geometry for the antenna. Final resonance and SWR vary with installation height, element angle, wire characteristics, nearby objects, and ground conditions.

Ground-Counterpoise Configuration

The Alpha Titan 160 may alternatively be installed with the approximately **173-foot primary element elevated** and a dedicated return wire deployed along the ground as the RF counterpoise.

Connect the ground counterpoise to the return side of the matching system and extend the wire away from the feedpoint.

Leave the far end electrically open. Do not connect the distant end of the counterpoise to a ground rod.

The ground-laid counterpoise is not electrically equivalent to the elevated 73-foot OCF element. Ground coupling changes the return conductor’s electrical characteristics, so final resonance and SWR should be verified in the installed configuration.

Coax and Common-Mode Control

Connect the Alpha Titan 160 using **50-ohm coaxial feedline**.

A suitable 1:1 common-mode choke is recommended on the coaxial-feedline side of the matching system to minimize undesirable RF current on the outside surface of the coax shield.

The antenna provides a dedicated RF return path and is not intentionally designed around a specific required coax-feedline length.

Performance and Technical Data

Full-Size 160M OCF Configuration

At the primary 160-meter design frequency near 1.900 MHz, the elevated configuration provides approximately:

- **173 ft long element**
- **73 ft short element**
- **246 ft total radiating wire**
- Approximately **70/30 feedpoint location**

This provides a full-size Off-Center-Fed Dipole configuration rather than relying upon a substantially shortened 160-meter radiator.

Multiband Operation

The Alpha Titan 160 is intended for operation on:

- **160 Meters**
- **80 Meters**
- **40 Meters**
- **20 Meters**
- **10 Meters**

The final measured impedance and SWR on each band depend upon installation height, wire geometry, feedpoint position, surrounding structures, terrain, and other environmental factors.

Verify SWR on each operating band after the antenna has been installed in its final position.

No Loading Coil

The full-size elevated configuration obtains its 160-meter electrical length through the physical antenna conductors rather than relying upon a loading coil to

electrically lengthen a substantially shorter radiator.

Feedline Flexibility

A dedicated antenna return element means the system does not intentionally require a predetermined coaxial-feedline length to complete the antenna.

Use the length of 50-ohm coax appropriate for the installation.

Radiation Characteristics

In its elevated OCF configuration, the Alpha Titan 160 operates primarily as a horizontally polarized wire antenna.

Radiation pattern and elevation angle depend strongly upon installation height, element orientation, terrain, and nearby structures.

The ground-counterpoise configuration is electrically different and can exhibit different impedance and radiation characteristics because the primary element remains elevated while the return conductor is coupled to the earth.

Installation Considerations

For best results:

- Install the antenna as high and in the clear as practical.
- Elevate both the 173-foot and 73-foot elements when deploying the Alpha Titan 160 as an OCF dipole.
- Keep all elevated element ends electrically open.
- Use an end insulator and nonconductive support rope at each elevated wire end.
- Keep the coax approximately perpendicular to the antenna near the feedpoint where practical.
- Use a common-mode choke on the coaxial-feedline side of the matching system.
- When using the ground-counterpoise configuration, leave the distant counterpoise end electrically open.
- Do not ground the far end of the counterpoise.
- Verify SWR on 160, 80, 40, 20, and 10 meters following installation.

- Make final element adjustments with the antenna in its normal operating position.
- Maintain adequate clearance from people, structures, and conductive objects.
- Always install antennas well away from electrical power lines.

Options and Compatible Accessories

Compatible accessories may include:

- 50-ohm coaxial feedline
- 1:1 common-mode feedline choke
- Antenna-support rope
- Additional wire-end insulators
- Guying and support hardware
- Feedpoint support hardware
- Lightning and static-protection equipment

Support Resources

- User Manuals: Alpha Antenna User Manuals hub.
- Videos: Related videos.
- Guidance / FAQs: Available HERE.
- Customer Reviews: Scroll to bottom of this page.

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