Antenna Wire System

# XFORM 9:1 Wire Kit

## Portable Random-Wire Antenna System



DOCUMENT
**REZ-SXF-91-WK**

REVISION
**V1.0**

PUBLISHED
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IMPORTANT SAFETY INFORMATION

# READ BEFORE USE

Read and understand all warnings and instructions before installing or operating this product.

**WARNING — ELECTRICAL SHOCK HAZARD**

Never install, raise, lower, or operate this antenna where any part of the antenna, mast, wire, guy line, or support could contact an overhead power line. Contact with electrical power lines can result in serious injury or death.

**WARNING — TIPPING / FALLING HAZARD**

Properly secure all antenna supports and keep the deployment area clear of people and property. Wind, unstable ground, improper assembly, or inadequate support can cause the antenna or supporting structure to fall, resulting in serious injury or property damage.

**WARNING — FIRE / EQUIPMENT DAMAGE HAZARD**

Do not exceed the power limits specified for this product in this manual. Excessive RF power, excessive mismatch, or improper operation can cause overheating, equipment damage, or fire.

**WARNING — RF EXPOSURE**

Radio-frequency energy can present a health hazard at sufficiently high exposure levels. Install and operate the antenna so that applicable RF exposure limits are satisfied. Maintain appropriate separation between the radiating elements and people during transmission.

**WARNING — LIGHTNING HAZARD**

Do not install, adjust, or operate this antenna during thunderstorms or when lightning is possible. Disconnect antenna systems when appropriate and follow accepted lightning-safety practices.

# 01

# GETTING STARTED

Kit contents, wire system components, and radiator installation.


1.1
**Product Overview**

1.2
**Wire System Components**

1.1

# PRODUCT OVERVIEW

## XFORM 9:1

The REZ XFORM 9:1 Wire Kit provides a portable radiator and counterpoise system for broadband, non-resonant HF antenna deployments. The 58 ft radiator assembly includes integrated support hardware, while the 17 ft counterpoise provides a practical starting point for field operation.

Designed for use with the REZ XFORM 9:1 transformer and a suitable antenna tuner, the kit supports sloper, inverted-L, and flat-top configurations. The transformer, mounting hardware, and other supporting equipment are selected to suit the deployment and are not included with the wire kit.



| 58 ft | 17 ft | 3 |
|---|---|---|
| RADIATOR | COUNTERPOISE | DEPLOYMENT CONFIGURATIONS |

| CHARACTERISTIC | SPECIFICATION |
|---|---|
| **Radiator Assembly** | 58 ft wire radiator with integrated support hardware |
| **Counterpoise Assembly** | 17 ft wire counterpoise |
| **Deployment Options** | Sloper, inverted-L sloper, flat top |
| **Compatible Feedpoint** | REZ XFORM 9:1 (sold separately) |
| **Tuning** | Antenna tuner is required for multiband operation |

**WARNING**

Observe the power rating of the complete antenna system, including the XFORM transformer, feed line, and tuner. Keep deployed wires clear of power lines.

1.2

# WIRE SYSTEM COMPONENTS

Kit contents and installation

## INCLUDED COMPONENTS

| ITEM | DESCRIPTION | QTY |
|---|---|---|
| 01 | 58' Radiator Assembly | 1 |
| 02 | 17' Counterpoise Assembly | 1 |
| 03 | Tent Stake | 1 |
| 04 | Wire Winder | 1 |
| 05 | Carry Pouch | 1 |



**Figure 1.2.1** REZ-SXF-91-WK Kit Contents

## RADIATOR WIRE

The XFORM 9:1 Wire Kit combines the 58 ft radiator with an integrated non-conductive support system for deployment and tensioning. Familiarize yourself with the components shown below before proceeding to the deployment configurations.

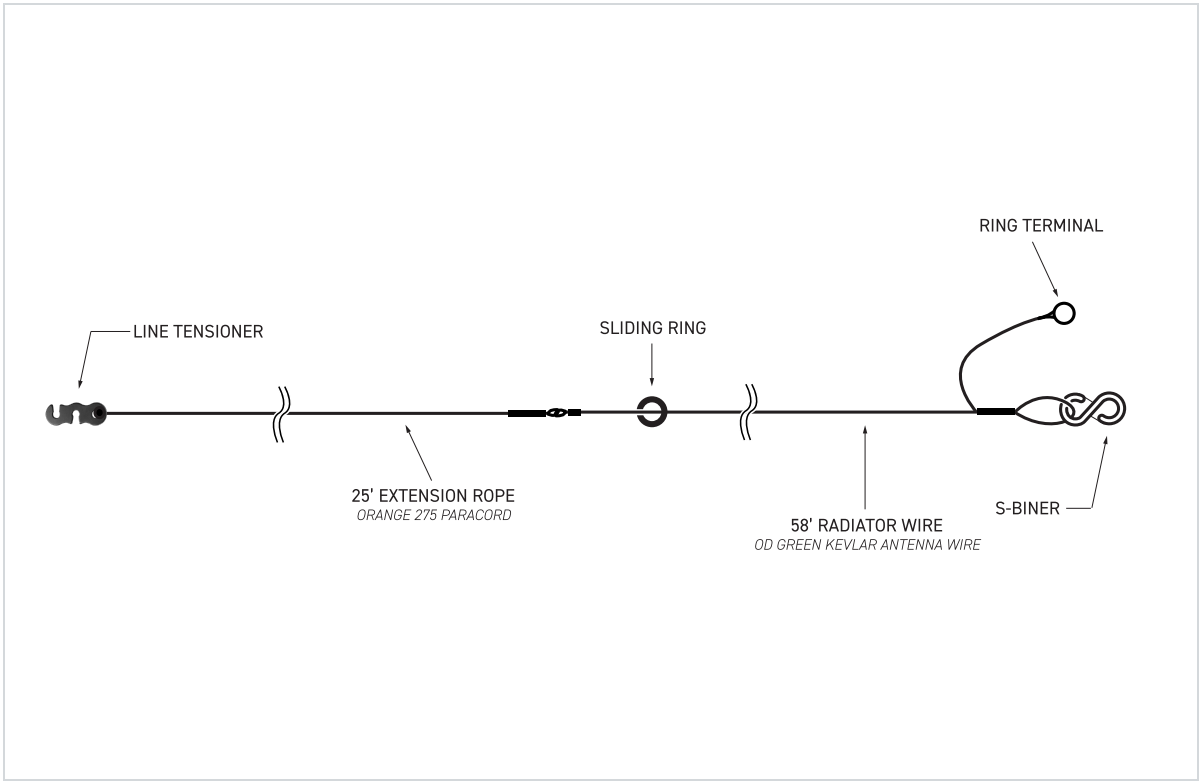



**Figure 1.2.2** XFORM 9:1 Radiator Wire Diagram

> **NOTE**
> The Extension Rope and support hardware are non-conductive and do not contribute to the electrical length of the radiator.

## SLIDING RING

The Sliding Ring moves freely along the radiator wire and provides an adjustable support point for hoisting and positioning the radiator.

## COUNTERPOISE WIRE

The included 17 ft counterpoise wire provides the return path for the antenna system. It is terminated with a 4 mm banana plug for direct connection to the XFORM 9:1 counterpoise port and can be deployed along the ground as shown in the deployment configurations.

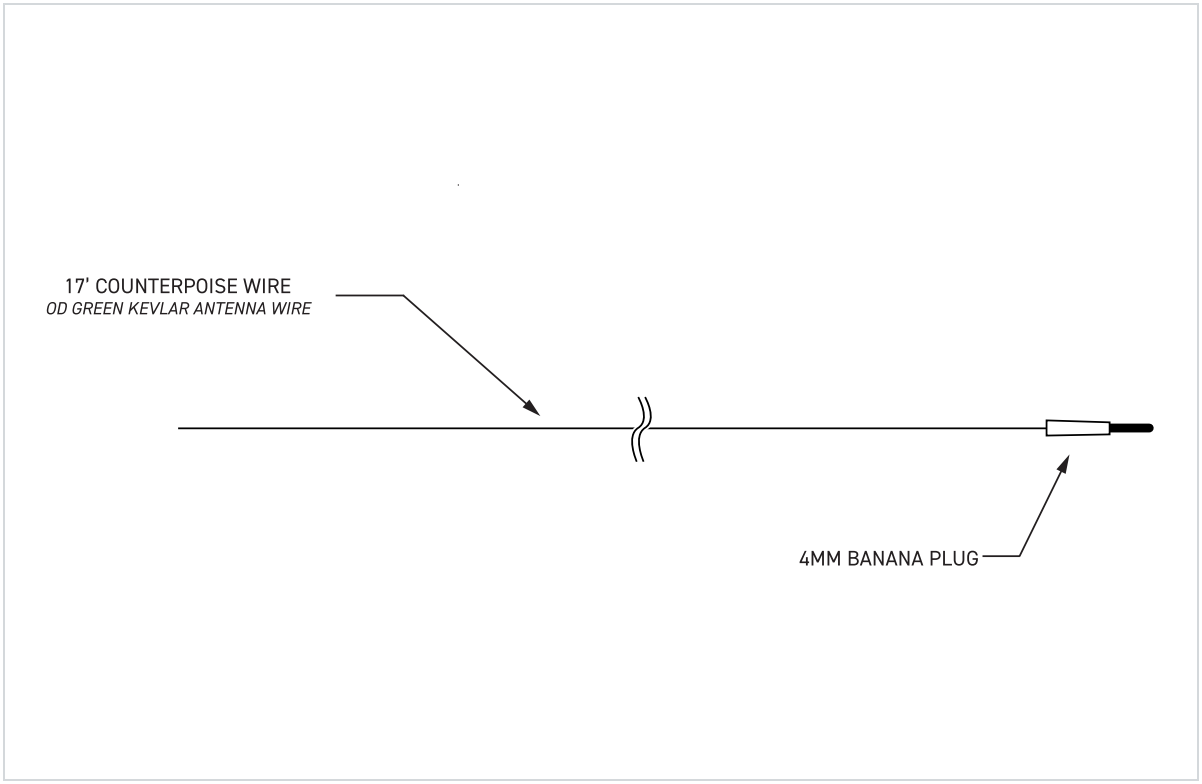



**Figure 1.2.3** XFORM 9:1 Counterpoise Wire Diagram

## WIRE RADIATOR INSTALLATION

This wire installation applies to all wire configurations for the XFORM 9:1.

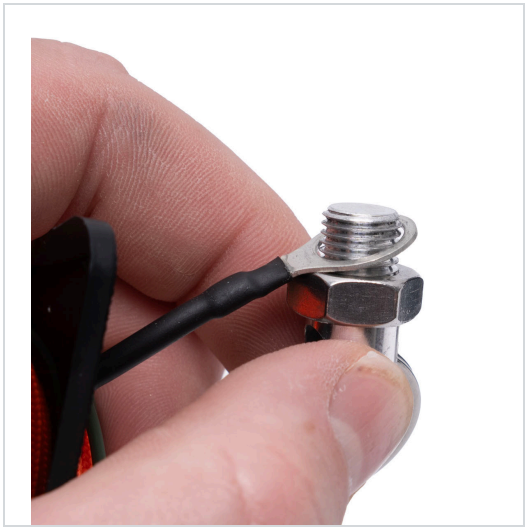
# 01 INSTALL THE COUPLING NUT



Thread the included coupling nut onto the top stud of the XFORM enclosure.

# 02 CONNECT THE RADIATOR RING TERMINAL

While holding the wire tension with one hand, slip the ring terminal over the ring screw. Attach the ring screw with ring terminal until it is fully seated. Then clip the S-Biner to the ring loop. It is now safe to release the wire tension.





The XFORM 9:1 Wire Kit supports several deployment configurations using the same radiator and counterpoise system. Refer to the following section for recommended setups and deployment methods.

# 02

# DEPLOYMENT CONFIGURATIONS

Flexible setups for a variety of operating environments.

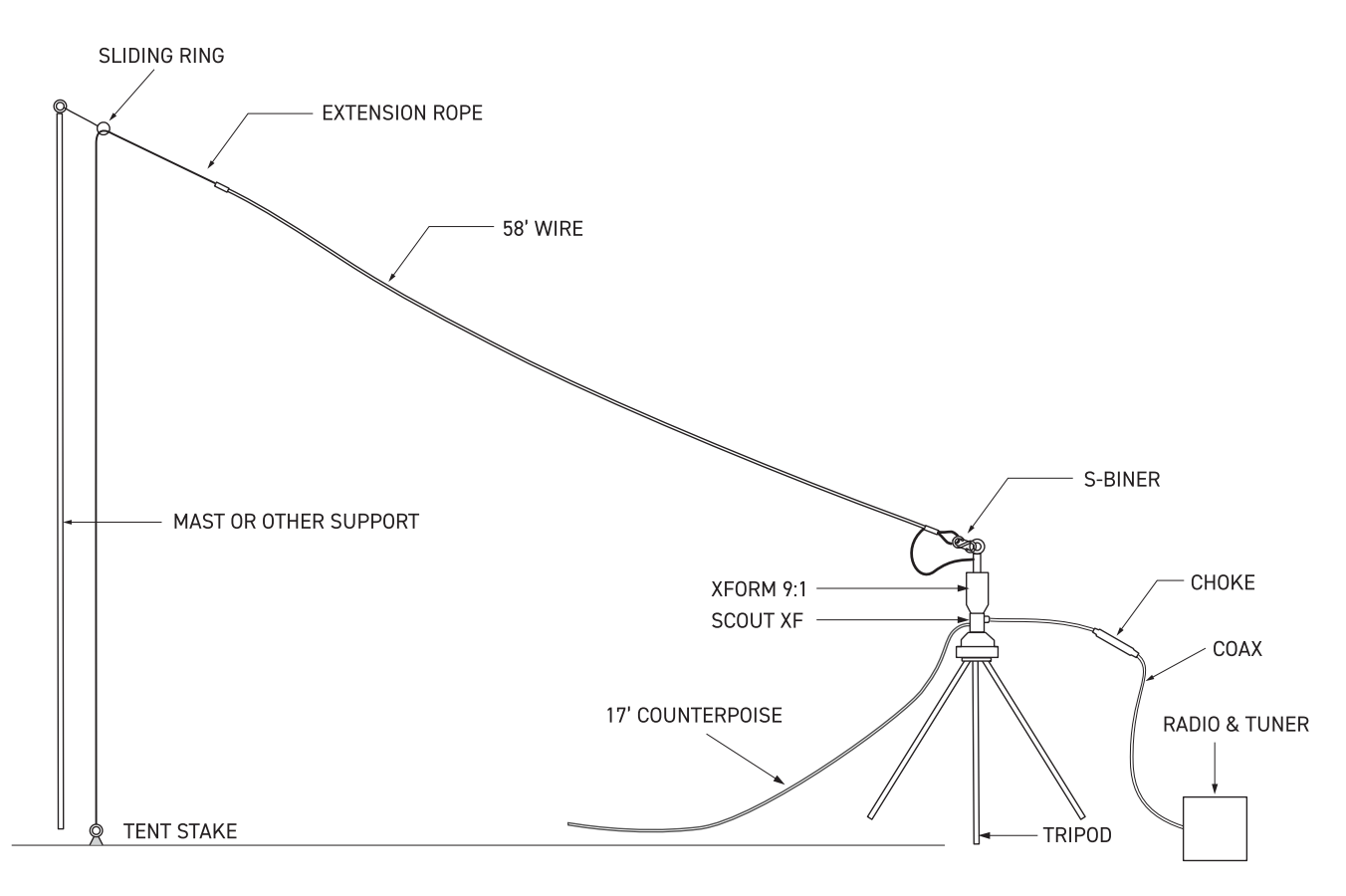

2.1 **Sloper**

2.2 **Inverted-L Sloper**

2.3 **Flat Top Random Wire**

2.1

# SLOPER




Sloper Configuration

## DEPLOYMENT

- Hoist & secure 58' radiator wire.
- Deploy XFORM on mount.
- Connect radiator wire and counterpoise to XFORM.
- Connect coax and choke.
- Tune and operate.

## OPERATING CHARACTERISTICS

- Rapid Setup
- General & NVIS Coverage
- Requires tuner.
- 40-10 M band coverage.

## REQUIRED COMPONENTS

| ITEM | DESCRIPTION | QTY |
|---|---|---|
| 01 | Assembled XFORM and Scout XF | 1 |
| 02 | Radiator and counterpoise assemblies (included) | 1 |
| 03 | Tripod or Ground Spike Mount | 1 |
| 04 | Elevated support (mast or tree) | 1 |
| 05 | Common Mode Choke | 1 |

# SETUP

## 01 DEPLOY THE FAR END OF THE RADIATOR WIRE



- Attach the Sliding Ring to the elevated support
- Hoist the ring and wire to ~20 feet.

**TIP**
Deploying the radiator first from the fixed elevated position helps easily position the XFORM in the correct spot for the required wire tension.

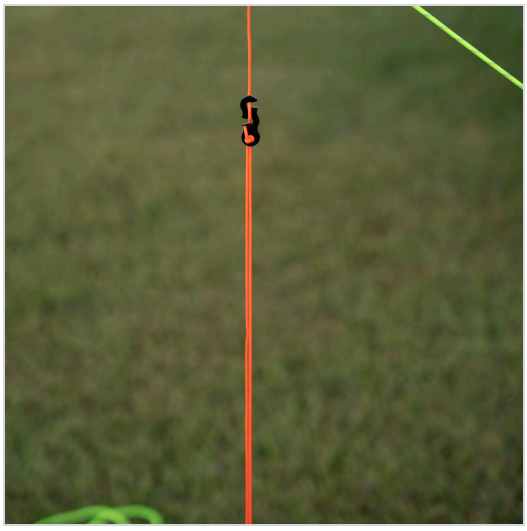
# 02 SECURE EXTENSION ROPE

After hoisting the Sliding Ring, secure the end of the support rope at ground level.

- Using the included ground stake, thread the Extension Rope through the cord loop.
- Attach the included rope tensioner back to the Extension Rope.
- Leave some slack for tension adjustment after the XFORM is deployed.

> **TIP**
> Leave enough slack for tension adjustment but ensure the rope can't accidentally come loose and slip up and out of the elevated Sliding Ring.





# 03 DEPLOY THE XFORM FEED POINT



- Stretch the radiator wire until it's taut. This marks the approximate location where you will need to mount the XFORM.
- Deploy the mount.
- Thread the Scout XF base onto the mount.
- Install the radiator wire as described in chapter 1.2.
- Connect the counterpoise wire and route 180 degrees away from radiator wire.
- Connect the common mode choke at the feed point of the antenna. Connect the choke to your coax and radio.

**IMPORTANT**
This antenna is designed to be used with a common mode choke. Without one you may experience "RF in the shack", erratic tuning behaviors and unpredictable radiation patterns.

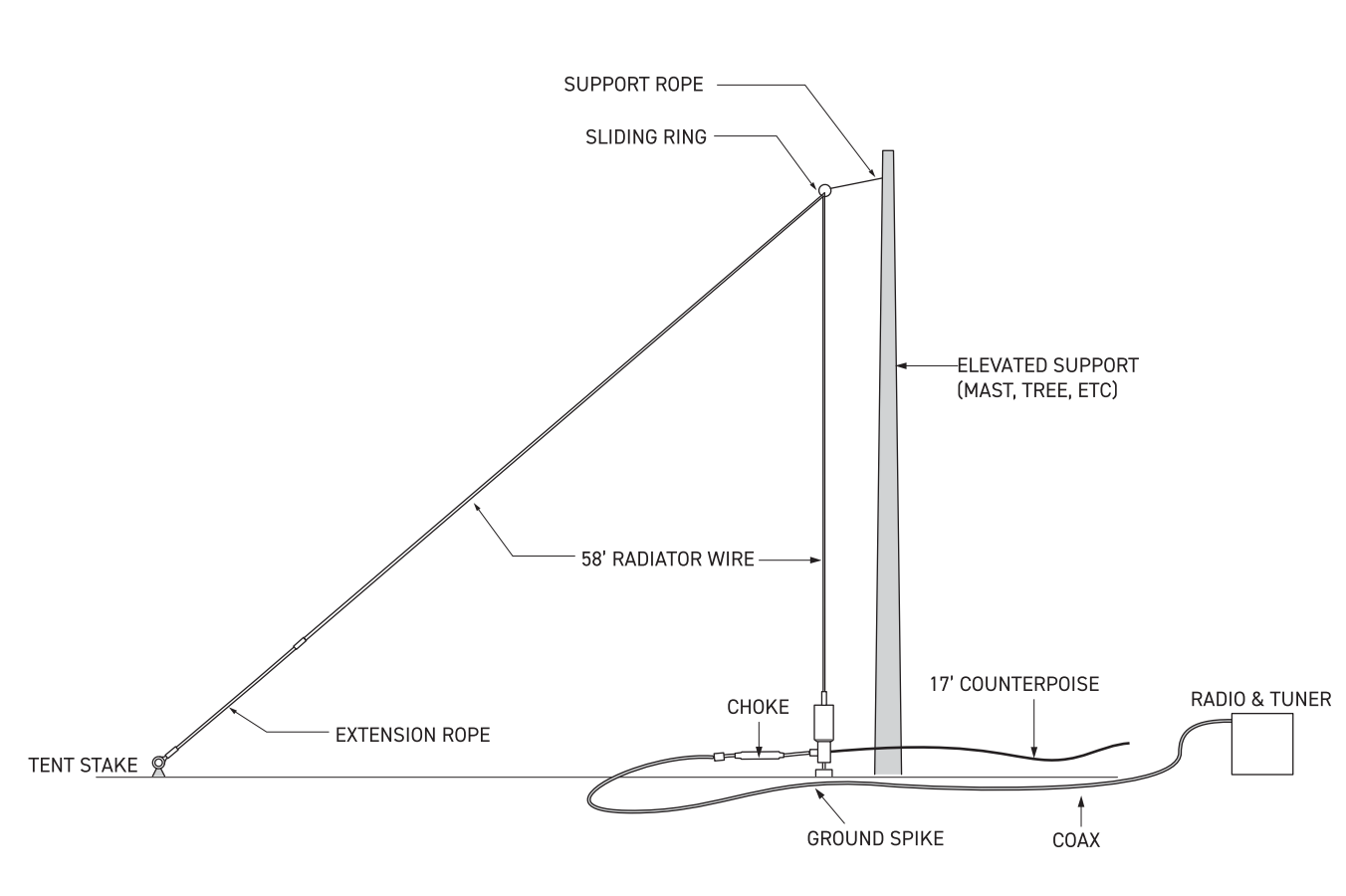
**WARNING**
Ensure the mount is secured well enough to resist tipping. When using a tripod, point one leg of the tripod in the direction of the wire. A tripod weight is recommended.

# 04 TUNE AND OPERATE

Follow the tuning procedure on your tuner and begin operating.

2.2

# INVERTED-L SLOPER




Inverted-L Sloper Configuration

## DEPLOYMENT

- Deploy XFORM on ground spike.
- Connect counterpoise.
- Connect and hoist 58' radiator wire.
- Secure far end to tent stake.
- Connect choke & coax
- Tune & operate.

## OPERATING CHARACTERISTICS

- Mix of low angle and high angle radiation.
- Single support.
- Requires tuner.
- 40-10M band coverage.

## REQUIRED COMPONENTS

| ITEM | DESCRIPTION | QTY |
|---|---|---|
| 01 | Assembled XFORM and Scout XF | 1 |
| 02 | Radiator and counterpoise assemblies (included) | 1 |
| 03 | Ground Spike Mount | 1 |
| 04 | Elevated support (mast or tree) | 1 |
| 05 | Common Mode Choke | 1 |

# SETUP

## 01 DEPLOY THE XFORM FEED POINT



- Insert ground spike into ground.
- Thread XFORM and Scout XF onto the ground spike.

## 02 PREPARE & HOIST THE RADIATOR

- Unfurl the radiator wire starting at the far end (away from the support & XFORM) and work your way back toward the XFORM.
- Install the radiator wire to the XFORM as described in chapter 1.2.
- Position the Sliding Ring in line with the support rope and attach the rope to the ring.
- Hoist Sliding Ring to desired operating height.

# 03 SECURE & TENSION THE EXTENSION ROPE

Secure the Extension Rope using the included tent stake. Tension the radiator wire using the line tensioner.

- Choose a spot for the ground stake that will allow the Extension Rope to fold back on itself 2-3'.
- Insert the ground stake.
- Loop Extension Rope through the cord loop on the stake.
- Attach the line tensioner back to the Extension Rope.
- Tension the radiator wire to an appropriate tension.

> **!** **IMPORTANT**
> Do not over tension the wire. Some sag in the antenna wire is to be expected.





## 04 CONNECT THE FEED LINE & COUNTERPOISE

- Connect the common mode choke at the feed point of the antenna. Connect the choke to your coax and radio.
- Connect the counterpoise to the Scout XF and route 180 degrees away from radiator.

> ✓ **TIP**
> Route the coax away from the radiator and counterpoise to avoid any unwanted RF on the feedline.

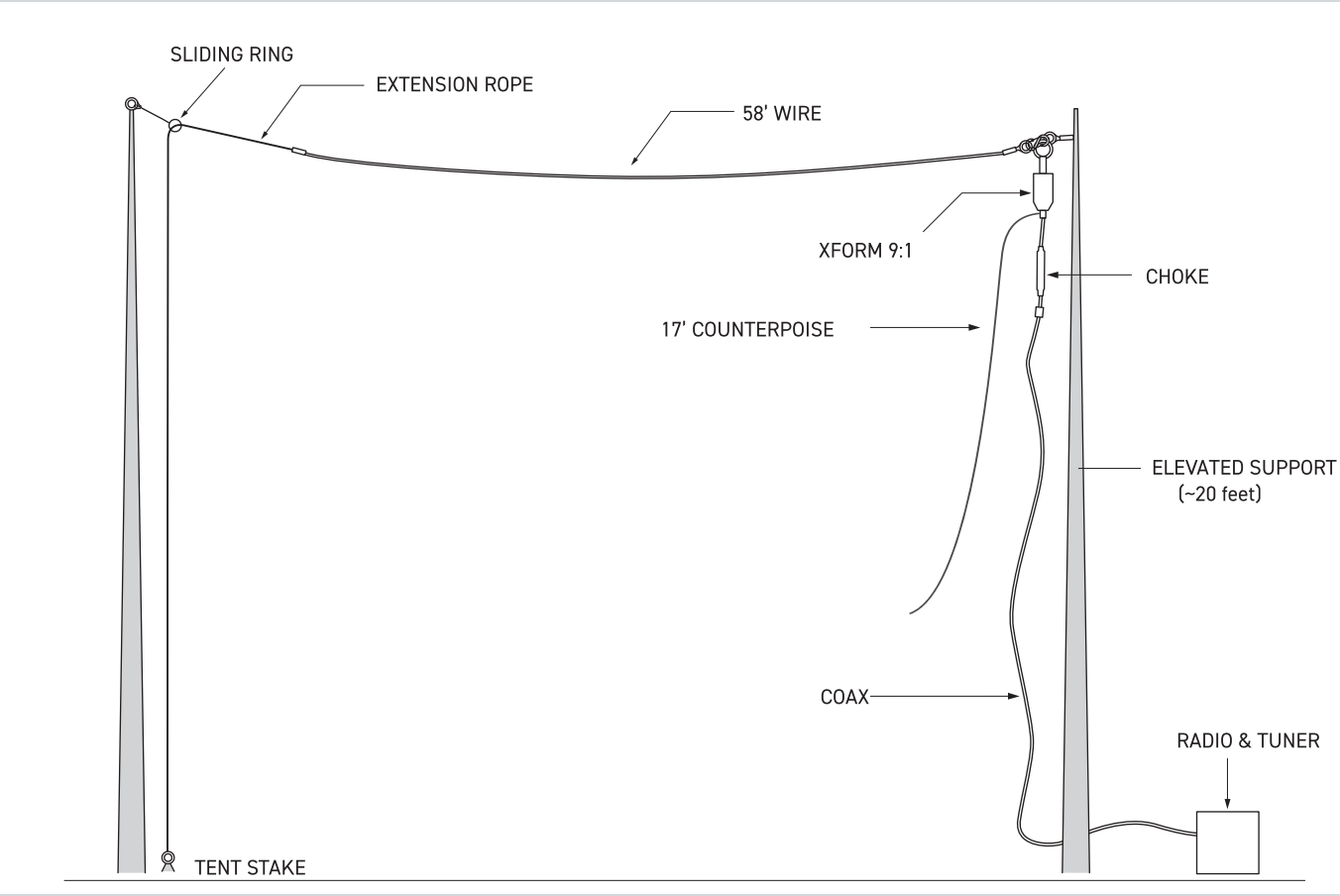
> ! **IMPORTANT**
> This antenna is designed to be used with a common mode choke. Without one you may experience "RF in the shack", erratic tuning behaviors and unpredictable radiation patterns.

## 05 TUNE AND OPERATE

Follow the tuning procedure on your tuner and begin operating.

2.3

# FLAT TOP RANDOM WIRE




Flat Top Random Wire Deployment

## DEPLOYMENT

- Deploy Hoisting Rope.
- Attach XFORM to Hoisting Rope.
- Connect choke, coax, counterpoise & 58' radiator.
- Hoist XFORM then Sliding Ring.
- Secure Extension Rope to tent stake and tension radiator.
- Tune & operate.

## OPERATING CHARACTERISTICS

- Broad regional & NVIS coverage.
- Double supports required.
- Requires tuner.
- 40-10M band coverage.

## REQUIRED COMPONENTS

| ITEM | DESCRIPTION | QTY |
|---|---|---|
| 01 | Assembled XFORM and Direct Feed | 1 |
| 02 | Radiator and counterpoise assemblies (included) | 1 |
| 03 | Hoisting Rope | 1 |
| 04 | Elevated support (mast or tree) | 2 |
| 05 | Common Mode Choke | 1 |

# SETUP

## 01 DEPLOY THE XFORM FEED POINT

Once the Hoisting Rope has been deployed you will need to prepare the XFORM & Direct feed to be hoisted to full operating height.

- Attach the radiator wire to the XFORM as described in chapter 1.2.
- Attach the XFORM to the Hoisting Rope and position it at a comfortable working height.
- Attach the counterpoise using the port on the XFORM housing.
- Attach common mode choke & coax.
- Hoist to the desired operating height.



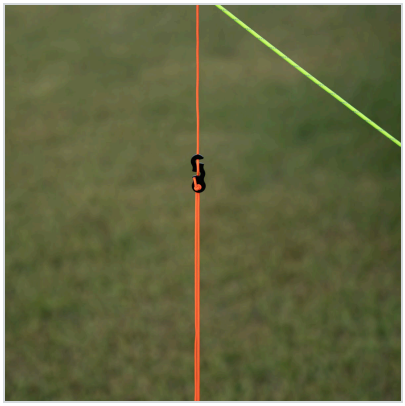


# 02 HOIST FAR END OF RADIATOR WIRE

Once the XFORM feed point has been deployed, raise the far end of the radiator wire to ~20 feet.

- Align the tent stake with the Hoisting Rope.
- Slide the Extension Rope through the cord ring on the tent stake and secure the line tensioner back to the Extension Rope.
- Attach the Sliding Ring to the Hoisting Rope.
- Hoist the wire to ~20 feet.
- Tension the radiator wire with the line tensioner.







# 03 TUNE AND OPERATE

Follow the tuning procedure on your tuner and begin operating.

REZ ANTENNA SYSTEMS

# SUPPORT & WARRANTY

## NEED HELP?

For product support, troubleshooting assistance, or warranty service, contact REZ Antenna Systems before returning a product.

**support@rezantenna.com** **rezantenna.com**

## ONE-YEAR LIMITED WARRANTY

REZ Antenna Systems warrants this product to the original purchaser against defects in materials and workmanship for a period of one year from the date of purchase.

During the warranty period, REZ Antenna Systems will, at its option, repair or replace a product determined to be defective in materials or workmanship.

This warranty does not cover damage resulting from misuse, abuse, accident, improper installation, unauthorized modification or repair, operation outside the product's published specifications or ratings, normal wear, or damage caused by external events or environmental conditions beyond those for which the product was designed.

Consumable items and components subject to normal wear are not covered except where a failure results from a defect in materials or workmanship.

Warranty service requires proof of purchase. Before returning a product, contact REZ Antenna Systems for support and return authorization.

**Complete and current warranty terms:**
rezantenna.com/warranty