

Thank you for purchasing the Intellitron WA-1040 “G5RV Junior” antenna. Originally designed nearly 80 years ago by Louis Varney, the G5RV remains one of the most popular HF wire antennas in use today. The “Junior” version is a half-size adaptation that, when used with an antenna tuner (ATU), provides efficient operation and manageable SWR across the 40–10 meter bands.

The Intellitron WA-1040 builds upon the classic design with modern improvements, including:

- A water-resistant molded center block
- Heavy-duty 14-gauge stranded copper wire
- Stainless steel hardware and pull-tested insulators
- A fully waterproof, on-axis ladder-line to SO-239 feed transition
- Premium 18-gauge conductor ladder line

The Intellitron WA-1040 is rated for legal-limit power (1500W) and can be configured as a horizontal dipole, inverted V, or directional sloper.

***Before installation, please read these instructions carefully to understand the WA-1040’s setup and safety requirements.***

## **MATCHING REQUIREMENTS**

A tuner or ATU is required. The Intellitron WA-1040’s combination of wire element and ladder-line transformer presents varying impedances across different bands. Early tube transmitters could easily match these variations using pi-networks or link coupling. However, today’s solid-state transceivers require a tuner to present a proper 50-ohm match for safe and efficient operation.

## **RADIATING CHARACTERISTICS**

On 40, 30, and 20 meters, the Intellitron WA-1040 radiates broadside to the wire, so aim the antenna to favor your desired coverage area.

On higher bands, the pattern becomes multi-lobed, offering semi-omnidirectional coverage with peaks and nulls in gain.

When used as a top-loaded vertical (Marconi) for 80 meters, the antenna can radiate effectively provided a good counterpoise or ground system is used.

***Important Safety Warning: Never install your Intellitron WA-1040 near power lines, service entrances, or any conductive structures. Contact with live wiring is lethal. Always maintain safe clearances during installation.***

## **MOUNTING CONFIGURATIONS**

### **Dipole:**

Mount the center as high as possible (30 feet or more). Keep both legs at equal height for best balance. Stay clear of wiring, gutters, or metal surfaces. Use UV-resistant non-conductive rope for support.

### **Inverted V:**

Suspend the center high and secure both ends at least 10 feet above ground, out of reach of people and animals. Ends should droop no more than 12 feet below center, maintaining a 120° or wider inside angle.

### **Sloper:**

Mount with a 45° slope, keeping the low end at least 10 feet above ground. Route ladder line perpendicular to the antenna for the first 10 feet before dropping it toward ground level.

### **80-Meter Marconi:**

Short both ladder-line leads together and connect to the coax center conductor. Connect the coax shield to a suitable ground or counterpoise (one or more ¼-wave radials). Without a proper counterpoise, the antenna will not tune and the coax shield may radiate dangerous RF levels back to the operator.

## **LADDER-LINE TRANSFORMER**

To reduce interaction with the radiating element, allow at least 10 feet of vertical drop before routing the ladder line in another direction. Avoid running it along the ground or near metal surfaces. If mounting on a tower or mast, maintain at least one foot of clearance between the center insulator and metal structures.

## **1:1 CHOKE BALUN**

Because the WA-1040's radiator and transformer are balanced but the coax is unbalanced, a 1:1 choke balun must be installed at the ladder-line junction to prevent "RF in the shack."

To make one, wind 8–10 turns of coax into a 6–8 inch coil, and secure it with tape or cable ties.

## **WATERPROOFING**

When connecting coax at the ladder-line junction, seal only the front half of the connector and exposed SO-239 threads with tape or coax seal. Leave the rear portion unsealed so condensation can escape.

## **SUPPORT MAINTENANCE**

When connecting coax at the ladder-line junction, seal only the front half of the connector and exposed SO-239 threads with tape or coax seal. Leave the rear portion unsealed so condensation can escape.



### **TWO YEAR LIMITED WARRANTY**

This Limited Product Warranty is provided by the Dealer where your Intellitron product was purchased. The Product Warranty extends only to the original purchaser of the product and is valid for a period of two years from the date of purchase. Please keep your dated sales receipt as evidence of the date of purchase. You will need it to receive warranty service. Your Dealer warrants the product will be free from defects in workmanship and materials under normal use. If the product fails to conform to the warrant and is within the warranty period of two years, contact your original dealer for a return authorization. Your dealer may choose to either repair or replace the non-conforming product.