

BUXCOMM catalog # G5RV+

NOTE: Read carefully before placing an order for the G5RV antenna !

About thirty years ago we ran several antenna range tests on the G5RV. We used a high-frequency, National Bureau of Standards (NBS) calibrated Potomac Instruments FIM-41, field-intensity meter. The companion antenna was the HF NBS calibrated measurements dipole.

The weather was clear, and the transmitting station was adjusted to 100 watts, into an original G5RV antenna.

The purpose for conducting these tests was because we had constructed several G5RV antennas and the performance of each one was, at best, poor! Our findings were despicable on the HF bands, with the exception of 20 meters.

Sometime later we came across some of Mr Varney (G5RV) notes. In his notes and description of his G5RV antenna, we learned that he had really designed the G5RV to be used as a good 20 meter antenna, nothing more. Somehow over the years his antenna became (assumed to be), an HF or multiband antenna. This assumption was so far from the truth and from Mr Varney's original design.

THE G5RV IS NOT A MULTI-BAND ANTENNA ! The only HAM band where it has a zero (0) current node IS at 14 MHz (20 meters).

For several years, we've attempted to give notice to our friends and customers that relate to the G5RV. Most of our findings have fallen on deaf ears, or to the G5RV users who would not hear the truth.

Any antenna, (non-resonant long-wire, included), can be tuned to resonance on almost any HAM band. This is why many good manufacturers build and sell antenna tuners. You can confirm this notion each time you use an HF mobile antenna.

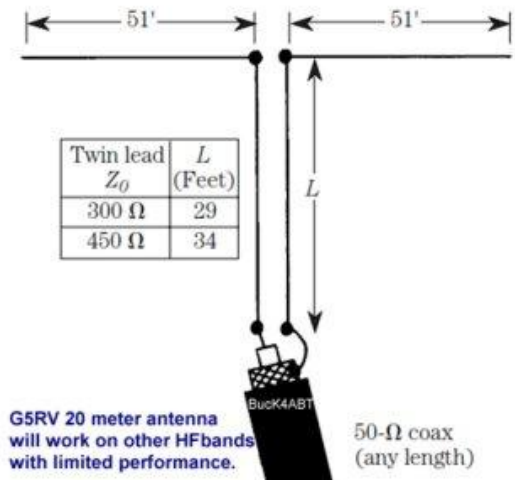
HERE NOW, IN HIS OWN WORDS:



Louis Varney G5RV

Describing the antenna's performance Louis Varney G5RV wrote that on 20m: "...the aerial really comes into its own. On this band it functions as a three half-wavelength aerial..."

Since the impedance at the centre is about 100 ohms, a satisfactory match to the 72 ohm feeder is obtained via the 34ft of halfwave stub. . . By making the height a halfwave or a full wave above ground at 14 Mc/s and then raising or lowering the aerial a bit at a time while observing the standing-wave ratio on the 72 ohm twin-lead or coax feeder by means of an SWR bridge, an excellent impedance match may be obtained on this band."



By 1966, 300ohm 'ribbon' feeder had become available, and Varney G5RV wrote, "A word about the matching stub is in order. If this is of open wire feeder construction, its length should be 34ft... but if 300 ohm ribbon is used, allowance must be made for the velocity factor of this type of twinlead. Since this is approximately 0.88, the actual physical length of the 300 ohm ribbon stub should be 29ft. **Bear in mind that this matching stub is intended to resonate as a half-wave impedance transformer at 14 Mc/s, which was chosen as the design centre frequency for the G5RV aerial, thus giving a very good impedance match for a 75 to 100 ohm twin-lead or coaxial cable connected to the base of the stub.**" Thus it is clear that, although Louis Varney, G5RV described the G5RV as a multiband antenna, he optimized it for use on 20 meters.

After several years, our findings are being realized by some of the leading transceiver manufacturers. To support our findings, on page 8 of several YAESU transceiver manuals, Yaesu engineers inserted a short paragraph that finally put-to-rest these findings. The following text is an excerpt from one of those Yaesu transceiver manuals

"ANTENNA CONSIDERATIONS

Every effort should be made to ensure that the impedance of the antenna system be as close as possible to the specified 50-Ohm value. Note that the "G5RV" type antenna does NOT provide a 50-Ohm impedance on all HF Amateur bands.

Any antenna to be used with the FT-950 must be fed from the transceiver with 50 Ohm coaxial cable. Therefore, when using a "balanced" antenna such as a dipole, remember that a balun or other matching/balancing device must be used to ensure proper antenna performance. etc.. "

Excerpt from Page 8 FT-950 OPERATING MANUAL.

We like to sell antennas, and we like to sell the G5RV (+), however, it is our sincere objective to be completely above-board about this antenna. It is NOT an all-band HF antenna.

To circumvent any further problems with the G5RV, we at BUXCOMM added a combined Coupling device, and a True BALUN at the input end of the so-called, twin-lead matching line. This coupling device/BALUN, enables the user to use the G5RV+ on other HF bands. Note: we said, "other HF bands" we do not profess this BALUN Coupling is a Cure-All... It's not. Now our G5RV + (plus) with these additions, enable it to be used on 80 and 40 meters. Mind you, it must be used in conjunction with a good antenna tuner. Some limited use on 15 meters. In any case, the G5RV+ must use an antenna tuner to support these enhancements.

NOW FOR THE HYPE:

The BUXCOMM G5RV + antenna is a center-fed (HF) dipole antenna power rated at 1000 Watts. The BUXCOMM G5RV + is a flat top antenna fed with a twin-lead matching section which terminates at the bottom into a specially BUXCOMM enhanced BALUN with an SO-239 coaxial connector.

We provide those added features as improvements not just a "gimmick," BUXCOMM Cat# G5RV_+ 80 thru 10 meters, with limited performance on 15 meters, however, the G5RV+ must be used with an antenna tuner.

Because of the DEMAND for the G5RV antenna, we made these enhanced improvements in 1998. Our current G5RV (+) is the BUXCOMM 2001 enhanced and modified version of the G5RV. It is Not the 1946 version. BUXCOMM G5RV + is factory assembled, and ready to connect your coax, and erect:

- All Band Performance 80m-10m... CAVEATE! however, the G5RV+ must be used with an antenna tuner.
- Rugged Weather Proofed Internal Solder Joints
- PoweRated @ 1000 watts SSB
- Model G5RV +, with vertical matching section.
- The G5RV + does use an added Coupling Unit and BALUN
- Vertical twin-line section can run at an angle away from feed point to prevent "tail-drag'n."
- Where real-estate is limited, the G5RV+ may be installed as an inverted Vee.
 - Although some users do not use an antenna tuner, the G5RV+ must be used with an antenna tuner.
- Isolation coupling is included to reduce re-radiation by the coax cable shield.
- The vertical, twin-line section, performs as a transmission line transformer.
- (TLT) effect, provides an impedance transition from the 50 ohm coax to the feed-point impedance.