



## **DUC GPS Down/Up Converter**

***Raven's patented GPS Down/Up Converter makes it possible for long cable runs up from 1500 feet to 5 miles.***

Raven's newest addition to the family is the DUC, a Copper-DUC and Fiber-DUC antenna remoting system. These add-on solutions for L1 GPS installations are a perfect fit when extra long antenna cables are needed and a simple in-line amplifier won't suffice.

A DUC consists of a downconverter at the GPS antenna and an upconverter at the RF input of the GPS receiver. Raven's patented technology phase locks the converter pair to provide high fidelity signal transport. This technique uses the same reference for up and down conversion, which eliminates frequency error.

The Copper-DUC product is optimized for generic RG-58 cable and can be used for antenna lengths of up to 1500 feet.

Raven's DUC can also provide a fiber optic solution for cable runs up to 5 miles. (Special Order) The Fiber-DUC is optimized for low-cost simplex multimode optical fiber. Much more expensive types of optical fiber and interface equipment are required if you don't use a DUC. Please contact Raven for more info.

*Raven-GPS is the leader in providing reliable, high-performance GPS/GIS related products. Visit our website [www.ravengps.com](http://www.ravengps.com) or call toll free today at 1-800-460-2167 for more information.*

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# DUC GPS Down/Up Converter



## DOWNCONVERTER SPECIFICATIONS

### APPLICATIONS

- Replaces long cable runs & high gain antennas.
- Easy installation, since cable length is not critical.
- Low emissions.
- Decreased susceptibility to lightning strike damage.

### Specifications

- Frequency: GPS L1
- Gain Combined: 35 (min)
- Axial Rate: 3 db (max)
- Noise Figure: 2.5 db (max)
- Termination: Z0 = 50 ohms

### Size and Weight

- Height: 3.5"
- Diameter: 4.5"
- Weight: < 1.3 lbs.

### Environmental

- Relative Humidity: 0-100% condensing
- Storage Temperature: -55°C to +85°C
- Operating Temperature: -40°C to +65°C
- Altitude: 20,000 feet

### Other

- Connection: TNC, Female
- Packaging: Waterproof enclosure
- Mounting: Standard marine mount, 1" - 14 or 3/4" NPT



## UPCONVERTER SPECIFICATIONS

### Size and Weight

- Dimensions: 6.675"D x 5.12"W x 1.75"H
- Weight: 20 ounces

### Power

- Power Requirements: 9-12 VDC via antenna bias or 12 +/- 10% VDC external
- Power Consumption: < 250mA @ 12 VDC (Both Units)

### Environmental

- Relative Humidity: 0-95% non-condensing
- Storage Temperature: -50°C to +85°C
- Operating Temperature: 0°C to +50°C
- Altitude: 20,000 feet

### Other

- Connection: BNC connector to downconverter, TNC to GPS receiver.
- Indications: Power  
Fault for Downconverter  
Cable open or short

### Antenna Cable Lengths (Max.)

- Copper DUC 1500 feet\*
- Fiber optic DUC 5 miles
- Uses Simplex Multi-Mode Cable Connector type ST

\*RG-58 cable

(Other technical information regarding this project can be found at <http://patent.womplex.ibm.com>. US patent #5999795)