



### APPLICATIONS

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

Starlink'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. Starlink'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.

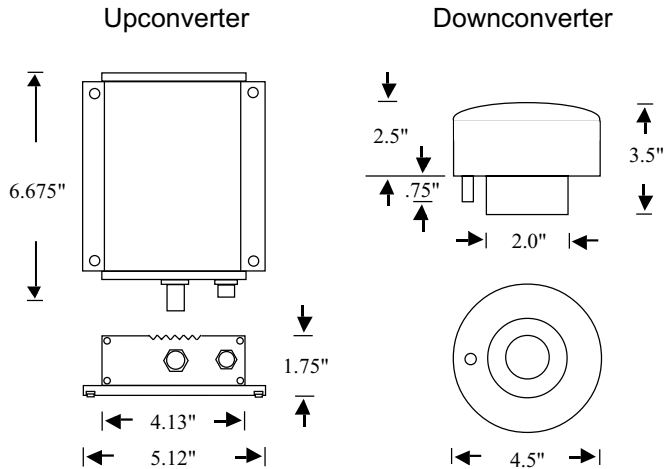
The Copper-DUC product is optimized for generic RG-58 cable and can be used for antenna lengths of up to 1500 feet.

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.

Most DUC's are supplied as OEM equipment with some customizations. Also, Starlink can supply fiber or copper coax connectors.

Starlink is the partner you are in search of to provide for your radionavigation needs. Visit our web site or call toll-free today at 1-800-460-2167 to receive a comprehensive catalog and price list.

# DUC GPS Down/Up Converter



## DOWNCONVERTER SPECIFICATIONS

### SPECIFICATONS

Frequency:	GPS L1
Gain Combined:	30 (min)
Axial Rate:	3 db (max)
Noise Figure:	2.5 db (max)
Termination:	$Z_0 = 50$ 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:	Entire assembly potted in closed cell marine foam
Mounting:	Standard marine mount, 1" - 14 or 3/4" NPT
Cable Length:	RG-58 1500' max
Fiber Simplex Multimode:	5 mi.

*(Cable not included)*

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

## 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 VDC external
Power Consumption:	< 250mA @ 12 VDC

### 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. For fiber link, connections are replaced with type ST fiberoptic connectors.
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Indications:	Power Fault for Downconverter Cable open or short
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## STARLINK

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