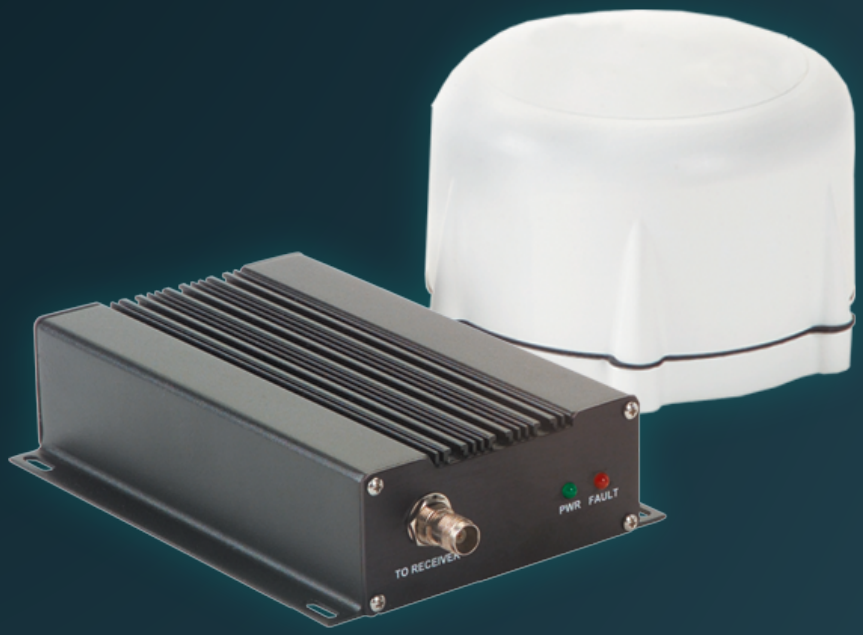
DUC-1 DOWN/UP Converter

GPS L1

LONG CABLE RUN SOLUTION



SIGNAL LOSS ISSUES

GNSS signals become attenuated as they travel through long cable runs. Receivers specify an ideal gain strength to ensure the most robust positioning; a long cable run can result in a signal reaching the receiver that is below the ideal strength required.

SIGNAL CONVERSION SOLUTIONS

StarLink® GPS DOWN/UP Converter (DUC) makes it possible for long cable runs up to 450 meters. The DOWN lowers the frequency of the GPS signal enabling it to travel a greater distance. The signal is then raised by the UP before reaching the receiver.

The DUC converters are the perfect add-on for L1 GPS installations where long antenna cables are needed and a simple in-line amplifier will not suffice.

INTERFERENCE MITIGATION

The technology phase locks the converter pair to provide high fidelity signal transport. This technique uses the same reference for up and down conversion, eliminating frequency error.
The DUC product is optimised for generic RG-58 cable and can be used for lengths of up to 450 metres. Higher specification cables can enable greater distances to be achieved.

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TECHNICAL SPECIFICATIONS

DOWN CONVERTER

APPLICATIONS

Low emissions.
Replaces long cable runs & high gain antennas.
Easy installation, since cable length is not critical.
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:	50 Ω

SIZE AND WEIGHT

Height:	89 mm (3.5")
Diameter:	114 mm (4.5")
Weight:	<0.45 kg (1.0 lbs)

ENVIRONMENTAL

Relative Humidity:	0-100% condensing
Storage Temperature:	-55˚C to +85˚C
Operating Temperature:	-40˚C to +65˚C
Altitude:	6,096 m (20,000 ft)

OTHER

Connection:	TNC, Female
Packaging:	Waterproof (IP67) enclosure
Mounting:	Standard marine mount, 1" - 14 or 3/4" NPT

UP CONVERTER

SIZE AND WEIGHT

Dimensions:	44 x 130 x 170 mm (1.75 x 5.12 x 6.68 in)
Weight:	0.6 kg (1.3 lbs)

POWER

Power Requirements:	9-12 VDC via antenna
bias	or 12 ±10% VDC external
Power Consumption: (both units)	<250 mA @ 12 VDC

ENVIRONMENTAL

Relative Humidity:	0-95% non-condensing
Storage Temperature:	-50˚C to +85˚C
Operating Temperature:	0˚C to +50˚C
Altitude:	6,096 m (20,000 ft)

OTHER

Connection:	BNC connector to down converter, TNC to GPS receiver.
Indications:	Power Fault for Down converter Cable open or short

ANTENNA CABLE LENGTHS (Max.)

Copper DUC	450 m (1,500 ft)*

*RG-58 cable

US patent 5,999,795

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