UNAVCO Resources: Cables and Connectors

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Cables and Connectors

A multitude of cables and connectors are needed for GNSS installations, whether for permanent or campaign sites. Generally, for campaign sites, the cables used are proprietary cables that come from the GNSS equipment manufacturer. For permanent sites, however, some cables are customized based on length.

Cables

- **Antenna** (GNSS antenna to GNSS receiver) - coaxial cable, typically RG58 from the manufacturer; LMR-200 or greater for permanent installations (see the Times Microwave Systems Coax Selection Guide)
- **Download/data transfer/communications** (GNSS receiver to a computer or communications device) - most commonly serial cable, typically RS232; also Ethernet cable for newer receiver models
- **AC Power** (GNSS receiver to an AC power source) -proprietary from the GNSS equipment manufacturer
- **DC power** (GNSS receiver to a DC power source) - proprietary from the GNSS equipment manufacturer
- **Radio cables** (power, communications)

Connectors

	Connector	Cable Type	Devices Connects To
	N	GNSS antenna	Chokering and older generation GP antennas Trimble NetRS receivers
	TNC	GNSS antenna	Trimble Zephyr and Zephyr Geodetic antennas Trimble R7 and 5700, Topcon GB-1000

			receivers
	BNC	GNSS receiver data output	Trimble NetRS receivers
	Lemo (1-, 5-, 7-, and 9-pin)	GNSS antenna (1-pin), data (7- or 9-pin), power (5-pin)	Trimble 4000SSE and 4000SSi receivers, Topcon GB-1000 receivers
	DB9	GNSS receiver data transfer	Trimble NetRS GNSS receiver

Manufacturer and Dealer Resources

- L-com Online Cable Configurator
- Ashtech and Pacific Crest cable diagrams

UNAVCO Resources

- How to configure a Mac for a Keyspan USB-to-serial cable
- How to build a DB9 serial connector for the Vaisala WTX510/520 met pack
- Trimble 4000-series Compatible Cable Schematic Diagrams
- How to assemble a Times N-Type Connector (historical)

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