

75 OHM UPL2000 DIGITAL VIDEO BNC

HDTV TRANSMISSION LINE NETWORK PRODUCT SOLUTIONS - ALL TRUE 75 OHM



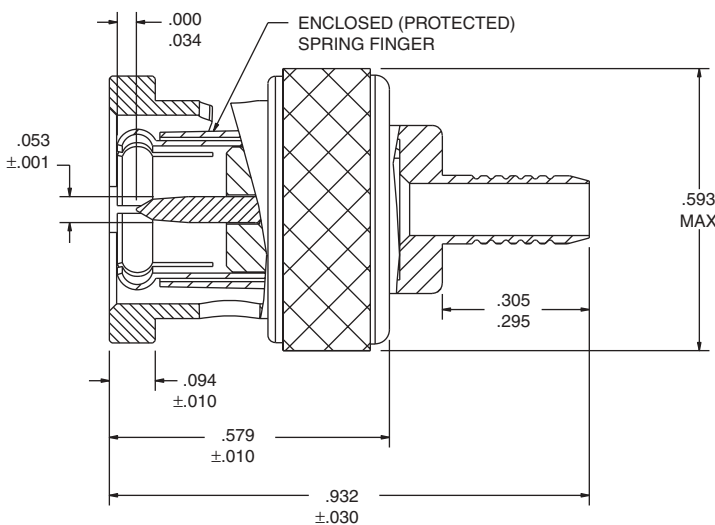
The Trompeter **UPL2000** is a classically robust, high frequency, true 75 ohm BNC connector that is designed to handle high bit-rate digital video signal transmissions in conjunction with the low loss coaxial cables used in broadcast applications.

With Trompeter's typical emphasis on exceptional signal clarity, low noise, rugged design, and tight tolerance construction, the UPL2000 gives long-term field performance at high frequency to allow error-free transmission of digital signals. This is true over the entire bandwidth utilized by HDTV signal transport whether the signal is compressed or uncompressed.

Our test engineers are looking at return loss performance of -30 dB up through 3GHz and calling it the **stealth connector**, so good you almost don't know it is there... (see chart on page 19).

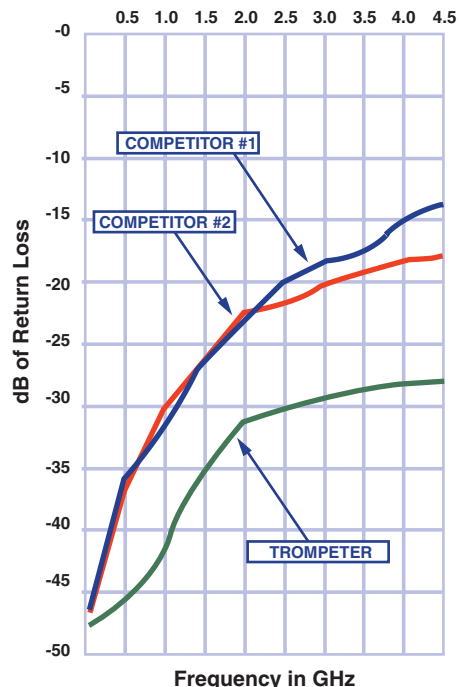
Trompeter design engineers understand the unique problems associated with the combination of high data rate digital traffic and high frequency transmissions. The unique design of the UPL2000 allows for an impedance matched transition through the connector, taking advantage of the electromagnetic effects that are so unique to high frequency transmission lines. The signal is contained within the inside surface of the outer shield through the connector in much the same way that the braid of the coax cable contains the electromagnetic energy of the signal within the cable dielectric itself. This effect is more pronounced as transmission frequency rises, as is the case with DTV and HDTV.

The connector is offered in the larger diameter cable sizes that are supporting transmission of the video broadcast signal in stations, post-production, and CATV headends.



UPL2000 RETURN LOSS DATA

Only variable is manufacturer of BNC connectors



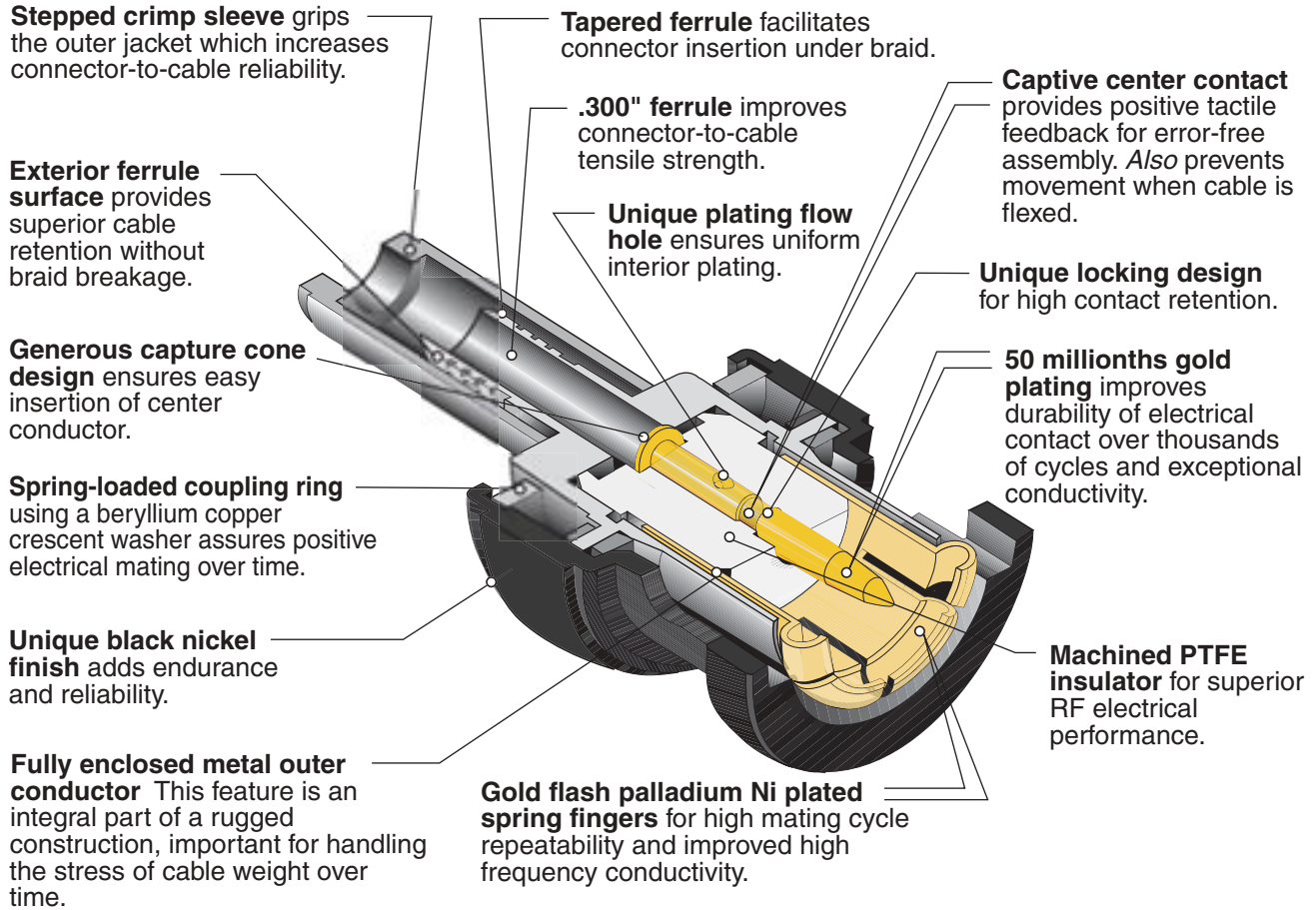
NOTE: Test setup includes one foot Belden 1505A coaxial cable with BNC plug each end plus adapter and termination.



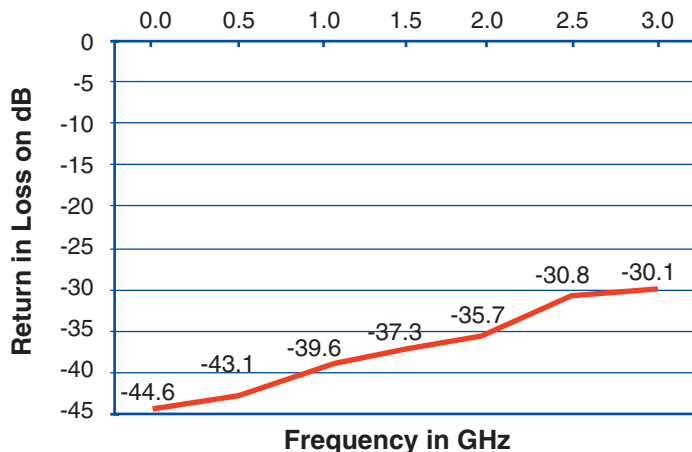
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17 Reasons Why Trompeter BNC Connectors Outperform the Competition Everytime!



**Return Loss Performance
UPL2000-D4 on Belden 1694A**



DIALOG BOX

COAX CABLES

The *coax cable* used in transporting the HDTV signal from place to place within a facility is quite good (it will, however, all still need to be replaced since it was designed in around lower frequency and higher insertion loss conditions). The major cable manufacturers that serve this segment have not stopped innovating to achieve better and better insertion loss performance. Use of low dielectric materials and lower dielectric constant materials is growing. Typical values on some new cable types today are 26 dB loss for 100 meters of length at 1 GHz! (Note that the key technical issue of cable selection is insertion loss over distance). Further, the trade off of overall cable diameter, cable weight, and cost are being attended.



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Electricals and Electromagnetics:

True Impedance	75 ohms
Voltage Rating	500 VAC RMS
Insertion Loss	0.2 dB max up to 3 GHz (tested as a 3ft cable assembly)
Return Loss	See page 17 - test method and result is one UPL2000 plug on each end of 12 inches of cable, network analyzer calibrated with load prior to each test, statistical sampling.
Contact Resistance	4 milliohm max end-point after environmental testing (see below) with a current of 5 ma max; 20 mv open circuit
Insulation Resistance	5000 megohms minimum
Operational Frequency	Up through 6 GHz
VSWR	Not more than 1.2 up to 3 GHz
Dielectric Withstanding Voltage	1500 VAC RMS with no breakdown

Materials:

Body	Electrolytic nickel over brass
Bayonet	Black electroless nickel over zinc
Dielectric	Machined polytetrafluoroethylene (PTFE, aka Dupont trade name Teflon)
Spring Finger	Gold flash palladium over nickel over copper over phosphor bronze or BeCu
Gasket	Silicone rubber
Wave Washer	Electrolytic nickel over beryllium copper
Center Contact	Thick (50 millionths of an inch minimum) gold over nickel over copper over brass

Environmental:

Thermal Shock	-40 to +85 degrees C operating
Moisture Resistance	MIL-STD-1344 Method 1002, test condition C, 500+ hours/40 degrees C/90-95% RH
Corrosion Resistance	MIL-STD-1344 (48 hours salt spray)
Vibration	MIL-STD-1344 Method 2005 with no bit loss @ 45 Mbps @ 20G's (BER test)
Solvent Resistance	MIL-STD-202 Method 215

Mechanical Tested Values:

Mating Cycle Rating	500 cycles
Center Contact Retention	6 lbs minimum axial load
Coupling Mechanism Pull Test	100 lbs typical
Force to Engage	5 lbs maximum
Interface Dimension	MIL-C-39012 modified for true 75 ohms (TEI TGS-5)
Outer Contact Pin Gauge Retention	> 260 grams minimum after 500 cycles
Cable Retention at Crimp Sleeve	See chart below - exceeds 40 pounds minimum

Top 3 UPL2000 Product Features

Features:

1 Center Contact:

- Captivated and locking
- 50 micro inches gold

2 Outer Contact

- Gold flash palladium Ni
- Phosphor bronze or BeCu
- Fully enclosed

3 Crimp Sleeve

- Interior precision step

Benefits:

Center Contact Benefits:

- Insures correct center contact location during outer braid crimp operation.
- Tactile feedback for error free installation.
- Eliminates pistoning of contact over product life.
- Exceptional electrical conductivity and durability for long life.

Outer Contact Benefits:

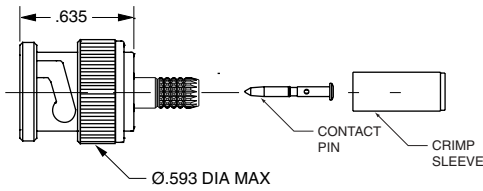
- Combination of high conductivity, ductility, and mechanical durability extended field conditions.
- Extremely high strength alloy which resists compression set over time, maintaining high contact normal forces.
- Reduces RF leakage.

Crimp Sleeve Benefits:

- Eliminates potential for exposed braid by positive grip on cable jacket for excellent cable retention over time.

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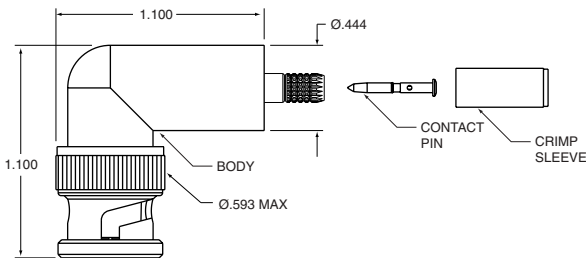
HDTV BNC
UPL2000-(Cable Group)/B

*Can only be ordered in bulk packs of 50.
See Cable Groups on page 22.*



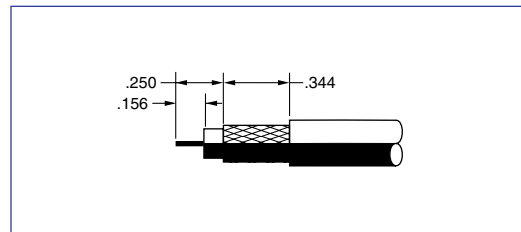
Ordering Example:

sample part # **UPLR2000-D2/B**
Broadcast BNC _____
Cable Group Dash Number _____
Bulk Pack (50) _____



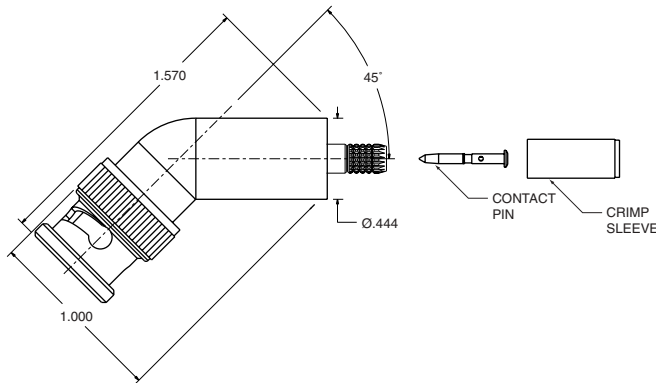
90° HDTV BNC
UPLR2000-(Cable Group)/B

*Can only be ordered in bulk packs of 50.
See Cable Groups on page 22.*



SCALE 1:1
USE AS STRIPPING
TEMPLATE FOR 75 OHM TOOL CRIMP BNC PLUG

Note: Dimension .156 inches is a minimum, the maximum is .175 inches. Either dimension, or anything in between, works fine with the 8 point tool recommended by Trompeter for Broadcast applications. If you are using a 12 point indenter tool in lieu of the more classic 8 point tool, we recommend you use the longer dimension.



45° HDTV BNC
UPLFF2000-(Cable Group)/B

*Can only be ordered in bulk packs of 50.
See Cable Groups on page 22.*

**Mechanical Pull Test Criteria
Cable Retention UPL2000**

