

## 1794A Coax - Low Loss Serial Digital Coax



For more Information  
please call

1-800-Belden1



### Description:

16 AWG solid 0.051" bare copper conductor, gas-injected foamed high-density polyethylene insulation, Duofoil® + tinned copper braid shield (95% coverage) plus Beldfoil® with shorting fold, PVC jacket.

### Usage (Overall)

**Suitable Applications:** SMPTE 424M 3 Gb/s HD-SDI 1080p

### Physical Characteristics (Overall)

#### Conductor

AWG:

| # Coax | AWG | Stranding | Conductor Material | Dia. (in.) |
|--------|-----|-----------|--------------------|------------|
| 1      | 16  | Solid     | BC - Bare Copper   | 0.051      |

**Total Number of Conductors:** 1

#### Insulation

Insulation Material:

| Insulation Material                                 | Dia. (in.) |
|---|------------|
| Gas-injected FHDPE - Foam High Density Polyethylene | 0.225      |

#### Outer Shield

Outer Shield Material:

| Layer # | Outer Shield Trade Name      | Type  | Outer Shield Material                      | Coverage (%) |
|---------|------------------------------|-------|--|--------------|
| 1       | Duofoil®                     | Tape  | Aluminum Foil-Polyester Tape-Aluminum Foil | 100.000      |
| 2       |                              | Braid | TC - Tinned Copper                         | 95.000       |
| 3       | Beldfoil® with shorting fold | Tape  | Polyester Tape-Aluminum Foil               | 100.000      |

#### Outer Jacket

Outer Jacket Material:

| Outer Jacket Material    |
|--------------------------|
| PVC - Polyvinyl Chloride |

#### Overall Cable

**Overall Nominal Diameter:** 0.320 in.

### Mechanical Characteristics (Overall)

**Operating Temperature Range:** -30°C To +75°C

**Bulk Cable Weight:** 59 lbs/1000 ft.

**Max. Recommended Pulling Tension:** 111 lbs.

**Min. Bend Radius/Minor Axis:** 3.250 in.

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

**NEC/(UL) Specification:** CMR

**CEC/C(UL) Specification:** CMG

**EU CE Mark:** Yes

**EU Directive 2000/53/EC (ELV):** Yes

|                                       |            |
|---------------------------------------|------------|
| EU Directive 2002/95/EC (RoHS):       | Yes        |
| EU RoHS Compliance Date (mm/dd/yyyy): | 01/01/2004 |
| EU Directive 2002/96/EC (WEEE):       | Yes        |
| EU Directive 2003/11/EC (BFR):        | Yes        |
| CA Prop 65 (CJ for Wire & Cable):     | Yes        |
| MII Order #39 (China RoHS):           | Yes        |
| Series Type:                          | Series 7   |

### Flame Test

|                 |                       |
|-----------------|-----------------------|
| UL Flame Test:  | UL1666 Vertical Shaft |
| CSA Flame Test: | FT4                   |

### Suitability

|                       |     |
|-----------------------|-----|
| Suitability - Indoor: | Yes |
|-----------------------|-----|

### Plenum/Non-Plenum

|               |    |
|---------------|----|
| Plenum (Y/N): | No |
|---------------|----|

## Electrical Characteristics (Overall)

### Nom. Characteristic Impedance:

|                 |
|-----------------|
| Impedance (Ohm) |
| 75              |

### Nom. Inductance:

|                    |
|--------------------|
| Inductance (µH/ft) |
| 0.091              |

### Nom. Capacitance Conductor to Shield:

|                     |
|---------------------|
| Capacitance (pF/ft) |
| 16.100              |

### Nominal Velocity of Propagation:

|        |
|--------|
| VP (%) |
| 84.000 |

### Nominal Delay:

|               |
|---------------|
| Delay (ns/ft) |
| 1.210         |

### Nom. Conductor DC Resistance:

|                          |
|--------------------------|
| DCR @ 20°C (Ohm/1000 ft) |
| 4.000                    |

### Nominal Outer Shield DC Resistance:

|                          |
|--------------------------|
| DCR @ 20°C (Ohm/1000 ft) |
| 1.900                    |

### Nom. Attenuation:

| Freq. (MHz) | Attenuation (dB/100 ft.) |
|-------------|--------------------------|
| 1.000       | 0.170                    |
| 3.580       | 0.300                    |
| 5.000       | 0.350                    |
| 6.000       | 0.380                    |
| 7.000       | 0.400                    |
| 10.000      | 0.480                    |
| 12.000      | 0.520                    |
| 25.000      | 0.740                    |
| 55.000      | 1.080                    |
| 67.500      | 1.200                    |
| 71.500      | 1.240                    |
| 88.500      | 1.370                    |
| 100.000     | 1.460                    |

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|          |        |
|----------|--------|
| 135.000  | 1.700  |
| 143.000  | 1.750  |
| 180.000  | 1.970  |
| 270.000  | 2.430  |
| 360.000  | 2.830  |
| 540.000  | 3.500  |
| 720.000  | 4.090  |
| 750.000  | 4.180  |
| 1000.000 | 4.890  |
| 1500.000 | 6.100  |
| 2000.000 | 7.200  |
| 2250.000 | 7.690  |
| 3000.000 | 9.080  |
| 4500.000 | 11.530 |

### Max. Operating Voltage - UL:

| Voltage   |
|-----------|
| 300 V RMS |

**Other Electrical Characteristic 1:** Impedance tested in accordance with ASTM D-4566 paragraph 43.2, option 2 using a 75 Ohm fixed bridge and termination. 75 +/- 3 Ohms

**Other Electrical Characteristic 2:** Return Loss tested in accordance with ASTM D-4566 paragraph 45.3, using a 75 Ohm fixed bridge and termination.

### Minimum Return Loss:

| Start Freq. (MHz) | Stop Freq. (MHz) | Min. RL (dB) |
|-------------------|------------------|--------------|
| 5                 | 1600             | 23           |
| 1600              | 4500             | 21           |

### Sweep Test

**Sweep Testing:** 100% Sweep tested 5 MHz to 4.5 GHz.

### Put Ups and Colors:

| Item #        | Putup    | Ship Weight | Color       | Notes | Item Desc                    |
|---------------|----------|-------------|-------------|-------|------------------------------|
| 1794A N3U1000 | 1,000 FT | 63.000 LB   | GREEN, MIL  | C     | #16 LDPE/GIFHDLDPPE SH FRPVC |
| 1794A 0011000 | 1,000 FT | 63.000 LB   | BROWN       | C     | #16 LDPE/GIFHDLDPPE SH FRPVC |
| 1794A 0021000 | 1,000 FT | 63.000 LB   | RED         | C     | #16 LDPE/GIFHDLDPPE SH FRPVC |
| 1794A 0031000 | 1,000 FT | 63.000 LB   | ORANGE      | C     | #16 LDPE/GIFHDLDPPE SH FRPVC |
| 1794A 0041000 | 1,000 FT | 63.000 LB   | YELLOW      | C     | #16 LDPE/GIFHDLDPPE SH FRPVC |
| 1794A 0061000 | 1,000 FT | 63.000 LB   | BLUE, LIGHT | C     | #16 LDPE/GIFHDLDPPE SH FRPVC |
| 1794A 0071000 | 1,000 FT | 63.000 LB   | VIOLET      | C     | #16 LDPE/GIFHDLDPPE SH FRPVC |
| 1794A 0081000 | 1,000 FT | 63.000 LB   | GRAY        | C     | #16 LDPE/GIFHDLDPPE SH FRPVC |
| 1794A 0091000 | 1,000 FT | 63.000 LB   | WHITE       | C     | #16 LDPE/GIFHDLDPPE SH FRPVC |
| 1794A 0101000 | 1,000 FT | 63.000 LB   | BLACK       | C     | #16 LDPE/GIFHDLDPPE SH FRPVC |

#### Notes:

C = CRATE REEL PUT-UP.

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