



Application Note

Information Document

DIN 1.0/2.3 Coax Connector

Introduction

The DIN 1.0/2.3 coax connector was originally developed as a 50 Ohm RF connector solution for the Southern Europe Telecommunications market in the 1980's. Since then, millions of these connectors have been installed in Central Offices worldwide.

The DIN 1.0/2.3 has also been developed as a 75 Ohm connector with a 2 GHZ rating. This makes the connector an ideal solution for Digital Broadcast signal formats such as AES Audio, SDI and HD-SDI Video especially in high density mechanical applications.

NVISION originally deployed the DIN 1.0/2.3 connector in the NV7512 Audio Router which supports a 512X512 AES Audio Matrix in just 14RU. Typical installations use Belden 1855A cable terminated with mating DIN 1.0/2.3 male connectors on one end and male BNC connectors on the other. This system provides two times the density of a comparable BNC solution.

NVISION has also introduced the NV8288 Digital Video Router. Referred to as 'the smallest big router in the world', each NV8288 frame can support up to 288X576 SDI/HD-SDI routing capability in just 10 RU representing three times the density found in a comparable BNC solution. NV8288 systems use the same Belden cable and DIN 1.0/2.3 connector configuration that is used with the NV7512.

Features and Benefits

- Connector is based on a simple Push-Pull latching design providing:
 - Quick installation
 - Safe connector coupling
 - Cannot vibrate loose like an unlatched BNC can
- Connectors can be laid out in pitch densities as small as 8mm providing 2-3 times the density of BNC layouts therefore enabling rack space saving frame designs.



BNC vs. 1.0/2.3 size comparison



- Uses the same stripping/crimping process as BNC connectors making them easy to learn for experienced Broadcast cable installers.
- Supports industry leading NVISION signal quality

Mating Connectors

Male mating connectors for Belden 1855A and Gepco VDM230 cable are available through connector distributors as well as from NVISION in bags of 25 each (part number 1.0/2.3-CONN).

Assembly

As mentioned above, DIN 1.0/2.3 connectors terminate with the same process as BNC connectors. Note that a visual inspection of the male center conductor for straightness and non-protrusion beyond the connector collar is recommended to avoid bent pin errors (see Appendix A).

CAUTION: It is recommended that a mating connector adapter be used for continuity testing as insertion of a test probe directly into the connector can bend the center conductor pin off center.

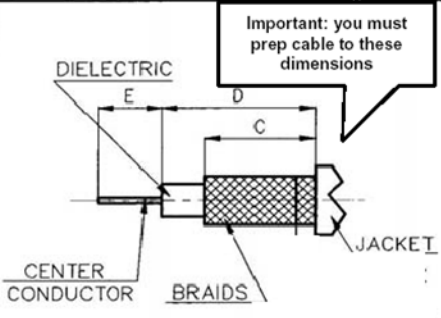
The following Appendices provide detailed installation, tooling and performance information:

Appendix A	ITT Cannon Assembly Document
Appendix B	Tooling
Appendix C	Eye Pattern

ITT Cannon RF PRODUCTS	Jays close, Viabes Estate, Basingstoke, Hants. RG 22 4BA, UK 585 East, main Street, New Britain, Connecticut 06051, USA (FSCM No. 98291)	N° BBAI-1269-GB Sheet 1 of 1 Dimensions In: mm	Iss/rev H K5861
	ASSEMBLY INSTRUCTIONS		
	Connector Type: 1.0/2.3 full-crimp/solder crimp straight plugs Cable Type: see table		

Tools Required: Locator: T4852. Crimp Tool: see table

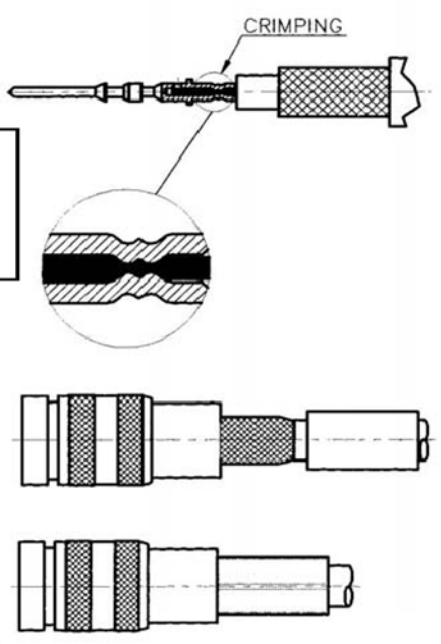
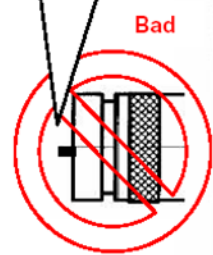
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- | <u>Stripping Detail</u> | | |
|-------------------------|--------------|-------------|
| C | D | E |
| .315 (8.00) | .413 (10.50) | .138 (3.50) |
- Prepare cable to dimensions shown, being careful not to damage the braid, foil or inner conductor. **Important:** Do not nick braid and center conductor of cable.
 - Position center contact as shown. Make sure center conductor of cable is visible inside hole of contact pin. Crimp center contact on to cables center conductor using ITT crimp frame 995-0001-584 (M22520/2-01) fitted with ITT positioner T4852. **Important:** Make sure the selector setting on the tool is set at number 4. Perform a light pull test to verify termination.
 - Slide ferrule onto cable and flair braid to facilitate insertion of body.
 - Insert rear post of body between the cables foil and braid until the center contact snaps into position. **Important:** Perform a light pull test to verify the center contact is seated and check interface to make sure center pin is straight.
 - Dress braid evenly around rear post. Slide ferrule over braid until it rests flush against body. Crimp ferrule with .213 (5.4) hex die (ITT P/N K29265) fitted onto crimp frame (ITT P/N T1025-). Perform light pull test and visually inspect finished assembly.

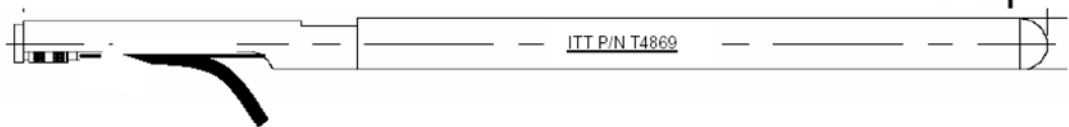
- Tooling Parts List
- ITT P/N 995-0001-584 Center Pin Crimp Frame only
 - ITT P/N T4852 Center Pin Positioner (fitted onto crimp frame 995-0001-584)
 - ITT P/N T1025/- Crimp Frame only for ferrule. Hex Die not included
 - ITT P/N K29265 - .213 hex die (fitted onto crimp frame T1025/-)
 - ITT P/N T4869 Connector Insertion/Extraction Tool

Center pin should never protrude outside of coupling not. If it does you need to discard connector and re-terminate a new one.



Good

Illustration of proper center pin position inside connector body





ITT Cannon Coaxial Cable Power Stripping Kit
ITT P/N: TOK-000-0004

Includes:

Driver

Rechargeable Battery

Battery charger

1 (Belden 1855A cable)

cutter head

Picture shows two cutter
heads

Carrying Case w/foam
inserts

Instruction/Maintenance
manual

ITT P/N: TOK-000-0008 replacement 1855A cutter head

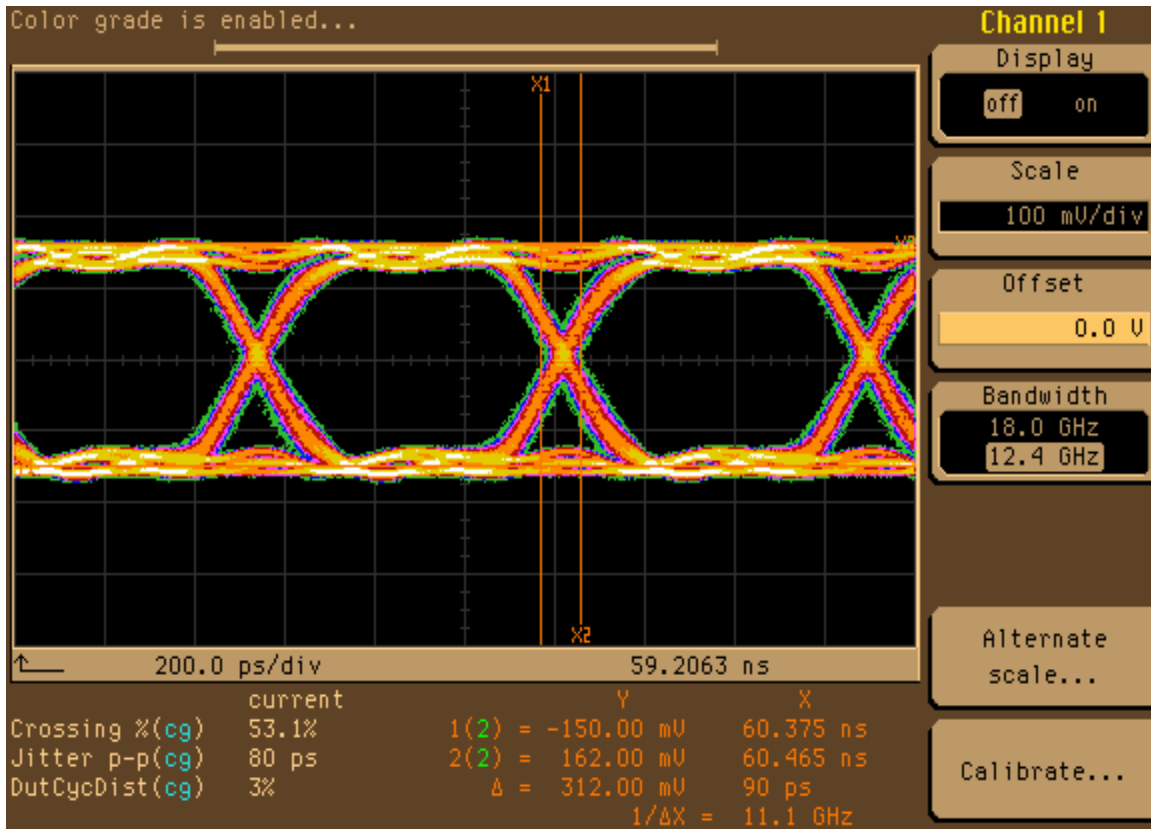
This kit preps Belden 1855A cable to terminate to ITT Electronic Components D55-F24-3069GDA 1.0/2.3 RF connector.

Appendix B Tooling

Belden 1855A Cable(Gepco VDM230):

Cable Plug:	ITT Cannon D55-F24-3069GDA (6-8 weeks)
Pin Crimp Tool:	Daniels M22520/2-01
Crimp Setting:	Turret set to 4
Pin Positioner:	Daniels K1335
Hex Crimp Die:	0.213" (Paladin 2653)
Strip Tool:	Paladin - Model: Vario 3240
Strip Dimensions:	see ITT Cannon assembly instructions
BBAI:	1269

Appendix C Eye Pattern



800mv BERT signal @1,485Gbs passed through DIN 1.0/2.3 input connector, equalizer, cable driver and DIN 1.0/2.3 output connector

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