

# 3M™ Mini D Ribbon (MDR) Cable Assembly

.050" High Speed Video Data Transmission System, 36 Position

14X36-SZ6B-XXX-0HC



- Supports LVDS Channel Link™ signaling
- 10 shielded pairs (100 ohm) +2 drains for high bandwidth applications
- 1 USB pair & 4 singles
- High density 36 position MDR with rugged ribbon type contact
- Metal junction shell with Quick Release Latches
- EMI over-molded junction shell with rugged thumbscrew retention
- See Regulatory Information Appendix (RIA) for chemical compliance information

Date Modified: October 9, 2007

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## Physical

### Connector Contact Plating

Wiping Area: 30  $\mu$ " [ 0.76  $\mu$ m ] Min. Gold

Thumbscrew Shell Color: Beige

Thumbscrew Shell Material: Acrylonitrile Butadiene Styrene (ABS)

Metal shell plating: Nickel

Metal shell material: Aluminum, .050" [1.27 mm] Thick

### Cable

Color: Beige

Jacket Material: Polyvinyl Chloride (PVC)

Flammability: AWM VW-1

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## Electrical

Voltage Rating: 30 V

Current Rating: 1 A

Insulation Resistance:  $> 1 \times 10^8 \Omega$  at @100 V<sub>DC</sub>

Withstanding Voltage: 350 V<sub>RMS</sub> for 1 minute

### Individually Shielded Twisted Pairs

Characteristic Impedance:  $100 \pm 10 \Omega$

Conductor Size: 28 AWG Stranded

Propagation Velocity: 1.25 ns/ft [4.1 ns/m ]

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## Environmental

Temperature Rating: -20°C to +75°C

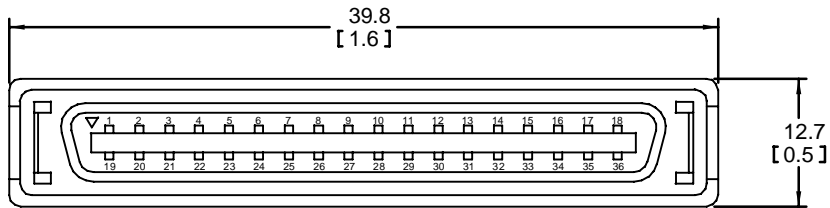
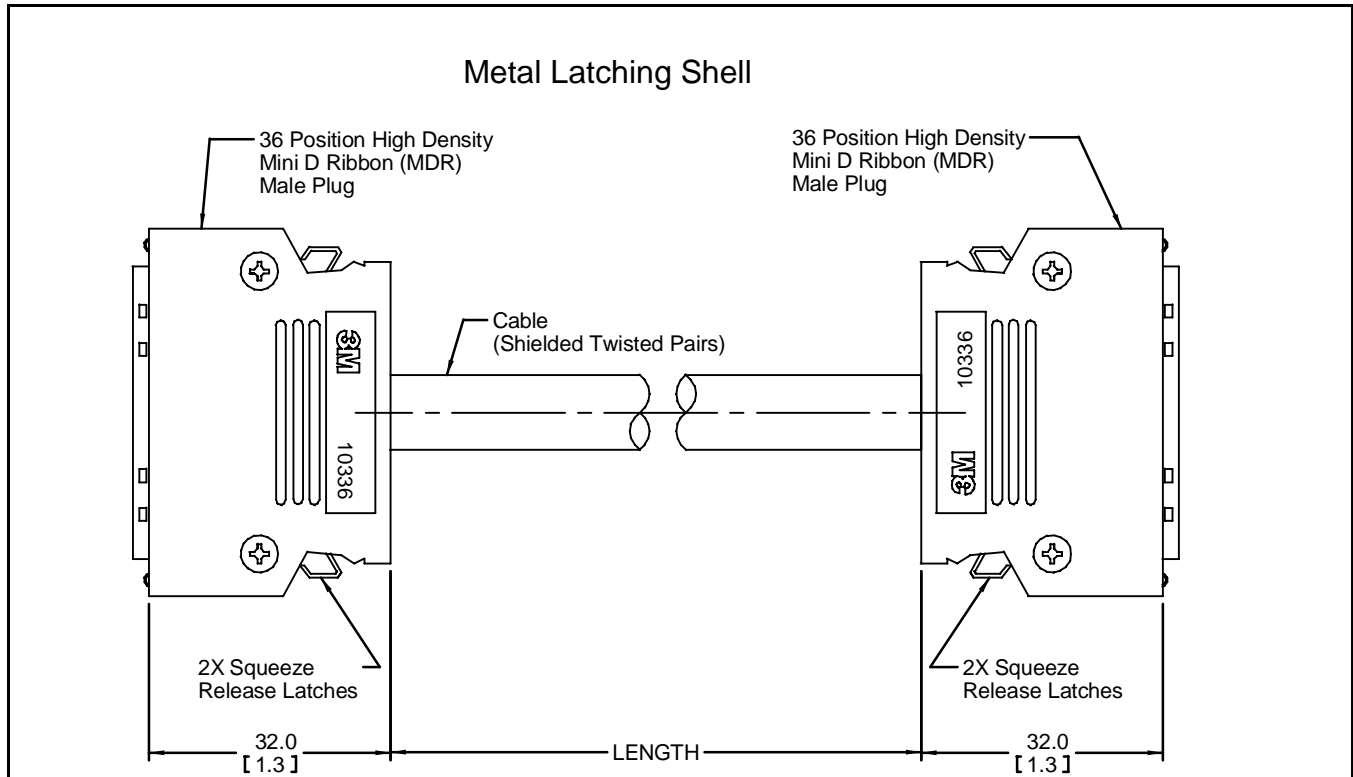
UL File No.: E86982

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MDR 36 Position Plug  
Both Ends

mm  
[Inch]

Tolerance Unless Noted		
	0.0	0.00
mm	±.1	±.10

[ ] Dimensions for Reference only

Generic End Detail  
MDR 36 Position Plug  
( Both Ends )

Assembly Length Tolerance

Cable Length:  
0.5 to 1.5 meters -0 + .05 meters  
2 to 10 meters -0 +3% of length

## Ordering Information

**14X36-SZ6B-XXX-0HC** (RIA E1 & C1 apply)

Backshell Options:  
T = Over-molded 4-40 thumbscrew  
1 = Metal Latching Shell

Length:  
100 = 1.0 meters  
200 = 2.0 meters  
500 = 5.0 meters

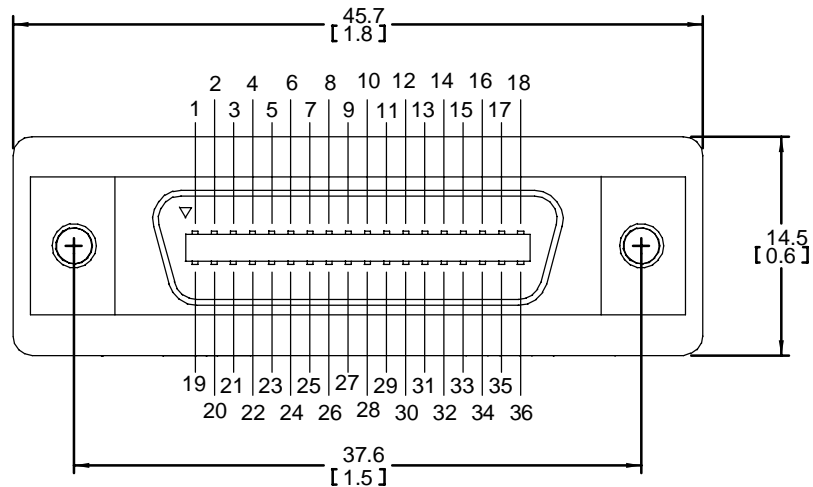
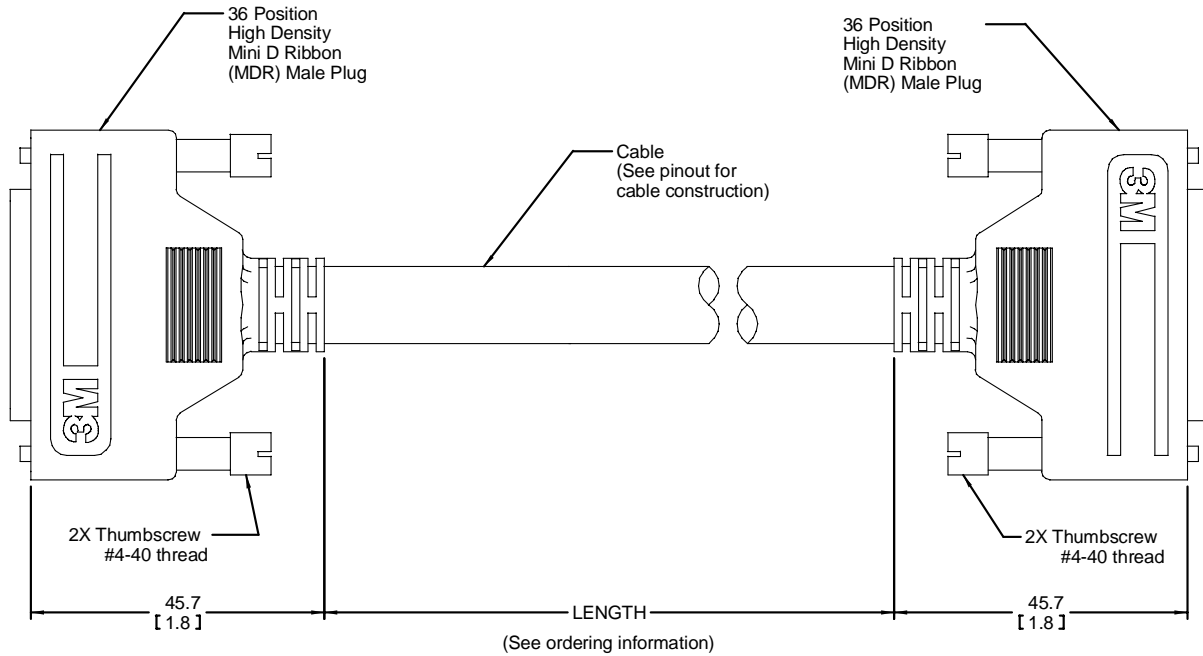
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# 3M™ Mini D Ribbon (MDR) Cable Assembly

.050" High Speed Video Data Transmission System, 36 Position

14X36-SZ6B-XXX-0HC

## Over-Molded #4-40 Thumbscrew



**Generic End Detail**  
**MDR 36 Position Plug**  
 ( Both Ends )

mm  
 [Inch]

Tolerance Unless Noted		
	0.0	0.00
mm	±.1	±.10

[ ] Dimensions for Reference only

Assembly Length Tolerance

Cable Length:  
 0.5 to 1.5 meters -0 + .05 meters  
 2 to 10 meters -0 +3% of length



Note: 1. Use 3341-31 jacksocet for mounting receptacle to panel.

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# 3M™ Mini D Ribbon (MDR) Cable Assembly

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**MDR 36 Position Pinout (F36-02)**

P1						P2					
Pair	Signal	Position	Position	Signal	Pair	Pair	Signal	Position	Position	Signal	Pair
1	A0-	1	13	USB Pwr	W6	1	A0-	1	13	USB Pwr	W6
1	A0+	19	31	Shld Gnd	Drain	1	A0+	19	31	Shld Gnd	Drain
2	A1-	2	14	A4-	6	2	A1-	2	14	A4-	6
2	A1+	20	32	A4+	6	2	A1+	20	32	A4+	6
3	A2-	3	15	A5-	7	3	A2-	3	15	A5-	7
3	A2+	21	33	A5+	7	3	A2+	21	33	A5+	7
4	CLK1-	4	16	A6-	8	4	CLK1-	4	16	A6-	8
4	CLK1+	22	34	A6+	8	4	CLK1+	22	34	A6+	8
5	A3-	5	17	A7-	9	5	A3-	5	17	A7-	9
5	A3+	23	35	A7+	9	5	A3+	23	35	A7+	9
Drain	Shld Gnd	6	18	CLK2-	10	Drain	Shld Gnd	6	18	CLK2-	10
	N/C	24	36	CLK2+	10		N/C	24	36	CLK2+	10
	N/C	7					N/C	7			
	N/C	25					N/C	25			
	N/C	8					N/C	8			
	N/C	26					N/C	26			
	N/C	9					N/C	9			
W1	DDC Gnd	27				W1	DDC Gnd	27			
W2	DDC/SCL	10				W2	DDC/SCL	10			
W3	DDC/SDA	28				W3	DDC/SDA	28			
W4	DDC Pwr	11				W4	DDC Pwr	11			
W5	USB Gnd	29				W5	USB Gnd	29			
SP1	USB+	12				SP1	USB+	12			
SP1	USB-	30				SP2	USB-	30			

**Notes:**

1. All pairs are individually shielded with aluminum foil.
2. Pair shields are wrapped Aluminum out and in contact with six internal drains (logic ground).
3. Outer braid and foil (chassis ground) is isolated from inner drains (logic ground).

# Regulatory Information Appendix

## 3M Electronic Solutions Division/Interconnect

### EUROPE

#### Appendix E1: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment, as amended by EU Commission Decision 2005/618/EC.

**This product is RoHS Compliant 2005/95/EC.**

“RoHS Compliant 2005/95/EC” means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

#### Appendix E2: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment, as amended by EU Commission Decision 2005/618/EC.

**This product contains lead in the compliant pin area in excess of the maximum concentration value allowed but is compliant by exemption under EU Commission Decision 2005/747/EC.**

“RoHS Compliant 2005/95/EC” means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

#### Appendix E3: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment as amended by Commission Decision 2005/618/EC.

**This product contains lead in the solder tail area in excess of the maximum concentration value allowed.**

Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

#### Appendix E4: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment, as amended by EU Commission Decision 2005/618/EC.

**This product contains decaBDE in the insulating material in excess of the maximum concentration value allowed but is compliant by exemption under EU Commission Decision 2005/717/EC.**

“RoHS Compliant 2005/95/EC” means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

# Appendix E5: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, as amended by EU Commission Decision 2005/618/EC.

**This product contains lead in excess of the maximum concentration value allowed but is compliant by exemption under Item 6 of the Annex to the Directive.**

“RoHS Compliant 2005/95/EC” means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

## CHINA

### Appendix C1: China RoHS



Electronic Industry Standard of the People’s Republic of China, SJ/T11363-2006, Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products.

This symbol, per Marking for the Control of Pollution Caused by Electronic Information Products, SJ/T11364-2006, means that the product or part **does not** contain any of the following substances in excess of the following maximum concentration values in any homogeneous material: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

### Appendix C2: China RoHS



Electronic Industry Standard of the People’s Republic of China, SJ/T11363-2006, Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products.

This symbol, per Marking for the Control of Pollution Caused by Electronic Information Products, SJ/T11364-2006, means that the product or part **does** contain a substance, as detailed in the chart below, in excess of the following maximum concentration values in any homogeneous material: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

The numerical reference in the symbol above should not be construed as a representation regarding the product’s life or an extension of a product warranty. The product warranty is stated below. In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the product Warranty stated below.

产品中有毒有害物质或元素的名称及含量 Name and Content of Hazardous Substances or Elements

部件名称 (Part or Component Name)	有毒有害物质或元素 (Hazardous Substances or Elements)					
	铅(Pb)	汞(Hg)	镉(Cd)	六价铬(Cr(VI))	多溴联苯(PBB)	多溴二苯醚(PBDE)
端子镀层(contact plating)	×	○	○	○	○	○
○: 表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006 标准规定的限量要求以下。(Indicates that this hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.) ×: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006 标准规定的限量要求。(Indicates that this hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.)						

# Appendix C3: China RoHS

Electronic Industry Standard of the People's Republic of China, SJ/T11363-2006, Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products.

This symbol, per Marking for the Control of Pollution Caused by Electronic Information Products, SJ/T11364-2006, means that the product or part **does** contain a substance, as detailed in the chart below, in excess of the following maximum concentration values in any homogeneous material: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M's best knowledge and belief based upon information provided by third party suppliers to 3M.

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产品中有毒有害物质或元素的名称及含量 Name and Content of Hazardous Substances or Elements

部件名称 (Part or Component Name)	有毒有害物质或元素 (Hazardous Substances or Elements)					
	铅(Pb)	汞(Hg)	镉(Cd)	六价铬(Cr(VI))	多溴联苯(PBB)	多溴二苯醚(PBDE)
合金(Metal alloy)	×	○	○	○	○	○
<p>○：表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006 标准规定的限量要求以下。(Indicates that this hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.)</p> <p>×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006 标准规定的限量要求。(Indicates that this hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.)</p>						

### Important Notice

All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product which are not contained in 3M's current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

### Warranty; Limited Remedy; Limited Liability.

This product will be free from defects in material and manufacture for a period of one (1) year from the time of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**



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