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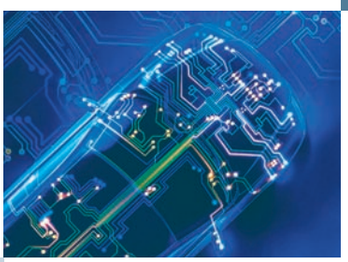
Connecting your lifestyle to your environment



Data Connectivity Systems

DELPHI

Innovation for the Real World

Release Date: October 2008

Fiber Optics • Consumer Ports • Hubs & Accessories • USB Header Assemblies

High Speed Digital Data • Cable Sets • FAKRA • Radio Connectors

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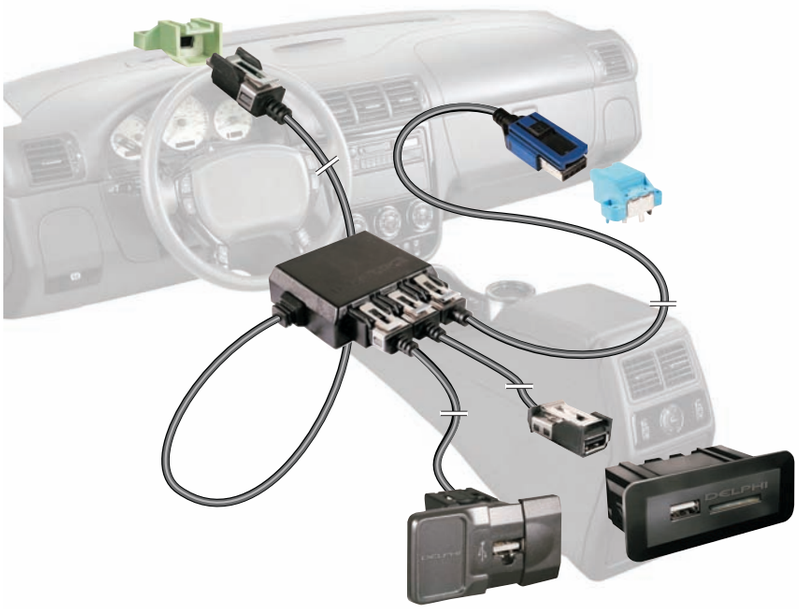

Total Solutions

Delphi offers one of the most comprehensive and complete data connectivity solutions in the industry with products engineered for multiple industry protocols from consumer devices to high-speed interfaces. Our market-leading designs include Universal Serial Bus (USB) ports, headers, cable sets, hubs, high-speed connectivity systems, fiber optics, RF cable assemblies (coaxial), and accessories.

Delphi is playing a leading role in developing the technology and products to enable OEMs to integrate audio, video and navigation data within the vehicle. Our initiatives have led to several *first in-vehicle* programs, including supplying international OEMs with high volume USB ports and cables since 2006.

Delphi is leveraging our experience and overall automotive Electrical/Electronic Architecture expertise to develop an extensive portfolio of products that meet or exceed industry standards.

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Delphi has made every effort to ensure that the information contained in this document is accurate; however, changes are often made to update specifications, part numbers or introduce new product families. An application or sales engineer can help you determine which product best suits your application guidelines. Our global engineering, manufacturing network and distribution capabilities are available to help you select the most suitable products.

We recommend that you use this catalog as a guide only. For additional part numbers and specifications, contact your sales account manager or call the regional account manager at the numbers listed on the back cover. **Specifications subject to change without notice.**

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Fiber Optic Systems

In addition to MOST®† compatible standard parts, camera links and IDB 1934 developments, Delphi offers its own standard FOX5†.

The Delphi standard is based on an independent footprint with an ergonomic special tactile connector lock. All systems are designed with plastic optical fiber.

The MOST® standard parts are available as production parts released according to RELNETyX† and several OEM specifications.

Our MOST® compatible parts are also found in Delphi Fuba™ † antenna amplifiers used by several OEMs.

All development parts, such as IDB 1394 or camera link connections, have a prototype status to be finalized according to customer specific requirements.

† MOST® (Media Oriented Systems Transport) is a registered trademark of MOST Cooperation.
FOX5 is a Delphi fiber optic system.
Fuba™ is a Delphi antenna reception system.
RELNETyX AG is Reliability Experts Network.

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MOST®
2+0 System

Fig.	Part No.	Description	Color
1	15446644	ASM 2 way connector male 2+0	Black
2	15446642	ASM 2 way connector male 2+0	Black
3	15439751	Fiber optic terminals/ferrules*	Natural
4	15446579	Dust cover	Black

Individual Parts

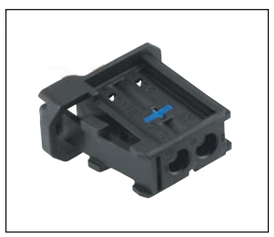


Fig. 1

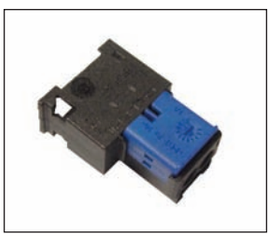


Fig. 2

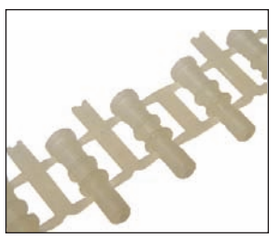
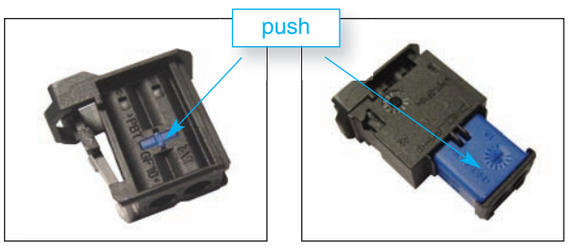


Fig. 3*

Fig. 4

Assembled



* Fiber optic terminals/ferrules need special assembly equipment in the harness plant.

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MOST®
2+4 System / 2+12 System

Fig.	Part No.	Description	Color
1	15446640	Optical insert 2 way Code A	Black
2	15439743	4 way connector female MTS 0.64	Black
3	15446646	Connector housing 2+4	Black
4	28042815	Header ASM for connector 2+4	Black
5	13572632	Header ASM for connector 2+12	Black
6	15439751	Fiber optic terminals / ferrules*	Natural

Individual Parts

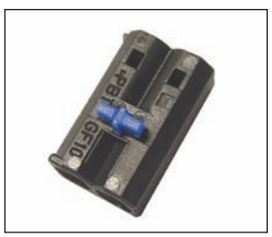
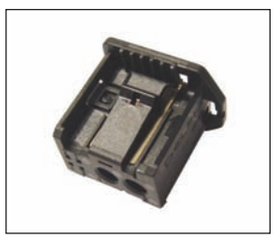


Fig. 1

Fig. 2

Fig. 3

Assembled



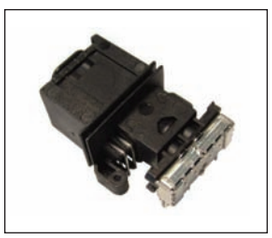
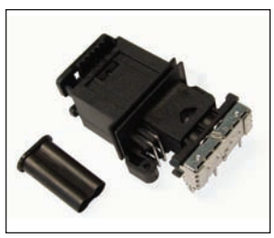


Fig. 4



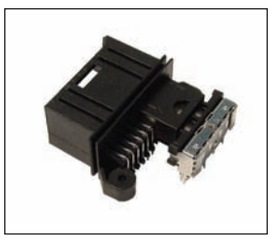


Fig. 5

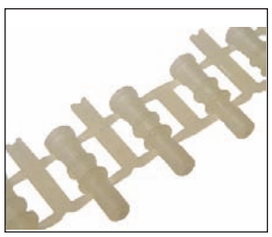


Fig. 6*

* Fiber optic terminals / ferrules need special assembly equipment in the harness plant.

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Delphi Standard System FOX5

Fig.	Part No.	Description	Color	Status
1	PE088009	Connector 2 way	Orange	Prototype
2	PE088008	Inline connector 2 way	Orange	Prototype
3	PE088007	Header connector 2 way	Orange	Prototype
4	–	Fiber optic terminals / ferrule*	Brass	Prototype

Individual Parts

Fig. 1

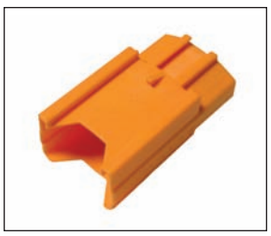


Fig. 2

Fig. 1

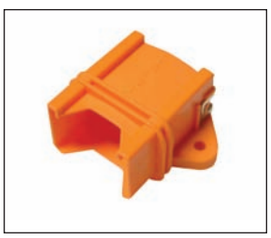
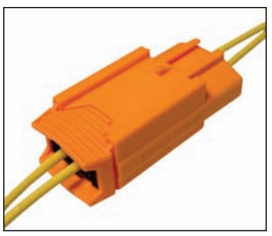
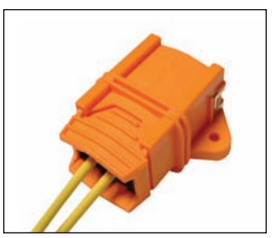


Fig. 3

Fig. 4*

Assembled





* Fiber optic terminals / ferrules need special assembly equipment in the harness plant.

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Development News
Camera Link 1 + 2 Way Systems

Fig.	Status	Description
1	Prototype	1 way harness side connection with pre-assembled optical terminal lock
2	Prototype	1 way header transmit side
3	Prototype	1 way header receive side
4	Prototype	2 way harness side connection with pre-assembled optical terminal lock
5	Prototype	1 way system based on Delphi FOX standard
6	Prototype	1 way system based on Delphi FOX standard

Individual Parts

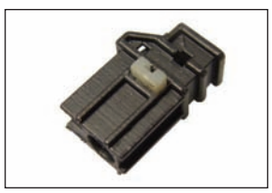


Fig. 1

Fig. 2

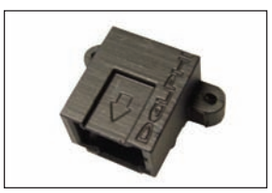
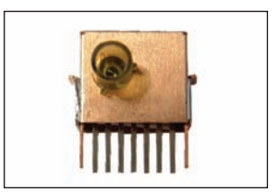


Fig. 3

Fiber optic terminal*



Optical converter

Fig. 4

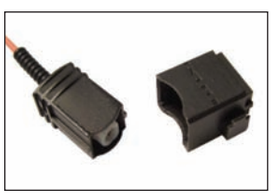


Fig. 5

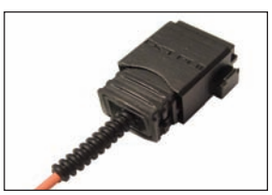
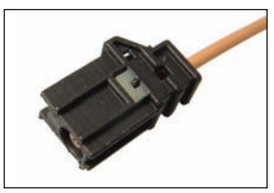
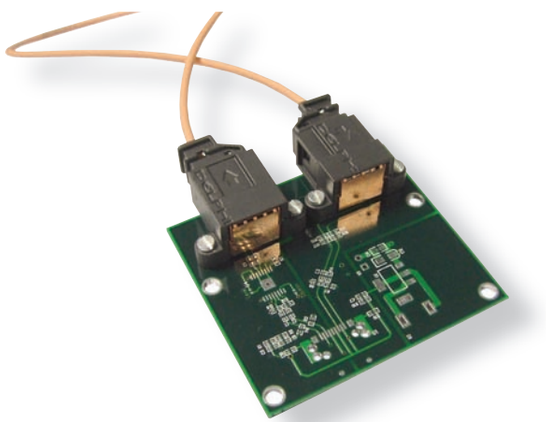


Fig. 6

Assembled





* Fiber optic terminals / ferrules need special assembly equipment in the harness plant.

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Development News
IDB 1394 2 Way System

Fig.	Status	Description
1	Prototype	2 way harness side connection with pre-assembled optical terminal lock
2	Prototype	2 way header with transmit and receive side

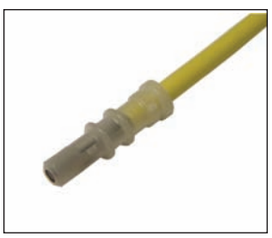
Individual Parts

Fig. 1

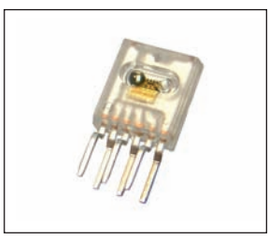
Fig. 1 single parts

Fig. 2

Assembled



Fiber optic terminal*



Optical converter

* Fiber optic terminals / ferrules need special assembly equipment in the harness plant.

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Consumer Ports

Delphi USB consumer ports are proven technology in global automotive manufacturing to be an integrated part of the USB auxiliary system. The Delphi stand-alone designs are more service friendly than integrated systems. If service is required with a stand-alone port, the complete entertainment system does not need replaced, which helps lower costs.

In addition to the customized production parts presented, other options are available off-the-shelf, such as right-angle configurations, integrated parts for cigarette-lighter packages, or combination ports with AUX and card reader systems.

The USB cover can be stylized to specific customer requirements to coordinate with the vehicle's interior design. Ports which are hidden from view (for example, in the glove compartment) can have a simple plastic bezel to help minimize the complexity of the product.

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USB 1.1
Ports, Connectors, Terminals

Fig.	Part No.	Description	LED Lighting	Color
1	13574645 15498754 15498784	USB 1.1 consumer port USB 1.1 consumer port USB 1.1 consumer port	Green Orange Red	Black Black Black
2	13604446	USB 1.1 consumer port	Orange	Gr/Bk
3	13605723	USB 1.1 consumer port	Green	Gray
4	13553120	12 way female insert MTS 0.64 for fig. 2	–	Black
5	13553122	12 way lever insert carrier for fig. 1 Code A	–	Black
6	15440179	Typical Terminal MTS 0.64	–	–

Individual Parts

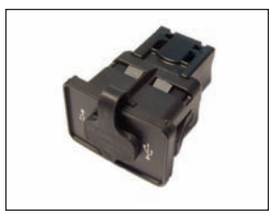
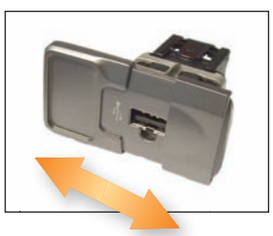


Fig. 1

Fig. 2

Fig. 3



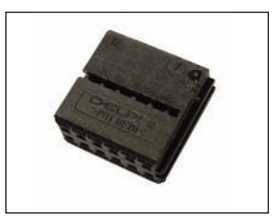
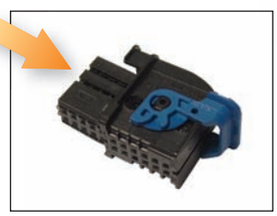


Fig. 4

Fig. 5



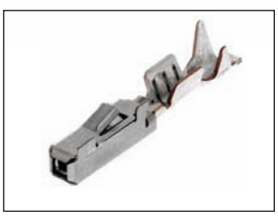


Fig. 6

Customized bezel and cover versions available.

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3.5mm AUX
Ports, Connectors, Terminals

Fig.	Part No.	Description	Color
1	13662526	AUX consumer port	Black
2	13696365	Connector 4 way MTS	Natural
3	15440179	Typical Terminal MTS 0.64	–

Individual Parts

Fig. 1

Fig. 2

Fig. 3

Assembled

Customized bezel versions available

Some products on this page are customized. We offer engineering support for your specific requirements. For more information contact Delphi.

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USB 2.0 & AUX
Ports with Cable Assembly

Fig.	Part No.	Description
1	13665257	USB and AUX customized bezel
2	13666737	USB 2.0 and AUX port with cable
not illustrated	13665305	USB 2.0 and AUX port with cable terminating to Delphi Standard-A inline 4 way male connector

Note: the bezel and port with cable are sold separately.

Fig. 1 Customized bezel

Fig. 2 USB 2.0 and AUX port with cable

Some products on this page are customized. We offer engineering support for your specific requirements. For more information contact Delphi.

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Combination Ports

Fig.	Status	Description
1	PE163373	Combination SD card reader and USB port
2	PE166540	Combination, USB and AUX port
3	in development	Combination SD card reader, USB and AUX port
4	in development	Combination USB and AUX port

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Product features

- Simple plastic bezel
- With or without cover
- Can be styled to customer requirements

- Fig. 1: Requires two Delphi Mini-B cable connections
- Fig. 2: Requires one Delphi Mini-B and one 4 way Micro HVT cable connection
- Fig. 3: Requires one Delphi Mini-B and one 6 way Micro HVT cable connection
- Fig. 4: Requires one 12 way MTS 0.64 connector

Some products on this page are customized. We offer engineering support for your specific requirements. For more information contact Delphi.

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Bezels for USB Cable Sets

Fig.	Part No.	Description
1	13638342	Bezel for Delphi Standard-A female cable 3.2 mm panel
2	Pending	Bezel for Delphi Standard-A female cable 3.5 mm panel
3	Pending	Bezel for two Delphi Standard-A cable assembly configuration

Individual Parts

Fig. 1 & 2

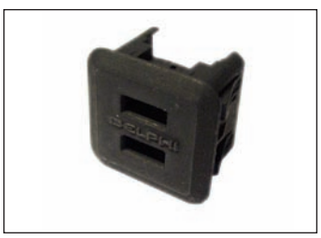
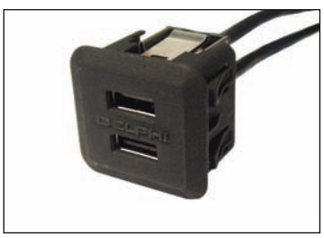


Fig. 3

Assembled



Specific customized bezel solutions are possible for all offered cable sets.

Product features

- Simple plastic bezel
- With or without cover
- With or without lighting for complete port solutions
- Can be styled to customer requirements
- Requires Delphi Standard-A female cable connection

Some products on this page are customized. We offer engineering support for your specific requirements. For more information contact Delphi.

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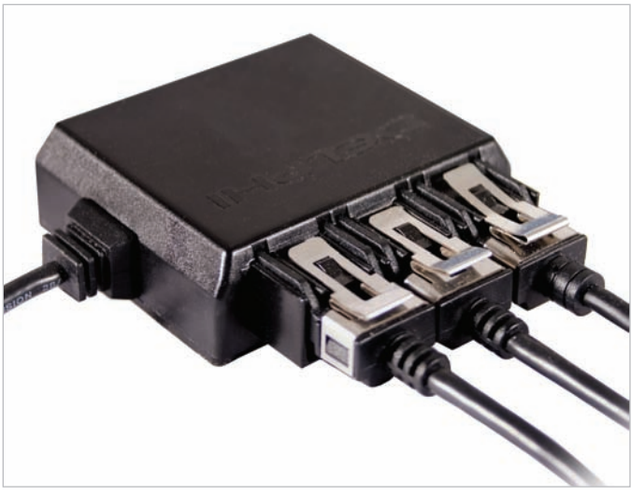
Hubs & Accessories



With increasing consumer demand for more entertainment and data exchange within the automobile, Delphi has developed USB hubs and accessories to assist in the communication of audio, video and navigation data within the vehicle.

The automotive active hub design is an important accessory that connects several single consumer ports to the system.

Delphi's hubs and accessories are engineered for vehicle applications and meet USCAR-30† performance specifications. Multiple indexes provide positive alignment and assist in error proof/scoop-proof assembly.

Hubs and accessories can be styled to customer requirements.

† USCAR is the United States Council for Automotive Research.

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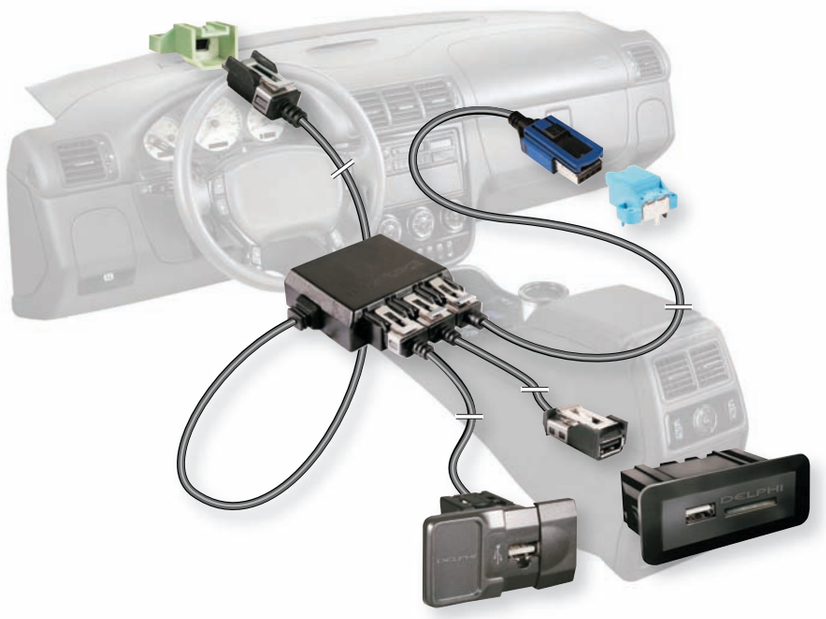
USB Hubs

Fig.	Part No.	Description
1	13721075	USB hub Delphi Mini-B with 1 in-line and 3 out-line ports (non-powered)
Not Illustrated	13721076	USB hub Delphi Standard-A with 1 in-line and 3 out-line ports (non-powered)

Individual Parts

Fig. 1

Assembled



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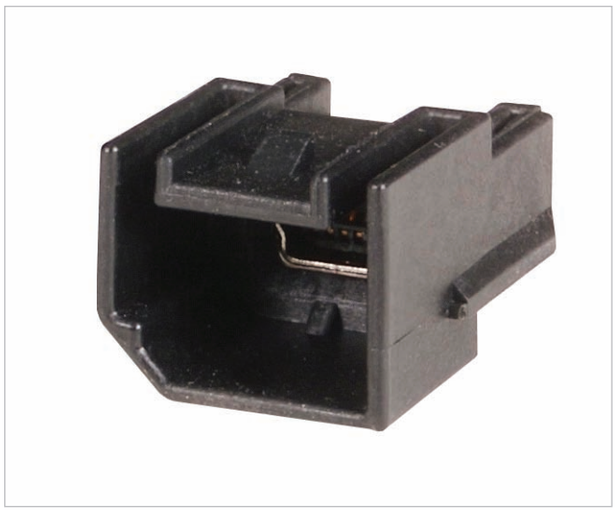
USB Header Assemblies



USB Mini-B header assemblies are designed to USCAR standard footprints, and may be customized for specific applications. Headers can be used for radio and navigation applications, consumer ports, hub solutions or any other data connectivity device using the Mini-B footprint.

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USB Mini-B Header Assemblies

Fig.	Part No.	Description
1	13666142	USB Mini-B Header –Through Hole – 1.6mm PCB - Code A
2	13666141	USB Mini-B Header –Through Hole – 1.6mm PCB - Code B
3	13666140	USB Mini-B Header –Through Hole – 1.2mm PCB - Code A
4	13666139	USB Mini-B Header –Through Hole – 1.2mm PCB - Code B
5	13675833	USB Mini-B Header – Snap-on Side Mt – 1.6mm PCB - Code A
6	13675834	USB Mini-B Header – Snap-on Side Mt – 1.6mm PCB - Code B
7	13687776	USB Mini-B Header – Snap-on Rear Mt – 1.6mm PCB - Code A
8	13687777	USB Mini-B Header – Snap-on Rear Mt – 1.6mm PCB - Code B

Individual Parts

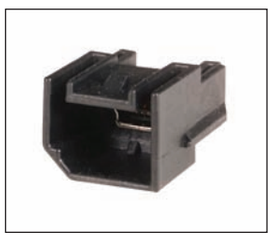

Fig. 1

Fig. 2

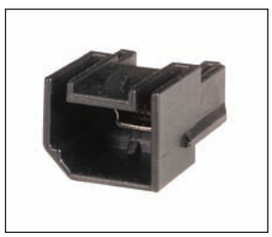

Fig. 3

Fig. 4

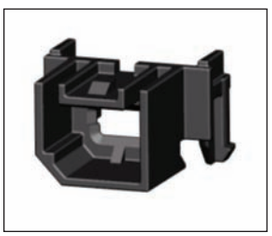

Fig. 5

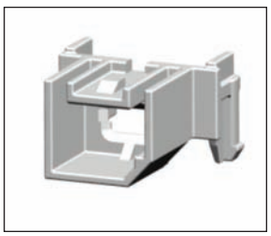

Fig. 6

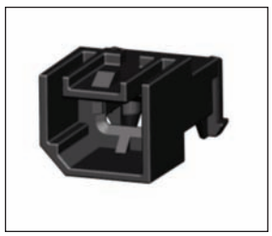

Fig. 7

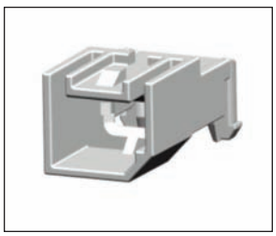

Fig. 8

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High Speed Digital Data (HSDD) Connectivity Systems

Delphi's new, fully shielded High Speed Digital Data (HSDD) Connectivity Systems can help meet the growing demand for in-vehicle interfaces that provide high-speed connections for consumer electronics equipment. The system enables high-speed data exchange between new harness architectures and data bus systems for a wide range of applications, including camera and video applications used in safety systems. This high-speed connection system is engineered for FlexRay™, LVDS, IDB 1394, USB, MOST®†, and ethernet protocols.

The Delphi system transports high-speed digital data protocols with continuous shielding, while its optimized impedance matching makes it suitable for automotive connector requirements. HSDD employs a robust data cable design to enable applications with a standard automotive terminal (MTS-ST) and crimp technology. A new ergonomic, tactile lock system with connector position assurance (CPA) helps ensure proper connections. The system generates a data loop from header to header with the possibility to add in-line interfaces.

† FlexRay™ is a trademark of Daimler AG.
IDB-1394 (intelligent transportation systems data bus using IEEE1394 technology).
LVDS (Low-Voltage Differential Signaling) camera and video links, developed by National Semiconductor.
MOST® (Media Oriented Systems Transport) is a registered trademark of MOST Cooperation.
USB (Universal Serial Bus) 2.0

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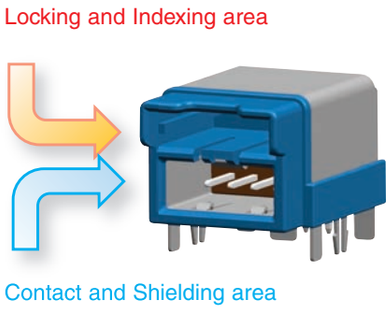
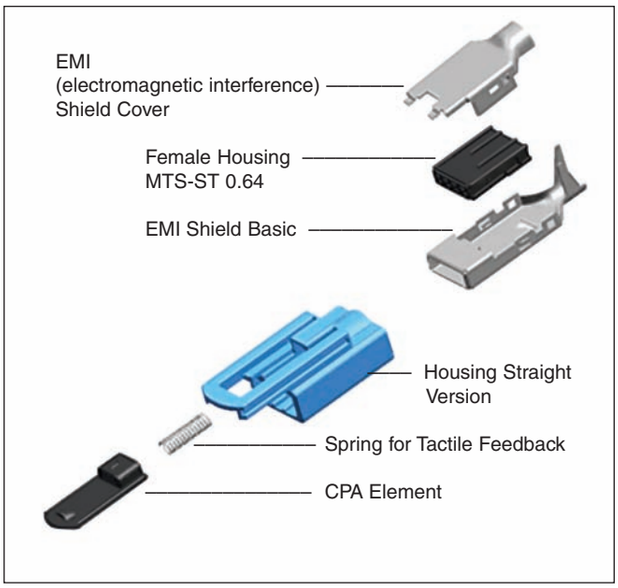
HSDD Systems Overview

Product range:

2 way interface
4 way interface
PCB header
USB interface





Benefits:

- Proven technology—USCAR-30 tested
- High-speed capability for use with wide range of applications without data loss
- Designed for use in automobile and commercial vehicle data buses.
  Also, suitable for consumer applications where delivery of high-speed data is needed.
- Robust construction with tactile lock system and connector position assurance (CPA)
- Simple and reduced shielding parts
- Continuous shielding (no data losses because the female, device and wire are a closed shielded system)
- Separate polarization and index area
- Standard automotive assembly technologies

Key Performance Data	
Differential Impedance	100Ω / 90Ω
Insertion loss (connector)	<0.1dB (up to 1GHz)
Skew (intrapair connector)	<10ps
Shielding effectiveness	≥75dB (up to 1GHz) ≥65dB (up to 2GHz)
Temperature Range	-40°C to +105°C

Specifications subject to change. Please visit Delphi's website or contact us for updated information.

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2 and 4 Way Systems

Fig.	Status	Description
1	Production	Fully shielded 4 way female system (only available as customer specific cable set)
2	Prototype	Fully shielded 4 way device system
3	Development	Fully shielded 4 way device system
4	Prototype	Fully shielded 4 way male system (only available as customer specific cable set)
5	Development	USB interface 4 way system
6	Development	Fully shielded 2 way female system (only available as customer specific cable set)
7	Development	Fully shielded 2 way device system

Individual Parts

Fig. 1: Customized

Fig. 2: Customized

Fig. 3

Fig. 4

Fig. 5

Fig. 6

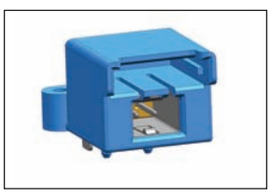

Fig. 7

Data Link Cable set versions are produced according to customer specific requirements. Please contact your regional account manager.

Delphi HSDD female

Part No.	Description	Cable Length
Customized	Cable set Delphi HSDD female to Delphi HSDD female	Customer specific

Delphi HSDD female

Delphi HSDD female

Part No.	Description	Cable Length
Customized	Cable set Delphi HSDD female to Delphi HSDD male	Customer specific

Delphi HSDD male

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Cable Sets

To connect the various entertainment and information systems in a vehicle, the harness needs different versions of pre-assembled cable sets matching to the different devices or in-line applications.

Devices can vary from USB Standard-A to Mini-A, Mini-B or customized data connections like the Delphi HSDD. The cable sets have various length and connector combinations. With the cable sets, you can also build up stand-alone ports by creating simple plastic bezels customized to the different interior designs.

The cable sets use automotive validated data cables.

Cable sets are tested according to USCAR-30 and required OEM specifications.

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Data Connectivity Connector Reference Chart

These products are not available separately, only as part of cable assemblies.

	Part No.	Description
	13665283	Delphi Standard-A female (stainless steel)
	13665301	Delphi Standard-A male inline
	PE166579	Standard USB-A female
	13676548	Standard USB-A male
	13644374	Delphi Mini-A male straight
	13710001	Delphi Mini-A male 90° down
	13668054	Delphi Mini-A male 90° right
	13668055	Delphi Mini-A male 90° left

	Part No.	Description
	13699757	Delphi Mini-B female Code A black
	13699760	Delphi Mini-B female Code B gray
	13668059	Delphi Mini-B male Code A black
	13668063	Delphi Mini-B male Code B gray
	13709737	Delphi Mini-B male Code 0 black
	13665297	Delphi Mini-B male 90° left Code 0 black
	13662840	Standard USB Mini-B male
	PE174288	Delphi HSDD 4 way female
	13668086	Delphi HSDD 4 way male inline
	13648595	Delphi MTS 12 way connector female

Specifications subject to change. Please visit Delphi's website or contact us for updated information.

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HSDD / USB 2.0 Cable Sets

Delphi HSDD 4 way female

Part No.	Description	Cable Length
PE171448	USB 2.0 cable set Delphi HSDD female to Delphi Mini-A male 90° right	1650 mm

Delphi Mini-A male 90° right

Delphi HSDD 4 way female

Part No.	Description	Cable Length
PE171447	USB 2.0 cable set Delphi HSDD female to Delphi Mini-A male 90° left	1650 mm

Delphi Mini-A male 90° left

Delphi HSDD 4 way female

Part No.	Description	Cable Length
13673192	USB 2.0 cable set Delphi HSDD female to Delphi Standard-A female	950 mm
13672676	USB 2.0 cable set Delphi HSDD female to Delphi Standard-A female	1145 mm
13668429	USB 2.0 cable set Delphi HSDD female to Delphi Standard-A female	1260 mm
13672674	USB 2.0 cable set Delphi HSDD female to Delphi Standard-A female	1355 mm
13672675	USB 2.0 cable set Delphi HSDD female to Delphi Standard-A female	1550 mm

Delphi Standard-A female
(stainless steel)

Delphi HSDD 4 way female

Part No.	Description	Cable Length
PE171453	USB 2.0 cable set Delphi HSDD female to Delphi Mini-B male Code A	1700 mm
PE177156	USB 2.0 cable set Delphi HSDD female to Delphi Mini-B male Code A	2000 mm
PE177160	USB 2.0 cable set Delphi HSDD female to Delphi Mini-B male Code A	2200 mm

Delphi Mini-B male Code A black

Custom lengths and configurations available.

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USB 2.0 Cable Sets

Delphi Standard-A female (stainless steel)

Part No.	Description	Cable Length
PE162803	USB 2.0 cable set Delphi Standard-A female to Standard USB-A male	1000 mm

Standard USB-A male

Delphi Standard-A female (stainless steel)

Part No.	Description	Cable Length
13669342	USB 2.0 cable set Delphi Standard-A female to Delphi Mini-A male 90° right	1250 mm

Delphi Mini-A male 90° right

Delphi Standard-A female (stainless steel)

Part No.	Description	Cable Length
13669335	USB 2.0 cable set Delphi Standard-A female to Delphi Mini-B male Code B	650 mm
PE166525	USB 2.0 cable set Delphi Standard-A female to Delphi Mini-B male Code B	750 mm
13691000	USB 2.0 cable set Delphi Standard-A female to Delphi Mini-B male Code B	925 mm
13693158	USB 2.0 cable set Delphi Standard-A female to Delphi Mini-B male Code B	1250 mm
13706581	USB 2.0 cable set Delphi Standard-A female to Delphi Mini-B male Code B	1340 mm
PE168116	USB 2.0 cable set Delphi Standard-A female to Delphi Mini-B male Code B	1350 mm
13674173	USB 2.0 cable set Delphi Standard-A female to Delphi Mini-B male Code B	1400 mm
PE166523	USB 2.0 cable set Delphi Standard-A female to Delphi Mini-B male Code B	1490 mm
13706585	USB 2.0 cable set Delphi Standard-A female to Delphi Mini-B male Code B	1560 mm
13706584	USB 2.0 cable set Delphi Standard-A female to Delphi Mini-B male Code B	1595 mm
13706580	USB 2.0 cable set Delphi Standard-A female to Delphi Mini-B male Code B	1610 mm
13706587	USB 2.0 cable set Delphi Standard-A female to Delphi Mini-B male Code B	1615 mm
13706586	USB 2.0 cable set Delphi Standard-A female to Delphi Mini-B male Code B	1660 mm

Delphi Mini-B male Code B gray

Custom lengths and configurations available.

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USB 2.0 Cable Sets

Delphi Standard-A female (stainless steel)

Part No.	Description	Cable Length
13708083	USB 2.0 cable set Delphi Standard-A female to Delphi Mini-B male Code A	1000 mm

Delphi Mini-B male Code A black

Delphi Standard-A female (stainless steel)

Part No.	Description	Cable Length
13720003	USB 2.0 cable set Delphi Standard-A female to Delphi Mini-B male Code 0	1000 mm
Pending	USB 2.0 cable set Delphi Standard-A female to Delphi Mini-B male Code 0	1345 mm
Pending	USB 2.0 cable set Delphi Standard-A female to Delphi Mini-B male Code 0	1400 mm

Delphi Mini-B male Code 0 black

Delphi Standard-A female (stainless steel)

Part No.	Description	Cable Length
13638340	USB 2.0 cable set Delphi Standard-A female to Standard USB Mini-B male	1073 mm

Standard USB Mini-B male

Delphi Standard-A male inline

Part No.	Description	Cable Length
13693115	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-A male	1260 mm
13674171	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-A male	1400 mm
13669337	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-A male	1450 mm

Delphi Mini-A male straight

Delphi Standard-A male inline

Part No.	Description	Cable Length
PE171455	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-A male 90° down	1750 mm

Delphi Mini-A male 90° down

Custom lengths and configurations available.

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USB 2.0 Cable Sets

Delphi Standard-A male inline

Part No.	Description	Cable Length
13672806	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-A male 90° right	1480 mm
13672790	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-A male 90° right	1590 mm
13672680	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-A male 90° right	1780 mm
13668425	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-A male 90° right	1900 mm

Delphi Mini-A male 90° right

Delphi Standard-A male inline

Part No.	Description	Cable Length
13672679	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-A male 90° left	1480 mm
13672678	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-A male 90° left	1590 mm
13672677	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-A male 90° left	1780 mm
13668424	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-A male 90° left	1900 mm

Delphi Mini-A male 90° left

Delphi Standard-A male inline

Part No.	Description	Cable Length
13669336	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-B male Code A	1200 mm
13672672	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-B male Code A	1840 mm
13668428	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-B male Code A	1980 mm
13693127	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-B male Code A	2030 mm
13672668	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-B male Code A	2100 mm
13674172	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-B male Code A	2140 mm
13672670	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-B male Code A	2400 mm

Delphi Mini-B male Code A black

Custom lengths and configurations available.

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USB 2.0 Cable Sets

Delphi Standard-A male inline

Part No.	Description	Cable Length
13693378	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-B male Code B	1230 mm
13693381	USB 2.0 cable set Delphi Standard-A male inline to Delphi Mini-B male Code B	1550 mm

Delphi Mini-B male Code B gray

Delphi Mini-A male straight

Part No.	Description	Cable Length
13699498	USB 2.0 cable set Delphi Mini-A male to Delphi Mini-B male Code B	2000 mm

Delphi Mini-B male Code B gray

Delphi Mini-A male 90° down

Part No.	Description	Cable Length
PE171460	USB 2.0 cable set Delphi Mini-A male 90° down to Delphi Mini-B male Code B	1850 mm

Delphi Mini-B male Code B gray

Delphi Mini-A male 90° right

Part No.	Description	Cable Length
13672810	USB 2.0 cable set Delphi Mini-A male 90° right to Delphi Mini-B male Code B	1495 mm
13668426	USB 2.0 cable set Delphi Mini-A male 90° right to Delphi Mini-B male Code B	1690 mm
13672807	USB 2.0 cable set Delphi Mini-A male 90° right to Delphi Mini-B male Code B	1800 mm
13672809	USB 2.0 cable set Delphi Mini-A male 90° right to Delphi Mini-B male Code B	2200 mm

Delphi Mini-B male Code B gray

Delphi Mini-A male 90° left

Part No.	Description	Cable Length
13672814	USB 2.0 cable set Delphi Mini-A male 90° left to Delphi Mini-B male Code B	1495 mm
13668427	USB 2.0 cable set Delphi Mini-A male 90° left to Delphi Mini-B male Code B	1690 mm
13672812	USB 2.0 cable set Delphi Mini-A male 90° left to Delphi Mini-B male Code B	1800 mm
Pending	USB 2.0 cable set Delphi Mini-A male 90° left to Delphi Mini-B male Code B	2000 mm
13672813	USB 2.0 cable set Delphi Mini-A male 90° left to Delphi Mini-B male Code B	2200 mm

Delphi Mini-B male Code B gray

Custom lengths and configurations available.

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USB 2.0 Cable Sets

Delphi Mini-A male 90° left

Part No.	Description	Cable Length
PE171636	USB 2.0 cable set Delphi Mini-A male 90° left to Delphi Mini-B male Code 0	1850 mm

Delphi Mini-B male Code 0 black

Delphi Mini-B male Code A black

Part No.	Description	Cable Length
13646559	USB 2.0 cable set Delphi Mini-B male Code A to Delphi Mini-B male Code B	475 mm
13691666	USB 2.0 cable set Delphi Mini-B male Code A to Delphi Mini-B male Code B	923 mm
13699499	USB 2.0 cable set Delphi Mini-B male Code A to Delphi Mini-B male Code B	2500 mm

Delphi Mini-B male Code B gray

Delphi Mini-B male Code B gray

Part No.	Description	Cable Length
PE166524	USB 2.0 cable set Delphi Mini-B male Code B to Delphi Mini-B female Code B	1550 mm

Delphi Mini-B female Code B gray

Delphi Mini-B male Code B gray

Part No.	Description	Cable Length
13706582	USB 2.0 cable set Delphi Mini-B male Code B to Delphi Mini-B male Code B	770 mm
13706589	USB 2.0 cable set Delphi Mini-B male Code B to Delphi Mini-B male Code B	1020 mm
13706588	USB 2.0 cable set Delphi Mini-B male Code B to Delphi Mini-B male Code B	1325 mm
13706583	USB 2.0 cable set Delphi Mini-B male Code B to Delphi Mini-B male Code B	1370 mm

Delphi Mini-B male Code B gray

Custom lengths and configurations available.

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USB 1.1 Cable Sets

Delphi MTS 12 way connector female

Part No.	Description	Cable Length
PE162809	USB 1.1 cable set MTS 12 way connector female to Standard USB-A female	1000 mm

Standard USB-A female

Delphi MTS 12 way connector female

Part No.	Description	Cable Length
PE162807	USB 1.1 cable set MTS 12 way connector female to Standard USB-A male	1000 mm

Standard USB-A male

Delphi MTS 12 way connector female

Part No.	Description	Cable Length
PE162805	USB 1.1 cable set MTS 12 way connector female to Delphi Mini-B male Code 0	1000 mm

Delphi Mini-B male Code 0 black

Delphi MTS 12 way connector female

Part No.	Description	Cable Length
PE162813	USB 1.1 cable set MTS 12 way connector female to Standard USB Mini-B male	1000 mm

Standard USB Mini-B male

Custom lengths and configurations available.

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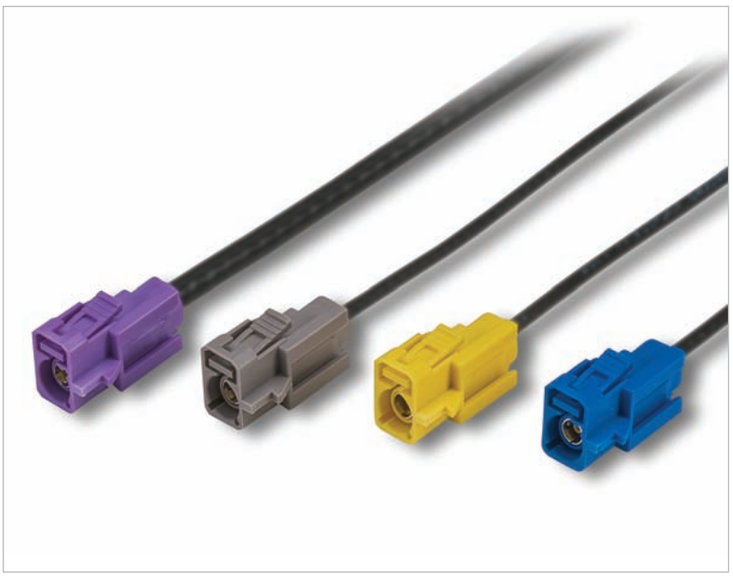
FAKRA Connectors & RF Cable Assemblies



Delphi offers a wide portfolio of high performance FAKRA connectors and RF cable assemblies from a single source. Standard off-the-shelf or custom designs, manufactured in accordance with customer specifications, are available.

Delphi FAKRA connectors consist of radio-frequency (RF) coaxial cable terminals and male or female, single-position plastic housings. They are designed to connect coaxial cable assemblies without sacrificing quality or performance.

The Delphi FAKRA terminals are manufactured with an innovative process that is more efficient than traditional methods. The cable assembly crimp process saves labor and manufacturing floor space. These advantages enable Delphi's FAKRA connectors to cost less than competitive products and significantly reduce coaxial cable assembly costs.

Delphi FAKRA connectors are suited for vehicle applications that use RF coaxial cable, such as RG-58 and RG-174. They are designed to meet USCAR† and DIN† specifications.

† USCAR is the United States Council for Automotive Research.

† DIN is the German Institute for Standardization (Automotive Standards Committee).

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Coaxial Cable Assemblies

Benefits/Features

- Flexible manufacturing cells allow high/low volume mix and low/high volume mix
- Extensive experience in transportation E/E architecture design and manufacturing
- Fully certified testing/validation lab
- Full participation in global standards activities
- Build-to-print

Typical Applications

- Antenna applications
- Passenger vehicles
- Commercial vehicles, motorcycles, ATVs
- Military applications
- Avionics, aerospace
- Marine
- Ground position sensors
- Video and multimedia
- Industrial interconnects

Performance Characteristics

- SWR and IL sweeps from 0-3 GHz
- Built in accordance to MIL-DTL-17
- Cable lengths from <1 meter to 8+ meters
- FAKRA, BNC, and Mini-UHF
- ISO/USCAR compliant

Coaxial Cable Assembly with FAKRA Connectors

Specifications subject to change. Please visit Delphi's website or contact us for updated information.

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AM/FM Antenna Connectors & BNC

Delphi AM/FM Socket Antenna Connectors are designed to be integrated into the radio frame. They feature several mounting configurations as well as an ISO proven patented connection design.

The connectors are available in single and multiple sockets with a variety of interfaces, including traditional, mini-barbless, and mini JASO† style sockets. Color coding is available on multiple socket designs.

The Delphi AM/FM Antenna Connectors feature a 200 newton retention from shell to bracket and a 1.13 newton minimum torque retention from shell to bracket. The socket assembly is able to withstand 90 newtons for 30 seconds without damage.

† JASO is Japanese Automotive Standards Organization.

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AM/FM Antenna Sockets

Fig.	Part No.	Description
1	9359284	Dual Antenna Socket ASM (1-Mini Barbless, 1-Traditional)
2	9384594	Antenna Socket ASM (Mini JASO)
3	9390753	Dual Antenna Socket ASM (2-Mini Barbless), Offset, Color Coded Yellow
4	16260517	Antenna Socket ASM (ISO)
5	28008984	Antenna Socket ASM
6	VP3GFF-18B845-AA	Antenna Socket ASM (Mini Barbless)

Individual Parts

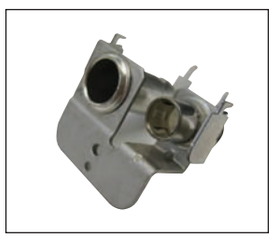
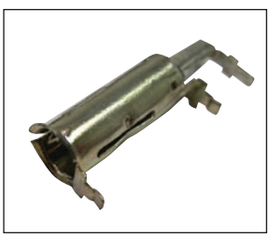


Fig. 1



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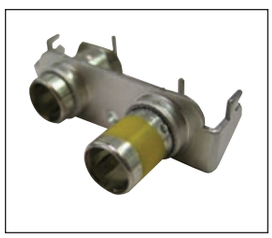

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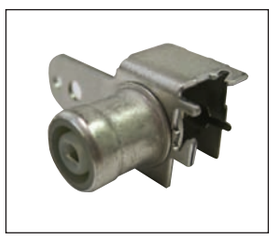

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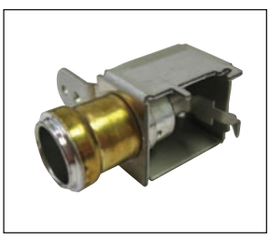

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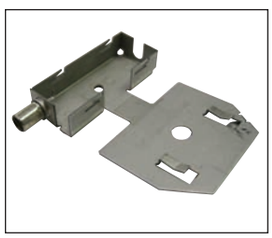

Fig. 6

Specifications subject to change. Please visit Delphi's website or contact us for updated information.

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Radio Connectors

The following section features popular standard radio interfaces that Delphi Connection Systems offers to the market.

The FAKRA and USCAR comparable versions are designated for use on typical standard radio devices.

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8, 16 and 26 Way Systems

Fig.	Part No.	Description	Color
1	10719715	8 way female housing	Black
2	15345135	8 way female housing	Brown
3	15363852	16 way female housing	Black
4	15327416	26 way female housing	Black

Individual Parts

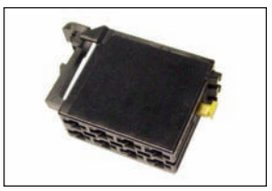

Fig. 1

Fig. 2

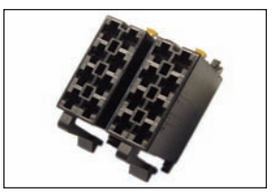

Fig. 3

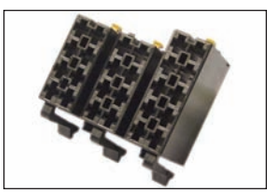

Fig. 4

Typical Terminal VF 2.8, HVF 2.8 or DSQ 2.8

Specifications subject to change. Please visit Delphi's website or contact us for updated information.

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44 Way System

Fig.	Part No.	Description	Color
1	13544347	8 (44) way connector body MCP 2.8* for Radio	Black
2	13544359	Secondary terminal lock for conn. body fig. 1 and 8 way fig. 3	Violet
3	13544356	8 way connector insert MCP 2.8* for fig. 1	Brown
4	13544368	12 way female insert MTS 0.64 for fig. 5, 6	Black
5	13544367	12 way insert carrier MTS 0.64 for fig. 4 Code I	White
6	13544362	12 way insert carrier MTS 0.64 for fig. 4 Code II	Black
7	15446640	Optical insert Code A	Black
8	15457854	Optical insert Code B	Gray

Individual Parts

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

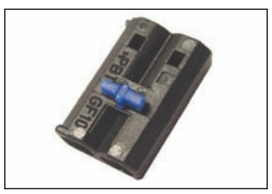
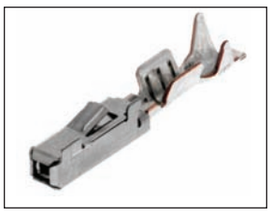


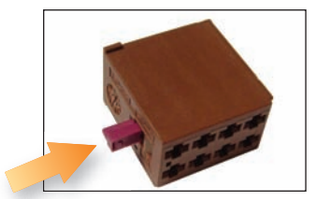
Fig. 7

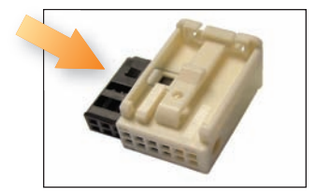
Fig. 8

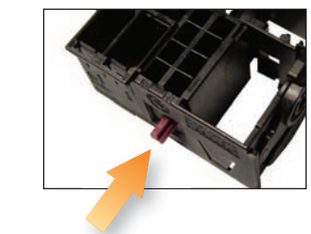


Typical Terminal
MTS II 0.64

Assembled







* Terminals available from manufacturer. For more information contact Delphi.

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14 and 16 Way USCAR Systems

Fig.	Part No.	Description	Color
1	PE107984	14 way (12xMicro64+2x150GT) female housing	Black
2	PE115128	Secondary lock for fig. 1 Micro64 section	Gray
3	PE107985	Secondary lock for fig. 1 section 280GT	Blue
4	15394150	16 way female housing Micro64	Black
5	15394149	16 way female housing Micro64	Gray
6	15359196	Secondary lock for 16 way housing fig. 4, 5	Red

Individual Parts

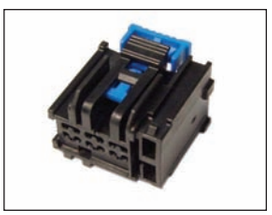


Fig. 1

Fig. 2

Fig. 3

Assembled

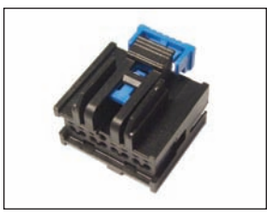
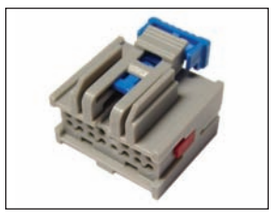


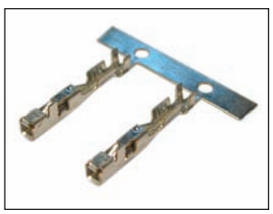
Fig. 4

Fig. 5

Fig. 6



Typical Terminal
Micro 64



Typical Terminal
GT 150

Specifications subject to change. Please visit Delphi's website or contact us for updated information.

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Typical Terminals

Fig.		Part No.	Cross Range (mm²)	Plating	Tang
VF 2.8					
	Terminal	15344939	0.35 - 0.5	Sn	1
	Terminal	12131421	0.75 - 1.5	Sn	1
HVF 2.8					
	Terminal	12131734	0.75 - 1.5	Sn	1
DSQ 2.8					
	Terminal	13549667	0.5 - 1.0	Sn	2
	Terminal	13549670	1.5 - 2.5	Sn	2
MCP 2.8					
Terminal available from manufacturer					
MTS 0.64					
	Terminal	15440179	0.35 - 0.5	Sn	1
Micro64					
	Terminal	15394147	0.35	Sn	Tangless
	Terminal	15401440	0.5 - 0.75	Sn	Tangless
GT 150					
	Terminal	12191811	0.35 - 0.5	Sn	Tangless
	Terminal	12191812	0.75 - 1.0	Sn	Tangless

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DELPHI

Innovation for the Real World

North America
Delphi Connection Systems
1265 North River Road
Warren, Ohio 44483
USA
Tel: [1] 330.373.7614
Fax: [1] 928.832.4511

Asia Pacific
60 Yuan Guo Road
Anting, Jia Ding
Shanghai 201814
China
Tel: [86] 21.5956.3300
Fax: [86] 21.6957.3797

Europe
Customer Technology Center
Delphiplatz 1
42119 Wuppertal
Germany
Tel: [49] 202.291.0
Fax: [49] 202.291.2777

South America
Rod. Dos Tamoios, KM 21,8
Jambeiro, São Paulo 12270-000
Brazil
Tel: [55] 12.3978.2151
Fax: [55] 12.3978.2077

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