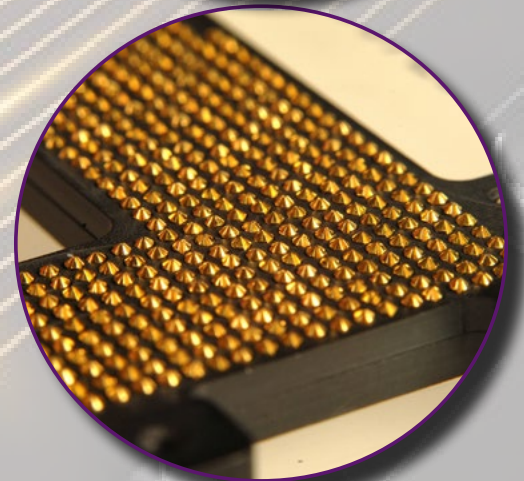
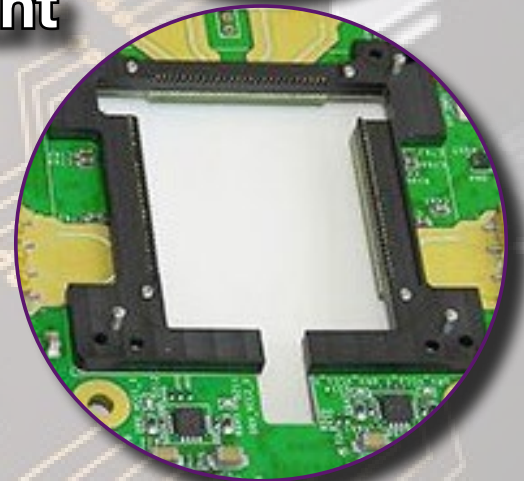
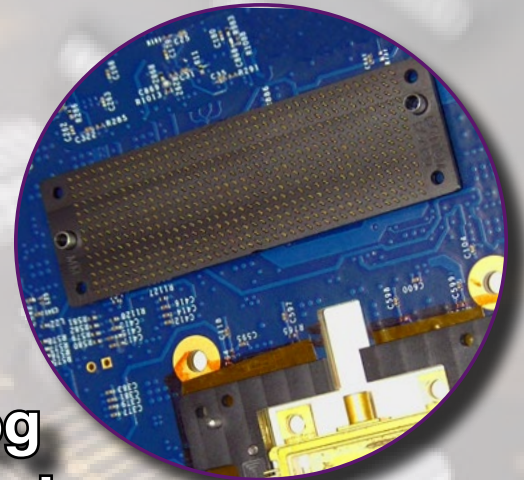




ARDENT CONCEPTS

An Amphenol Company

CA™ Series Connectors Catalog High Speed | Compression Mount



CA Series Connectors & Interposers

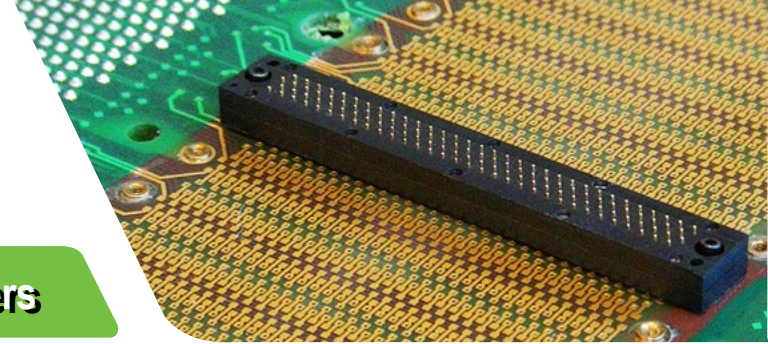
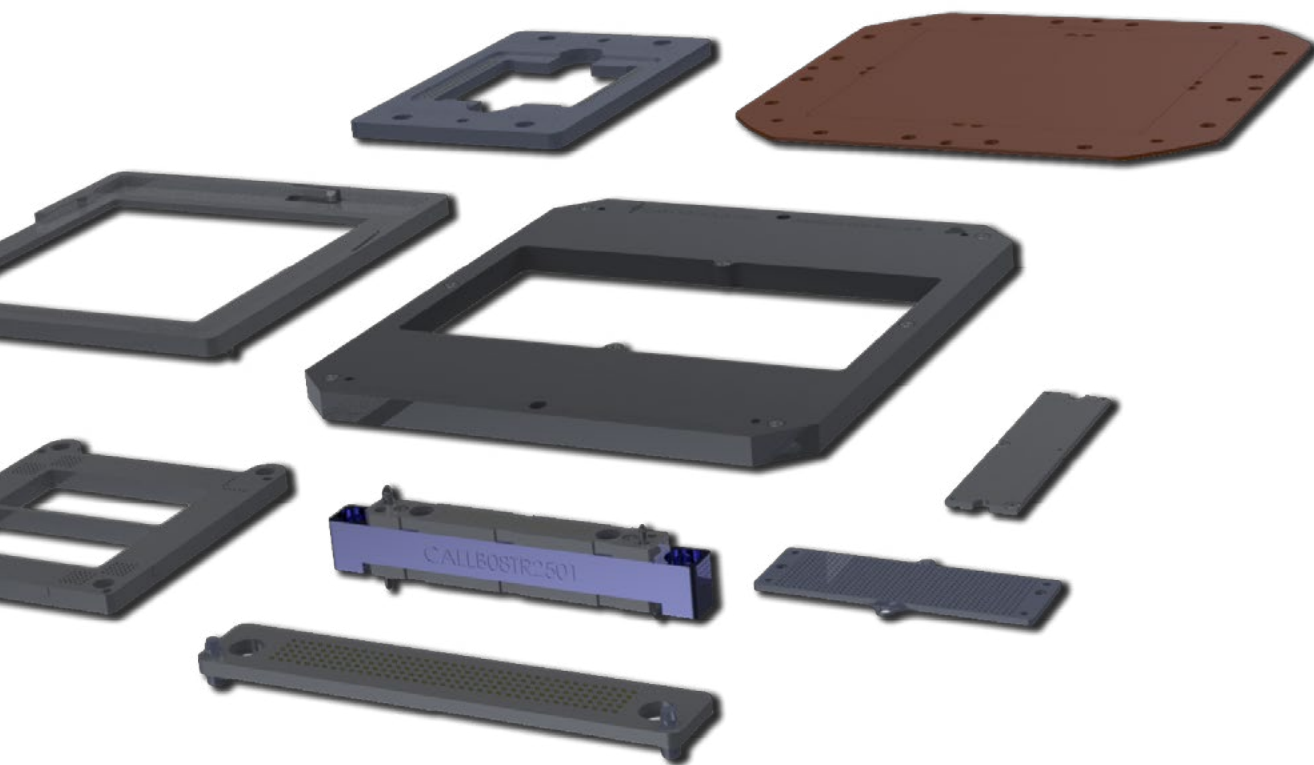
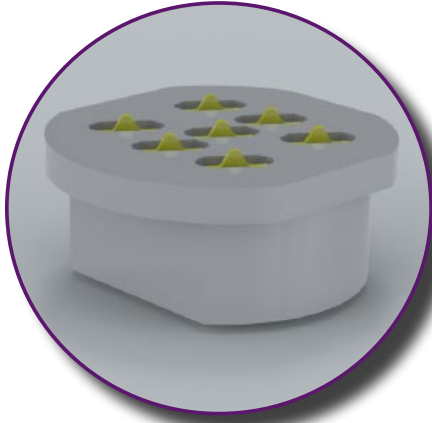


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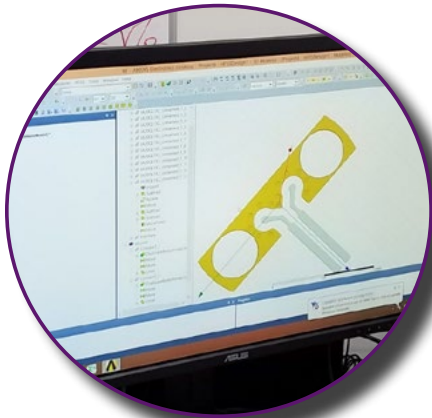
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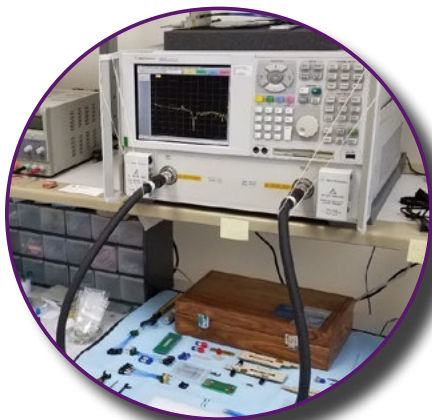
DESIGN

Ardent engineers bring novel approaches to solving even the most difficult connector challenges by working with customers to identify their electrical and mechanical needs.



SIMULATE

Advanced HFSS simulation lets our Signal Integrity Engineers ensure that our proprietary contacts will perform at the ever increasing speeds demanded by the markets we support.



MEASURE

We recognize that simulation on its own is not always sufficient. Ardent's in house Signal Integrity Lab features 40 GHz & 67.5 GHz PNAs, and equipment to ensure that your connectors and interposers are measured to ensure success.



CA Series Connectors & Interposers

Description

Ardent's CA Series™ high performance 32 Gbps+ compression mount connectors & interposers offer exceptional signal integrity and high density for applications like high speed backplane, mezzanine, edge card, and optical at a 0.4 mm pitch in a pure vertical interface – no offset required. Reliable under extreme conditions CA Series™ connectors can stand up to the most demanding environmental factors. Custom configurations are available in a wide array of pitch, density, stack height, and orientation.

Key Benefits

Bandwidth & Performance

- › 32 Gbps+
- › Patented compliant contacts ensures good AC performance

Density & Flexibility

- › Area array to 0.4mm pitch
- › Compression mount - No solder
- › Pure vertical interface – no offset required

Cost Savings

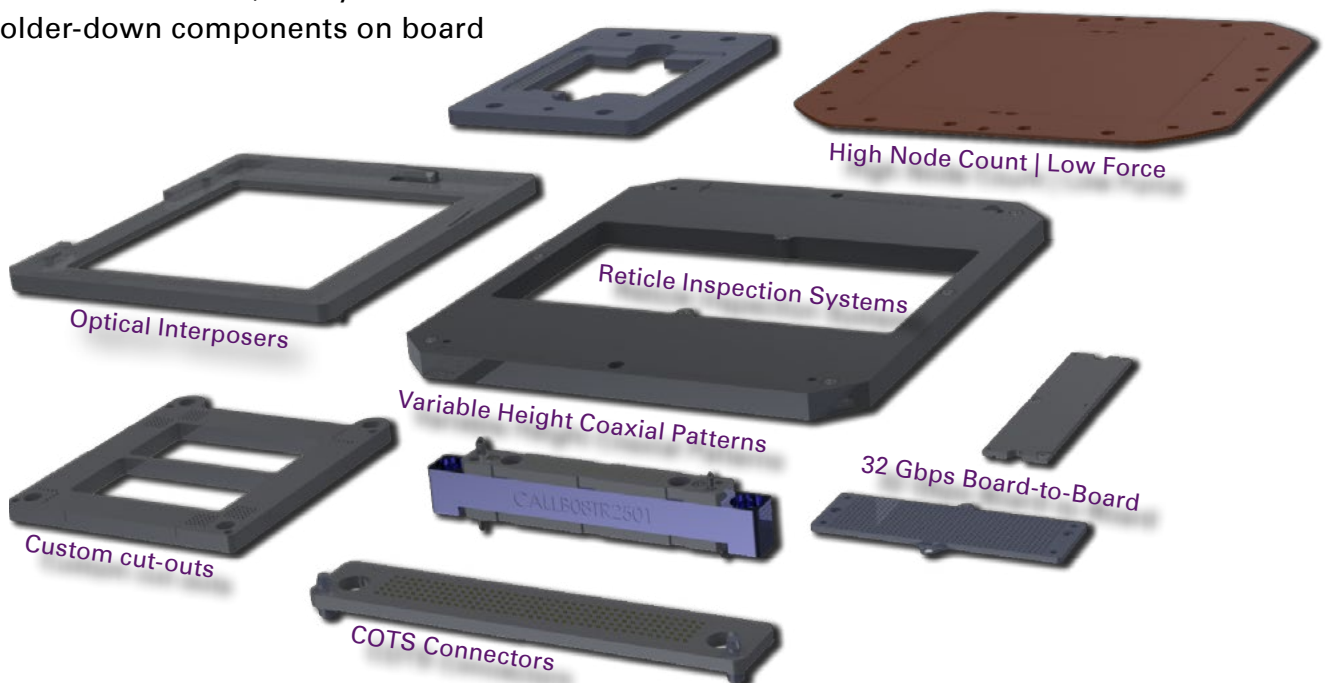
- › Stamped contact set available for OEM Applications
- › Contact sets for 1000 or 10,000 cycles
- › No lost solder-down components on board revisions

Applications

CA Series connectors are ideal for use in/with:

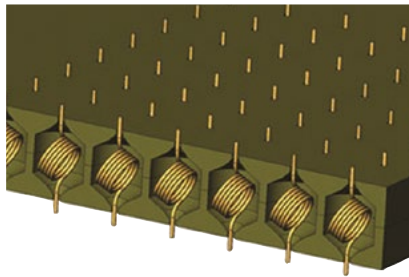
- › High Speed Mezzanines
 - › Backplanes
- › Defense/Aerospace
- › Phased Array Radar
- › Probe Card Assemblies
 - › Medical Devices
 - › Optical Engines
- › Custom Applications

Example Applications



Let us help you choose the right contact set for your application

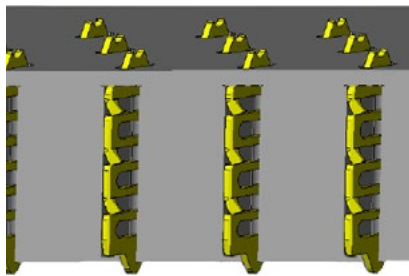
- Spring Probe™**
- Scalable solutions for connectors down to .4 mm Pitch
 - Eliminates the barrel and the plunger from a traditional “pogo” style spring pin (Less mechanical components to fail)
 - Patented “wipe action” of the coils causes contact to behave like a solid element Instead of behaving like an inductor. The result is exceptionally clean AC performance in an extremely short electrical path



Specifications	
Pitch	0.4 mm and above
Frequency	70 GHz+
Insertion Loss	-1 dB at 40 GHz @ 1 mm pitch
Self-Inductance	.5 nH
Mated Height	.76 mm and above



- Connect-R™**
- Cost-Effective Automation Loaded Contacts
 - High Performance
 - Stamped Contact for Area Array Applications Down to .6mm Pitch



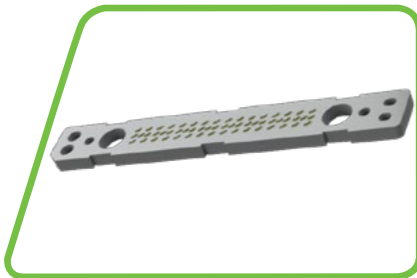
Specifications	
Pitch	0.8 mm and above (area), .6 mm and above (linear)
Frequency	40 GHz+
Insertion Loss	-1 dB at 40 GHz @ 1 mm pitch
Self-Inductance	.5 nH
Mated Height	1.57 mm

Connector Types



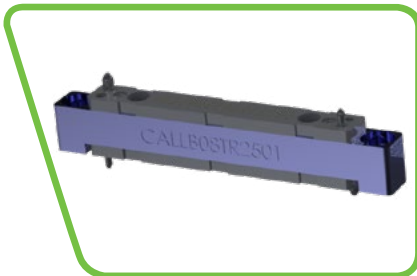
Board to Board

Designed to your needs and delivered with short lead times. Our proven technology satisfies extremely high node count requirements without extreme force. A mezzanine connector from Ardent can be designed to work with <20 grams of force per node to maintain electrical connectivity. With contact heights as low as .030", stack ups can be reduced without sacrificing signal integrity.



Coaxial and Custom Pattern

Low profile coaxial and custom pattern connectors



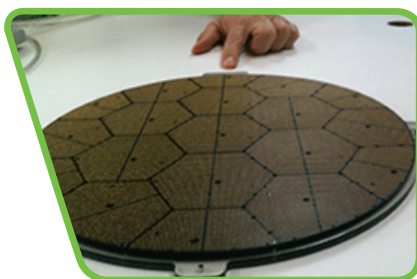
Variable Height RF

Designed for board-to-board stacking, these compression connectors provide reliable high speed connections at stack heights that meet your application requirements. Designed for 8 mm and below area array or coaxial patterns, board-to-board stacking has never been easier.



Optical

High speed input data rates in cost effective and real-estate friendly form factors. Ardent optical connectors have been extensively tested at 32 Gbps transmission speeds, and provide the critically low loss interface between backplane. The scalability of CR™ connector technology allows for solder-less high speed optical Electrical Module replaceability systems and the optical transceivers which are capable of pushing those signals out to 100 Gbps at the fiber.



Space Transformer Interposers

Available in modular designs and is a lower force drop-in replacement for massively parallel spring-pin connectors and conductive elastomeric contact sets. This space transformer interposer is a highly reliable discrete node z-axis interconnect solution for super-high-node-count applications. Extremely low force, consistent DC resistance and exceptional AC performance for Vertical Probe Card interface applications.

Connectors

LOW-PROFILE BOARD-TO-BOARD COMPRESSION MOUNT

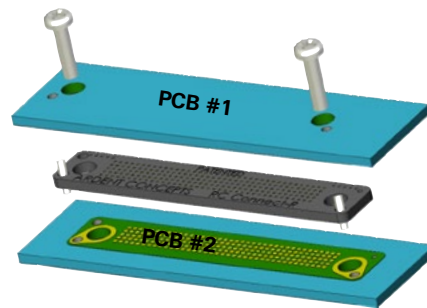
Connect-R™



32 Gbps

- Quick-turn automation loaded connectors ideal for high volume OEM applications
- Small volumes machined or large volumes molded
- 40 GHz AC performance in a highly configurable design (1-1000+ leads)
- Custom and off-the-shelf connectors available
- Fill the gap between expensive spring pin solutions and unreliable elastomeric contact sets
- No solder down

Specifications	
Pitch	0.8 mm and above (grid array)
Frequency	32 Gbps+
Insertion Loss	-1 dB at 40 GHz @ 1 mm pitch
Self-Inductance	.5 nH
Mated Height	1.57 mm



TIGHT PITCH BOARD-TO-BOARD COMPRESSION MOUNT

Spring Probe™



32 Gbps

- 32 Gbps+
- No solder down
- Area array pitches from 0.4 mm and up
- Removable/reusable
- Highly configurable, any shape and size

Specifications	
Pitch	0.4 mm and above (area)
Frequency	32 Gbps+
Insertion Loss	-1 dB at 40 GHz @ 1 mm pitch
Self-Inductance	.5 nH
Mated Height	0.76 mm and above

COAXIAL AND CUSTOM PATTERN

- 40 GHz AC performance
- Small volumes machined or large volumes molded
- Fill the gap between expensive spring pin solutions and unreliable elastomeric contact sets
- RF coaxial style (50 Ω) available
- No solder down
- Let us help you choose the right contact set for your application

Connect-R™



OR

Spring Probe™



Specifications	
Pitch	0.4 mm and above (grid array)
Frequency	32 Gbps+
Insertion Loss	-1 dB at 40 GHz
Self-Inductance	.5 nH
Mated Height	0.76 mm and above



Ask about our single channel press-fit connector!



VARIABLE HEIGHT RF

Spring Probe™



- 35 GHz AC performance
- No solder down
- 8 mm maximum stack height
- RF coaxial style (50 Ω)
- Removable/reusable
- Highly configurable, any shape and size



Specifications	
Pitch	Signal pitch minimum 2.54 mm
Insertion Loss	-1 dB at 35 GHz
Self-Inductance	.5 nH
Mated Height	8 mm or below

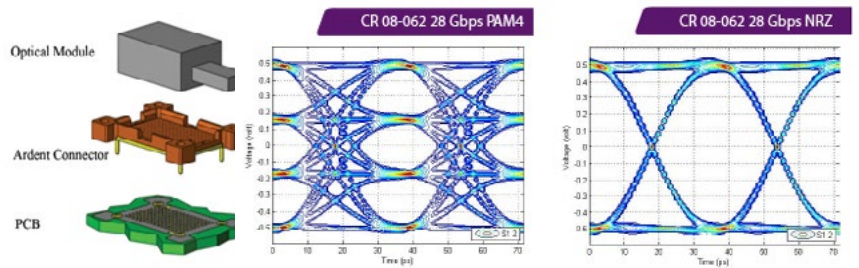
OPTICAL ENGINES

Connect-R™

- Quick-turn automation loaded connectors ideal for high volume OEM applications
- Small volumes machined or large volumes molded
- 40 GHz AC performance in a highly configurable design (1-1000+ leads)
- Fill the gap between expensive spring pin solutions and unreliable elastomeric contact sets
- No solder down



Specifications	
Pitch	0.8 mm and above (grid array)
Frequency	32 Gbps+
Insertion Loss	-1 dB at 37 GHz
Self-Inductance	0.5 nH
Mated Height	1.57 mm



HIGH NODE COUNT/LOW FORCE

Spring Probe™



- 40 GHz AC performance
- No solder down
- Removable/reusable
- Highly configurable, any shape and size
- 40K+ node counts available



Specifications	
Pitch	0.4mm - 1.27 mm
Force per pin	20 - 34 grams
Cycles	10,000+
Self-Inductance	as low as .5 nH
Insertion Loss	-1 dB at 40 GHz @ 1 mm pitch

Ordering Information



Product	Number of Leads	Form Factor	Pitch (mm)
CA	e.g. 190, 321, 1184	LGA (LG), Connect-R™ (CR)	e.g. 0.8 mm (08), 1.0 mm (10), 1.27 mm(12)

CA

190

CR

10

For custom applications please consult factory

Specifications subject to change without notice
US Patent Numbers 6,787,709, 6,909,056, 7,126,062,
7,556,503, 8,926,342.

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Related Products

More Information

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Additional Information

Ask about our Application Notes and Case Studies

For more resources including: case studies, application notes, video demonstrations, webinars, and more, please don't hesitate to contact our support team or visit the resources area on our website at www.ardentconcepts.com.

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