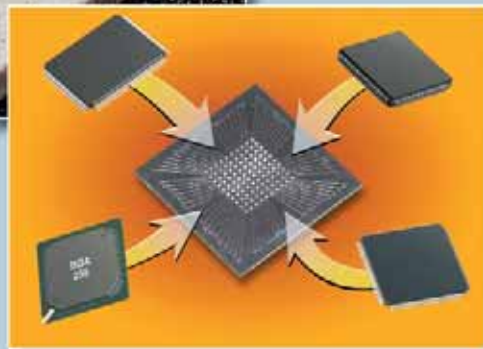
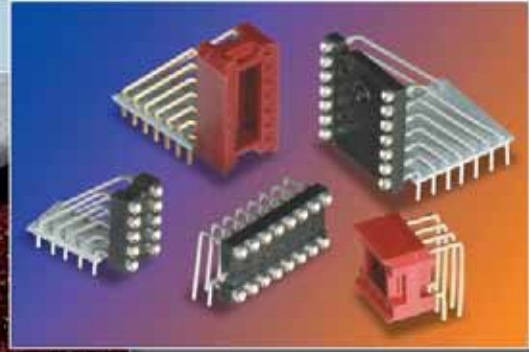


EIGHTH  
**8**  
EDITION



# INTERCONNECTION & PACKAGING SOLUTIONS



SHORTFORM CATALOG

 **ARIES**<sup>®</sup>  
ELECTRONICS, INC.

# Welcome to Aries!

For more than a quarter century, Aries has helped solve interconnection and packaging problems with an unusual range of standard, programmed, and custom products.

For designers and engineers charged with keeping their board level products current, or enhancing existing products without costly, time-consuming redesign or rework, Aries has proven to be the ultimate interconnect resource.

This Shortform Catalog is designed to give you an overview of the entire Aries product line. As with all printed catalogs, the information contained here is current only up to the date it was printed. For this reason, detailed data sheets on each of our products are available from many sources that are continually updated. These include:

- Our Website at [www.arieselec.com](http://www.arieselec.com).
- Calling any of our offices and asking a Customer Service representative to fax you a copy of the data sheet you need.
- Calling any Aries Representative or authorized Distributor and asking for a copy of the data sheet you need (a complete rep/distributor listing is available by fax or at our Website).

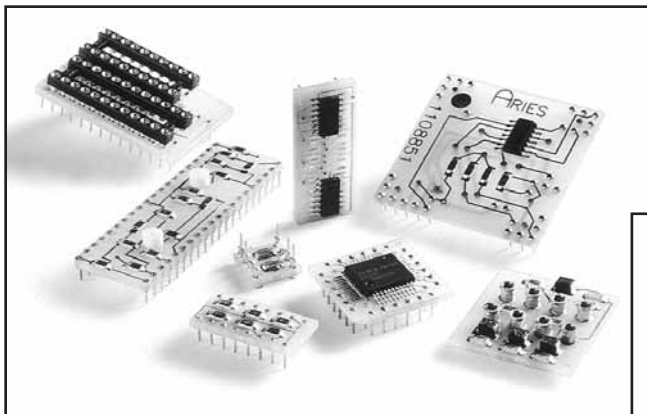
To help you determine which data sheet(s) you need, we have referenced data sheet numbers throughout this catalog. A complete current listing with titles is also available at our Website.

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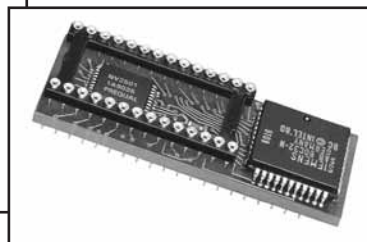
ARIES PRODUCT	APPLICATION	PAGE
Correct-A-Chip Technology	Rerouting circuitry to change pinouts	3-4
	Converting from one termination style to another	
	Adding new componentry and/or functionality	
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NOTE: All dimensions in this catalog are given in inches, followed by mm in brackets, except where otherwise noted. The listings and dimensions in this catalog are intended for use as a guide only and are subject to change without notice. Aries Electronics, Inc. cannot be held liable for any errors, omissions or changes in product dimensions and specifications. For applications where product configurations or dimensions are critical, contact Aries for detailed specifications or engineering drawings.

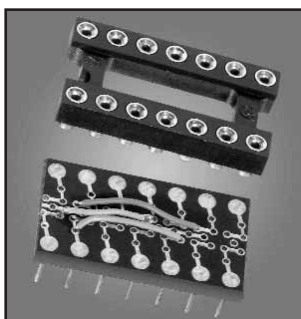
## Correct-A-Chip™ Smart Interconnection TECHNOLOGY



Aries' Correct-A-Chip (C.A.C.) technology provides "smart connector" solutions to a variety of interconnect design problems. Virtually any device, regardless of termination style, can be incorporated in a connector package and used as a completely different design.



Adapting from one termination style to another, rerouting signal paths, adding additional components ...Correct-A-Chip can solve the most vexing of design problems.



**Program-Your-Own Correct-A-Chip.** Aries Program-Your-Own "Quick C.A.C." lets you quickly create your own prototype adapter simply by cutting and jumpering (see data sheet 18046).

**Patented LimitedDepth™ pins and the proprietary process for installing them in adapter applications.** Available in through-hole and surface mount termination styles, these unique pins are secured to the "smart connector" both mechanically (through press-fitting) and electrically (through soldering). This process ensures a secure mechanical connection and a gas-tight electrical connection. Adapters can then be wave or surface-mount soldered to the target board. Additional components can be

added to the adapter with no sacrifice of electrical or mechanical integrity. Furthermore, adapters can be produced with the smallest possible form factor, since the male pins on the bottom of the adapter are independent of the image on the top of the adapter.

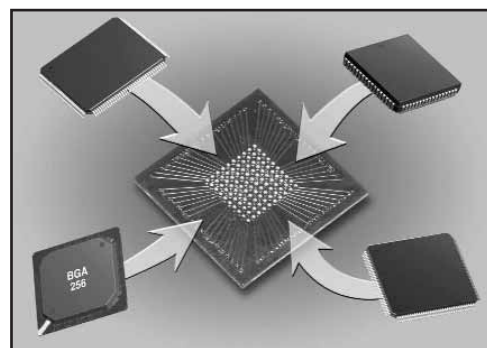
**White Tin coating of fine pitch adapters.** All fine pitch adapters made by Aries are treated with white tin, eliminating the co-planarity problems and potential for solder bridging associated with hot air solder leveling. High temperature (200° C) versions of through hole and some SMT C.A.C. chips are now available. These parts utilize polyimid for the body and no lead solder to connect the contact pins.

**Mounting of BGA balls to the bottom of any Correct-A-Chip product.** Aries has the ability to place solder balls (or hardballs) on the bottom of PCB material or ceramic material, allowing any Correct-A-Chip product to be used on a board designed for BGA.

**Fine pitch termination of any Correct-A-Chip product.** The bottom of any product can also be fitted with PQFP gull-wing tails with pin spacings to suit customer needs.

**Pick and place.** Additional componentry can be efficiently added to any Correct-A-Chip product using Aries' pick and place processes.

**BGA solder ball attachment capability.** Aries has developed a proprietary process for attaching solder balls to the bottom of packages in both large and small quantity applications. All Aries Adapter, and Correct-a-Chip products now offer BGA as a termination option.



Aries Correct-A-Chip adapters can convert any device configuration to any footprint, including BGA.



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# Correct-A-Chip™ TECHNOLOGY

Shown below are some of Aries' standard Correct-A-Chip™ products.

Series/  
Package Styles:

Data Sheet No./URL  
<http://www.arieselec.com/products/XXXXX.pdf>

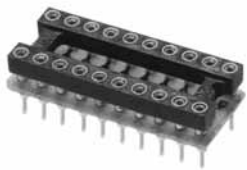


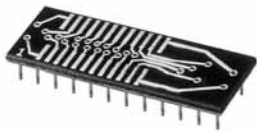
Features:

Available Sizes:

Contact Pin  
Materials:

Profile Height to  
Seating Plane:

Notes:

STANDARD DIP ADAPTERS	Circuit-Bridge™ HEADER	DIP TO SOIC ADAPTERS	SURFACE MOUNT TO DIP ADAPTERS
			
18001, 18003	18006	18009	18010, 18011, 18014, 18034, 18036, 18041
<ul style="list-style-type: none"> <li>Solves problems associated with the use of alternate ICs by eliminating the need for new PCBs</li> </ul>	<ul style="list-style-type: none"> <li>Programmed to your specifications via a miniature PCB. Circuit traces can be re-routed, possibly eliminating the need for additional PCB layer.</li> </ul>	<ul style="list-style-type: none"> <li>Convenient, cost-effective means of converting DIP style packaging to SOIC PC board layouts</li> </ul>	<ul style="list-style-type: none"> <li>Cost-effective means of converting SOIC, SOJ, PLCC, SSOP or TSOP surface mount devices to DIPs, eliminating the need for new PCBs</li> </ul>
2-48 pins; .300 [7.62] or .600 [15.24] ctrs. Any size available in high volume applications	8, 14-20, 24, 28, 32, 40; Any size available in high volume applications	14, 16, 20, 24, 28; Any size available in high volume applications	Various - consult Data Sheet
Contacts: Au over BeCu in Au plated Brass body; Male pins: Sn over Brass	Sn over Brass	Contacts: Au over BeCu in Au plated Brass body; Male pins: Sn over Brass	Sn over Brass
.085 [2.16], .213 [5.41], .240, [6.10]	.032 [.81], .082 [2.08], .125 [3.18]	.262 [6.65]	.082 [2.08] in most cases
Surface mount adapters also available	Styles available to meet limited and high volume applications	Accepts devices on .300 ctr.	Incorporates limited depth pin technology

Data Sheet No./URL  
<http://www.arieselec.com/products/XXXXX.pdf>

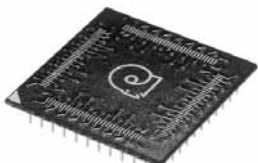


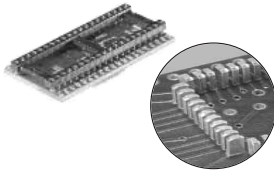
Features:

Available Sizes:

Contact Pin  
Materials:

Profile Height to  
Seating Plane:

Notes:

QFP, PQFP, PLCC TO PGA ADAPTERS	PQFP TO AMP SOCKET PGA ADAPTER	PLCC TO DIP ADAPTERS	DIP TO PLCC ADAPTER
			
18016-18021, 18025, 18028, 18029, 18031, 18032, 18035, 18038, 18039, 18040	18022	18014, 18027, 18034	18026
<ul style="list-style-type: none"> <li>Use less expensive surface mount packages to replace PGA footprints in existing designs</li> </ul>	<ul style="list-style-type: none"> <li>Convert surface mount PQFP packages to an Amp interstitial</li> <li>Use less expensive PQFP packages to replace PGA footprints in existing designs</li> </ul>	<ul style="list-style-type: none"> <li>Convert surface mount PLCC devices to DIPs and eliminate the need for new PCBs</li> <li>Available with PLCC sockets or PLCC pads on top side</li> </ul>	<ul style="list-style-type: none"> <li>Convenient, cost-effective means of converting DIP style packaging to PLCC PC board layouts</li> </ul>
.025 [.64], .050 [1.27], .50mm, .65mm, .80mm pitch in various sizes	132 pos. on .050 [1.27] pitch	28, 32, 44, 68, 84 pos. PLCC to DIP on .300 [7.62] or .600 [15.24] centers	40 Position DIP to 44 Position PLCC
Sn over Brass; (Au plating also available on PLCC to PGA adapters)	Sn over Brass	Sn over Brass	Sn over Brass; Au over BeCu in all plated brass body
.082 [2.08] in most cases	.082 [2.08]	.082 [2.08] in most cases	.387 [9.83]
Incorporates limited depth pin technology	Incorporates limited depth pin technology	Incorporates limited depth pin technology	Incorporates limited depth pin technology

Note: Aries offers custom design and production. In addition to the standard products shown on this page, special materials, platings, sizes, and configurations can be furnished, depending on quantities. Aries reserves the right to change product specifications without notice.



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# ARIES HIGH FREQUENCY TEST AND BURN-IN PRODUCTS

Series/  
Package Styles:

Data Sheet No./URL  
<http://www.arieselec.com/products/XXXXX.pdf>

Features:

Available Sizes/  
Configurations:


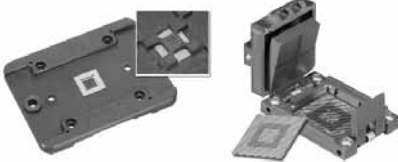

Pin Materials:

Device seating height  
to board surface:

Device seating height  
at test:

Package  
Compatibility:

Contact Force:

	MicroStrip Sockets	Center Probe Sockets	High Frequency Interposer Socket
			
	24001	24008, 24009, 24010, 24012	24007
Features:	<ul style="list-style-type: none"> <li>• These sockets use our patented Microstrip Contacts™ which lie flat on the DUT board and become part of the transmission line.</li> <li>• Self-inductance as low as 0.01nH and frequency response to 19 GHz.</li> <li>• Signal Path Length: .005" and .007"</li> <li>• Operating Temp: -55°C to +150°C</li> <li>• Insertions: 500,000</li> <li>• Bandwidth: 10GHz @ -1dB (0.65mm Pitch)</li> <li>• Contact Resistance: &lt;50 milliohms</li> </ul>	<ul style="list-style-type: none"> <li>• Aries answer for a reliable area array package socket. Patented style probe will work for any application. Pitches are available down to 0.4mm with frequency response over 10GHz.</li> <li>• Signal Path Length: as short as .077" (1.95mm)</li> <li>• Operating Temp: -55°C to +150°C</li> <li>• Self-Inductance: .51nH • Insertions: 500,000</li> <li>• Bandwidth: 11.0GHz @ -1dB (0.5mm Pitch)</li> <li>• Contact Resistance: &lt;50 milliohms</li> </ul>	<ul style="list-style-type: none"> <li>• This is a combination of our high frequency Microstrip Contact™, with the closest component placement of our spring probe socket. Pad layout can be identical to package footprint.</li> <li>• Signal Path Length: as short as .011" (0.279mm)</li> <li>• Operating Temp: -55°C to +150°C</li> <li>• Self-Inductance: .09nH • Insertions: &gt;50,000</li> <li>• Bandwidth: 16.2GHz @ -1dB</li> <li>• Contact Resistance: 20 milliohms</li> </ul>
Available Sizes/ Configurations:	0.40mm pitch & up to 208ld QFP	0.40mm pitch & up	0.35mm pitch & up
Pin Materials:	Gold plated SS	Gold plated BeCu	Gold plated etched Cu Pads
Device seating height to board surface:	.15" (0.381mm)	.087" (2.21mm)	.014" (0.356mm)
Device seating height at test:	.007" (0.178mm) or .005" (0.127mm)	.077" (1.95mm)	.011 (0.279mm)
Package Compatibility:	MLF, QFN, QFP, SOT, SOP and all other peripheral leaded packages.	CSP, BGA, LGA, MLF, QFN, QFP and all area array and peripheral leaded packages	CSP, µBGA, BGA, MLF, QFN, LGA, QFP, SOT, SSOP and all area array and peripheral leaded pkgs
Contact Force:	Varies with pin pitch 20g - 125g/contact	0.50mm & 0.65mm pitch: 12g /contact 0.80mm & above 20g/contact	20g/contact per .012" dia. pad

## BGA PRODUCTS

Aries has tooled and patented two ball grid array contact pins. The 3-finger female BGA contact was designed to be used with the male pin BGA for production applications. The BallNest™ contact pin was designed to provide a four-fingered "nest" for each ball termination of the device to be socketed (test and development).

Series/  
Package Styles:

Data Sheet No./URL  
<http://www.arieselec.com/products/XXXXX.pdf>

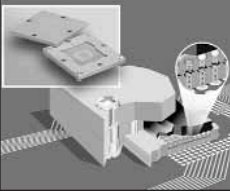

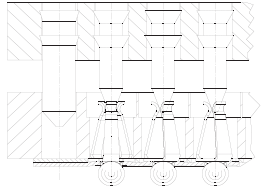
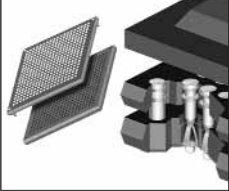
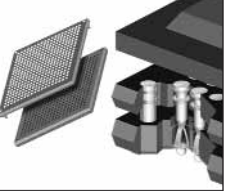
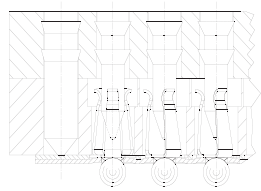
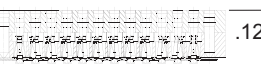
Features:

Available Sizes/  
Configurations:

Contact Pin  
Materials:

Profile Height to  
Seating Plane:

Notes:

	CSP/BallNest™ Hybrid SOCKET	BallNest™ SOCKET	BGA MALE ADAPTER AND SOCKET	BGA ADAPTER	BGA SOCKET
					
	23016	23004	<i>BGA Female Socket</i>	23015	23015
Features:	<ul style="list-style-type: none"> <li>• Suitable for prototyping, test or burn-in of CSP, BGA, µBGA and LGA devices.</li> <li>• ZIF style socket using Aries "Touchspring" contacts.</li> </ul>	<ul style="list-style-type: none"> <li>• Socket lid nests BGA package into female socket for a reliable, solderless electrical connection</li> <li>• Reliable, 4-fingered contact with wiping action</li> </ul>		<ul style="list-style-type: none"> <li>• Converts softball BGA devices into pluggable hardball devices</li> <li>• Any grid size available from 1.00 - 1.5mm pitch.</li> <li>• Corner locating pins aid in assembly.</li> </ul>	<ul style="list-style-type: none"> <li>• Any grid size available from 1.00mm - 1.5mm pitch.</li> <li>• Lidless design - pin presses into contact</li> <li>• Corner locating pins aid in assembly.</li> </ul>
Available Sizes/ Configurations:	0.50mm pitch & up	1.27mm - 1.50mm pitch	<i>Solderballs for surface mount</i>	1.00 - 1.5mm pitch	1.00 - 1.5mm pitch
Contact Pin Materials:	Gold plated BeCu	Au or Sn over BeCu Alloy	<i>ASSEMBLED UNIT</i>	Gold plated brass alloy	Au or Sn over BeCu Alloy
Profile Height to Seating Plane:	Approx. .085"[2.16]	.096 [2.44]		.125	.125
Notes:	Spring contact force = 15 grams/contact avg	Hardware included for test and development	<i>customer's PCB</i>	For use with BGA Socket™	For use with BGA Adapter



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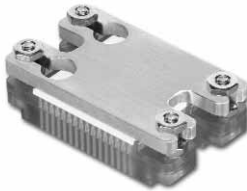

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# AREA ARRAY SOCKETS FOR TEST, BURN-IN & PRODUCTION

0.5MM TO 1.27MM PITCH





Package Styles:

	CSP BGA SMT TEST & BURN-IN SOCKETS	PINBALL™ DIRECT SOLDER BGA TEST SOCKETS	LGA SOCKETS
			
Data Sheet No./URL <a href="http://www.arieselec.com/products/XXXXX.pdf">http://www.arieselec.com/products/XXXXX.pdf</a>	23017, 23018, 23019, 23020	25022	26021
Features:	<ul style="list-style-type: none"> <li>Clamshell Precise IC fit.</li> <li>SMT Design for Test and Burn-in for any SMT Device.</li> </ul>	<ul style="list-style-type: none"> <li>Open Top Test Socket for direct solder SMT Applications</li> <li>"X" &amp; "Y" Stackable</li> </ul>	<ul style="list-style-type: none"> <li>Designed for production LGA applications up to 2500 leads</li> <li>low force &lt;15g</li> </ul>
Available Sizes:	13-27-40 & 55mm on .4 to 1.27mm pitch	Any size on 0.8-1.00 & 1.27mm pitch	Any size on 1.00mm pitch
Insulator Material:	Ultem, Peek or Torlon	Torlon or Peek	Ultem
Temperature Rating:	-55°C - 150°C	-55°C - 125°C	-55°C - 125°C
Contact Pin Materials:	BeCu with Au Plate	BeCu with Au Plate	BeCu with Au Plate

## UNIVERSAL & PIN SPECIFIC ZIF PROGRAMMING/TEST/BURN-IN SOCKETS

Aries offers one of the most extensive ranges of test, programming and burn-in sockets in the industry, with a version to accommodate just about every package style and application need. Aries' exclusive Universal ZIF socket, available in DIP, PGA, PLCC and SOIC package styles, lets you use just one socket to handle a full range of device sizes, footprints, and pin counts.

Package Styles:

	UNIVERSAL ZIF DIP SOCKETS	UNIVERSAL ZIF PGA SOCKETS	PIN SPECIFIC ZIF PLCC SOCKETS	UNIVERSAL ZIF PLCC SOCKETS
				
Data Sheet No./URL <a href="http://www.arieselec.com/products/XXXXX.pdf">http://www.arieselec.com/products/XXXXX.pdf</a>	10001, 10002, 10019	10004, 10005	10006, 10007	10008 - 10012
Features:	<ul style="list-style-type: none"> <li>Extra wide openings accept standard ctr. pitch devices</li> <li>All sizes can be ordered to fit .300 [7.62] or .600 [15.24] ctr. boards</li> <li>Numerous handle position options available</li> <li>High-temp and quick-release handle sockets available</li> </ul>	<ul style="list-style-type: none"> <li>Multiple grid sizes and footprints available</li> <li>Replaceable pins</li> <li>Normally closed contacts eliminate dependence on plastic to sustain contact</li> </ul>	<ul style="list-style-type: none"> <li>Auto pick-and-place capability</li> <li>Corner posts provide positive package registration</li> <li>Can be shimmed to accept many ceramic, leadless, and J-lead packages</li> </ul>	<ul style="list-style-type: none"> <li>One socket will accept all seven PLCC sizes: 20, 28, 44, 52, 68, &amp; 84 square PLCC and 32 rectangular PLCC</li> <li>Live and Dead Bug types</li> <li>Will plug into Aries' PLCC to PGA adapter, P/N 1109283</li> </ul>
Available Sizes:	24, 28, 32, 36, 40, 42, 44 & 48 pins on .300 [7.62] or .600 [15.24] ctr.	9 x 9 to 21 x 21 full grid	20, 28, 32, 44, 52, 68 & 84	84
Insulator Material:	UL 94V-0 PPS or high-temp. PEEK	UL 94V-0 PPS	UL 94V-0 PPS	UL 94V-0 PPS
Temperature Rating:	Up to 250°C (also see 10021 on page 10 of this catalog)	Up to 200°C	Up to 170°C	Up to 125°C
Contact Pin Materials:	Au or Sn over BeCu; NiBo over CuNiSn Spinodal Alloy; NiBo over BeNi	Au or Sn over BeCu; NiBo over CuNiSn Spinodal Alloy	Au over BeCu	Au over BeCu

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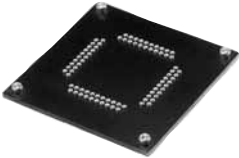
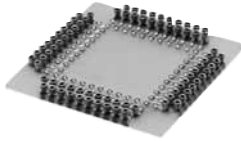



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# UNIVERSAL & PIN SPECIFIC ZIF PROGRAMMING/TEST/BURN-IN SOCKETS

Package Styles:

UNIVERSAL ZIF SOIC & TSOP SOCKETS	ZIF DIP SOCKETS	ZIF RECEPTACLES	
		UNIVERSAL ZIF DIP SOCKET RECEPTACLE 	UNIVERSAL ZIF PLCC SOCKET RECEPTACLE 
10015	10017, 10018	Data Sheet No. 10003	Data Sheet No. 10013
<ul style="list-style-type: none"> <li>One socket will accept all SOIC packages and some TSOP Type II packages on .050 [1.27] pitch</li> <li>Over 50 different package sizes accommodated by one Universal ZIF SOIC/TSOP socket</li> </ul>	<ul style="list-style-type: none"> <li>Zero insertion force insertion &amp; withdrawal prevents bending or other damage to IC legs</li> <li>Cam actuated wiping action with contacts</li> <li>Tapered entry</li> </ul>	UNIVERSAL ZIF PLCC TO PGA ADAPTER 	UNIVERSAL ZIF SOIC SOCKET RECEPTACLE 
44	24, 28 & 40 on .600 centers	Data Sheet No. 10014	Data Sheet No. 10016
Insulator Material: UL 94V-0 PPS	UL 94V-0 glass-filled Thermoplastic Polyester		
Temperature Rating: Up to 125°C	Up to 125°C		
Contact Pin Materials: Au over BeCu	Au or Sn over BeCu		

Data Sheet No./URL  
<http://www.arieselec.com/products/XXXXX.pdf>

Features:

Available Sizes:

Insulator Material:

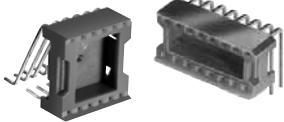

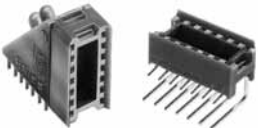

Temperature Rating:

Contact Pin Materials:

## DISPLAY SOCKETS

Choose from Aries' wide selection of display sockets to find exactly the right socket for your LEDs, incandescent lamps, DIP switches or other components. Whether you're mounting devices horizontally or vertically, there is an Aries Vertisocket™ for every need. When you need to gain some height, use an Elevator socket to lift your display from 1/4" [6.35] to 2" [5.08] above the board. All display sockets are available with a broad range of standard pin counts and contact styles to accommodate your particular application requirements. And, of course, we do specials.

Series/  
Package Styles:

82X STAMPED PIN HORIZONTAL	X810 STAMPED PIN VERTICAL	810/822 THRIFTY VERTISOCKETS	X810 MACHINED PIN VERTICAL
			
13001	13002	13003	13004
<ul style="list-style-type: none"> <li>Accepts standard LEDs and incandescent displays as well as other devices (DIP switches, etc.)</li> <li>Available with or without lead-in rails, surface mount and Thru-Hole</li> </ul>	<ul style="list-style-type: none"> <li>Accepts standard LEDs and incandescent displays as well as other devices (DIP switches, etc.)</li> <li>Available with or without lead-in rails, surface mount and Thru-Hole</li> </ul>	<ul style="list-style-type: none"> <li>Recommended for high volume vertical or horizontal display mounting applications</li> <li>For connection of board-to-board jumpers and for DIP switches as well as LED devices.</li> </ul>	<ul style="list-style-type: none"> <li>Accepts standard LEDs and incandescent displays as well as other devices (DIP switches, etc.)</li> <li>Requires less space than stamped pin sockets</li> </ul>
Available Sizes: .200 [5.08], .300 [7.62], .600 [15.24] ctr. display; .100 [2.54], .200 [5.08], .300 [7.62] ctr. ends; 8 - 48 pins	8, 10 on .200 [5.08] ctr.; 8, 14, 16, 18, 20 on .300 [7.62] ctr.; 8, 10, 12, 14, 16, 18, 20 on .600 [15.24] ctr.	Vertical mounting: 14; Horizontal mtg.: 8, 14, 16, 18, 20	8, 10 on .200 [5.08] ctr.; 8, 10, 12, 14, 16 on .300 [7.62] ctr.; 8, 10, 12, 14, 16 on .600 [15.24] ctr.
Pin Styles: Bifurcated, stamped 3-point face grip contacts	Bifurcated, stamped 3-point face grip contacts	Bifurcated, stamped 3-point face grip contacts	Screw machine collet contacts
Contact Pin Materials: Au or Sn over PhBr	Au or Sn over PhBr	Sn over Grade A spring-tempered PhBr	Au over BeCu contact in Sn plated Brass pin body
Notes: 90° display angle standard Consult factory for specials	90° display angle standard Consult factory for specials	Available with or without lead-in rails	90° display angle standard Consult factory for specials

Note: Aries offers custom design and production. In addition to the standard products shown on this page, special materials, platings, sizes, and configurations can be furnished, depending on quantities. Aries reserves the right to change product specifications without notice.



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# DISPLAY SOCKETS

Series/  
Package Styles:

Data Sheet No./URL  
[http://www.arieselec.com/  
products/XXXXX.pdf](http://www.arieselec.com/products/XXXXX.pdf)





Features:

Available Sizes:

Pin Styles:

Contact Pin  
Materials:

Notes:

	82X MACHINED PIN HORIZONTAL	8XXX STAMPED PIN ELEVATOR	8XXX MACHINED PIN ELEVATOR	700 ELEVATOR STRIP-LINE SOCKETS
				
	13005	13006	13007, 13008	12010
	<ul style="list-style-type: none"> <li>Accepts standard LEDs and incandescent displays as well as other devices (DIP switches, etc.)</li> <li>Requires less space than stamped pin sockets</li> </ul>	<ul style="list-style-type: none"> <li>Ideal for elevating devices (displays, switches, etc.) to desired level with .260 [6.60] to 1.250 [31.75] height extension</li> <li>Available w/ or w/o lead-in rails</li> </ul>	<ul style="list-style-type: none"> <li>Ideal for elevating devices (displays, switches, etc.) to desired level with up to 1.250 [31.75] height extension</li> </ul>	<ul style="list-style-type: none"> <li>For elevated mounting of LCDs and other odd ctr. or high pin count components</li> <li>Any height from .360 [9.14] to 2.000 [5.08]</li> </ul>
	.200 [5.08], .300 [7.62], .600 [15.24] ctr. display; .100 [2.54], .200 [5.08], .300 [7.62] ctr. ends; 6 - 48 pins	14, 16, 18 on .300 [7.62] ctr.; 18 on .600 [15.24] ctr.	6, 8, 10 on .200 [5.08] ctr.; 6 - 40 on .300 [7.62] ctr.; 6 - 48 on .600 [15.24] ctr.	2 - 40 in-line
	Screw machine collet contacts	Bifurcated, stamped 3-point face grip contacts	Screw machine collet contacts	Bifurcated, stamped 3-point face grip contacts
	Au over BeCu contact in Sn plated Brass pin body	Sn over Grade A spring-tempered PhBr	Au over BeCu contact in Sn plated Brass pin body	Au or Sn over PhBr
	90° display angle standard Consult factory for specials	Gold plating available	Non-standard spacings available - consult factory	Optional spacer avail. for mtg. on .300 [7.62] - 1.300 [33.02] ctrs.

# CABLE JUMPER ASSEMBLIES

Aries offers a wide selection of jumper assemblies for easy and reliable board-to-board and on-board wiring connection. Choose from thousands of standard cable and connector combinations, or consult Aries for custom assemblies.

Styles:

Data Sheet No./URL  
[http://www.arieselec.com/  
products/XXXXX.pdf](http://www.arieselec.com/products/XXXXX.pdf)





Features:

Available Sizes/  
Lengths:

Conductor Material:

Termination Styles:

Notes:

	FUSION BONDED CABLE JUMPERS	FLAT PIN STAKED FLEX JUMPERS	SIP/DIP PLUG JUMPERS	IN-LINE JUMPERS ON .100 [2.54] CTRS.
				
	11001	11005, 11019	11006 - 11013, 11016, 11017	11014, 11015
	<ul style="list-style-type: none"> <li>Solderable or pluggable into PC boards or sockets</li> <li>Each jumper is shipped with protective tabs on both ends for maintaining proper conductor spacing</li> </ul>	<ul style="list-style-type: none"> <li>These combine thin, flexible, solid Copper conductors embedded between layers of tough, flexible, flame-retardant insulation</li> <li>Terminate with male pins and/or female receptacles</li> <li>High Temp &amp; 90° available</li> </ul>	<ul style="list-style-type: none"> <li>Male or female DIP plugs available in many configurations</li> <li>10-color cable allows for easy identification and tracing.</li> <li>Pitch bar on Deci-Center jumpers help maintain .100 [2.54] conductor spacing</li> </ul>	<ul style="list-style-type: none"> <li>10-color cable allows for easy identification and tracing</li> <li>Options include Series 156/157 with rugged male pins</li> </ul>
	.100 [2.54] pitch: 4 - 22 cond.	4 - 40 conductors 2.000 [5.08] minimum length	Up to 40 pin DIP, 24 position conductor, 50 pin "D" connector	4 - 22 conductors
	7-strand Cu alloy with an overcoat of tin	Cu alloy (size equivalent to 26 AWG wire)	7/36 strand 28 AWG or 7/34 strand 26 AWG tinned Cu	7/34 strand 26 AWG Cu or 24 AWG solid tinned Cu
	.100 [2.54]	Male/female Cu alloy contact on .100 [2.54] pitch, Au or Sn plating	Pitch bar, DIP plug on .300 [7.62]-.600 [15.24] ctr., "D" conn.	Au plated Brass pins, bare ended, or tinned w/pitch bars
	Consult data sheet for minimum length requirements	Consult factory for lengths under 2.000 [5.08] inches	Consult factory for special wiring requirements	Consult data sheet for minimum length requirements

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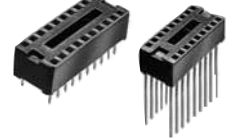
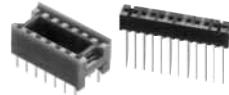

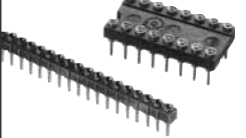


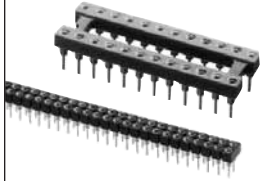

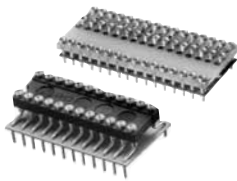
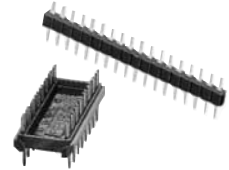
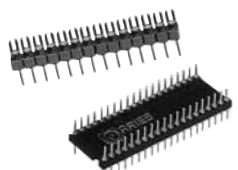
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# DIP/SIP SOCKETS AND HEADERS

Aries offers a vast assortment of DIP and SIP sockets and headers. Whether you need stamped or machined, wire-wrap or solder tail termination, 2 or 64 pins...you'll find a standard Aries socket to fit just about any application. Aries also manufactures a complete line of stamped or screw machined DIP headers with covers for mounting a wide variety of components. Aries also offers headers and pin-line sockets for board interconnect applications.

Series/ Package Styles:	C84/C93 DIP SOCKETS	C81/C91 & C82/C92 DIP SOCKETS	511/501//0501/0511 DIP & SIP SOCKETS	0517 PIN-LINE VERTISOCKETS	513/503/0513/0503 DIP & SIP SOCKETS
Data Sheet No./URL <a href="http://www.arieselec.com/products/XXXXX.pdf">http://www.arieselec.com/products/XXXXX.pdf</a>					
	12001	12002, 12003	12004, 12005, 12008, 12009	13009	12011, 12014
Features:	<ul style="list-style-type: none"> <li>• Anti-wicking design eliminates flux or solder contamination.</li> <li>• Dual beam, edge-grip contacts provide high retention and positive contact</li> <li>• Side &amp; end stackable</li> </ul>	<ul style="list-style-type: none"> <li>• Dual beam, edge-grip contacts provide high retention with positive wiping action</li> <li>• Removable cover provides lower profile</li> <li>• Side &amp; end stackable</li> </ul>	<ul style="list-style-type: none"> <li>• 3-point contact w/bifurcated pin</li> <li>• 4-way chamfered lead-in les</li> <li>• Lead-in rails optional /DIPs</li> <li>• SIPs available with optional spacer for mounting on .300 [7.62]-1.300 [33.02] ctr.</li> </ul>	<ul style="list-style-type: none"> <li>• For mounting components, jumpers, etc., at right angle to PC board</li> <li>• Can be cut to desired length</li> </ul>	<ul style="list-style-type: none"> <li>• Several size and plating options</li> <li>• DIPs available with capacitor and ground plane for noise reduction (see D.S. 12015)</li> <li>• Cut SIPs to desired length</li> <li>• SIPs avail. 1-25 positions</li> </ul>
Available Sizes:	6 - 24 on .300 [7.62] ctr.; 22 on .400 [10.16] ctr.; 24, 28, 40 on .600 [15.24] ctr.	8 - 20 on .300 [7.62] ctr.; 22 on .400 [10.16] ctr.; 24, 28, 36, 40 on .600 [15.24] ctr.	DIPs: 8, 10 on .200 [5.08] ctr.; 8 - 20 on .300 [7.62]; 22 on .400 [10.16]; 8-48 on .600 [15.24] ctr.; SIPs 2-40	1 - 25	DIPs: 2-10 on .200 [5.08]; 2-40 on .300 [7.62]; 2-22 on .400 [10.16]; 2-48 on .600 [15.24]; 2-64 on .900 [22.86]
Pin Styles:	Stamped edge-grip, dual wipe contacts	Stamped edge-grip, dual wipe contacts	Bifurcated, stamped 3-point face grip contacts	Screw machine collet contacts	Screw machine collet contacts
Contact Pin Materials:	Au or Sn over PhBr	Au or Sn over PhBr	Au or Sn Grade A spring-tempered PhBr	Au over BeCu contact in Sn plated Brass pin body	Au over BeCu contact in Au or Sn plated Brass pin body
Termination Styles:	Solder tail	Solder tail or 3 level wire wrap	Solder tail or 2/3 level wire wrap	Solder tail	Solder tail or 2/3 level wire wrap
Profile Height to Seating Plane:	.150 [.38]	.280 [.71]	.260 [.66]	.050 [1.27] display height	.165 [4.19] solder tail .193 [4.90] wire wrap

Series/ Package Styles:	518/508/0518/0508 DIP & SIP SOCKETS	CXXX DIP EJECTOR SOCKETS	ROW-TO-ROW DIP ADAPTERS	600/0600 DIP & SIP HEADERS	625/0625 DIP & SIP HEADERS
Data Sheet No./URL <a href="http://www.arieselec.com/products/XXXXX.pdf">http://www.arieselec.com/products/XXXXX.pdf</a>					
	12016 - 12021, 12026 - 12027	12024, 12025	12030, 12031, 18033	12032 - 12034	12035, 12036
Features:	<ul style="list-style-type: none"> <li>• Open frame DIPs for better cooling-available with capacitor</li> <li>• SIPs avail. single/dual row</li> <li>• Several pin styles/plating options</li> <li>• Side &amp; end stackable</li> <li>• Cut SIPs to desired length</li> </ul>	<ul style="list-style-type: none"> <li>• Locks in &amp; ejects DIP sockets and jumpers</li> <li>• Excellent vibration resistance</li> <li>• Damage-free, easy ejection of sockets &amp; jumpers</li> <li>• Au or Sn plating</li> </ul>	<ul style="list-style-type: none"> <li>• Converts DIP ICs from one row-to-row spacing to another</li> <li>• Standard or low-profile</li> </ul>	<ul style="list-style-type: none"> <li>• Coined contacts provide extra thickness at solder area</li> <li>• Protective covers available for DIPs in 5 heights</li> <li>• Cut SIPs to desired length</li> <li>• SIPs avail. 1 - 25 positions</li> </ul>	<ul style="list-style-type: none"> <li>• High reliability machined contacts</li> <li>• Multiple pin counts</li> <li>• Cut SIPs to desired length</li> <li>• SIPs avail. 1 - 25 positions</li> </ul>
Available Sizes:	DIPs: 6 - 64 positions, .300 [7.62], .400 [10.16], .600 [15.24], .900 [22.86] ctrs.; SIPs: 1 - 60	14, 16 on .300 [7.62] ctr.; 24, 28, 32, 40 on .600 [15.24] ctr.	6 - 48 positions; .300 [7.62], .400 [10.16], .600 [15.24] conversions	DIPs: 4 - 20 on .300 [7.62] ctr; 22 on .400 [10.16]; 24, 28, 40 on .600 [15.24]; 2-64 on .900 [22.86] ctr.	DIPs: 2 - 20 on .300 [7.62] ctr; 2- 22 on .400 [10.16]; 2 - 48 on .600 [15.24]; 2 - 64 on .900 [22.86]
Pin Styles:	Screw machine collet contacts	Screw machine collet contacts	Screw machine collet contacts	Stamped fork or post contacts	Screw machined fork, post, or solder cup contacts
Contact Pin Materials:	Au over BeCu contact in Au or Sn plated Brass pin body	Au or Sn over BeCu contact in Au or Sn plated Brass pin body	Au over BeCu contact in Au or Sn plated Brass pin body	Au or Sn over Brass	Au or Sn over Brass
Termination Styles:	Solder tail, 2/3 level wire wrap, low profile, or surface mount	Solder tail or 2/3 level wire wrap	Solder tail	Solder tail	Solder tail 3 level wire wrap fork post
Profile Height to Seating Plane:	.095 [2.41], .150 [3.81], .165 [4.19], .173 [4.39], .193 [4.90]	.165 [4.19], .193 [4.90]	.180 [4.57], .265 [6.73], .300 [7.62]	.110 [2.79] SIPs; .120 [3.05] DIPs (w/o cover)	N/A

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# OTHER SOCKET PACKAGES

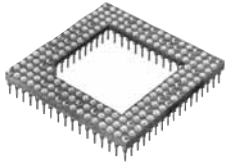
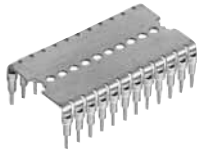

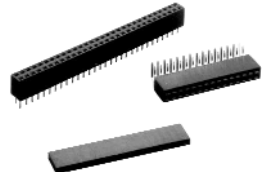
Aries excels in helping customers meet special application needs. This singular expertise has resulted in an enhanced line of standard socket packages with special features and capabilities - including the following products.

Series/  
Package Styles:

	OSCILLATOR SOCKETS	514 TO SOCKETS	519 ZIP D-RAM SOCKETS	UP TO 500°C DIP TEST & BURN-IN SOCKET
				
	14005	14006	14010, 14011	10021
Features:	<ul style="list-style-type: none"> <li>This four pin socket (in a 8 or 14 position frame) accepts standard oscillator packages</li> <li>Designed to be side and end stackable</li> <li>Machine insertable</li> </ul>	<ul style="list-style-type: none"> <li>Chamfered lead-ins for easy device insertion</li> <li>High stand-off design for heat dissipation and easy cleaning</li> <li>External keying for positive location</li> </ul>	<ul style="list-style-type: none"> <li>Zig-zag configuration fits Mitsubishi, Fujitsu, etc. Dynamic RAMs</li> <li>Side and end stackable</li> <li>ZIP-DRAM to .300 DIP adapter available</li> </ul>	<ul style="list-style-type: none"> <li>Accepts devices on .3" to .6" centers.</li> <li>Thru-Hole and SMT styles.</li> <li>Easy loading and unloading</li> </ul>
Available Sizes:	4 pin in 8 or 14 position socket on .300 [7.62] ctr.	3, 4, 8 on .200 [5.08] dia.; 8, 10 on .230 [5.84] dia.; 12 on .300 [7.62] dia.	16, 20, 24, 28	28 and 40 positions
Pin Styles:	Screw machine collet contacts	Screw machine collet contacts	Screw machine collet contacts	Normally closed Dual Wipe
Contact Pin Materials:	Au over BeCu contact in Sn plated Brass pin body	Au over BeCu contact in Sn plated Brass pin body	Au over BeCu contact in Au or Sn plated Brass pin body	Stainless Steel Alloy
Termination Styles:	Solder tail	Solder tail	Solder tail, 2 level wire wrap, midget low profile	SMT and Thru-Hole
Profile Height to Seating Plane:	.165 [4.19]	.185 [4.70], .205 [5.21]	.110 [2.79], .165 [4.19], .193 [4.90]	.375 [9.53]

Data Sheet No./URL  
<http://www.arieselec.com/products/XXXXX.pdf>

Series/  
Package Styles:

	PGA SOCKETS/ HEADERS	540 PIN CARRIERS	SQUARE PIN MALE HEADERS	SQUARE PIN FEMALE HEADERS
				
	14033, 14034	14012	15001	15002
Features:	<ul style="list-style-type: none"> <li>Choose from thousands of standard footprints</li> <li>Custom footprints, high-temp. material and open frame insulators</li> </ul>	<ul style="list-style-type: none"> <li>Eliminates time consuming hand insertion of pins.</li> <li>Accurate alignment with the PCB hole pattern makes multiple pin insertion fast and easy</li> </ul>	<ul style="list-style-type: none"> <li>Available on 2.54, 2.00 and 1.00mm pitch.</li> <li>Single and dual row, straight and right angle</li> <li>Competitively price.</li> <li>Specials are available</li> </ul>	<ul style="list-style-type: none"> <li>Available on 2.54, 2.00 and 1.00mm pitch.</li> <li>Single and dual row, straight and right angle</li> <li>Competitively price.</li> <li>Specials are available</li> </ul>
Available Sizes:	3x3 thru 21x21	2 - 24 single row; 6 - 24 on .300 [7.62] ctr.; 6 - 48 on .600 [15.24] ctr.	Consult Factory	Consult Factory
Pin Styles or Configuration:	Screw machine collet contacts	Screw machine collet contacts	Stamped Pin	Stamped Pin
Contact Pin Materials:	Au or Sn over BeCu contact in Au or Sn plated Brass pin body	Au over BeCu contact in Sn plated Brass pin body	Phosphor Bronze or Brass	Phosphor Bronze or Brass
Termination Styles or Notes:	Solder tail, 2/3 level wire wrap, post style header	Solder tail w or w/o barb, abbreviated, midget solder tail	Mates with Female Headers Shorting Plugs available	Mates with Male Headers Shorting Plugs available
Profile Height to Seating Plane:	.165 [4.19], .193 [4.90], .153 [3.89]	.165 [4.19], .173 [4.39], .200 [5.08], .095 [2.41]	.050 to .125	.050 to .125

Data Sheet No./URL  
<http://www.arieselec.com/products/XXXXX.pdf>

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# PROGRAMMING DEVICES

For user-programmable on-board applications, Aries offers a variety of programming devices. These versatile components act like a DIP switch...with a unique characteristic: they can be individually programmed to make a permanent, unalterable switch selection. As always, Aries offers a variety of package designs and a nearly infinite number of programming alternatives.

Series/  
Package Styles:





Data Sheet No./URL  
<http://www.arieselec.com/products/XXXXX.pdf>

Features:

Center Pitch:

Contact Pin Materials:

Notes:

ME-100 MINIATURE JUMPER	ML-100 MINIATURE JUMPERS	LP300 PROGRAMMER/SHORTING PLUG	SP/SJ200 .040 [1.02] SHORTING PLUG & JACK
			
16001	16002	16003	16009
<ul style="list-style-type: none"> <li>Useful for jumpering .025 [.64] square pins on .100 [2.54] ctrs.</li> <li>Jumper from row-to-row or from pin-to-pin</li> <li>Jumper terminal partially exposed for testing</li> <li>Stackable</li> </ul>	<ul style="list-style-type: none"> <li>Useful for jumpering .025 [.64] square pins on .100 [2.54] ctrs.</li> <li>Jumper from row-to-row or from pin-to-pin</li> <li>Convenient test-probe slot</li> <li>Stackable</li> <li>Avail. w/ or w/o handle</li> </ul>	<ul style="list-style-type: none"> <li>Mate with any .300 [7.62] ctr. DIP socket to provide custom programming</li> <li>Stacks on .100 [2.54] ctrs.</li> </ul>	<ul style="list-style-type: none"> <li>Male and female jumpers on .200 [5.08] ctrs.</li> <li>Convenient handle for insertion and withdrawal</li> </ul>
.100 [2.54]	.100 [2.54]	.300 [7.62]	.200 [5.08]
Sn over PhBr	Au or Sn over BeCu	Au or Sn over Brass	Male: Sn over Brass alloy; Female: Au over BeCu contact
Sold in multiples of 1000; ganged version available	Sold in multiples of 50	Converts any socket into a DIP switch	Used in conjunction w/ Aries' .040 [1.02] DIP strips

Series/  
Package Styles:




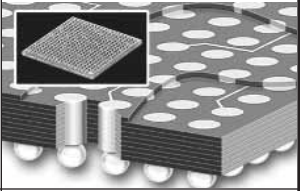
Data Sheet No./URL  
<http://www.arieselec.com/products/XXXXX.pdf>

Features:

Available Sizes:

Contact Pin Materials:

Notes:

675 DIP PROGRAM HEADERS	680 DIP PROGRAM HEADERS	M40/F40 .040 [1.02] DIP STRIPS	BGA CIRCUIT BRIDGE
			
16004	16005	16007, 16008	18082
<ul style="list-style-type: none"> <li>Adjacent and/or opposing pins are interconnected until the pre-slotted section is programmed out.</li> <li>Low profile, snap-on covers available</li> </ul>	<ul style="list-style-type: none"> <li>Eliminates the need for DIP switches in many situations</li> <li>Available pre-programmed or do it yourself</li> <li>Available with plain (solid) or "top-slot" press-on covers</li> </ul>	<ul style="list-style-type: none"> <li>"Break" feature allows strips to be cut to any number of positions desired</li> <li>Male header strips available straight or right angle</li> </ul>	<ul style="list-style-type: none"> <li>Cost effective means of upgrading or testing your BGA device without changing your PCB layout</li> <li>.8 to 1.5mm pitch</li> </ul>
2 - 20	4 - 24	20	Custom sizes made to order
Au or Sn over Brass alloy	Sn over Brass alloy	Male: Au or Sn over Brass alloy Female: Au over BeCu contact	FR-4 insulator w/BGA solder-balls
Use Aries T-675 programming tool	Use Aries T-680 programming tool	Used in conjunction w/ Aries' .040 [1.02] shorting plug and jack	PCB pad size .028"

Note: Aries offers custom design and production. In addition to the standard products shown on this page, special materials, platings, sizes, and configurations can be furnished, depending on quantities. Aries reserves the right to change product specifications without notice.

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