

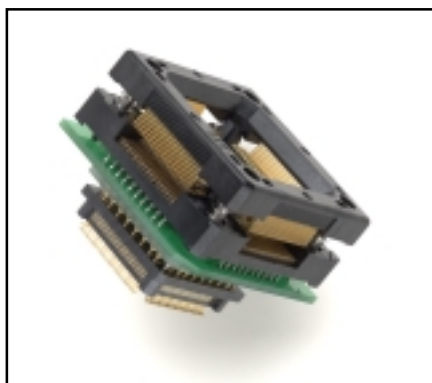
Chip Changers

## CHIP-CHANGERS

- OBSOLETE PACKAGES
- CHIP SHORTAGES
- LOW COST
- LOW PROFILE SOLUTIONS

### Chip Changers footprint converters

Lead Count	Package Type	Target Lead Count	Target Package Type	Part number
64	0.5mm QFP	64	0.8mm QFP	140-5430-00
80	0.5mm QFP	80	0.65mm QFP	140-5540-00
100-R	0.65mm QFP	100	0.5mm QFP	140-5690-00
120	0.4mm QFP	120	0.8mm QFP	140-5745-00
144	0.5mm QFP	144	0.65mm QFP	140-5894-00
16	1.27mm SOIC 7.6mm body	16	1.27mm SOIC 3.8mm body	140-7042-00
16	1.27mm SOIC 3.8mm body	16	1.27mm SOIC 7.6mm body	140-7043-00
20	1.27mm SOIC 7.6mm body	16	1.27mm SOIC 3.8mm body	140-7085-00
24	0.65mm TSSOP 4.4mm body	24	1.27mm SOIC	140-7095-00



Device Test adapter for 112 pin QFP

## DEVICE TEST ADAPTERS

- PRODUCTION LINE TESTING
- EASY INSERTION AND  
EXTRACTION OF D.U.T.

- ANY BGA DEVICE
- ANY QFP DEVICE
- ANY SOIC DEVICE
- ANY TSOP DEVICE
- ANY PLCC DEVICE

## Production/Test Adapters

In today's fast paced business cycles the time between design, development and production can be just a few short but hectic months or even weeks. We understand that with J.I.T. schedules any problem with supply can create a huge bottleneck with significant cost to your company. Most production adapter requirements are caused by problems out of our customers control and fall into four basic categories described in better detail below. Typically because of volume these adapters are low cost solutions that need to be delivered quickly to avoid costly production stoppages and cost overruns.

### CHIP-CHANGERS

One of the most dreaded calls a production manager can ever receive is the one telling them that a particular IC has gone on allocation and is only available in a smaller or larger footprint. In some cases the package could even be obsoleted right in the middle of your production run. In other cases the target PCB is laid out for the mirrored image or "bottom view" so often displayed on device mechanical drawings. Either way, with our line of Chip-Changer adapters we take your problems and turn them into solutions.

Footprint converters, take your device and convert it to smaller / larger package in the same IC package family. ie: A 144 pin QFP .65mm target layout and you have a 144 pin QFP with .5mm lead spacing.

Footprint rotators, take your target PCB's mirrored image and rotate it back to the correct "top view".

### DEVICE TEST ADAPTERS

The need for generic production line test adapters is more and more becoming a question we hear about everyday. A device test adapter is normally on a test board used to run a final firmware test on the production line itself. In most cases the IC needs to be inserted and extracted quickly, and this requires sockets with high cycle rates so a zero insertion force socket is the norm. We have both surface mount and socketable off the shelf solutions.

## Production/Test Adapters

### PACKAGE CONVERTERS

Package converters are a variation of the Chip-Changers (that convert to a larger or smaller footprint in the same IC package type) IC package converters on the other hand convert to a different IC package type altogether. ie: DIP-SOIC, PLCC-DIP, QFP-PGA. The possible combinations are endless, and the reasons can be similar, discontinued packages, chip allocations and shortages, but the fact still remains that you have boards that are just too costly to scrap and we have time and cost saving solutions that are just a phone call away. Typically these adapters are for high volume applications but order quantities are application specific and can be as low as 5 pcs.

### SOCKET CONVERTERS

Unlike IC's, sockets for the same device can have different base footprints ( through hole patterns ). This varies by socket manufacturer and product design. We make the converters that allow you to swap manufacturers. For example from a Yamaichi IC51 series to a IC53 series, in the event that you can't get the socket that you specified in a board layout. Again, these are made to minimize the cost and downtime associated with long lead times from the factory.

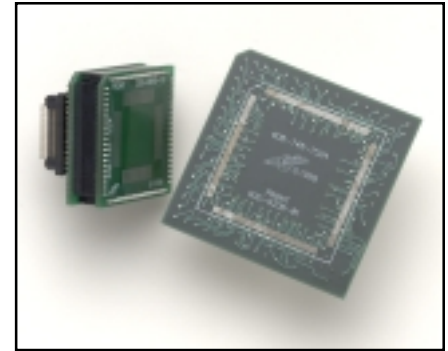
#### QUICK ORDER GUIDE: DETERMINE

- Acquire IC package mechanical specifications
- If it is for device testing, footprint conversion or pin out rotation, IC package conversion or IC socket conversion.
- IC pinouts, acquire IC socket drawings or IC socket mfg. part numbers.
- Note extra requirements, i.e. size and height restrictions, required quantity, and surface mount or through hole assembly.

note: The price of these adapters depends on the quantity ordered

### I.C. PACKAGE CONVERTERS

UTILIZE OLD PC-BOARD VERSIONS  
DISCONTINUED PACKAGES  
CONVERT SURFACE MOUNT TO THROUGH HOLE



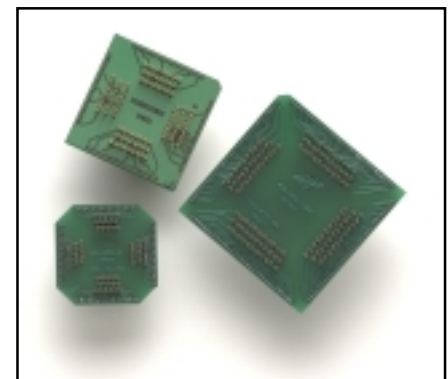
I.C. Package converters

#### IC Package converters

Lead Count	Package Type	Device Interface	Target Package Type	Target Interface	Part number
14	F 2.54 mm	smt	14 dip .300	male	140-2120-00
20	plcc	smt	20 dip .300	male	
44	plcc	smt	0.8mm QFP	smt	140-3905-80
44	0.8mm QFP	zif socket	48 pin, sdip	male	140-5310-00
44	0.8mm QFP	zif socket	plcc	male	140-5400-00
64	0.8mm QFP		68 pga, 11*11	male	
100	0.65mm R QFP	smt	100 pga, 13*13	male	140-5695-00
100	0.635mm QFP	smt	100 pga, 13*13	male	140-5730-00

### I.C. SOCKET CONVERTERS

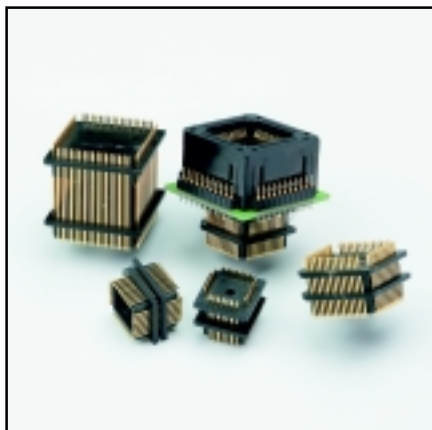
CAN'T WAIT 6 WEEKS FOR SOCKET DELIVERY!  
CALL US!!



I.C. Socket converters

#### IC Socket converters

Package Type	Socket to convert to	Socket to convert from	Part number
80, Qfp	IC51-808	IC51-809	140-2225-00
64	42-807	yz-692	180-5435-00
132 qfp	IC53	IC51	180-5826-00



PLCC Test Adapters and Socketable bases

## TECH SUPPORT

WE HAVE THE KNOWLEDGE

WE HAVE THE SOLUTIONS

## WORK THE WEB

SEARCH ON-LINE

### QUICK ORDER GUIDE: DETERMINE

- PLCC pin count
- Application is surface mount, through hole or socketable.
- Application is for OEM production, daughter card interface, increased board height.
- Note extra requirements, i.e. size and height restrictions

## PLCC Bases

At Adapters.com we are the one stop solution for all our customers' adapter requirements. Our PLCC plugs / bases are cost effective ways, to increase height from daughter boards, or as a male interface for emulator device probes or emulation adapters. These PLCC plugs made using injection molded housings, and then assembled with gold plated contacts for reliable connections.

### SOCKETABLE INTERFACE

Provides a 5.5mm deep male plug on both ends, to plug into a socket, or soldered directly on one side. Heights range from 15.2mm - 29.2mm

### SURFACE MOUNT INTERFACE

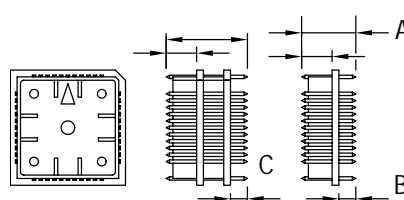
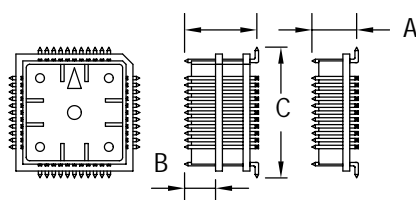
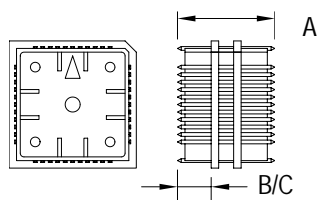
Same male plug on one end, with a "L" shaped lead on the other for true SMT. interface. Low profile 9.3mm or standard height at 15.7mm. See the table below for tip-tip dimensions.

### THROUGH HOLE INTERFACE

socketable male plug on one end with a straight through hole pattern on the other. Great for adapting daughter boards.

## PLCC Bases Ordering Guide

Socketable Type				Surface Mount Type				Thru Hole Type			
Lead Count	A	B / C	Part number	Lead Count	A	tip-tip	Part Number	Lead Count	A	B / C	Part Number
20	15.2mm 21.6mm	5.5mm	000-4314-10 000-4314-50	20	9.3mm 15.7mm	15.0mm	000-4312-10 000-4312-50	20	10.8mm 16.5mm	3.8mm 3.5mm	000-4313-10 000-4313-50
28	15.2mm 21.6mm	5.5mm	000-4324-10 000-4324-50	28	9.3mm 15.7mm	17.4mm	000-4322-10 000-4322-50	28	10.8mm 16.5mm	3.8mm 3.5mm	000-4323-10 000-4323-50
32	15.2mm 21.6mm	5.5mm	000-4334-10 000-4334-50	32	9.3mm 15.7mm	20.0mm	000-4332-10 000-4332-50	32	10.8mm 16.5mm	3.8mm 3.5mm	000-4333-10 000-4333-50
44	15.2mm 21.6mm	5.5mm	000-4344-10 000-4344-50	44	9.3mm 15.7mm	22.5mm	000-4342-10 000-4242-50	44	10.8mm 16.5mm	3.8mm 3.5mm	000-4343-10 000-4343-50
52	15.2mm 21.6mm	5.5mm	000-4354-10 000-4354-50	52	9.3mm 15.7mm	25.1mm	000-4352-10 000-4352-50	52	10.8mm 16.5mm	3.8mm 3.5mm	000-4353-10 000-4353-50
68	15.2mm 21.6mm	5.5mm	000-4364-10 000-4364-50	68	9.3mm 15.7mm	30.1mm	000-4362-10 000-4362-50	68	10.8mm 16.5mm	3.8mm 3.5mm	000-4363-10 000-4363-50
84	15.2mm 21.6mm	5.5mm	000-4374-10 000-4374-50	84	9.3mm 15.7mm		000-4372-10 000-4372-50	84	10.8mm 16.5mm	3.8mm 3.5mm	000-4373-10 000-4373-50



## IC Socket Probes

In today's high volume burn-in houses IC socket failure is major cause of production down time. Adapters.com has a solution though. Our line of high speed socket probes are designed with your ever changing world in mind. Machined and constructed with the best raw materials, hardware and connectors these probes withstand whatever your test and development requirement might be.

### SUPERIOR BY DESIGN

No line of socket probe's handle more insertions, extractions, without failing. We use the best raw materials, and high performance spring loaded, or machined contacts, and all at an advanced manufacturing facility. Then the probes are tested 100% to ensure your satisfaction.

### TEST ACCESSORIES

We say look to Adapters.com for all your test and development needs, and we mean all! We have the best sales staff in the industry in finding you solutions, whatever your development needs might be.

#### QUICK ORDER GUIDE: DETERMINE

- Acquire IC socket mechanical specifications
- May be necessary to acquire an IC sample for testing
- Determine length of the probe connector cable
- Note extra requirements, i.e. size and height restrictions

## IC SOCKET PROBES

ITT CANNON CONNECTORS  
FOR EACH SIGNAL

TRIPLE S COMPATIBLE  
INTERCONNECTION



*I.C. Socket Probes*

### IC Socket Probes

IC Socket P/N / Manufacture	IC Package	Part Number
OTQ-44-0.8-03, Enpass	44 Qfp 0.8mm	140-8250-00
OTQ-64-0.5	64QFP 0.5mm	140-8275-00
7014-080-1-08, Wells/CTI	80 Qfp0 .65mm	140-8300-00
OTQ-100-0.5	100 Qfp 0.5mm	140-8350-00
OTQ-128-0.5	128 Qfp 0.5mm	140-8415-00
IC200-009-KS13072	208 QFP 0.5mm	140-9300-00
656-1082211, Wells/CTI	8 Soic 0.65mm	140-7500-00
OTS-(16)34-0.65-01	16 Soic 0.65mm	140-7515-10
OTS-(20)34-0.65-01	20 Soic 0.65mm	140-7520-10
OTS-(24)34-0.65-01	24 Soic 0.65mm	140-7525-00
OTS-(28)34-0.65-01, Enpass	28 Soic 0.65mm	140-7530-00

### Test accessory part numbers

Accessory	Description	Part Number
ESD wrist strap	2pc. kit	150-5475-00
IC Vacuum Pen	includes 3 cup sizes	150-5450-00
DIP Extraction Tool	metal	150-5260-00
PGA Extraction Tools, IC size 10x10-25x25	2 claws,4mm clearance	150-5270-40
	4 claws,2mm clearance	150-5270-10
	4 claws,4mm clearance	150-5270-30
PGA Insertion Tool, IC size 17x17-25x25	2 claws,4mm clearance	150-5350-00
PLCC Extraction Tool	Molded plastic handle, metal grabber	150-5285-00



*Full line of test accessories*