

Emulator adapters in all shapes, sizes, and configurations

#### Typical Emulator and Target Interface



Target System

## Emulator Adapters

Emulators are one of the most widely used instruments during new system development. Emulators help debug the hardware and are effective during software-hardware integration. There are three types of emulator adapters: device-specific, wired one-to-one, and PAL/EPROM.

#### **GENERAL INFORMATION**

The emulator may connect to the package directly or have a general purpose interface. In either case the IC needs an adapter for the package. Consequently, an emulator adapter has an emulator interface on the top and a different package interface to the target board. Some adapters are general purpose, such as converting a PGA package footprint to a PLCC socket or surface-mount pads and can be used for emulators from multiple vendors but the majority are either device- or emulator-specific.

#### INTERCONNECTIONS

#### CLIP-ON

Some microprocessors can be put into a tri-state or transparent mode These devices can remain soldered to the board and you can clip onto it and have the emulator take over.

#### SOCKETABLE

Use a socketable adapter when you have a socket on the target board for the device that you are emulating. You can also use the socketable base of the PolyPod.

#### SOLDER-DOWN

Use a solder-down adapter when your test board doesn't have a socket for the processor.

## Emulator Adapter Types

#### Device specific adapters

Typically, device specific adapters work for only one IC, and its compatible derivatives. As a general rule these adapters can work for more than one brand of emulator but there are exceptions. Some adapters offer access to the signals, and the ability to utilize an adapter with ground and power planes. Why not call us, our sales staff, with a combined 40 years in solving the interconnect challenges of embedded developers worldwide, are waiting to assist you.

#### WIRED ONE TO ONE

These adapters translate package types with equal pin counts (i.e. 68 pin PGA to 68 pin PLCC or 44 pin PLCC to 44 pin QFP) and can be used sometimes with many device derivatives. Due to the pin assignments being generic these adapters can also perform as a test adapter or in some cases to prototype or program a device.

## Clip-on Emulator Adapters

Emulating with high density surface mount packages mounted on your development board used to be a process plagued with inconsistent contact and fraught with the mechanical limitations of yesterday's clip-on technology. Not anymore !

Let Adapters.com introduce you to consistent, reliable hands free emulating utilizing Delta Clip-on technology. We were the first to design this technology into our line of emulator adapters and we are constantly adding new devices to our list of supported devices.

## POPULAR EMULATORS

I-SYSTEMS APPLIED MICROSYSTEMS MICROTEK NOHAU LAUTERBACH ASHLING MICRO YOKOGAWA ADVANCED TRANSDATA PHYTON

### POPULAR DEVICES

MOTOROLA NEC HITACHI INFINION MICROCHIP INTEL ATMEL DALLAS MITSUBISHI





Clip-on adapter for Lauterbach Emulator

web: http://www.adapters.com

#### **Clip-on Adapters**

Device	I.C.E. Interface	Target I.C. Package	Part Number
68336/376	* Nohau	160 Qfp .65mm	180-5970-00
C167	* Lauterbach	144 Qfp .65mm	180-5901-80
C167	* Lauterbach	144 Qfp .65mm	110-1250-00

#### QUICK ORDER GUIDE; DETERMINE:

- Device under test
- Emulator manufacturer and model (pod configuration and signal assignment)
- Package type on target board (e.g., QFP, SSOP, or TSOP etc. see pages 3-10)
- · Measure keep out area, minimum required equals

Adapters.com

Tel: 408.855.8527



1-1 socketable adapters

#### PGA-PLCC, 1-1

I.C.E. Interface	Target I.C. Package	Part Number
28 PGA 6*6	28 PLCC	110-2630-00
32 PGA 7*7	32 PLCC	110-2634-00
44 PGA 8*8	44 PLCC	110-2638-00
52 PGA 9*9	52 PLCC	110-2642-00
68 PGA 11*11	68 PLCC	110-2646-00
84 PGA 13*13	84 PLCC	110-2650-00

#### DIP-PLCC, 1-1

I.C.E. Interface	Target I.C. Package	Part Number
28 Dip .600 (P)	28 PLCC	110-3051-00
28 Dip .600 (Z)	28 PLCC	110-3051-10
32 Dip .600 (P)	32 PLCC	110-2426-00

#### PLCC-PLCC, 1-1

I.C.E. Interface	Target I.C. Package	Part Number
28 PLCC	28 PLCC	110-2704-00
32 PLCC	32 PLCC	110-2707-00
44 PLCC	44 PLCC	110-2710-00
52 PLCC	52 PLCC	110-2713-00
68 PLCC	68 PLCC	110-2716-00
84 PLCC	84 PLCC	110-2720-00

## Common Conversions

PGA - DIP DIP - PLCC PLCC - PLCC EMULATOR SPECIFIC DEVICE SPECIFIC WIRED ONE - ONE

## TECHNICAL SUPPORT

WE HAVE THE KNOWLEDGE WE HAVE THE EXPERIENCE WE HAVE THE SOLUTIONS

## CUSTOM DESIGNS

WE ARE THE DESIGN SPECIALIST FAST DELIVERY

## WORK THE WEB

ON-LINE ADAPTER SEARCH DATA SHEETS DRAWINGS

## Socket-able Adapters

Adapters.com offers a complete line of socketable emulator adapters . These adapters are used when your target development board has a production style socket for the device you are emulating. These adapters, typically, are for processors that are either in DIP, PLCC,PGA and in some cases QFP packages. Adapters come in generic 1-1 configurations and also in device specific configurations.

We offer hundreds of adapters. For your convenience we have selected some of the adapters that we are asked about most frequently and provided them here on this page. Listed you will find your emulators interface and your target IC packaging information. If you do not see exactly what you need, no problem, just call one of our experience technical sales professionals and chances are we already make what you are looking for.

If we find your adapter is not available off the shelf . Adapters.com is the quick turn expert. In most cases from design to delivery is in two weeks or less. Loss development time waiting for device support is no longer a problem. Call today to receive your emulation solution from adapters.com

#### WIRED ONE TO ONE

These adapters translate package types with equal pin counts (i.e. 68 pin PGA to 68 pin PLCC or 44 pin PLCC to 44 pin QFP) and can be used sometimes with many device derivatives. Due to the pin assignments being generic these adapters can also perform as a test adapter or in some cases to prototype or program a device.

#### QUICK ORDER GUIDE; DETERMINE:

- Device under test
- Emulator manufacturer and model (pod configuration and signal assignment)
- Package type on target board (e.g., PGA, BGA, PQFP, LCC, PLCC, etc. see page 4)
- Connection type (clip-over, socketable, solder-down)

**Note:** If your chip under test is in a socket, we may have an adapter that plugs into the socket. Otherwise, you need to solder-down a base and connect to it.

#### Device specific adapters

Typically, device specific adapters work for only one IC, and its compatible derivatives. As a general rule these adapters can work for more than one brand of emulator but there are exceptions. Some adapters offer access to the signals, and the ability to utilize an adapter with ground and power planes. Why not call us, our sales staff, with a combined 40 years in solving the interconnect challenges of embedded developers worldwide, are waiting to assist you.

#### Note:

In catalog tables where the star (\*) appears and is followed by the name of an emulator type or device, that adapter only works for that manufacturers emulator

### POPULAR DEVICES

MOTOROLA NEC HITACHI INFINION MICROCHIP INTEL MITSUBISHI DALLAS ATMEL



Emulator & Device specific adapters

#### Intel device adapters

Device	I.C.E. Interface	Target I.C. Package	Part Number
27C	32 Dip .600 (P)	32 PLCC	110-1665-05
27C	32 Dip .600 (Z)	32 PLCC	110-1665-00
8031	40 Dip .600	40 Dip.600	180-1825-10
8051/87C	40 Dip .600 (P)	44 PLCC	110-1671-00
8051/87C	40 Dip .600 (Z)	44 PLCC	110-1671-10
80C196KX	68 Pga 11*11	68 PLCC	110-2647-00

#### Dip-PLCC adapters with no-connects

I.C.E. Interface	Target I.C. Package	No Connects	Part Number
24 Dip .600 (P)	28 PLCC	5,8,11,19	110-1655-10
24 Dip .600 (Z)	28 PLCC	5,8,11,19	110-1655-20
28 Dip .600 (P)	32 PLCC		110-3052-00
28 Dip .600 (Z)	32 PLCC		110-3052-10

#### Motorola device adapters

Device	I.C.E. Interface	Target I.C. Package	Part Number
68HC05C4	44 PGA (P)	40 Dip .600	110-2400-00
68HC705	40 Dip.600 (P)	44 PLCC	110-2430-00
68HC705	40 Dip.600(Z)	44 PLCC	110-2430-15

#### Infineon device adapters

Device	I.C.E. Interface	Target I.C. Package	Part Number
C541U	44 Pga 8*8	44 PLCC	180-3900-00
C515	* Nohau	68 PLCC	180-3960-10
C517A	* Nohau	84 PLCC	180-3975-10

#### Microchip device adapters

Device	I.C.E. Interface	Target I.C. Package	Part Number
PIC16C64	40 Dip .600 (P)	44 PLCC	110-1670-00
PIC16C64	40 Dip .600 (Z)	44 PLCC	110-1670-10
PIC17C42	40 Dip .600 (P)	44 PLCC	110-1670-30
PIC17C42	40 Dip .600 (Z)	44 PLCC	110-1670-40

#### Various device adapters

Device	I.C.E. Interface	Target I.C. Package	Part Number
8X931HX	* Nohau	64 SDip	180-1849-10
PH8	* Nohau	84 Pga 13*13	180-3362-10
SR	208/32 Qfp	44 PLCC	180-3920-00
8X931HX	* Nohau	68 PLCC	180-3950-10



Emulator Pods and Extenders



Emulator Pods and Extenders



Emulator Pods and Extenders



Emulator Pods and Extenders

#### Type 1

PLCC	Plug height	Part Number
20 Pin	21.6, or 31.9mm	110-6925-00
28 Pin	21.6, or 31.9mm	110-6950-00
32 Pin	21.6, or 31.9mm	110-6975-00
44 Pin	21.6, or 31.9mm	110-7000-00
52 Pin	21.6, or 31.9mm	110-7025-00
68 Pin	21.6, or 31.9mm	110-7050-00
84 Pin	21.6, or 31.9mm	110-7075-00

#### Type 2

PLCC	Plug heights	Part Number
20 Pin	16.5, 21.9mm	110-6930-06
28 Pin	16.5, 21.9mm	110-6955-"*"
32 Pin	21.6, or 31.9mm	110-6980-"*"
44 Pin	21.6, or 31.9mm	110-7005-"*"
52 Pin	21.6, or 31.9mm	110-7030-"*"
68 Pin	21.6, or 31.9mm	110-7055-"*"
84 Pin	21.6, or 31.9mm	110-7080-"*"

#### Type 3

PLCC	Plug heights	Part Number
20 Pin	16.5, 21.9mm	110-6935-"*"
28 Pin	16.5, 21.9mm	110-6960-"*"
32 Pin	16.5, 21.9mm	110-6985-"*"
44 Pin	16.5, 21.9mm	110-7010-"*"
52 Pin	16.5, 21.9mm	110-7035-"*"
68 Pin	16.5, 21.9mm	110-7060-"*"
84 Pin	16.5, 21.9mm	110-7085-"*"

#### Type 4

Type 4		
PLCC	Plug heights	Part Number
20 Pin	16.5, 21.9mm	110-6940-"*"
28 Pin	16.5, 21.9mm	110-6965-"*"
32 Pin	16.5, 21.9mm	110-6990-"*"
44 Pin	16.5, 21.9mm	110-7015-"*"
52 Pin	16.5, 21.9mm	110-7040-"*"
68 Pin	16.5, 21.9mm	110-7065-"*"
84 Pin	16.5, 21.9mm	110-7090-"*"

## PLCC Emulator Pods & Extenders

Anytime you use an emulator you need some type of adapter to convert your target IC package to your test instrument. These PLCC Pods are designed to convert your target to a test instrument interface and in some cases extend out of your chassis when you have strict space limitations

Adapters.com PLCC Pods and Extenders fall in four categories: type1, type2, type3, and type 4. These configurations are generally off the shelf items, but custom configurations can be created quickly. We stock all the hardware and material.Tell us how you want the part wired and in some cases delivery can be within 2-3 days after receipt of your order..

#### Type-1

This adapter consist of a male PLCC plug that inserts into a production and or an auto eject style socket, this is soldered to a breakout board that can have either male / female connectors or unterminated cables( at your desired length).

#### Type-2

This adapter only has the PLCC plug with the unterminated cable attached. These adapters are used when surrounding components block access to your target therefore your Pod will not fit.

#### Type-3

These adapters are built like type-1 but then we add a PCB at the other end of the cable. No field configuration is need with this adapter you just specify the cable length.

#### Туре-4

Type four is also a "plug and go" configuration. This is similar to type two, with no board on the target end and then pre-wired on the other end for your emulator.

#### NOTE:

In catalog tables where the star (\*) appears finish part number with the cable length your application requires. (ie. 110-6940-08 = atype 4 Pod with 8 inches of cable).

## DIP - SOIC Adapters

Adapters.com has surface mount adapters to!

These Dip-Soic adapters are used to convert a small outline package footprint to an "old fashioned" dual in line package type. The adapter surface mounts to the target via a modular base in place of the DUT, and presents the DIP footprint on top for the developer.

They can be very helpful, for example, during firmware development, where the user wants to replace programs in EPROMs, which can be conveniently re-programmed in DIP packages, until the final version is available in an SO package.

Any package any pin count !

Adapters.com Dip-Soic adapters cover a broad section of devices that fall under the name Small Outline Package. We support all 1.27mm pitch device body sizes, 3.8mm, 5.1mm, 7.6mm, 9.1mm, 11.4mm, 13.5mm, and pin counts from 8-44. We also support high density SO package types like SSOP, PSOP, TSOP-II. Call an Adapters.com Technical Sales Support person today, start developing tommorrow.

#### NOTE:

The Dip-Soic adapters can be provided with both .300 mil or .600 mil wide female DIP footprints (where applicable).

Wherever noted in tables.

- (P) equals production IC socket.
- (Z) equals zero insertion force IC socket

#### 3.8mm SOIC surface mount base



5.1mm SOIC surface mount base



7.6mm SOIC surface mount base



#### Dip-Soic, 3.8mm(.150) body size

I.C.E. Interface	SOIC 1.27 / 3.8mm	Part Number
8 Dip .300 (P)	8 Pin	110-4100-10
14 Dip .300 (P)	14 Pin	110-4107-10
16 Dip .300 (P)	16 Pin	110-4110-10
18 Dip .300 (P)	18 Pin	110-4112-10
20 Dip .300 (P)	20 Pin	110-4119-10

#### Dip-Soic, 5.1mm(.200) body size

I.C.E. Interface	SOIC 1.27 / 5.1mm	Part Number
8 Dip .300 (P)	8 Pin	110-4100-20
16 Dip .300 (P)	16 Pin	Call factory
18 Dip .300 (P)	18 Pin	110-4113-20
20 Dip .300 (P)	20 Pin	110-4119-20

#### Dip-Soic, 7.6mm(.300) body size

I.C.E. Interface	SOIC 1.27 / 7.6mm	Part Number
8 Dip .300 (P)	8 Pin	110-4100-30
14 Dip .300 (P)	14 Pin	Call factory
16 Dip .300 (P)	16 Pin	Call factory
18 Dip .300 (P)	18 Pin	110-4113-30
20 Dip .300 (P)	20 Pin	110-4119-30
28 Dip .300 (P) 28 Dip .600 (P)	28 Pin 28 Pin	110-4132-30 110-4135-30
32 Dip .600 (P)	32 Pin	110-4144-30

#### QUICK ORDER GUIDE; DETERMINE:

- DIP footprint needed 8-44
- Interface socket type Production or Zero insertion force
- Package type on target board need Body size, Tip-Tip dimension, Lead pitch
- Typically the dip and soic pin counts match, we can customize almost any combination

**Note:** If your chip under test is in a socket, we may have an adapter that plugs into the socket. Otherwise, you need to solder-down a base and connect to it.



Emulator specific adapters

#### Atmel device adapters

Device	I.C.E. Interface	Target I.C. Package	Part Number
AT90LS	28 Dip .300	32 Qfp .5mm	110-3105-00
AT90S4434	40 Dip .600	44 Qfp .8mm	110-3230-00
AT49F1024	44 PLCC	40 TS.5mm	110-3942-00

#### Intel device adapters

Device	I.C.E. Interface	Target I.C. Package	Part Number
8031/51	40 Dip .600	44 Qfp .8mm	110-3227-00
196KC	68 PGA 11*11	80 Qfp R .8mm	110-3605-00
486DX	168 Pga 17*17	208 Qfp .5mm	110-3700-00
8051XAS	68 PLCC	80 Qfp .5mm	110-3900-00
80186/88EB	84 PLCC	80 Qfp .8mm	110-3913-00

## Surface Mount Adapters

Adapters.com is the market leader in solder down technology and product quality. We offer more pin counts and configurations in this area than anyone. Our engineering staff pioneered the first surface mount emulator adapters and with the introduction of our PolyPod surface moount line we are continuing the tradition of leading in market technology.

With the introduction of the PolyPod we also took the high cost out of multiple board testing. We are offering a product that is less than 50% of the cost what our competition offers. Versatility is also a trademark of products. The unique abliity to be used as a standalone surface mount base with the option to be a surface mount socket makes this product like no other.

If a custom solution is what you need then Adapters.com has what it takes. In our company everyone who is involved in product design has over ten years experience in the adapter industry. We are an employee owned company that cares and we have the most experienced design staff -- bar none.

#### Note:

In catalog tables where the star (\*) appears and is followed by the name of an emulator type or device, that adapter only works for that manufacturers emulator



Motorola 68302 adapter

#### QUICK ORDER GUIDE; DETERMINE:

Device under test

- · Emulator manufacturer and model (pod configuration and signal assignment)
- Package type on target board (e.g., PGA, BGA, PQFP, LCC, PLCC, etc. see page 4)
- · Connection type (clip-over, socketable, solder-down)

**Note:** If your chip under test is in a socket, we may have an adapter that plugs into the socket. Otherwise, you need to solder-down a base and connect to it.

#### Mitsubishi device adapters

Device	I.C.E. Interface	Target I.C. Package	Part Number
M16C/62	* Nohau (NQ)	100 Qfp .5mm	180-5681-00
M16C/62	* Nohau (TQ)	100 Qfp .5mm	180-5681-10
M16C	100 Lcc/Qfp	100 Qfp .65mm	180-5691-00
M16C	100 Lcc/Qfp	100 Qfp .65mm	180-5691-05
M16C		100 Qfp .65mm	180-5691-10

#### Microchip device adapters

Device	I.C.E. Interface	Target I.C. Package	Part Number
PIC16C74	40 Dip .600 (P)	44 Qfp .8mm	110-3228-00
PIC16C74	40 Dip .600 (Z)	44 Qfp .8mm	110-3228-05
PIC16C924	68 PLCC	64 Qfp .5mm	110-3905-00
PIC16C	18 Dip .300	20 Soic .65mm	110-3105-00

#### Infineon device adapters

Device	I.C.E. Interface	Target I.C. Package	Part Number
C508	* Nohau	64 Qfp .8 mm	180-5450-00
C161	* Nohau (NQ)	80 Qfp .65mm	180-5550-15
C164C1	* Nohau (NQ)	80 Qfp .65mm	180-5550-20
C164C1	* Nohau (TQ)	80 Qfp .65mm	180-5550-25
C164C1	* Nohau (YP)	80 Qfp .65mm	180-5550-30
C515	* Nohau (NQ)	80 Qfp .65mm	180-5550-40
C515	* Nohau (TQ)	80 Qfp .65mm	180-5550-45
C515C	* Nohau (NQ)	80 Qfp .65mm	180-5550-50
C515C	* Nohau (TQ)	80 Qfp .65mm	180-5550-55
C505L	* Nohau (NQ)	80 Qfp .65mm	180-5550-60
C505L	* Nohau (TQ)	80 Qfp .65mm	180-5550-65
C1610	* Nohau (NQ)	80 Qfp .65mm	180-5550-70
C161RI	* Nohau (NQ)	100 Qfp .5mm	180-5680-10
C517A	* Nohau (NQ)	100 Qfp R.65mm	180-5690-20
C517A	* Nohau (TQ)	100 Qfp R.65mm	180-5690-10
C161RI	* Nohau (NQ)	100 Qfp R.65mm	180-5690-50
C161SI/C	* Nohau (NQ)	128 Qfp .5mm	180-5785-10
C167	* Lauterbach	144 Qfp .5mm	180-5890-00
C167	* Lauterbach	144 Qfp .5mm	180-5891-00



Device-specific adapters

#### Note:

(P) equals "Production IC socket"
(Z) equals " zero insertion force IC socket"
(NQ, TQ) refer to the style of surface mount base that is shipped with the product. for reference purpose see pages 20 and 21

#### Various device adapters

Device	I.C.E. Interface	Target I.C. Package	Part Number
TMP87	64 SDip	64 Qfp R 1.0mm	110-3265-00
8XC196KC	* Nohau (TQ)	80 Qfp .5mm	180-5540-10
80C552	68 PLCC	80 Qfp .8mm	110-3660-00
M37710	80 LCC	80 Qfp .8mm	110-3770-00
DS87C	52 PLCC	52 Qfp .65mm	110-3885-00
78C10	64 QIP	64 Qfp R 1.0mm	110-4040-00

#### Motorola device adapters

Device	I.C.E. Interface	Target I.C. Package	Part Number
68302	132 Pga 13*13	132 Qfp .635mm	110-3661-00
68060	206 Pga 18*18	240 Qfp .5mm	110-3714-00
68360	241 Pga 18*18	240 Qfp .5mm	110-3731-00
68HC11E9	52 PLCC	64 Qfp .8mm	110-3886-00
68HC05B6	52 PLCC	64 Qfp .8mm	110-3887-00
68HC11F1	68 PLCC	80 Qfp .65mm	110-3903-00
68HC12	* Nohau (NQ)	80 Qfp .65mm	180-5550-00
68HC12	* Nohau (TQ)	80 Qfp .65mm	180-5550-10
68HC16Z1	* Nohau (TQ)	144 Qfp .5mm	180-5894-30



## QFP Emulator Pods

#### POLYPOD ADAPTERS

These adaoters allow easy and cost efficient access to your target board when you have a QFP device footprint. The PolyPod adapter line is the most versatile in the industry. Primary application is connecting an emulator to the PC board under development. The interface board that is connected to the surface mount bases can be customized for the particular emulator, or we can provide you with industry standard versions.

#### NQ-POLYPOD

The NQ PolyPod is the only surface mount adapter line that allows connectivity to all types of test instrumentation and with optional accessories acts as a surface mount socket utilizing the same pad layout of your target IC package. The NQ can connect directly to you Emulator or with a conversion board (as shown in the illustration on the left) can be converted to fit any make or model of emulator. It does all this and still comes in under the cost of some other products on the market. Injection molding, and superior design ensure that the product you receive is 100% tested and ready to emulate.

#### TQ-POLYPOD

The TQ PolyPod adapter also allows direct connection to most types of test instrumentation, or with conversion boards. This low profile injection molded surface mount base has no equal for price and or versatility. The TQ PolyPod base is also used in our line of Logic Analyzer adapters so with one cost efficient solution your test capabilities are endless.

The PolyPod adapter lines and the Adapters.com team of adapter designers and technical support profeesionals ensures that you receive the right products with the bla bla bla

#### Note:

Please refer to the table on the next page to see if your Qfp Ic package type is supported by the PolyPod line of adapters.

Adapters.com

## PolyPod Surface-mount Bases

A special type of surface mount base is the PolyPod. The PolyPod is a versatile, high performance, low cost QFP solder down base. Versatile because it can be reconfigured for a variety of testing situations. High performance because its compact design allows for high speed designs to work flawlessly. Low cost because replacement bases are up to 50% less than other units. It's no mystery why leading emulator and test equipment manufacturers are switching to the PolyPod.

## Versatility

In the NQ version, the Polypod has a base that solders down on the QFP footprint. From there you can: Plug in a cable assembly to your emulator, connect an adapter to it and plug in to various test equipment, OR put the IC directly on the base, put the special IC cover over it and verify that your design works. You could even ship the unit to YOUR customer. No other product in the market lets you do more testing with one base soldered to the design.

# Selection and Delivery

Adapters.com carries hundreds of PolyPod bases in stock. We have all the popular pin counts and pitches and many of the uncommon ones as well. Often your PolyPod base can ship the same day you order it.



The PolyPod surface mount adapter

#### PolyPod supported I.C. packages

Footprint	N- Q	T- Q	Body	Footprint	N- Q	T- Q	Body	Footprint	N- Q	T- Q	Body
32 pin .8mm		*	7.0 x 7.0	80 pin .5mm	*	*	12.0 x 12.0	132 pin .635mm		*	24.2 x 24.2
40 pin .65mm		*	10.0 x 10.0	80 pin .4mm	*		12.0 x 12.0	144 pin .4mm	*		16.0 x 16.0
44 pin .8mm	*	*	10.0 x 10.0	100 pin .8mm		*	22.0 x 22.0	144 pin .5mm	*	*	20.0 x 20.0
44 pin 1mm		*	14.0 x 14.0	100 pin .5mm	*	*	14.0 x 14.0	144/160 pin .65mm	*	*	28.0 x 28.0
48 pin .5mm	*	*	10.0 x 10.0	100 pin .4mm	*		12.0 x 12.0	156 pin .4mm	*		14.0 x 20.0
48 pin .8mm		*	7.0 x 7.0	100 pin .65mm	*		14.0 x 20.0	160 pin .65mm	*	*	28.0 x 28.0
52 pin .65mm		*	10.0 x 10.0	112 pin .65mm		*	20.0 x 20.0	160 pin .5mm	*		24.0 x 24.0
56 pin .65mm		*	10.0 x10.0	120 pin .4mm	*		14.0 x 14.0	168 pin .65mm	*		28.0 x 28.0
64 pin 1mm	*	*	14.0 x 20.0	120 pin .5mm		*	16.0 x 16.0	176 pin .5mm	*	*	24.0 x 24.0
64 pin .8mm	*	*	14.0 x 14.0	120 pin .5mm	*		20.0 x 20.0	176 pin .4mm	*		20.0 x 20.0
64 pin .65mm	*	*	12.0 x 12.0	120/144 pin .5mm	*		20.0 x 20.0	208 pin .5mm	*	*	28.0 x 28.0
72 pin .5mm		*	10.0 x 10.0	128 pin .5mm	*		18.0 x 18.0	240 pin .5mm	*		32.0 x 32.0
80 pin .8mm	*	*	14.0 x 20.0	128 pin .5mm	*		14.0 x 20.0	256 pin .4mm	*		28.0 x 28.0
80 pin .65mm	*	*	14.0 x 14.0	128 pin .8mm		*	28.0 x 28.0	304 pin .5mm		*	30.0 x 30.0



## Work the Web

Everything you need to know about the PolyPod is on www.adapters.com

- Search -- Type in as much as you know about your needs and find out what is available
- Data sheets -- A full set of data sheets on all PolyPod products are on the web
- Create -- The Adapter Builder lets you create your adapter on-line.

Click on the PolyPod Command Center



High Speed Coaxial cable



PCB detail, High speed Coaxial

#### The PolyCoaxial cables

Footprint	Interface	Part Number			
100 .5mm	NQ/TQ PolyPod	110-8145-00			
120 .4mm	NQ PolyPod	110-8150-00			
144 .5mm	NQ/TQ PolyPod	110-8195-00			

#### The Pga-Pga--Flex circuits

Footprint	Interface	Part Number			
169 Pga 13*13	Female-Female	110-7960-00			
256 Pga 16*16	Female-Female	110-7975-00			

#### PGA-PGA FLEX CHARACTERISTICS

speeds up to 20 MHz. 158.8mm length male-male connectors available for pcb interconnection

## High Speed Coaxial cable

These cables are used for high-speed circuits, when the test instrument can not directly access the target board due to space limitations. Our state-of-the-art cables can be used up to 1 Ghz., and they are designed to easily interface to our industry standard PolyPod and PolyBga surface mount adapter lines. Each signal line is routed through a miniature coaxial cable, eliminating noise and cross-talk completely. You have to see it to believe it.

.33mm coaxial signal lines isolated ground lines and flames characteristic impedance 50 ohms plated copper center conductor teflon resin dielectric wound copper outer conductor polyester outer jacket

## PGA -PGA Flex Circuits

Adapters.com is committed to solving all your interconnection applications. Our PGA-PGA flex circuits are another product toward that goal. Not all applications are at the forefront of technology some of the reliable packages types of yesterday are still workhorses today. These flex circuits are designed with the same commitment to quality as our other flex cables but are just designed to work at lower speeds, and offer a female-female PGA footprint. We have male to male interconnections for adapting to all types of test instruments. These cables are also compatible with our Delta Clip-on adapters.