Package Converters

High Performance IC Sockets And Adaptors
Corporate Overview

- SMT Interconnection Specialists
- Over 20 years of Industry Experience
- Over 6,000 Products Offered
- Mechanical and Electrical Engineers
- Quick Design Capability
- Quick Turn Production
IC Package Conversion

- Broad Product Range
- All Major Package Types Available
- Hundreds Standard Items Offered
- Many Custom Designs Delivered
- Start a new Custom Every Day - Average
Package Converter Examples

SOIC - DIP

BGA - BGA

BGA - PLCC

QFP - PLCC
IC Package Converters

- Low Profile
  - Less than 2.0 mm total added height

- Low Impact Footprint
  - Less than 0.7 mm per side

- IC’s including Voltage Regulation Available
  - On-board regulators and capacitors
  - Multi-chip and Multi-layer
Shaped Solder Column Technology

- Matches Target Land Pattern
- Allows Simple Flux & Reflow Attach
- Cost Effective
  - In Moderate to High Volume
- Proven Reliability and Performance
- Used in MIL Applications
- Tough, Durable
Package Converter with Shaped Solder Column - SSC

Combines space efficiency with high speed.
Package Converter – Leaded Parts

Types of Leaded Parts
- PGA – Connect with SMT or Soldered Blind Pin
- DIP – Connect with SMT or Soldered Blind
- QFP – Connect with Gullwing Leadframe or Shaped Solder Column
- PLCC – Connect with Leadframe or Shaped Solder Column
Package Converter Design Possibilities

- Pick and Place Fiducial
- Voltage Regulator (if required)
- Passive components (if required)
- Multilayer, Impedance controlled PCB (if required)
- Solder Column
  - Low temp. Eutectic 67/33 SnPb
SOIC to SOIC

SMT Leads on Top
SSC on Bottom
SOIC to PLCC

Install SSC - Bottom

Install IC, Discretes - Top

Solder Columns
QFP to PLCC

QFP, Discretes, Connector

Socketed PLCC
Multichip to BGA

Install ICs on Top
Install Solder Balls on Bottom

Kapton Dot For SMT Placement
BGA to QFP

Converts BGA to QFP Gullwing
BGA to QFP

BGA to QFP – SSC

BGA With multi Component

Shaped Solder Column
QFP to PGA

QFP SMT on top to Solderable PGA
Package Converter with Machining
Panelized Adapters – BGA to BGA With Solder Ball
Packaging For Further Assembly

- Tray
- Tape/Reel
Design Process

- Obtain General Requirements
- Inputs Form is Completed
- Drawings Developed Collaboratively
- Customer Approves Drawings and Design
- First Article – Customer Approves
- Volume Production
Why Ironwood for Package Converters

- Highly Skilled Engineering for SMT Interfacing
- Advanced Electronic Assembly
- Machining Capability for Fixturing
- Experienced in Volume and Prototype Applications
- Military and Aerospace