

# BEST

# PCB Repair Kit

## The right tools for the right job

The **BEST** PCB Repair Kit is designed to address problems with lifted or damaged lands on circuit boards. This kit was specifically designed to make the repair process as simple and effective as possible and to meet the quality of original trace, pad and plated through hole assemblies. **BEST** PCB Repair Kits give you the tools you need for fast repair and modification of lands, traces, contact fingers, SMT pads, and plated hole connections. These materials packaged together and designed by one of the premier PCB repair companies **BEST** Inc., allow you to meet original PCB quality standards.

## Lead free & RoHS compatibility

**BEST** PCB Repair Kit provide you with the materials to make sure that you can modify and repair lead free assemblies. The finish on the **BEST** circuit frames are "lead free compatible"; they are also compatible with eutectic alloy versions.

## The right instruction

**BEST** Inc. PCB repair artisans have been involved in board level repair for a combined 60 plus years. In addition, several **BEST** Inc. staff members have been teaching and contributing to the procedures found in the IPC "7721 Repair and Modification of Printed Boards and Assemblies". This combined experience is captured through a series of "how to" slides which will guide you through the actual repair procedures. These instructions provide advanced repair technicians some "tricks of the trade" which are key when performing PCB repairs.

**BEST** PCB Repair Kit - *The right tools for the right job*



## Material Specifications

Quantity	Description
QTY 1	BEST 1 Circuit Frame – SMT pad
QTY 1	BEST 2 Circuit Frame – Edge connector
QTY 1	BEST 3 Circuit Frame – SMT traces
QTY 1	BEST 4 Circuit Frame – Through-hole
QTY 1	BEST 5 Circuit Frame – BGA pad
QTY 3	Resin/Hardner 2 gms with divider
QTY 1	1" C Clamp
QTY 1	Stainless steel dental pick
QTY 1	Large knife with assorted blades
QTY 1	Small knife with assorted blades
QTY 5	Popsicle sticks
QTY 5	Orangewood sticks
QTY 50	.021" ID .030" OD .078" LUF Eyelet
QTY 50	.026" ID .040" OD .093" LUF Eyelet
QTY 50	.034" ID .046" OD .093" LUF Eyelet
QTY 50	.048" ID .059" OD .093" LUF Eyelet
QTY 50	.058" ID .068" OD .102" LUF Eyelet
QTY 50	.064" ID .076" OD .091" LUF Eyelet
QTY 1	Stainless steel tweezers
QTY 1	Swage tool base
QTY 1	Swage tool fixture

\*Individual Items may be purchased separately.  
All materials are RoHs compliant

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Your **BEST** choice in Solder Rework/Repair, Solder Training and Soldering Tools

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# BEST

# Trace Repair Kit

Trace Repair Kit designed to duplicate the quality of the original PCB.

**BEST** makes it simple for you to repair damaged circuit traces on printed circuit boards. **BEST** circuit tracks are 4" (102mm) strips of 99.9% pure CDA 11000 copper. The strips have etched backsides that provide a large surface area to adhere the traces to the board. They closely conform to the original conductor dimensions. Replacement circuit tracks are bonded in place using prepackaged epoxy included in the kit. This kit is a great time and labor-saver providing the tools you need to quickly repair missing or damaged circuit traces.

The method for repairing damaged circuit traces employs the use of copper circuit tracks which are epoxied to the circuit board. The replaced conductors are the same size as the original. This IPC recommended technique is preferable to making circuitry repairs with jumper wires because it most closely duplicates the original fabrication process.

The **BEST** circuit track kit is designed for flexibility with (7) different circuit trace widths and thicknesses to accommodate nearly every standard circuit trace used today. Each of the traces, as well as the epoxy packs, can be purchased individually when the supply from the kit is exhausted.

### Lead free & RoHS compatibility

**BEST** PCB trace repair kits provide you with the materials to make sure that you can modify and repair lead free assemblies. The finish of the **BEST** circuit tracks are "lead free compatible"; they are also compatible with eutectic alloy versions.

### The right tools for the right job

Because **BEST** circuit trace repair kits are designed by artisans who have been repairing circuit boards for many years, the right tools have been included in this general circuit trace repair kit. The right tools start with the best 2-part epoxy system in order to insure that once the track has been properly placed and adhered onto the board that it stays in place. This epoxy system has been used on thousands of printed circuit boards and is designed to withstand multiple temperature cycles over the life of the printed circuit boards. In addition, the included sticks allow you to bend and configure the tracks into place easily. A sharp small knife included in the kit allows you to neatly cut the traces so that aesthetic appearance and IPC specifications can be rigidly followed. Professional stainless steel tweezers grab and hold the tracks while you are working on them.

### The right instruction

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### Material Specifications

99.9% pure CDA 11000 copper  
Backside etched for optimal adherence  
Track Size: 4" (102 mm) in length

### Qty

### Track widths and Thicknesses

9	.002" (0.51mm)width x .005" (1.27mm)thickness
9	.002" (0.51mm)width x .006" (1.52mm)thickness
9	.002" (0.51mm)width x .008" (2.03mm)thickness
9	.002" (0.51mm)width x .010" (2.54mm)thickness
9	.003" (0.76mm)width x .015" (3.81mm)thickness
9	.005" (1.27mm)width x .020" (5.08mm)thickness
9	.005" (1.27mm)width x .030" (7.62mm)thickness

### Quantity

### Description

1	Stainless Steel curved tweezer
5	Orange Stick for forming tacks around corner
3	Resin, hardener 2gm premixed
1	X-acto knife for precision cutting

\*Individual items may be purchased separately.

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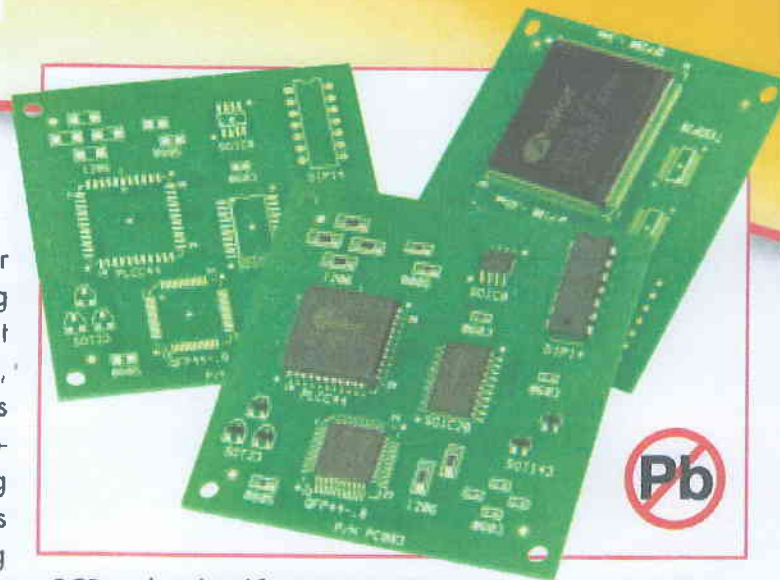
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# Training Kit

## Lead-Free Evaluation and Training Kits

**BEST** offers lead-free evaluation and training kits for companies evaluating the impact of lead free hand soldering or rework processes. The **BEST** lead-free evaluation kit includes: a training PCB with a lead free compatible finish, components with lead-free compatible surface finishes, as well as a spool of the IPC-recommended SnAuCu0.6 (no-clean) lead-free flux core solder. This kit includes everything you need to help you evaluate the hand soldering process with respect to lead free materials. **BEST's** lead-free training kits include a variety of SMT components along with a training PCB with a lead-free compatible surface finish. With any of these kits you and your soldering technicians can begin to become familiar with the wettability characteristics of the lead-free solder systems, their solder joint appearance and the flux/solder behavior. In addition, you can begin to evaluate how your current soldering equipment is suited for the increased liquidus temperature of lead-free solders.



### A Reflection on the **BEST** Training Experience

***BEST Inc.**, which has trained thousands of both soldering technicians as well as other trainers, keeps the goal of training at its core with its training kits. **BEST** kits are designed to be used with a "Repetitive Series of Tasks" type of curriculum which stresses the importance of repetitive, hands on work to master soldering skills and techniques. Each training kit comes with enough parts to accomplish this effectively and will provide the student with the confidence required to rework today's complex assemblies.*

#### Specifications

**Solder:** SnAuCu0.6 no-clean lead-free 20 mil diameter flux core solder (11lbs)

**Board Size:** 2.5" x 2.5", (63.5 x 63.5 mm)

**Board Specifications\*:** FR4 Board Material  
.062" (1.58 mm) thick

**Components:** Individually packaged 100% tin terminations

Part	Quantity Per Kit			
PWB	1	1	1	1
QFP 208	1	1	1	1
QFP 44	1	1	1	1
QFP 100	1	1	1	1
PLCC 44	1	1	1	1
SO8GT	2	2	2	2
SO20GT	1	1	1	1
SOT 23	3	3	3	3
SOT 143	4	4	4	4
0603 Chip	6	6	6	6
0805 Chip	3	4	3	3
1206 Chip	6	6	6	6
DIP 14	1	1	1	1
Lead Free Solder	0	1	0	1
	Lead-Free Training Kit HASL Finish Pb/BEST no Free Solder	Lead-Free Evaluation Kit HASL Finish w/Solder Pb/BEST no Free Solder	Lead-Free Training Kit Immersion Silver Finish Pb/BEST no Free Solder	Lead-Free Evaluation Kit Immersion Silver Finish w/Solder Pb/BEST no Free Solder

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\*Lead free immersion silver, OSP, HASL, immersion tin and immersion gold available upon request

# BEST

# Land Repair Kit

## The right tools for the right job

The **BEST** Land Repair Kit is designed to repair lifted or damaged lands on circuit boards. This kit was specifically designed to make the repair process as simple and effective as possible. This kit includes 3 different tin plated circuit frame patterns, which offer nearly 3 times as many useable replacement land patterns as other circuit frames. Unlike dry film circuit frames, **BEST** circuit frames have no shelf life and can be used on both lead-free and tin-lead finish circuit boards. The Land Repair Kit also includes useful tools to help the repair process go smoother such as: (1) professional stainless steel tweezers, (1) precision knife, (4) Resin/Hardner, and (5) Orangewood sticks. This is a very versatile kit, which will meet the needs of your land repairs.



## The right instruction

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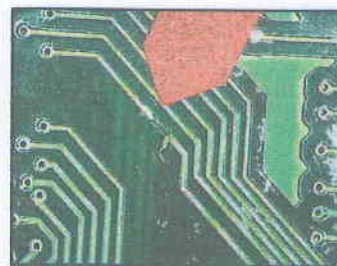
## Epoxy Adhesive System - Proven Reliability

**BEST** testing has shown by using the **BEST** 2-part electronics adhesive system, the bond strength of repair traces, pads, and lands equals that of the original land, pads, and traces. Even under thermal air shock conditions from -50C to 85C at 30 minutes dwell time for 200 cycles this adhesive system performed well. The same cannot be said about dry film bonding systems where the reliability of repaired pads, lands and traces did not hold up to such shocking environmental conditions.

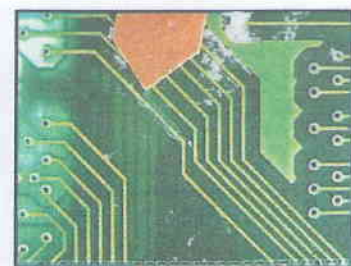
## Material Specifications

Quantity	Description
QTY 1	BEST 2 CktTrack Edge Connector Circuit Frame tin plated
QTY 1	BEST 3 CktTrack SMT Trace Circuit Frame tin plated
QTY 1	BEST 11 CktTrack Trace Repair Circuit Frame tin plated
QTY 1	Stainless steel tweezers
QTY 1	Razor knife
QTY 4	Resin/Hardner, 2 gms
QTY 5	Orangewood sticks

\*Individual Items may be purchased separately.  
All materials are RoHS compliant



Before



After

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