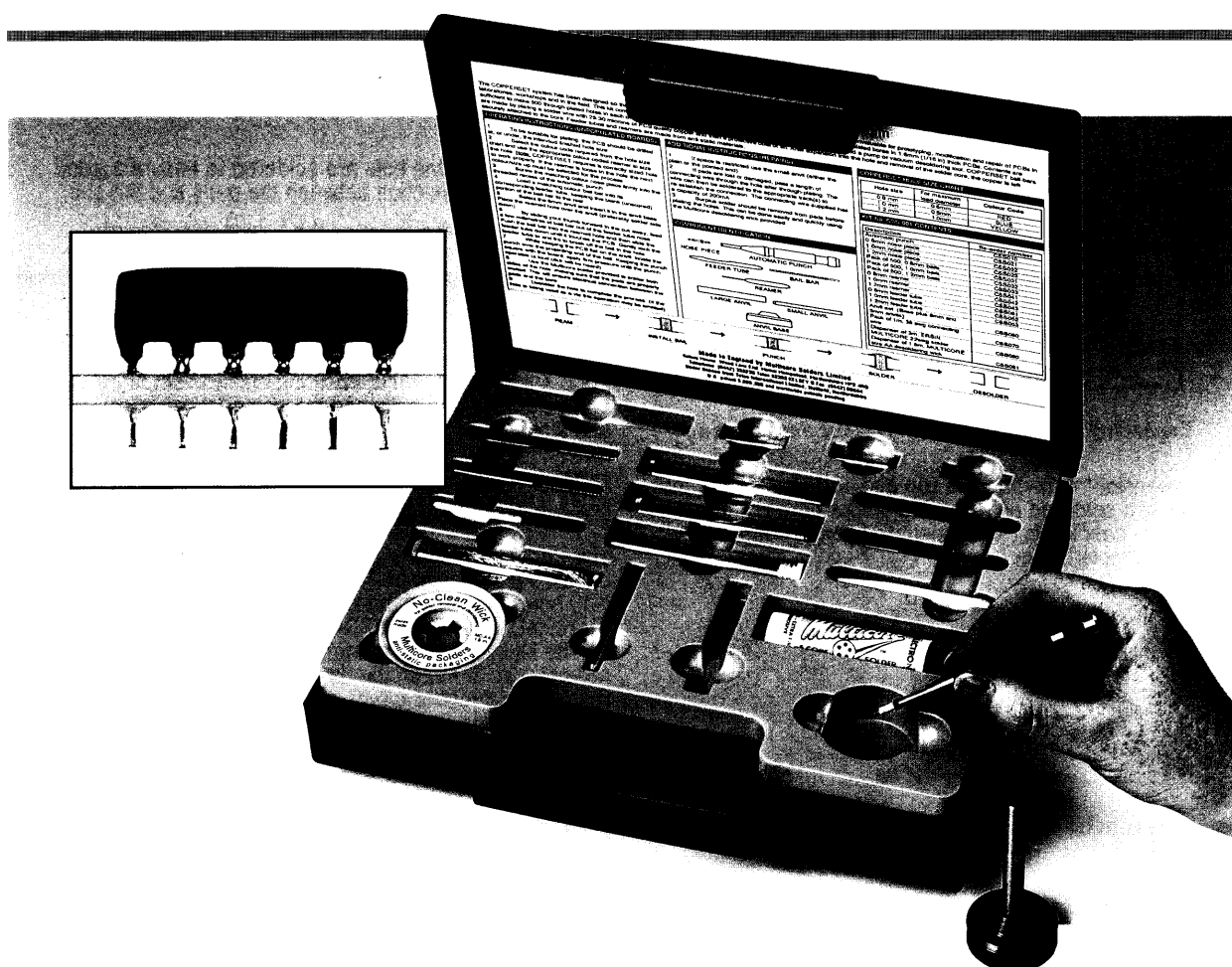


451-0M1



COPPERSET[®]

THROUGH-HOLE PLATING SYSTEM



- Converts plain holes in PCBs to plated through-holes
- Selective system - no need to process whole board
- No tooling charges, no waiting
- Dramatically reduces cost compared with alternative systems
- Invaluable for prototyping and repairs
- Portable kit for fast, on-the-spot hole conversion

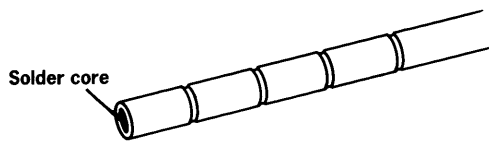
COPPERSET[®] SYSTEM CSS001

Copperset is a simple manual system which allows plain holes in PCBs to be through-plated instantly, at a fraction of the cost of alternative methods. It can be used whenever a plated through-hole is required - particularly under components such as header blocks or displays, where top soldering is impossible.

The kit contains the tools and materials necessary to form plated through-holes in standard PCBs with a thickness of 1.6mm (0.062in). The only additional equipment required is a soldering iron and a pump or vacuum desoldering tool.

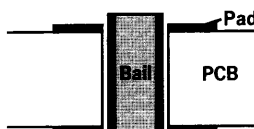
HOW COPPERSET® WORKS

A plain hole in a PCB is converted to a plated through-hole by inserting a thin copper sleeve which is mounted on a solder core to assist insertion. The solder-filled sleeves, called 'bails', are supplied as a length of 'bail-bar' which is scored at intervals so that each bail can easily be separated.



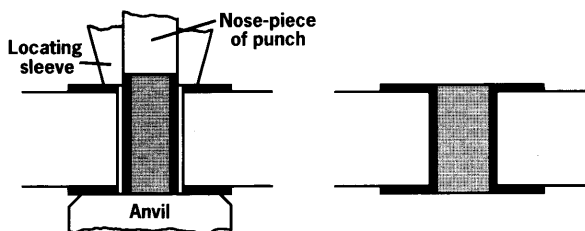
Bail-bar (Scale x15)

The bail-bar is manufactured by plating a length of solder wire with 25-30 microns of high-purity copper followed by a protective coat of tin. The length of the bail is slightly greater than the thickness of the PCB. In use, the bail-bar is inserted in an accurately sized hole and a bail is broken off.



Bail after insertion in reamed hole

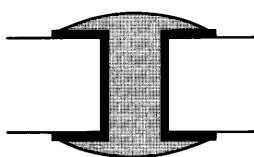
Using an automatic punch and a small anvil the bail is then expanded to fit the hole tightly.



Expanding the bail

After expansion

After expansion of the bail, the top and bottom sides of the hole are first soldered and then the solder core is removed with normal desoldering equipment to leave a copper lined and tinned through-hole.



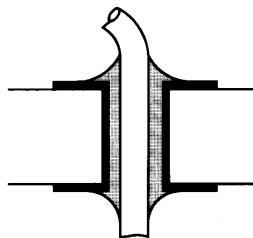
After soldering

If the hole is to be used only as a via, desoldering is not necessary.



After desoldering

Extensive testing has shown that the system is fast and reliable in use. The copper lining remains securely attached to the bore, and when the board is soldered, solder will travel up the plated hole and produce a satisfactory top joint provided that a correctly sized component is present in the hole.



Plated hole after component insertion and soldering

HOW TO USE COPPERSET®

Note: To be suitable for plating, holes in the PCB must not be larger than the intended finished hole size.

1. Depending on the required hole size, the appropriate colour coded reamer is used to size the hole. If the reamer is loose in the hole the next size up must be selected.
2. The hole is placed over the anvil, a bail-bar of the correct size is inserted using a feeder tube and a bail is broken off by gentle rocking.
3. The automatic punch is used to expand the bail into the hole.
4. Both sides of the hole are soldered to ensure a good electrical connection between the pads and the bail.
5. To complete the process the hole is desoldered.

GOOD SOLDERING PRACTICE

Multicore Copperset should be used in accordance with good soldering practice, ensuring cleanliness, adequate component solderability and the use of appropriate solder and flux.

KIT CONTENTS

The Copperset kit is supplied in a lightweight case containing sufficient bail bars and other materials to convert 500 holes in each of three sizes - 0.8mm (0.031in), 1.0mm (0.039in), and 1.2mm (0.047in).

The kit includes an automatic punch with alternative nose-pieces to match the three hole sizes, three sets of reamers and feeder tubes, an anvil base and two sizes of anvil (5mm and 8mm). The smaller anvil is for use where access is restricted. Feeder tubes and reamers are made from anti-static materials.

The kit is completed with a pack of 38swg connecting wire, dispensers of solder wire and desoldering wick and full instructions.

Copperset is produced under licence from Telco International Limited. US Patent 5,025,553 and worldwide patents pending.



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