

# Micro-Abrasive Blasting Solutions for Set-Top PC Boards



## Contamination Removal from Set-Top PC Boards

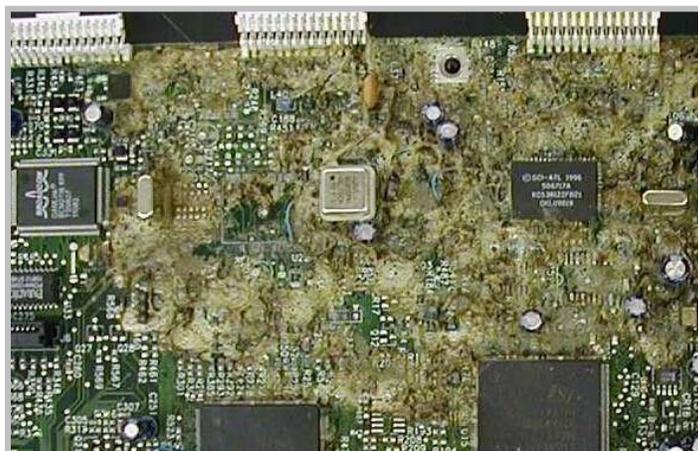
When cable TV converter boxes or “Set-Tops” fail, the high value of the boards and boxes warrants a significant effort to salvage these products. From coffee or soda to pet hair, contamination is often the source of a short or malfunction to the board. In order to recycle the returned board, it must be cleaned of all foreign substances and tested.

MicroBlasting is a fast, environmentally friendly, and cost-effective solution to the problem of cleaning PC boards without causing damage to the board circuitry. It works by propelling air and abrasive out a small nozzle. The high velocity of the particles as they exit the nozzle greatly increases their abrasive action.

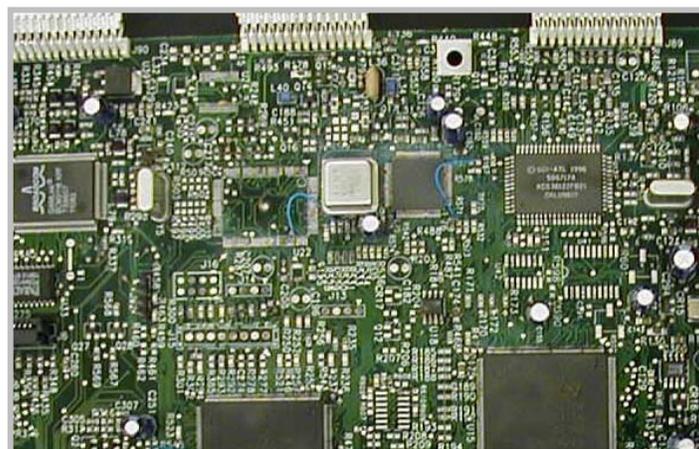
## How Does MicroBlasting Clean Boards?

Micro-abrasive blasting has been proven as an effective and economical method of removing various types of contamination without damaging the leads or traces on the devices. In some cases, simply removing the foreign material is sufficient to restore proper functioning of the board.

Blasting of the contaminated board is performed manually in an enclosed WorkStation that confines the spent abrasive and provides a high visibility work area for the operator. The WorkStation is equipped with static dissipative devices to reduce the potential for static charge damage.



*Contamination impacted PC board*



*PC board after microblasting process*



# Contamination Removal from Set-Top PC Boards

## What You Need to Get Started

**Equipment:** A MicroBlaster or AccuFlo abrasive blaster and the ESD Control ProCenter Plus.

**Media:** 50 micron Glass Bead. This will remove residue without damaging components and or traces.

**Nozzle:** 0.046" ID round nozzle. This nozzle is recommended for large, even coverage over the entire board.

**Nozzle Distance:** 3-5" from the board.

**Blast Pressure:** 60-80 psi



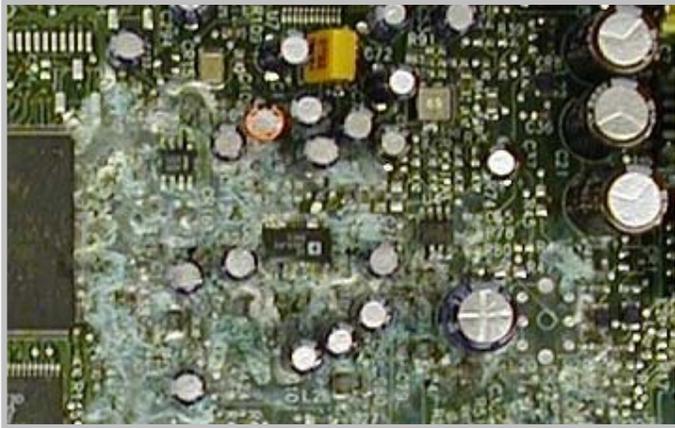
The operator holds the nozzle a few inches from the board so that there is only light abrasion of the surface. Because of the small size of the nozzle opening, the operator can direct the abrasive stream with pinpoint accuracy and can blast only those sections of the board that are contaminated with the foreign material.

The blasting process needs to be an even, controlled motion across the surface of the board. Care should be taken not to focus on any one section too long. If sprayed in one location long enough, the abrasive will start to damage the board. Once the board has been cleaned, it should be blown off with the ProCenter Plus air gun to remove any residual abrasive media.

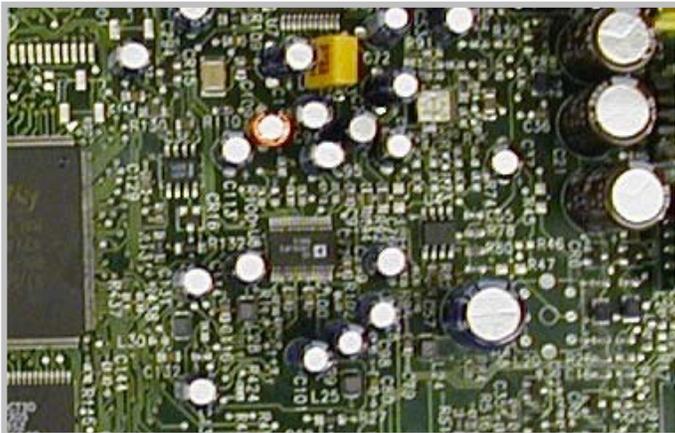
Due to the wide variety of contamination types and levels of residue build-up, it may take anywhere from 15 to 45 seconds to process a board.

## Versatile Tool

Micro-abrasive blasting offers a cost-effective solution to many of the problems encountered when trying to salvage and recycle printed circuit boards. In addition to the selective cleaning example used in this overview, microblasting is used to remove conformal coatings from PC boards, trim epoxy from probe rings and for demarking electronics packages.



*PC board prior to cleaning*



*PC board after microblasting*

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