



NO.: 11 DATE: November 16, 1992
SUBJECT: Altronic Exchange/Repair Philosophy

During the warranty period, now two (2) years after sale to the first end user, Altronic products will be repaired or, at the option of Altronic, replaced. After the warranty period, there is a program of circuit board exchange.

Altronic has used this policy of circuit board exchange in its products for many years. Sometimes customers ask why replacement of individual components is not authorized when it seems that this would make for less expensive repairs. There are several reasons.

A repair situation usually means the unit has been in use for a period of several years, typically two or more. Although only one component may have actually failed, there may be others damaged by subsequent high currents in a way that will lead to early future failure. Thus replacements of individual components can adversely impact future reliability. An exchange board provides a new board; all components are new. And exchange circuit boards are covered by the full new product warranty.

2. Exchange boards have all updates and improvements that may have been made to the product since the original unit was sold. Thus the customer moves up to the latest model.
3. Labor input is minimized. Individual parts replacement means extra time required for troubleshooting, parts and solder removal, parts replacement and critical soldering, board clean-up, and the application of protective coating. All of these steps are eliminated with a board exchange.
4. The exchange board is subjected to a complete factory test. The test is the same as for the equivalent new product thus insuring a high quality level.
5. The cost of repair is low compared to the value of the equipment being operated. It doesn't make sense to try to save a few dollars on a vital accessory for a machine costing tens of thousands to millions of dollars.
6. The cost of trouble is high. The electronic circuit boards in today's equipment are complex with many sensitive components. If components are replaced locally, there is a risk of a well-intended, but incorrect repair. While soldering on the board, other parts may be damaged. Overheating components can weaken them while not causing an immediately observable problem. The cost of machine downtime is very high - too high to be worth the risk of anything less than a factory-tested circuit board with all new components.

In summary, Altronic believes the replacement of the circuit board at an exchange (reduced) price is a high value approach. It is the fairest way to insure the customer of a high quality repair with the lowest chance of early future problems.