

## AUTOMATIC LAP CONTROLLER

### *Highlights*

- Monitors crystal blank frequencies during lapping
- Automatically terminates lapping once "target frequency" is reached
- Simultaneously controls 2 lap machines
- Monitoring is unaffected by varying lapping conditions
- 1-155MHz frequency range
- Up to 20 lapping profiles can be stored for easy setup
- Accurate control of SC-cut blank lapping



### *Additional Features*

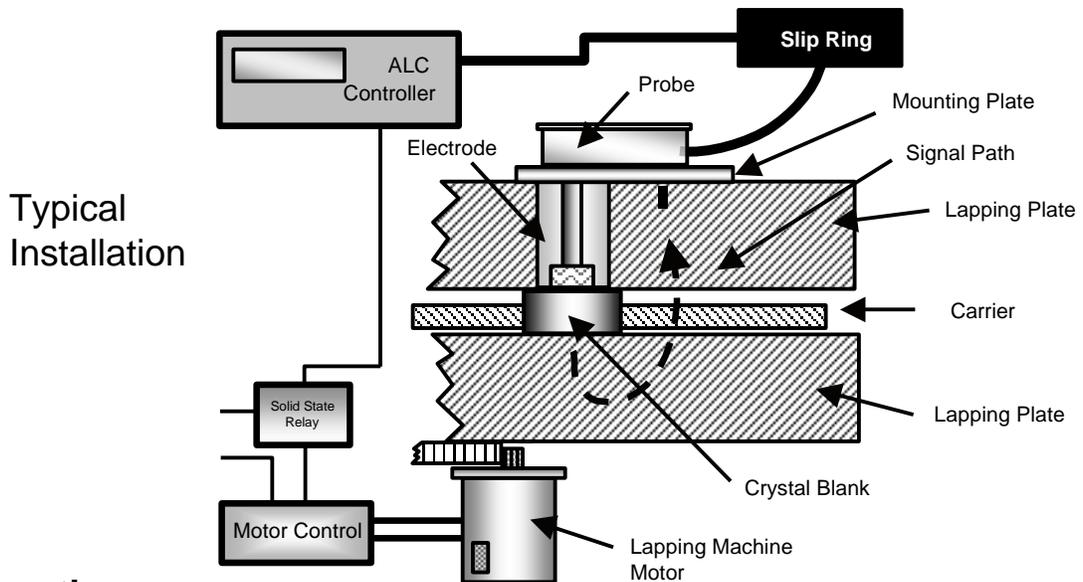
- ▣ Display of frequency "Spread" useful as a process control monitor
- ▣ Target anticipator signal can be used for slow down, slurry feed control, alarm etc.
- ▣ Safeguards automatically stop lapping process upon loss of monitor signals
- ▣ TTL input/output provide a system interface for automated control
- ▣ Can be used for monitoring piezoelectric materials other than quartz crystal
- ▣ Simple operation, user simply enters target frequency and presses start

## System Description

The Model ALC-3000 is a microprocessor based automatic lap controller. The ALC-3000 system controls the lapping and polishing of piezoelectric materials by monitoring their resonant frequencies during lapping, then terminates the process after the target frequency has been achieved. Up to twenty, user programmable lapping profiles can be stored for quick setup. The ALC-3000 controller injects a sweep frequency signal through an electrode mounted in one lapping plate. As crystals pass the electrode, the ALC-3000 observes the resonant responses and automatically stops the lap at target frequency. The ALC-3000 has evolved from a generation of Transat controllers which have earned a reputation for performance and reliability. This system is able to independently control two lapping machines simultaneously, independent of each other. The frequency "Spread" display indicates out of process conditions. Automatic signal loss detection deactivates the system to a safe "off" condition. Probe and cabling options provide flexibility for either 2-way or 4-way lapping configurations.

### Specifications

Frequency Range.....	1-155 MHz
Repeatability.....	+/- 100 ppm
Display type.....	5 digit, Frequency & 3 digit, Spread, LCD display
Lap control.....	1 or 2 laps
Enclosure type.....	NEMA 1
Power requirements.....	auto sense 85-250 VAC, 15W, 50/60Hz.
Dimensions (LxWxH).....	29cm x 29cm x 12cm
Weight.....	4.5Kg



### Ordering Information

ALC-3000 controller.....Part# 00015853  
*Refer to the "ALC Accessories" data sheet for ordering and selection criteria of the probes, electrodes, mounting plates and slip rings.*