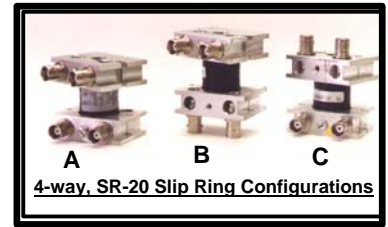
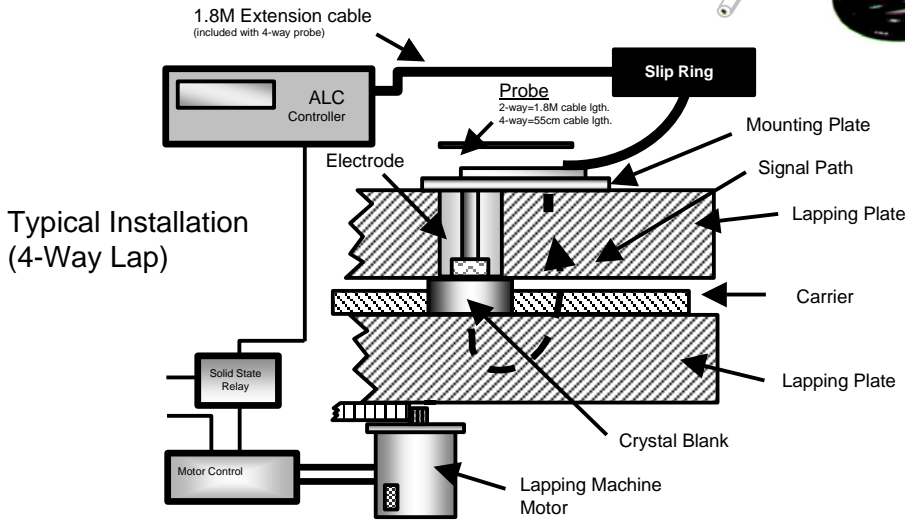


Automatic Lap Controller Accessories

The following accessories are used with all Transat Automatic Lap Controllers (ALC's). There are two basic accessory configurations; that for a 2-way or 4-way lap machine. A 4-way installation is shown below. The slip ring and 1.8 meter extension cable between ALC and slip ring are omitted in a 2-way installation.



The ALC injects a sweep frequency signal to a quartz blank via a slip ring, probe and electrode. As blanks pass the electrode, the ALC observes resonant responses and terminates the lapping process once target frequency is achieved.

PROBE

A probe is selected based on the frequency range capacity of the ALC and your particular lapping application. The probe assembly contains transmitting and receiving circuitry which connects to the electrode and mounting plate via three banana pins. Probes are classified as either 4-way or 2-way.

A 4-way probe is used with a slip ring and has two parts, a probe head (containing probe circuitry) attached to a 55cm cable and a 1.8 meter extension cable terminated with BNC connectors. The one piece 2-way probe consists of a probe head attached to a 1.8 meter cable.

Low freq. probe	1-3 MHz
Wide range probe	3-99 MHz
Very high freq. probe	90-155 MHz

SLIP RING

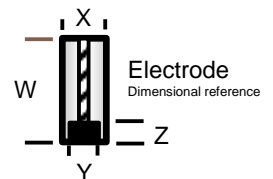
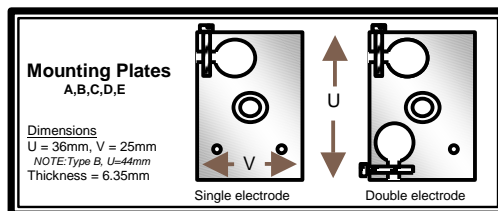
On 4-way laps a slip ring is required to transfer electrical connection between the rotating lap plate and the stationary ALC. The model SR-20 slip ring is offered with 3 different connector configurations (A, B & C). The model SR-20 slip ring uses mercury wetted contacts for a reliable, low noise signal transfer. The slip ring may be returned to Transat for proper mercury disposal.

ELECTRODE

The electrode is installed through a hole in the lap plate and held in position by a mounting plate. The electrode contains a sensing tip referenced by dimension Y and Z below which carries the ALC signal to the blank. The sensing tip diameter should be 40-80% of the diameter of the crystal blank being lapped. The length of the electrode should approximate the thickness of the lap plate and the thickness of the mounting plate (6.35mm).

Electrode #	1	2	3	3S	3S-1	3S-2	4A	4B	4C	5	6	7	8	9
Single Mounting Plate A	X	X								X		X	X	X
Single Mounting Plate B			X	X	X	X								
Single Mounting Plate C							X	X	X		X			
Dual Mounting Plate D							X	X	X		X			
Dual Mounting Plate E	X	X										X	X	X
X, Electrode O.D. (mm)	9.53	9.53	15.88	15.88	15.88	15.88	6.35	6.35	6.35	9.53	6.35	9.53	9.53	9.53
W, Electrode Length (mm)	19	32	32	76	76	152	32	32	32	152	51	51	44	75
Y, Inner Electrode Dia. (mm)	6.4	6.4	12.7	9.5	9.5	9.5	3.2	2.48	1.778	6.4	3.2	6.4	6.4	6.4
Z, Inner Electrode Thickness mm)	3.8	3.8	5.1	12.7	4.9	12.7	3.8	3.8		3.8	3.8	3.8	3.8	3.8

- * Mounting plates D & E require two electrodes.
- ** Inner electrode diameter should be between 40-80% of the crystal blank diameter.



MOUNTING PLATE

The mounting plate is fixed to the lapping plate. It securely holds the electrode in place to prevent movement and also delivers a reliable electrical return signal path back to the probe. There are five mounting plate designs to accommodate the various probe diameters. A dual electrode configuration (mounting plate D & E) is recommended for applications with the combined use of a water based slurry with metal carriers. Mounting plate dimensions and electrode compatibility are shown in table above.

Ordering Information

Please contact factory for part numbering and additional information.