

## G&L EI Toro-E wiring diagram

This diagram is based upon a 1985 G&L EI Toro-E. Parts are labeled using common circuit terms to save space on the drawing. These labels are mine and not G&L's.

### Parts List:

C1	.0022mfd, 50VDC, polyester
C2	.001mfd, 50VDC, polyester
C3	.1mfd, 50VDC, polyester
C4	.047mfd, 50VDC, polyester
C5	200pf, 50VDC, ceramic disc
R1	100K, 1/4W, 5% fixed
VR1	1M, 1/2W, reverse audio taper pot
VR2	500K, 1/2W, audio taper pot
VR3	250K, 1/2W, audio taper pot
S1	SPDT mini toggle switch, ON-ON
S2	DPDT mini toggle switch, ON-ON
S3	DPDT mini toggle switch, ON-ON-ON
J1	Mono 1/4" phone jack with isolated SPST switch
B1	9V battery

### Parts Notes (if replacing)

All capacitors should be easy to source from a quality electronics outlet. The 200pf cap on the volume control is standard G&L.

The 100K fixed resistor protects the preamp from voltage spikes that can occur on disconnection from the amplifier.

All pots should be of good quality with 1/4" solid shafts. VR1 is a bit of an oddity and will be difficult to source outside of G&L. It is therefore recommended that all pots be sourced through the G&L Online Store.

## Parts Notes (continued)

Switches can be sourced through Digikey

KEY	ALCO	ELECTROSWITCH	C-K
S1	MTA106D	A123S1YZQ	7101SYZQ
S2	MTA206N	A223S1YZQ	7201SYZQ
S3	MTA206PA	A232S1YZQ	7211SYZQ

J1 is a Switchcraft model 113, an enclosed 1/4" mono jack with an isolated SPST switch. This type of jack is required for this implementation because the positive connection from the battery is being switched rather than the normal grounding of the battery's negative connection.

### Operation notes

These operation notes are based upon my "read" of the circuit and may be in error.

S1 is the Active/Passive switch. Active allows for longer cables and presents to the amplifier a signal with lower noise. It also substantially increases the gain from the bass.

S2, when flipped up, aggregates the signal from both pickups connected in series. It also switches in C3 to filter off certain high frequencies from the aggregate signal and disables S3. With S2 flipped down, the pickups' signals are aggregated in parallel and S3 is enabled.

S3 is a G&L standard pickup selector. Neck, bridge, or both pickups can be selected. Note that the output of the bridge pickup is filtered by C3 any time the bridge pickup is selected, either alone or with the neck pickup.