

Arai-kun,

I have attached the schematic diagram for the frequency stabilization circuit.  
The following describes the use of the circuit

#### Inputs / Outputs

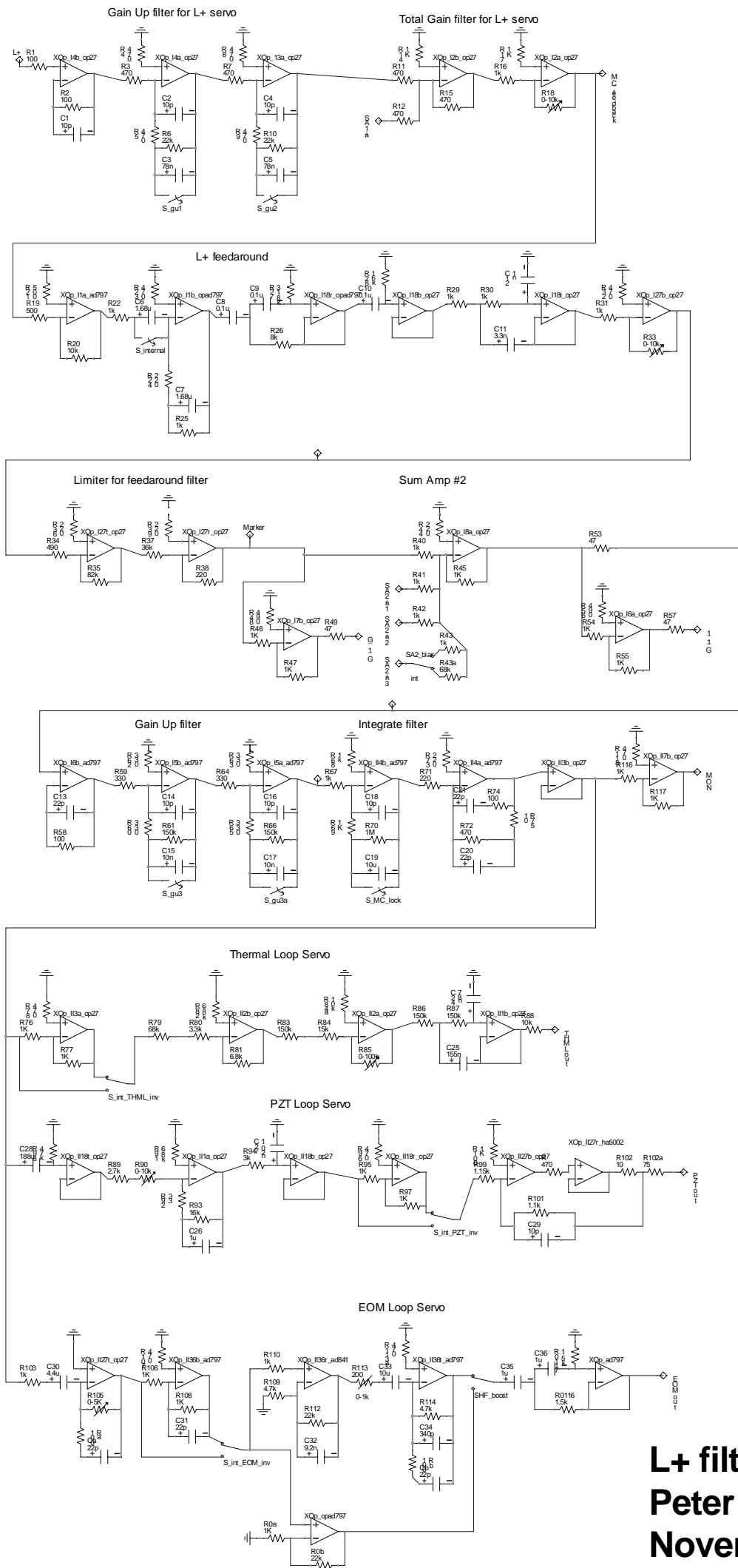
- (1) L+ connect the error signal from the arm cavity here.
- (2) SA2 bias Add a bias for the laser lock to the modecleaner
- (3) SA1 bias Add a bias for the locking point of the arm cavities
- (4) MC feedback Output to the modecleaner length control
  
- (5) SA2 Modecleaner error signal input to lock the laser to.
- (6) SA2 Inject a test signal here to measure the loop gain.
- (7) G/1-G For measuring loop gain of dL+ circuit
- (8) 1/1-G For measuring loop gain of dL+, modecleaner circuit
  
- (9) EOM feedback signal to EOM
- (10) PZT feedback signal to PZT
- (11) THML feedback signal to thermal actuator
- (12) Mon output monitor for the signal after the integrate filter, before being split to the three actuator subloops.

#### Switches

- (1) gu1 LF gain boost for arm cavity lock
- (2) gu2 LF gain boost for arm cavity lock
- (3) gu3 LF gain boost for MC lock
- (4) MC lock Engage integrate filter

Please let me know if you have any questions about the use of the circuit.

-Peter



**L+ filter**  
**Peter Beyersdorf**  
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