

MARK 5 MEMO #075

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
HAYSTACK OBSERVATORY
WESTFORD, MASSACHUSETTS 01886

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*Telephone: 781-981-5407
Fax: 781-981-0590*

To: Mark 5 Development Group

From: A.E.E. Rogers

Subject: Preliminary circuit for the new phase cal.

MK5 memo #71 shows the performance of the Hittite HMC672LC3C logic gate. The rise and fall times of a square output are extremely fast so that when differentiated the pulse width at half voltage points would be about 25-30 ps. Using the logic gate to form a pulse by adjusting the trailing edge of the square wave to coalesce with the leading edge results in a pulse with half voltage width of about 50 ps.

Thus better performance is anticipated using a microwave switch to gate out the unwanted edges as is done in the current MK5 pcal.

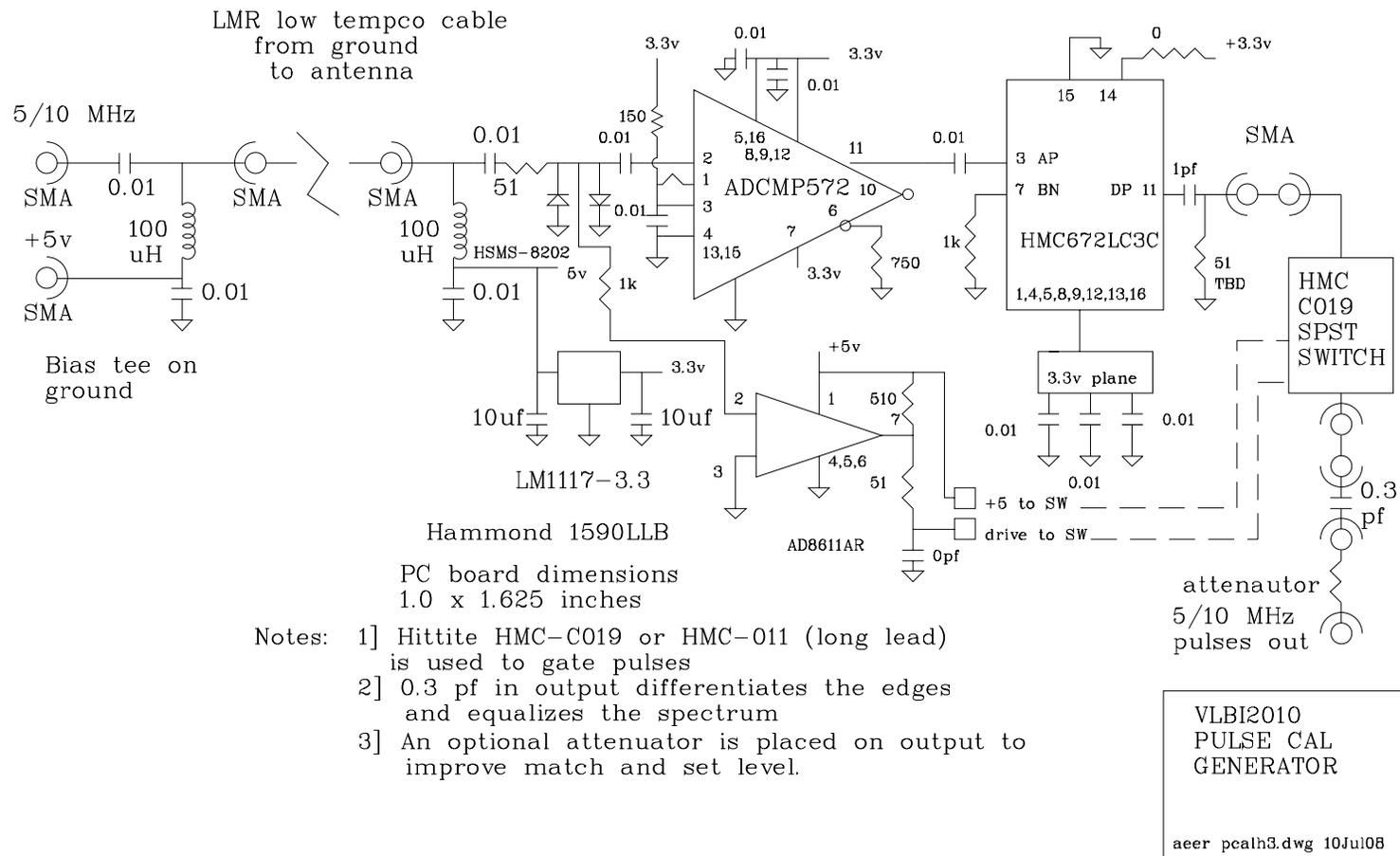


Figure 1. shows the preliminary circuit we plan to test when the components and pc board are available within the next 2 weeks.