

# VLBA ACQUISITION MEMO #255

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To: VLBA Data Acquisition Group

From: Alan E.E. Rogers

Subject: Specifications for VLBA phase calibration pulse generator

|   |   |
|---|---|
| Pulse Duration  | <25 ps  |
| Pulse Rate  | 1 or 5 MHz - selectable   |
| Pulse Spectrum (with NARDA S213 gating switch) (Minimum output on each rail at 1 MHz spacing) | -85 dBm at 2 GHz<br>-95 dBm at 8 GHz<br>-98 dBm at 12 GHz<br>-108 dBm at 22 GHz<br><br>14 dB more output at 5 MHz spacing   |
| Flatness Better than  | 0.2 dB peak-to-peak over 10 MHz<br>1 dB peak-to-peak over 1 GHz   |
| Stability Better than   | 2 ps/°C with temperature<br>5 ps/volt with supply voltage<br>10 ps/dB with input level<br>50 ps with warm-up  |
| Inputs:   | 500 MHz 10 ± 5 dBm 50 Ω SMA<br>5 MHz 10 ± 5 dBm 50 Ω SMA<br><br>(Internal jumper will select which reference frequency is used.)<br><br>+12V less than 500 ma feed-thru<br><br>TTL control ON/OFF feed-thru<br>Lines:<br>1/5 MHz rail spacing feed-thru |
| Outputs:  | Pulse output to gating switch SMA<br>Gating signal SMC<br><br>1 MHz 1 volt p-p 50 Ω SMA<br>5 MHz 1 volt p-p 50 Ω SMA  |