

NATIONAL RADIO ASTRONOMY OBSERVATORY
Green Bank, West Virginia

MEMORANDUM

January 20, 1982

To: VLBA Working Group
From: R. Mauzy
Subj: Hardware Cost Estimate for Receiver Section of H-Maser
Frequency Standard

Attached is a cost estimate, for hardware, for a receiver section of
an H-maser frequency standard.

REM/cjd

Enclosure

H-MASER FREQUENCY STANDARD
COST ESTIMATE OF RECEIVER PARTS

Item	Cost
Crystal oscillator 5, 1, 0.1 MHz .. HP 105A	\$5,000
Or basic unit, 10 MHz only	(1,000)
Synthesizer, Wavetech-Rockland 5100	3,500
Low noise amplifier, 1420	1,000
Filters, 1420, 20.4, 1400, 100	500
Mixer-preamp, 1400	1,000
IF amplifiers and 20 MHz mixer	100
Phase detector and lock circuits	100
5 MHz Buffers	100
5-100 Multiplier and amplifier	500
5-20 Multiplier	50
100-1400 Multiplier and amplifier	1,000
100 MHz Buffers	200
TIC Unit	100
Couplers and isolators	1,000
Power supplies	2,000
Batteries and charger	400
Rack, slides, hardware, etc.	1,000
Total	\$17,550

This estimate is based on the receiver installed in SAO maser VLG-10A, S/N P3, and does not include any labor.