## MASSACHUSETTS INSTITUTE OF TECHNOLOGY HAYSTACK OBSERVATORY

## WESTFORD, MASSACHUSETTS 01886 August 6, 2012

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To: VSRT Group From: Alan E.E. Rogers

Subject: Parts list for Ozone spectrometer

1] Dish

Satellite TV dish with low f/D. Recommend Winegard DS-4047 or DS-4048 (see memo #41). Either dish needs plastic feed (LNBF) support. This part is not easy to find. Try searching for LNBF brackets or clamp. For example – "Clamp-single LNBF bracket" from glorystar.tv (price \$10). This should fit DS-4048. When used with DS-4047 an aluminum angle bracket as seen in memo #50 is needed. It is useful to attach a mirror to the dish center for alignment. A mirror is available from Edmund Scientific (part #3052323 or CAT#100007586 Flat 38×38 mm). For alignment a level is needed. Sonin 10012 Calcu-Tape is suggested.

21 Cables

LNBF to downconverter 50' quad shielded RG-6

Calibrator to downconverter 50' LMR-240 with SMA male connectors on each end.

3] LNBF Fortec FSKU-VN (LO 9.75 GHz)

10 dB DC pass attenuator MR-20454

or

10 dB inline amplifier + power injector Radio shack SKU 15-1170

4] PCI bus ADC card measurement computing PCI-DAS 4020/12

Cable and I/O extender measurement computing BP40-37F

- 5] Linux PC current software uses AMD CPU for FFT
- 6] Minicircuits BLP-7-75 75 ohm termination

VLF-80 LPF

VHF-1200 HPF

- 7] Power supply Astrodyne PV15-12S
- 8] 37-pin Male cover D connector Digikey L717DC37P-ND

17E-1727-1-ND

- 9] Box Hammond Mouser 10"× 6" × 2" Part #1444-16
- 10] Pulse generator

Pulse generator (see circuit and parts list) and drawing of box Hammond 7007 1590LLB HM948-ND. Clear plastic water bottle with bottom removed used as a rain shield.

Semi-rigid line with 0.25" center conductor exposed.

11] Downconverter

See circuit and parts list and drawing of box Hammond 1590N1

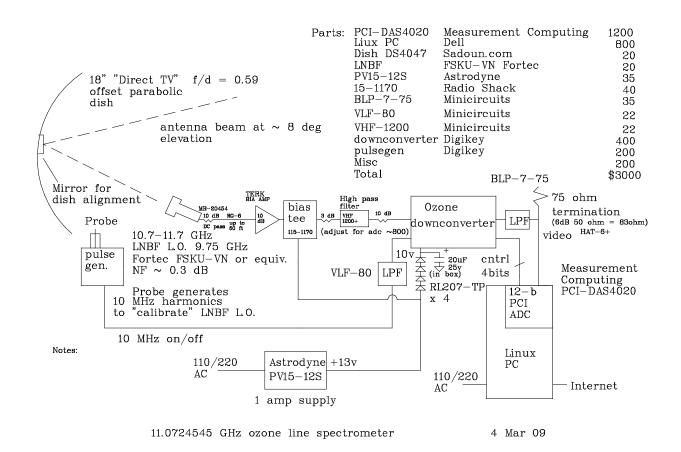


Figure 1.

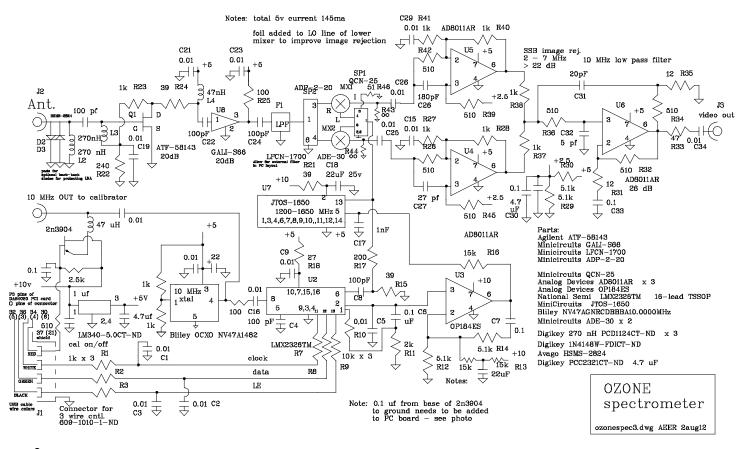


Figure 2.

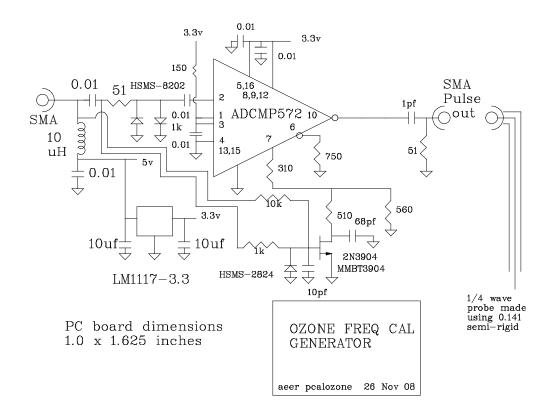


Figure 3.