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Equipment for 9cm

Dave Robinson WW2R

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Original 3456MHz system

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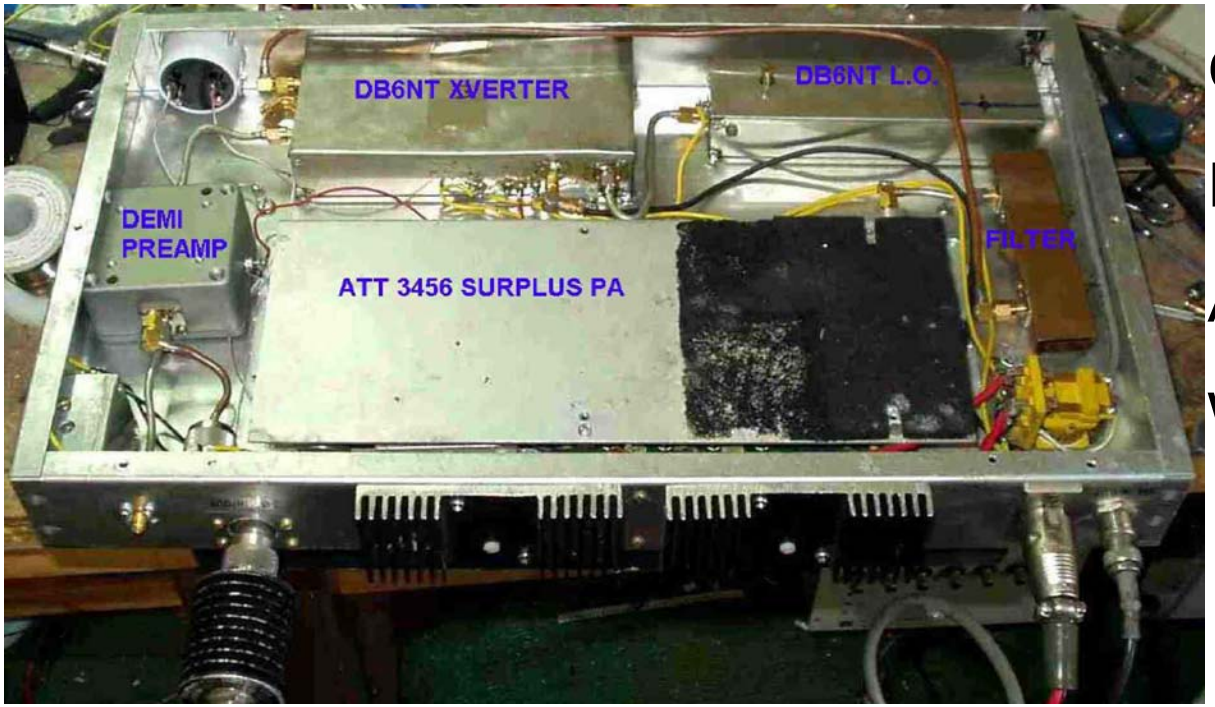

G4DDK009 LO

DB6NT Transverter

ATT PA (7W)

W5LUA preamp

Had many USA Tropo QSOs

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3400MHz Transverter

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EME activity on 3400MHz so would need to build a 2nd transverter

Whats in Junk box?

Parts for G4DDK009 3GHz LO
W5LUA 2 stage preamp
Collins “copper” filters
Miteq mixer
12V SMA relays

L.O. would need to be GPS locked

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3400MHz Block Diagram

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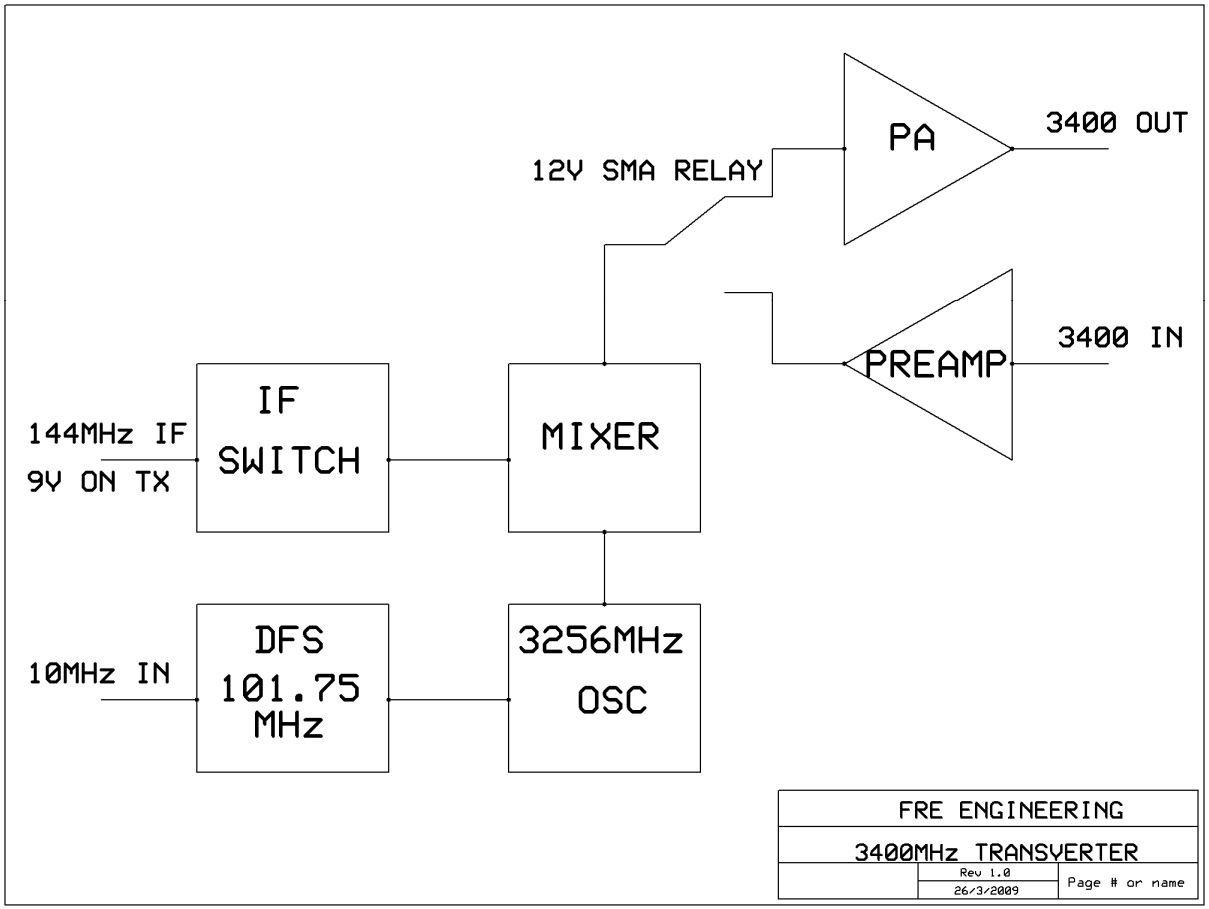

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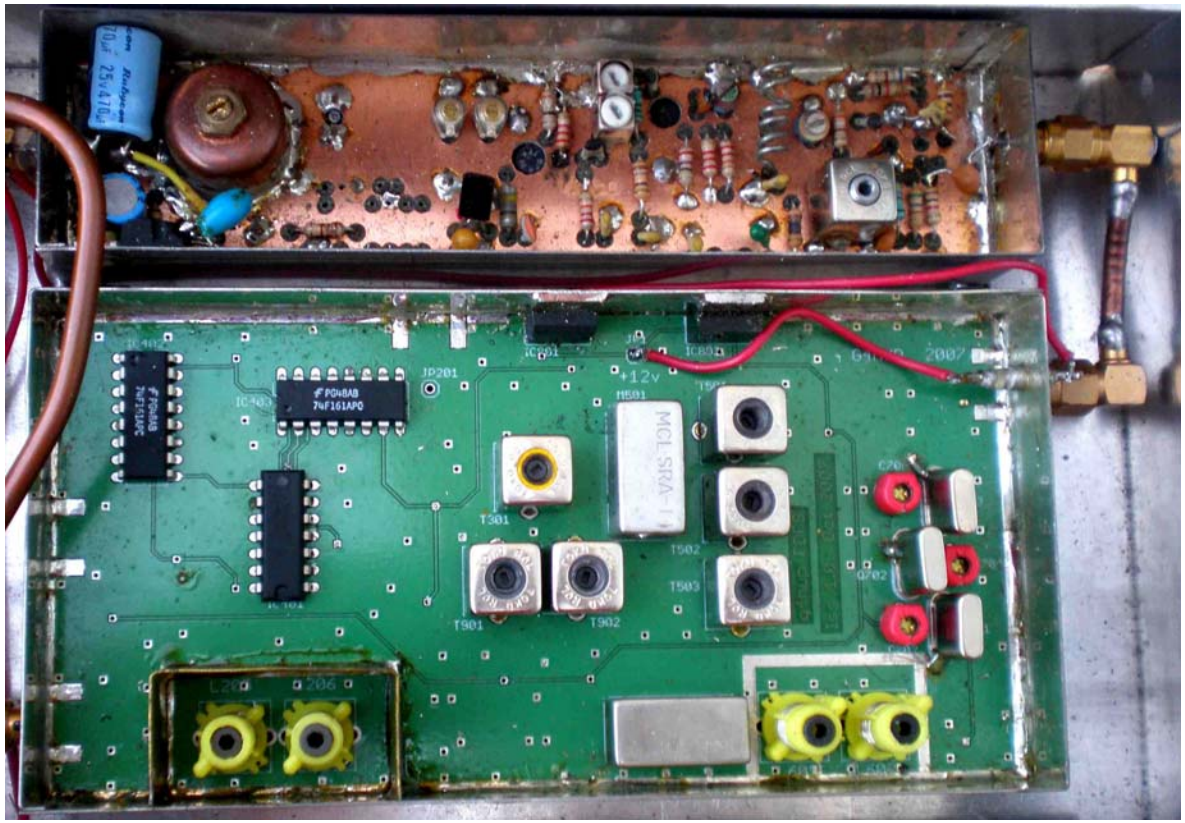
3400 LO

G4DDK009 + DFS101.75 15dBm at 3256MHz



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3400 Mixer

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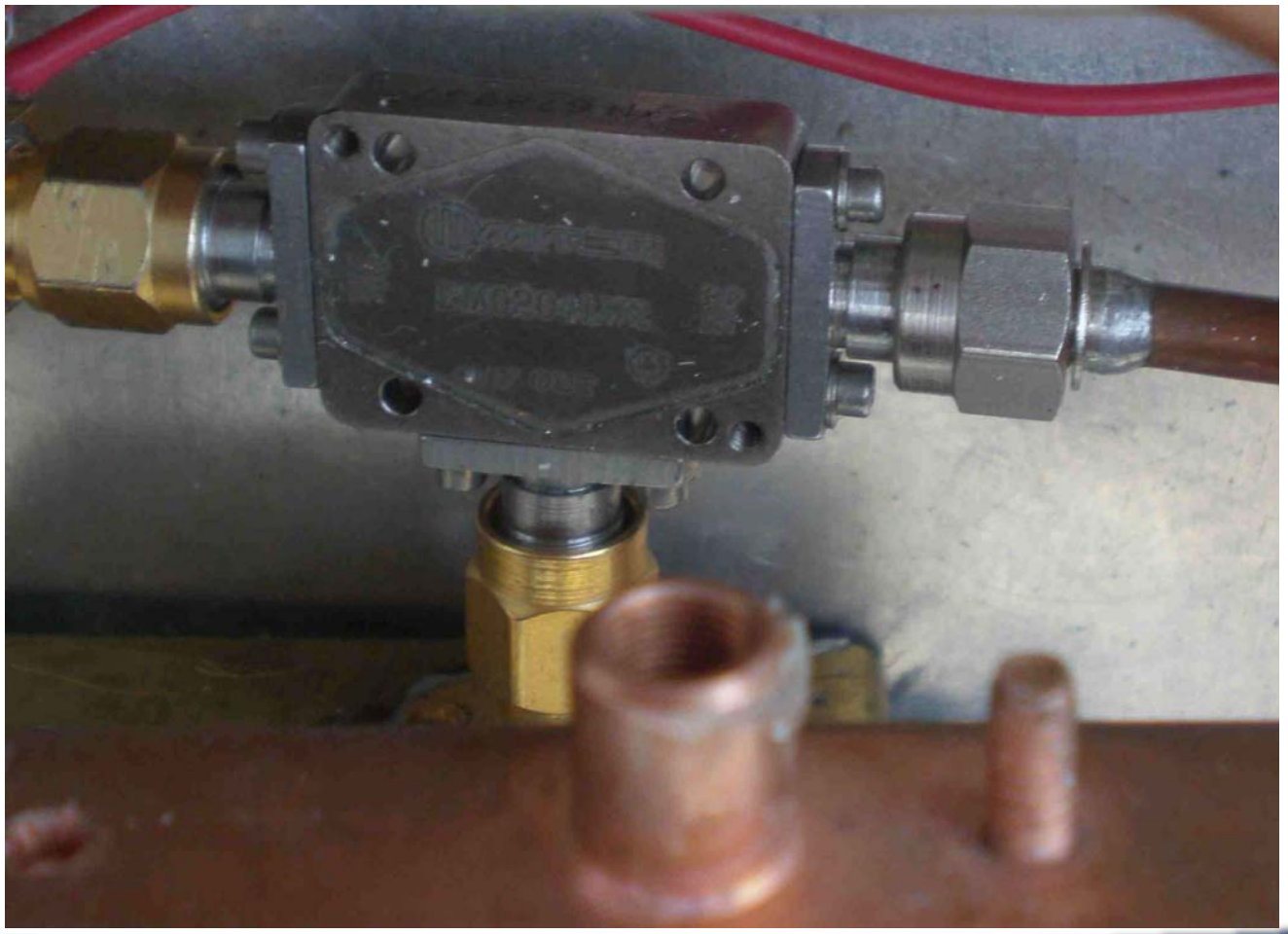
MITEQ mixer



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Bandpass Filter

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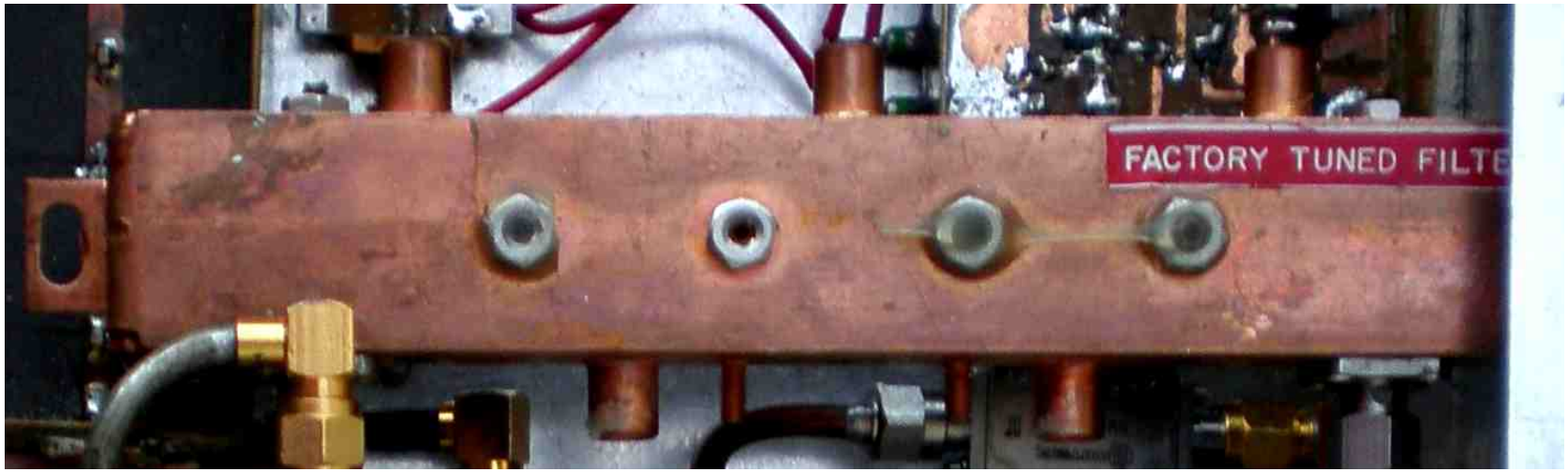
Collins surplus 5 pole



Can be tuned to 3400 or 3456MHz

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3400 RX Stage

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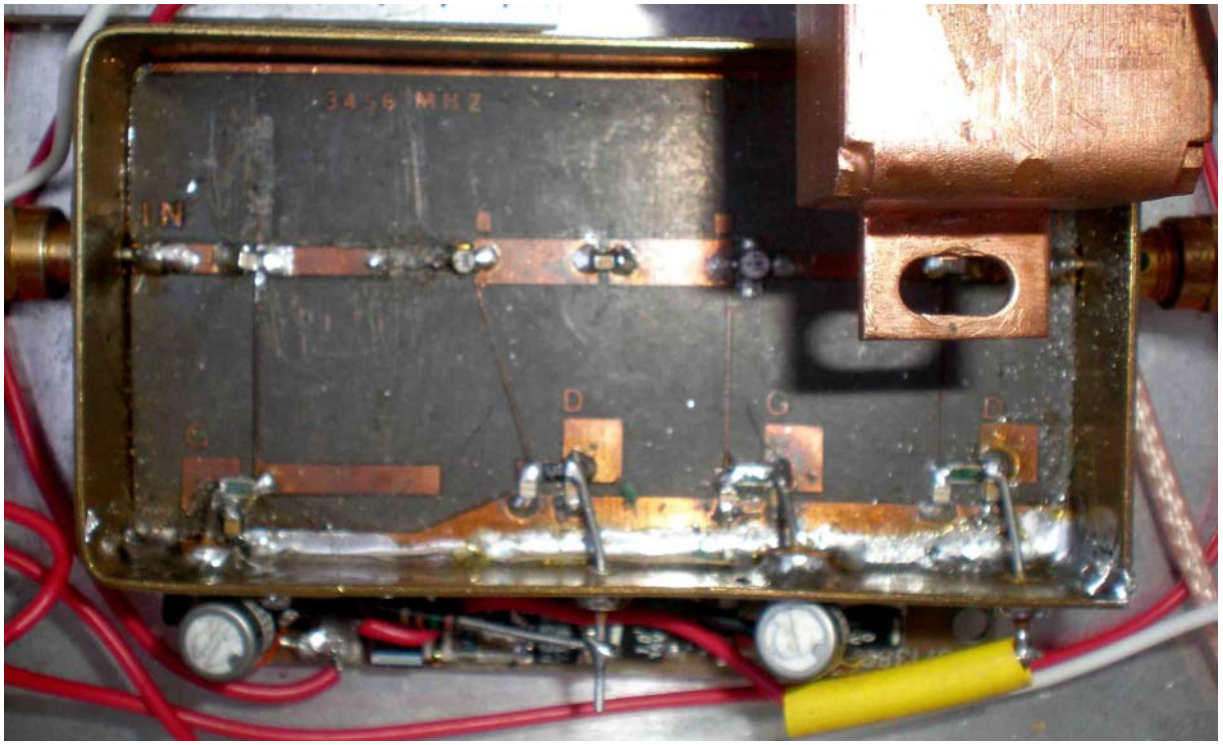
W5LUA 2 stage, modified with ATF36077 1st stage



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3400 TX Amp

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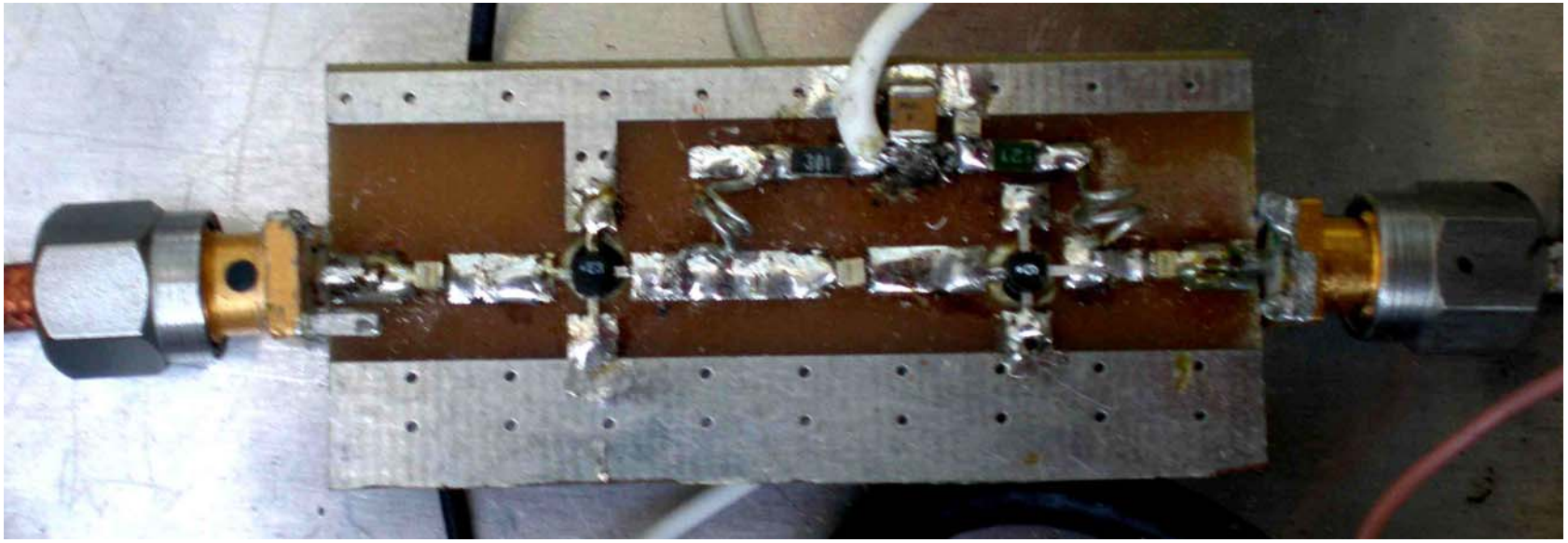
ERA2+MAR6

50mW max output.



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IF Switch

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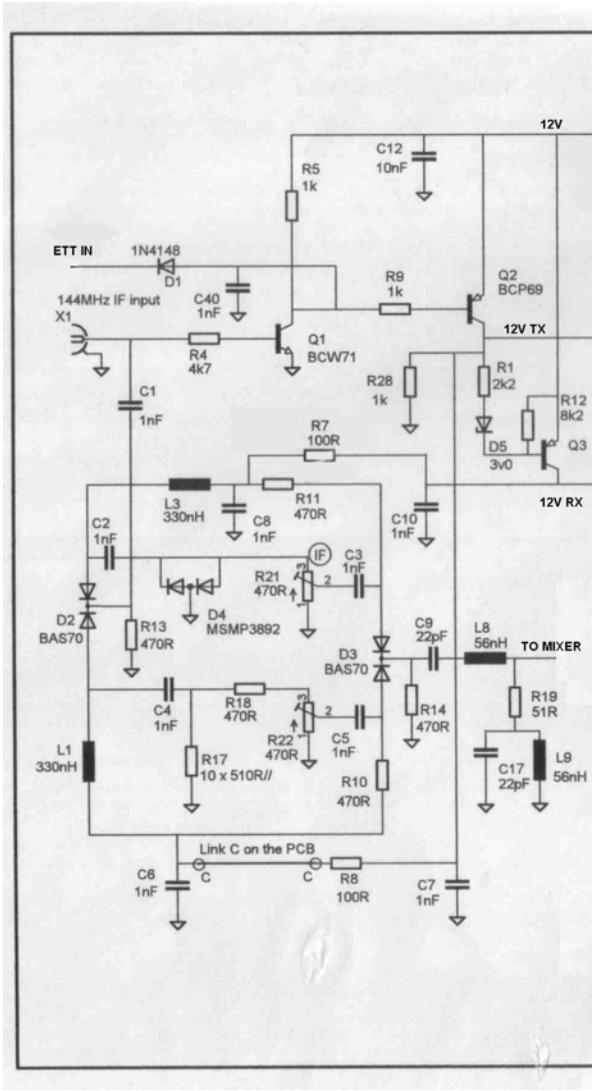
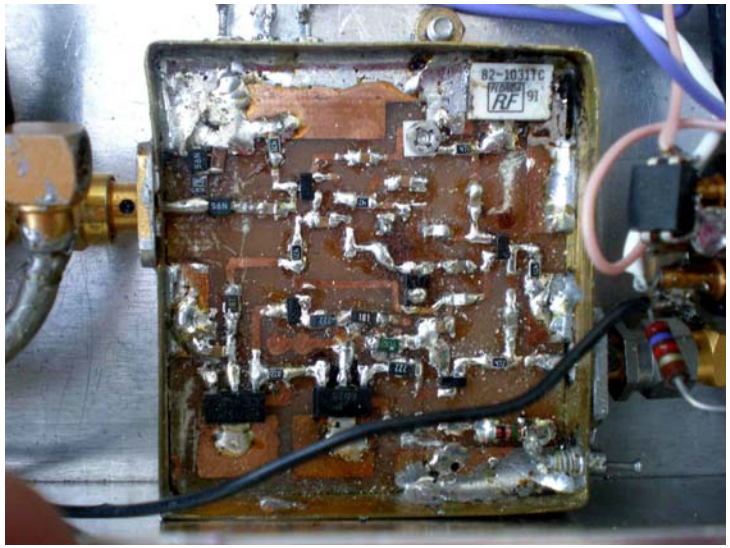


Originally part of G4DDK 1296 Transverter

SMT components

1.5” square PCB



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Complete 3400 Transverter

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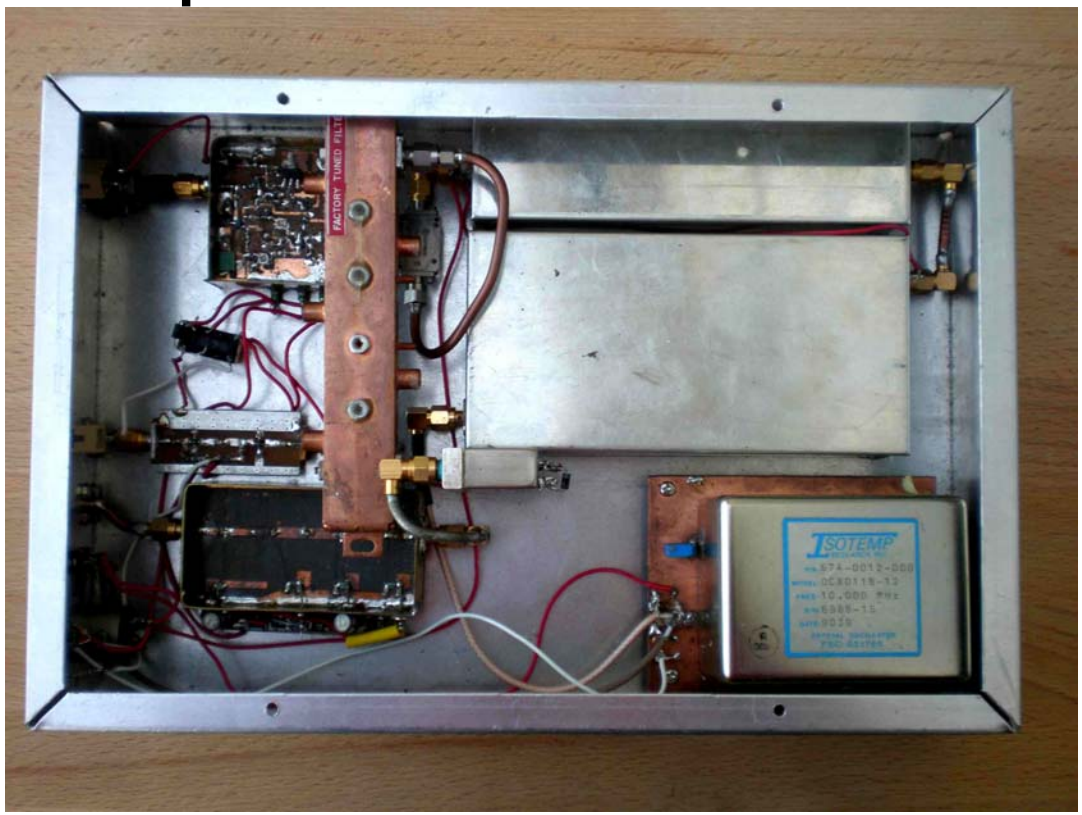
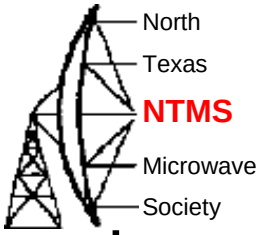


0.7dB NF. 50mW output

Internal 10MHz Osc. allows stand alone operation

3456MHz Version



As this point, as the 3456 Xverter wasn't getting much use I decided to retune it to 3400MHz and take it to England, where it had some interesting QSOs

6 months later I needed a 3456 receive for beacon monitoring so it was time to look in junk box gain and see if I could build a 3456 Transverter

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3456MHz Block Diagram

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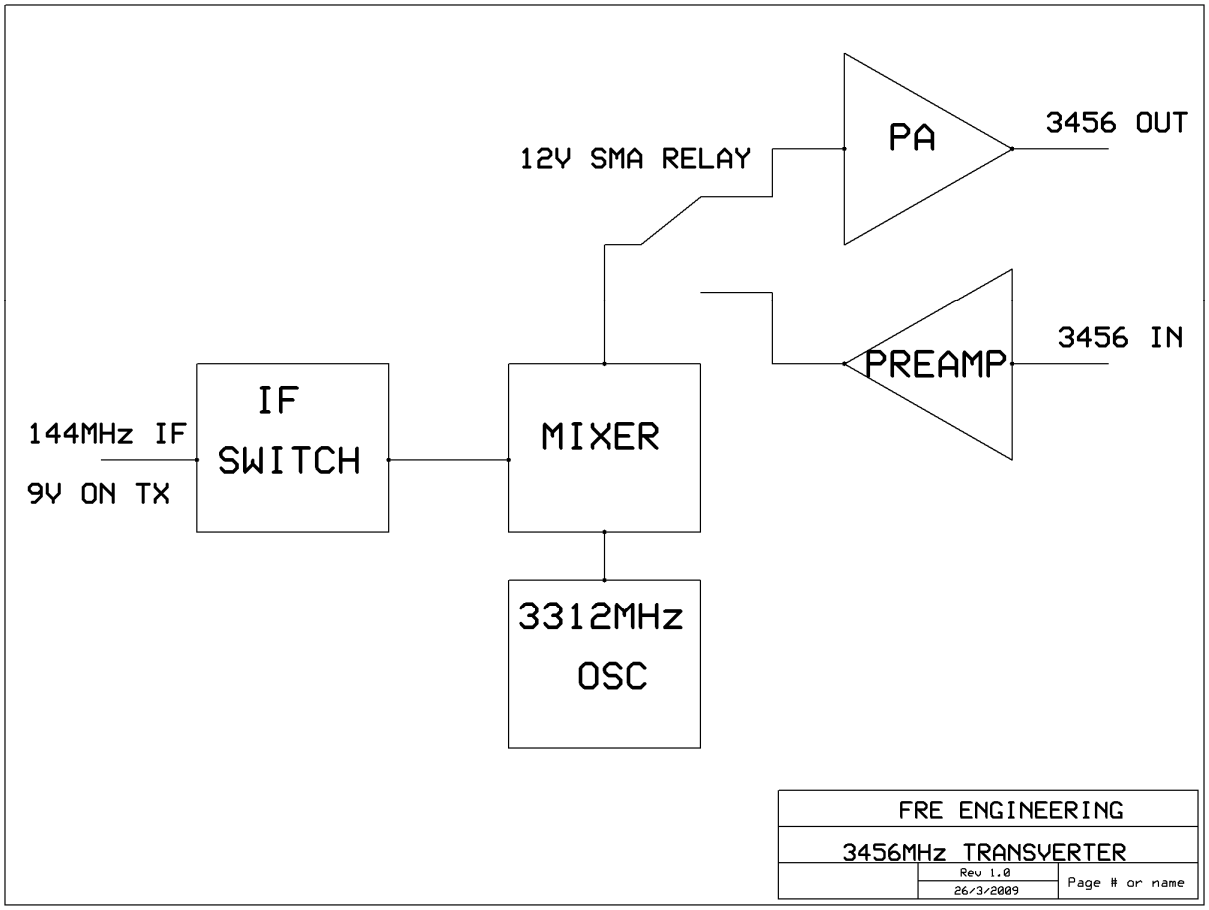

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3456 Local Oscillator

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G4DDK009

103.5MHz crystal

15dBm at 3312MHz

3456 Mixer

Did not have another MITEQ mixer

PyroJoe had some 4G SMA packaged mixers

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3456 RX Stage

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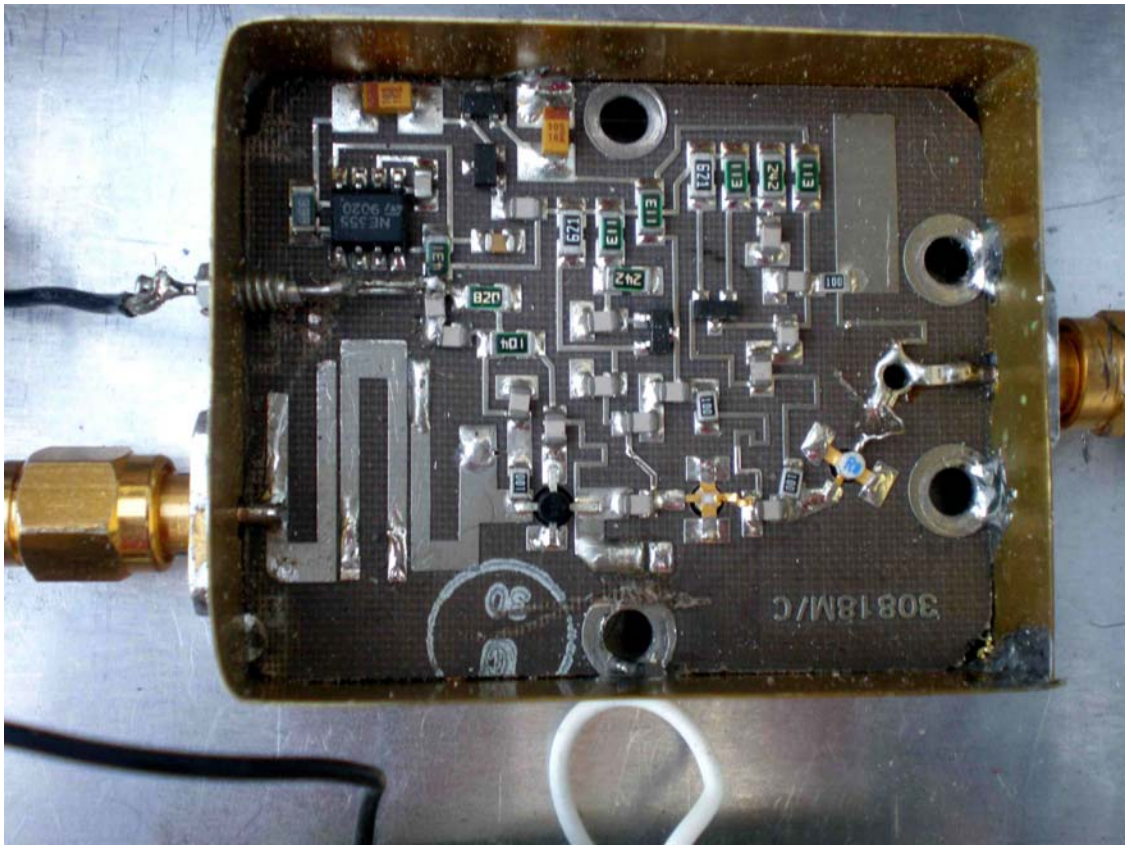
Made from 50¢ C band LNC (FTW Hamfest) 0.9dB nf



Feedpoint Writeup to follow

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Complete 3456 Transverter

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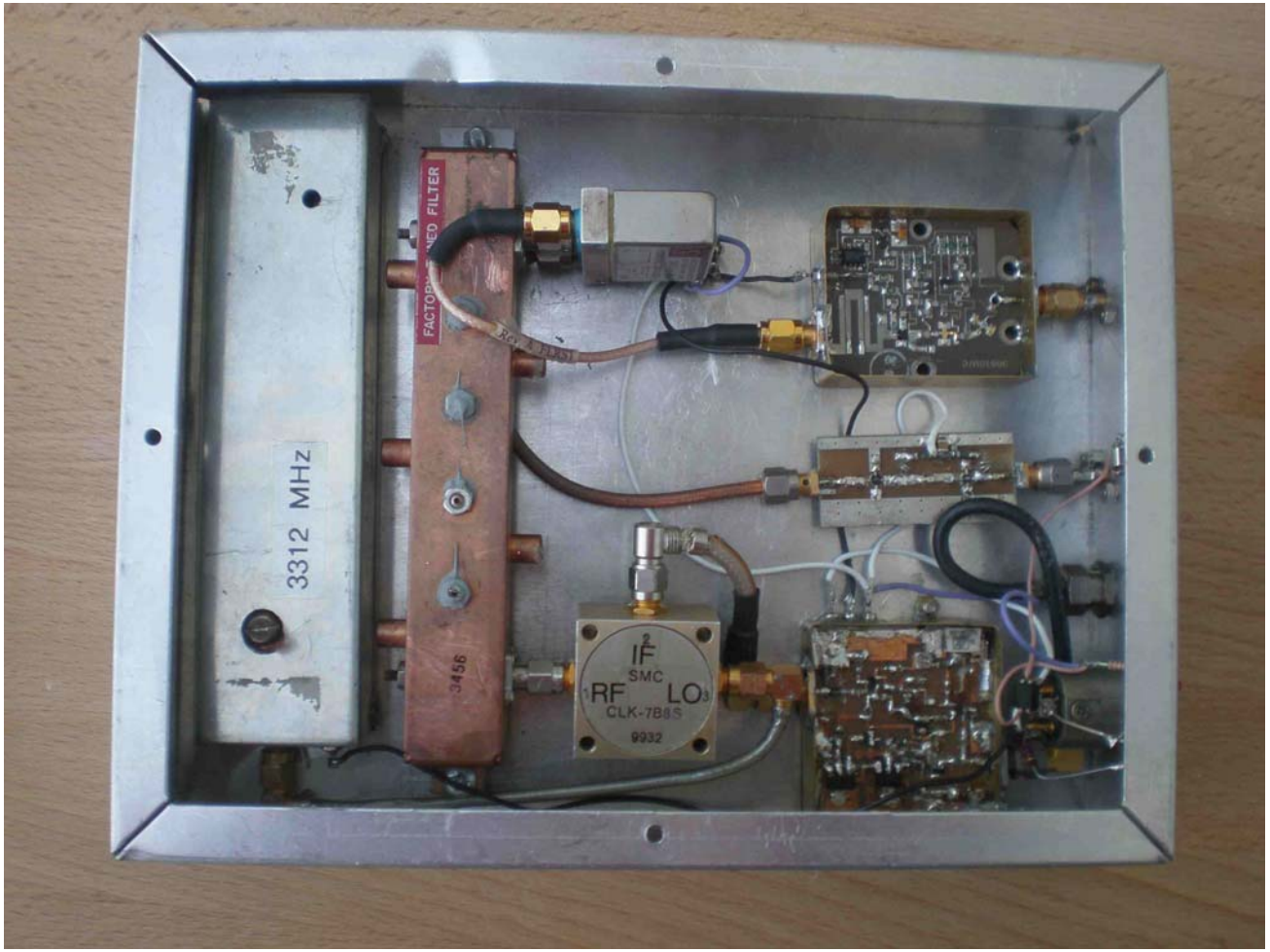

Same
TX Amp

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The PA: Toshiba UM2683A

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1mW input

50W output

12.6V @ 16A

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3456MHz Usage

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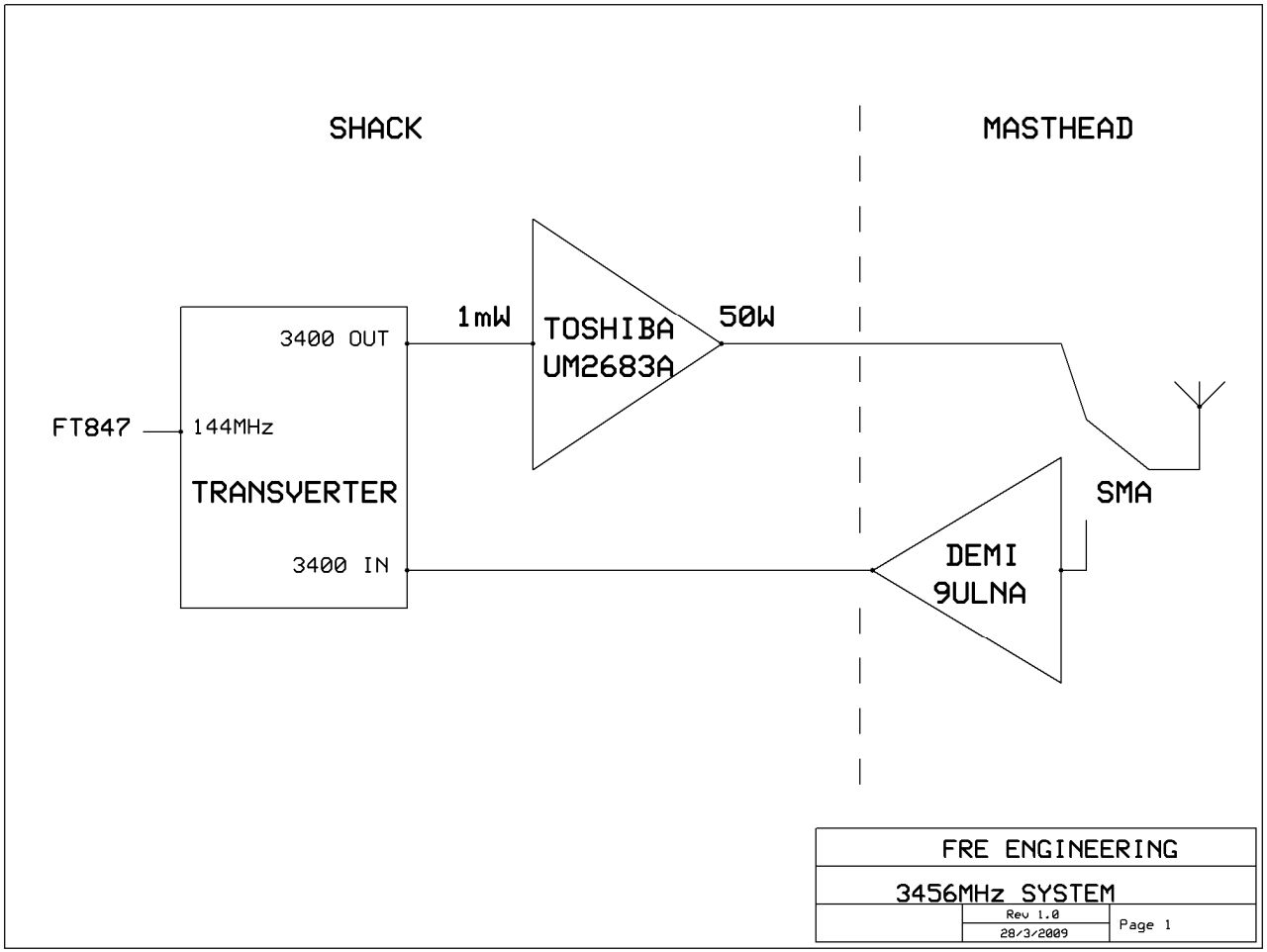

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The BIG PA: Two Toshiba UM2683A

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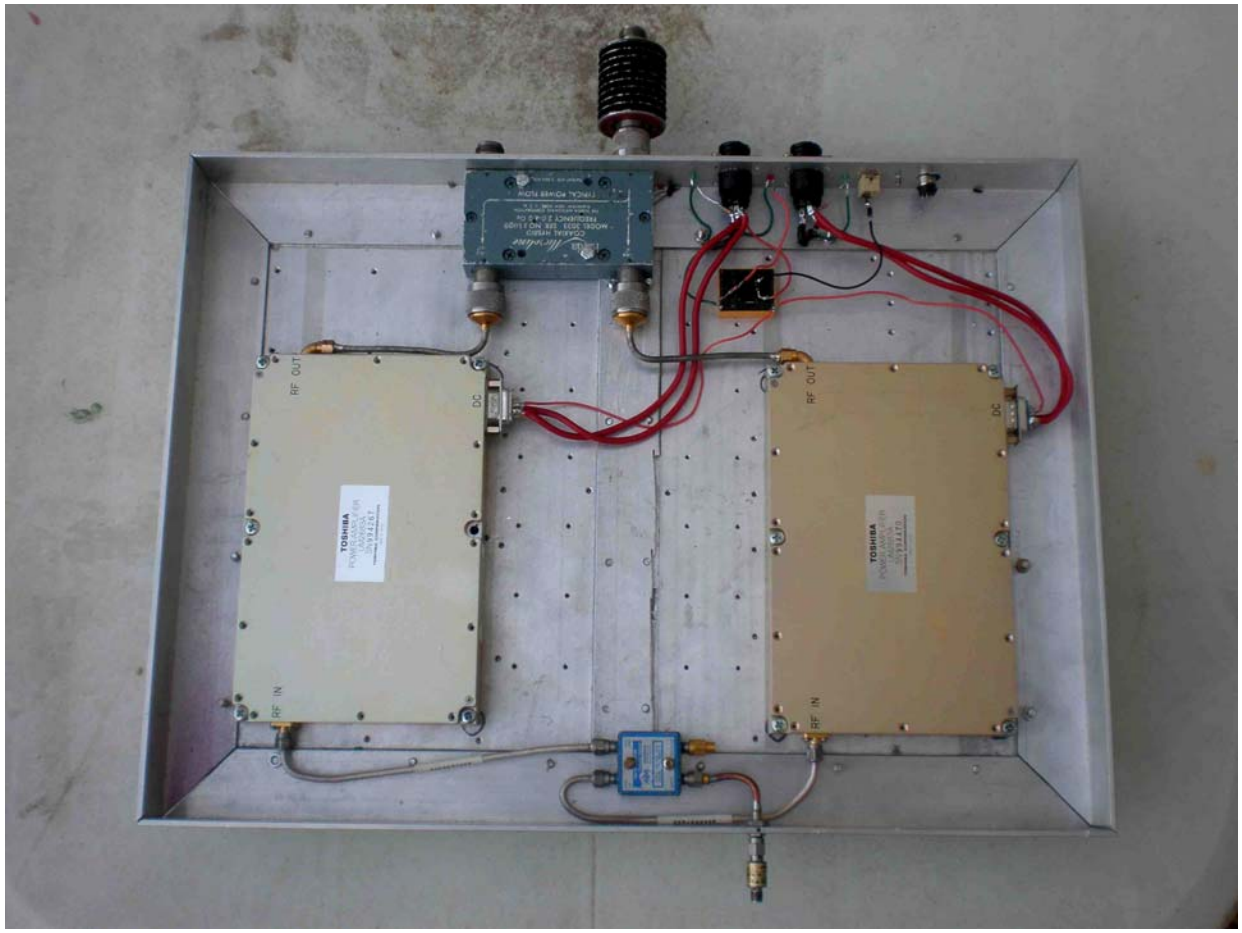

5mW input

100W output

12.6V @ 32A

Use 2 Lambda 12v 20A power supplies

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Why the bigger amplifier?

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For EME!

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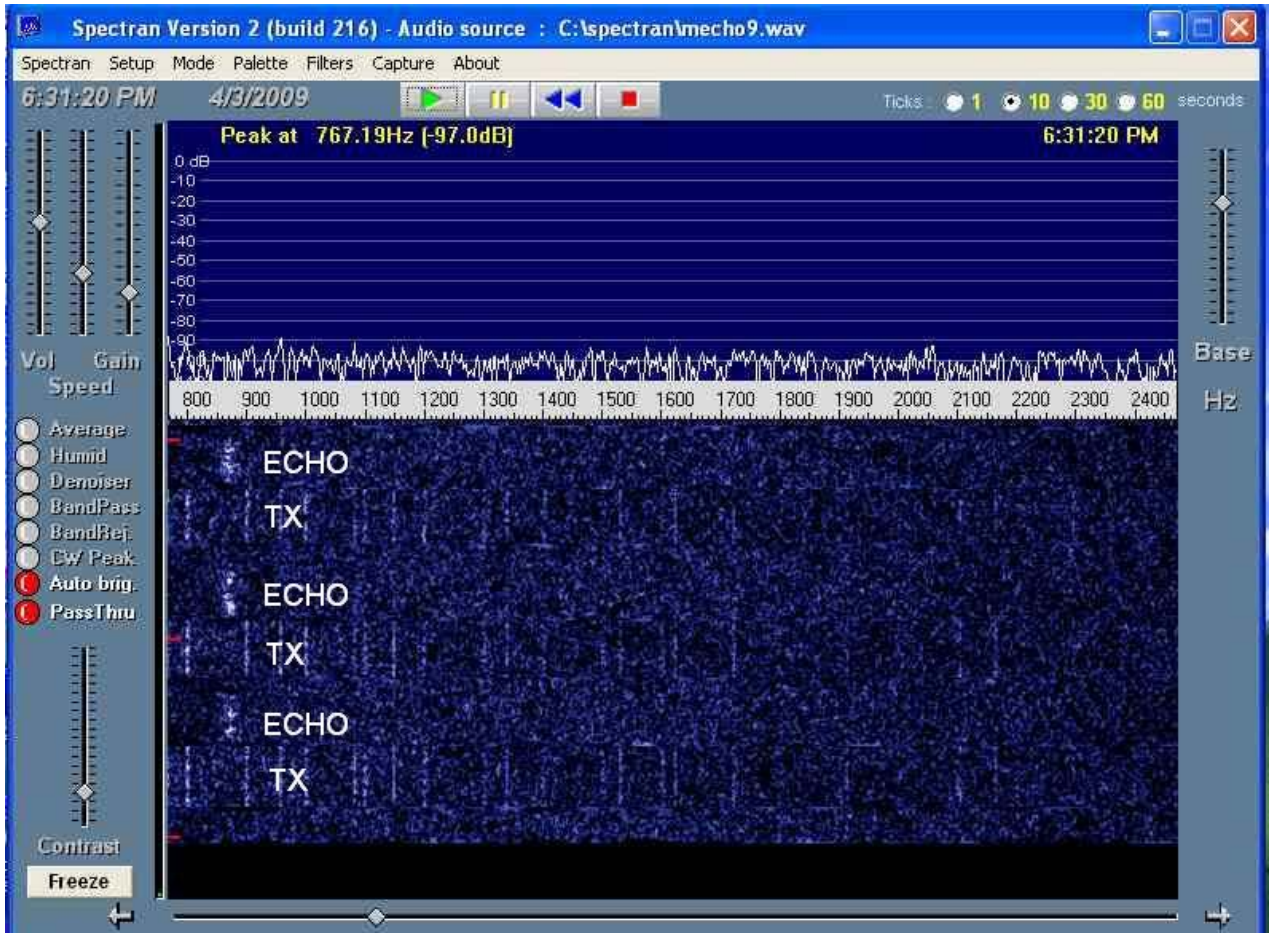
Was the extra work worthwhile for 3dB?



Yes! Have now seen echoes on 4 bands!

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References

Using the Toshiba amplifier:-

http://g4fre.com/Toshiba_amp.htm

Toshiba amp data

http://g4fre.com/Toshiba.pdf

DFS101.75

http://g4hup.com/DFS/VN101_75.html