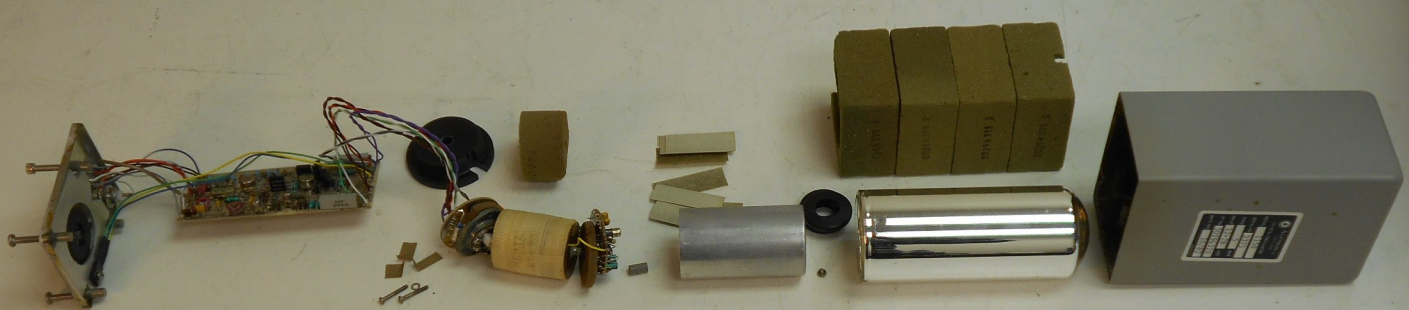
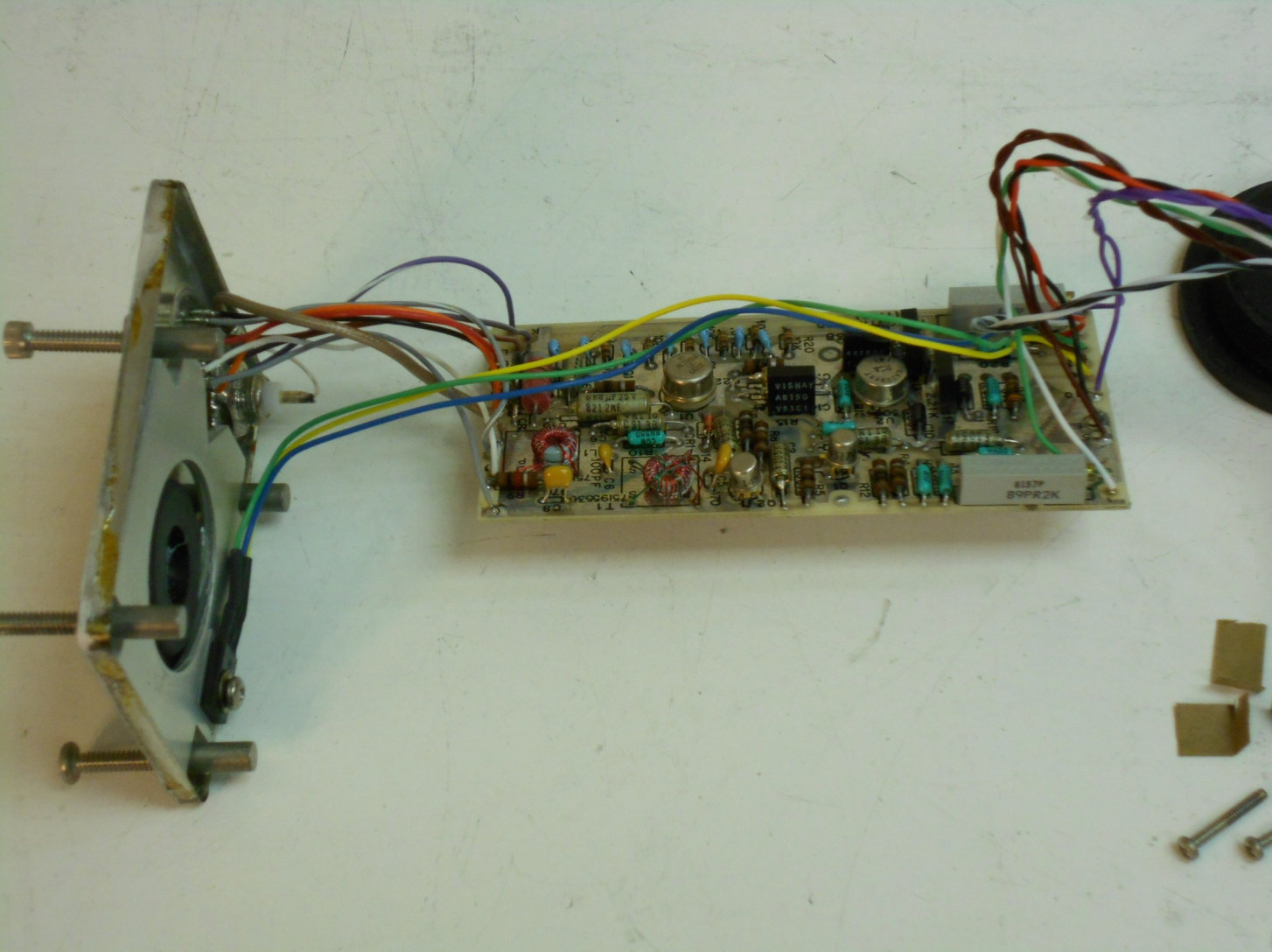
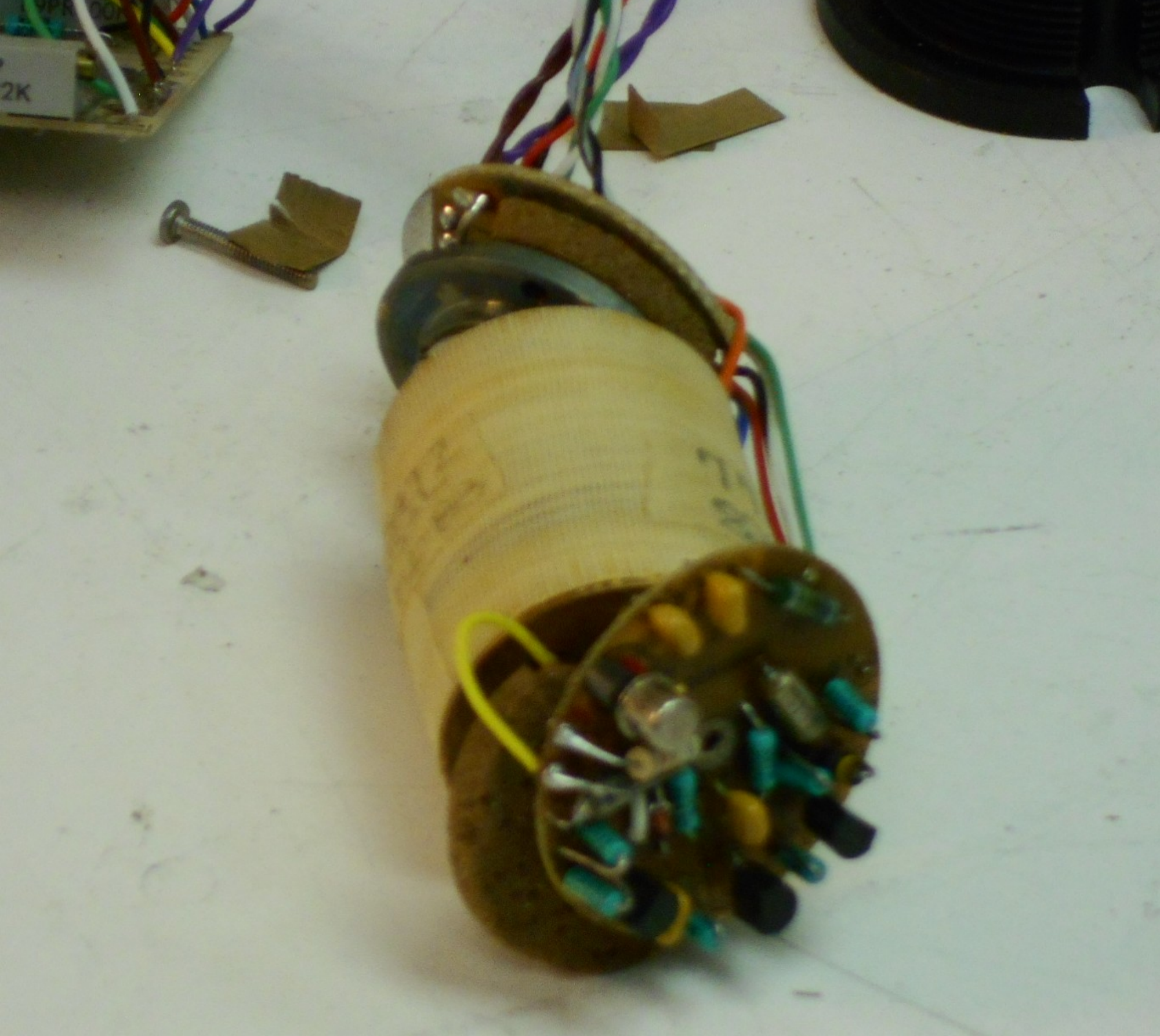


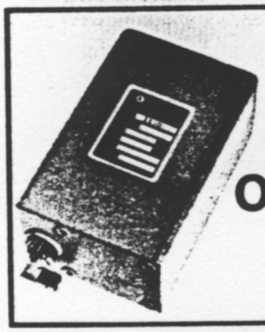

VISHAY
A8190
V9361
89PR2K




AUSTRON INC.
AUSTIN, TEXAS
CRYSTAL OSCILLATOR
MODEL 1150
SERIAL NO 2373
FREQ 5 MHZ
INPUT 12-28 VDC
PT NO 30294320
DATE MFG 10/82
made in U.S.A.

AUSTRON INC.
P.O. BOX 14766—EXIT 248, N IH35 AUSTIN, TX 78761•TELEPHONE (512) 251-2313•TWX 910/874-1356

MODEL 1150



CRYSTAL OSCILLATOR

GENERAL

The Austron Model 1150 is a very rugged, high-precision crystal oscillator which was specifically developed for use in satellite navigation systems. The Model 1150 employs a high-quality 5 MHz, high-temperature bake-out crystal unit which exhibits exceptional retrace and long-term aging characteristics. The crystal is mounted in a proportionally controlled oven which is mounted in a thermal flask. This assures excellent isolation from frequency shifts due to environmental temperature changes. A high-gain AGC system is used to keep the crystal drive level constant, assuring excellent long-term aging. The Model 1150 has application whenever system requirements demand a precise time base or frequency reference. Its features include:

- An ultimate aging of 5×10^{-11}/day
- Exceptional medium- and short-term stability
- Low phase noise
- Proportional oven
- Low power drain
- Excellent temperature stability

TYPICAL SPECIFICATIONS

OUTPUT FREQUENCY: 5 MHz, standard

OUTPUT VOLTAGE: 1 Vrms ±20% into a 50 ohm load, sine wave. Short circuit protection.

AGING RATE: 5×10^{-10}/24 hrs. after 24 hrs. operation. 1×10^{-10}/24 hrs. after 30 days operation. Ultimate drift is typically 5×10^{-11}/24 hrs. after 90 days operation.

RETRACE: $\pm 1 \times 10^{-9}$ of previous frequency after 2 hours operation following a 24 hour off time

STABILITY:

Short-term: $< 7 \times 10^{-12}$ for 1 to 100 second averaging times

As a function of

supply voltage: $< \pm 5 \times 10^{-10}$ for a ±10% change from 27 Vdc

As a function of load: $< \pm 1 \times 10^{-10}$ for a ±10% change from 50 ohms

As a function of

ambient temperature: $< 2 \times 10^{-9}$ from −40°C to +60°C

$< 5 \times 10^{-10}$ from 0°C to +50°C

INPUT VOLTAGE: 27 Vdc ±10%, floating, protected against polarity reversal

INPUT POWER: 18 watts at 27 volt input

(27 volts input): 4.5 watts typical operating at +25°C

TUNING RANGE: Mechanical: 300×10^{-9} minimum

MECHANICAL:

Size: 2.37 × 3.19 × 5 inches (5.94 × 7.97 × 12.50 cm)

Weight: 2 pounds maximum (896 g)

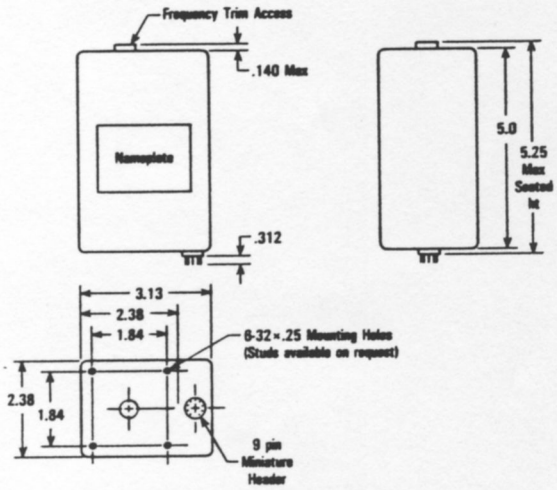
Mounting: (4) 6-32 mounting holes

Socket: 9-pin miniature

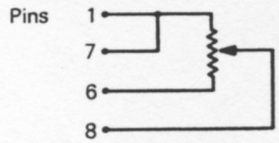
Sealing: Case is sealed. Mechanical frequency adjustment via gasketed screw

PIN CONNECTIONS

1—DC Input (−)
2—RF Mon.
3—DC Input (+)
4—RF Output
5—RF Output
6—+8 Vdc Output
7—Electrical tuning (−)
8—Electrical tuning (+)
9—Oven Mon.



Electrical Tuning Circuit

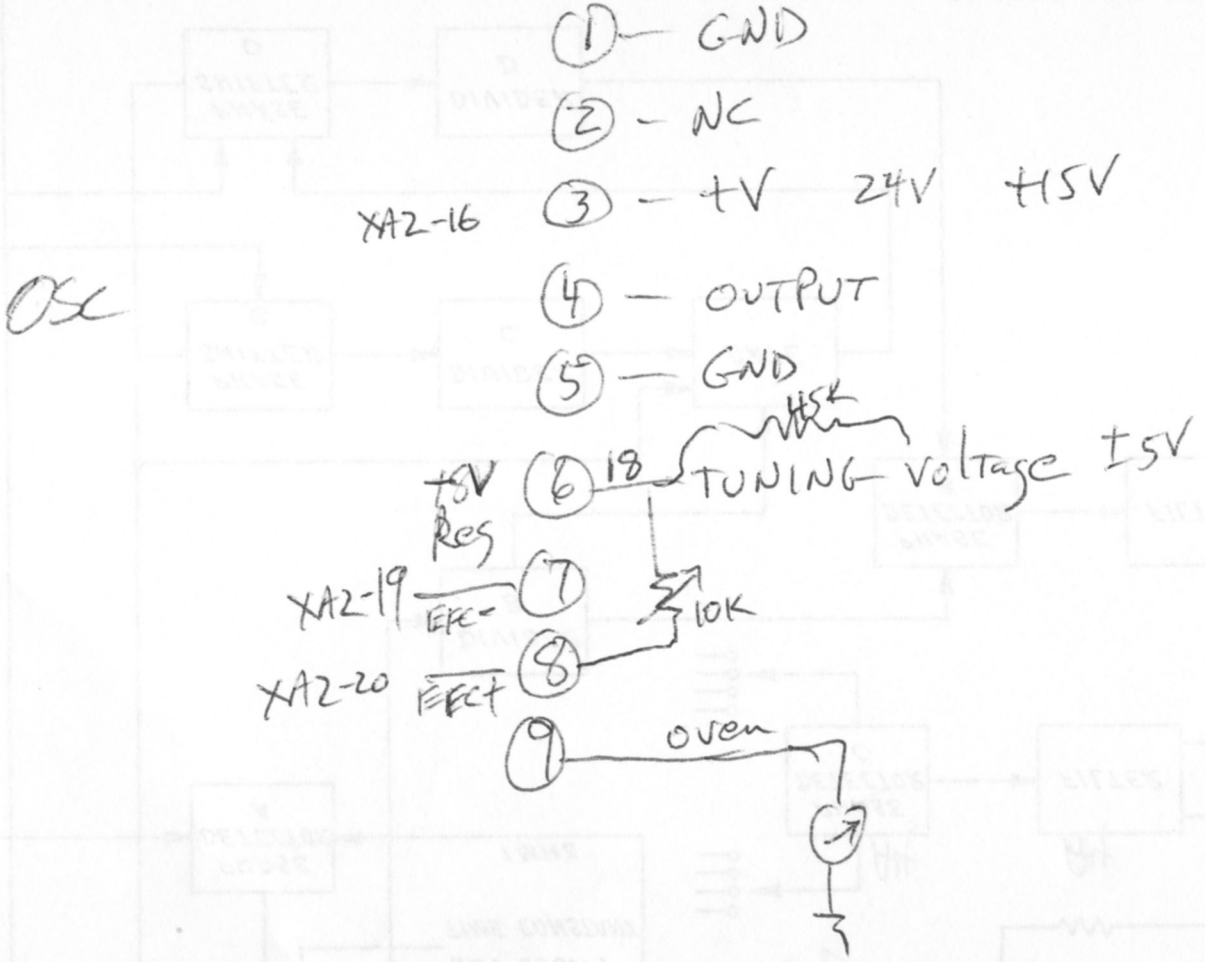


10 K ohms potentiometer

OPTIONS

- Non-standard frequencies, input voltages, tuning ranges, etc.
- MIL-spec, JANTX, Radiation hardened
- Quality control — MIL-Q-9858A
- Various mechanical configurations

Please contact Austron with your exact requirements.



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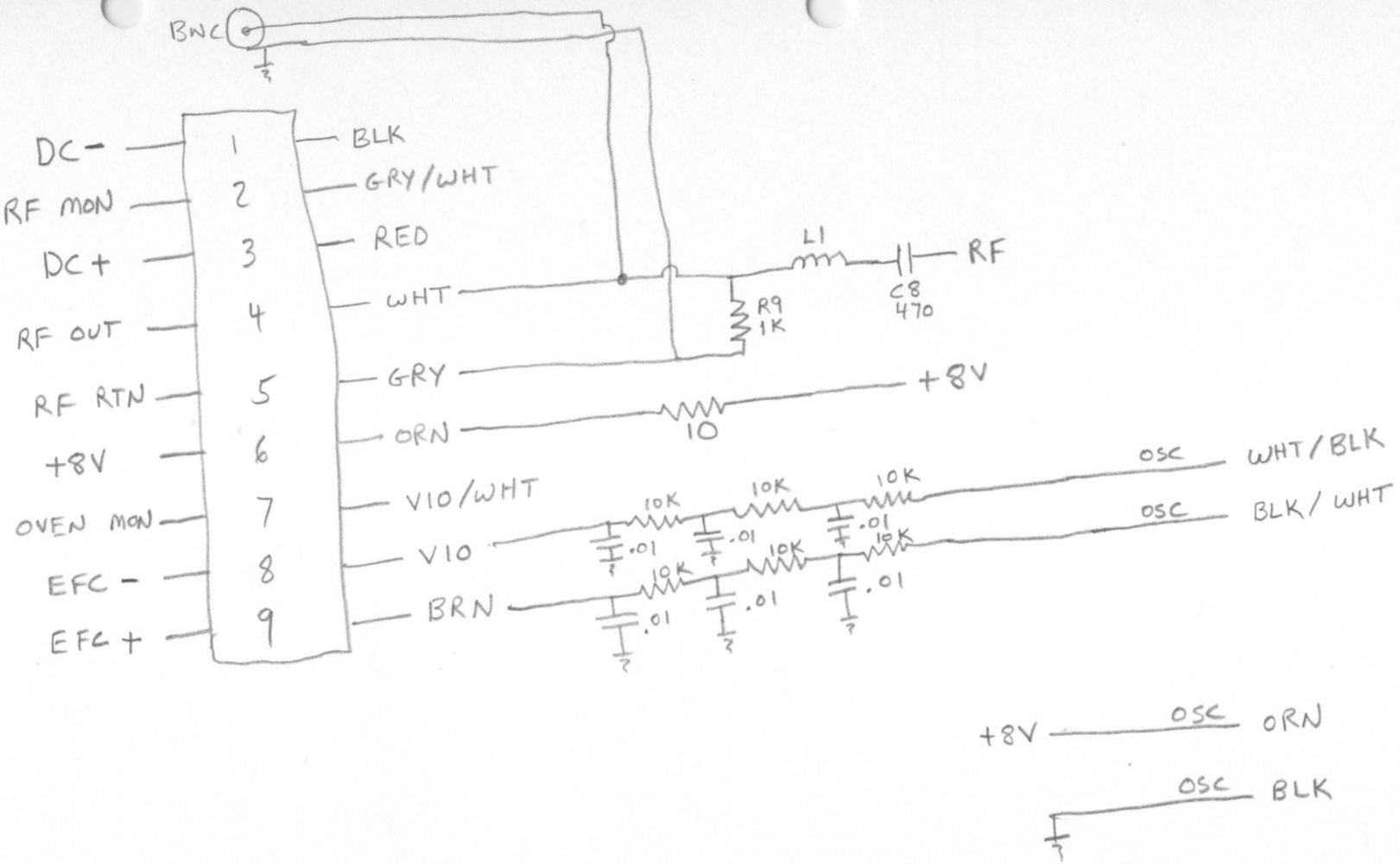
9 MAR 2017



Austron 1150 Connector Wiring

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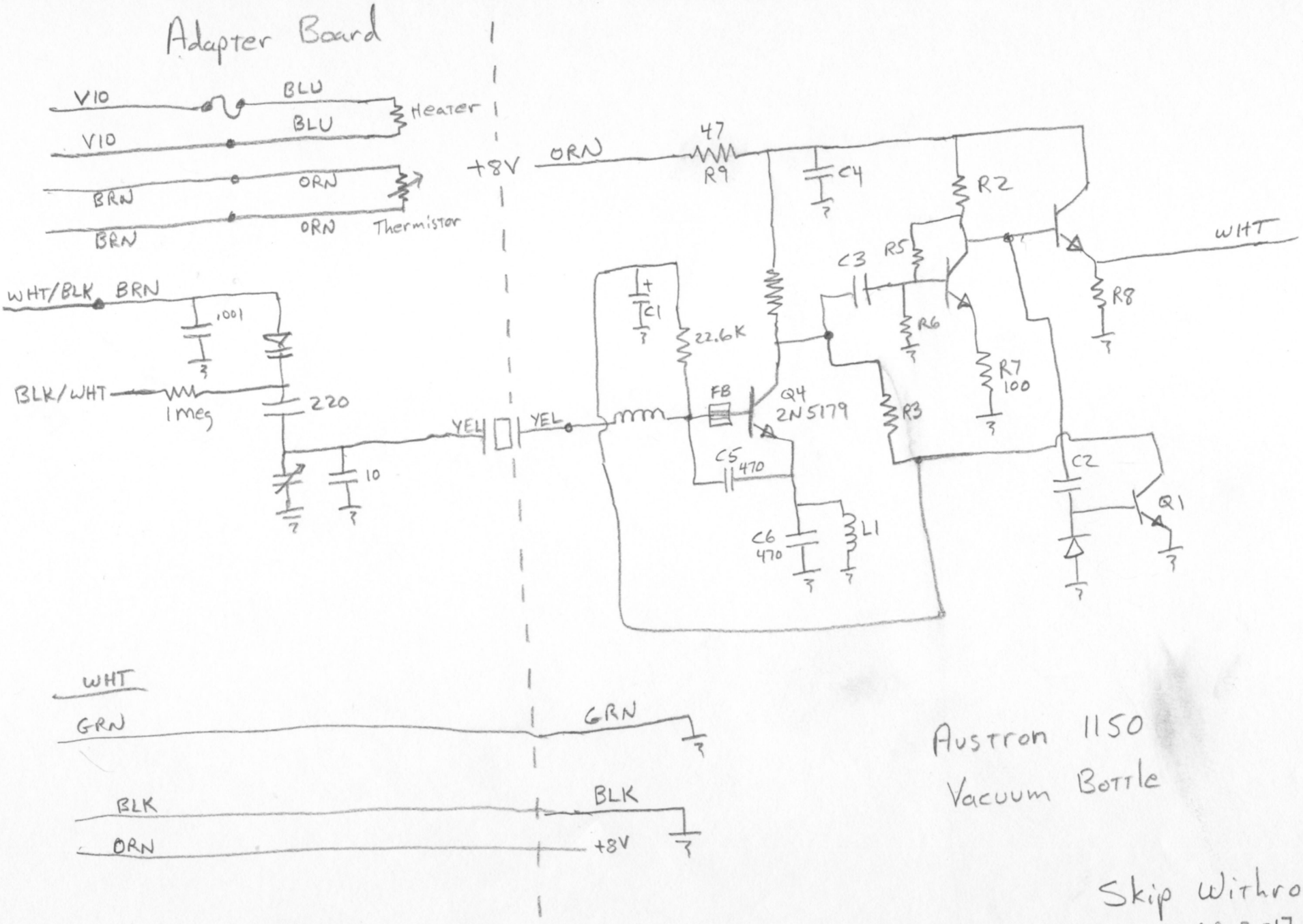
9 MAR 2017

Adapter Board



Austron 1150
Vacuum Bottle

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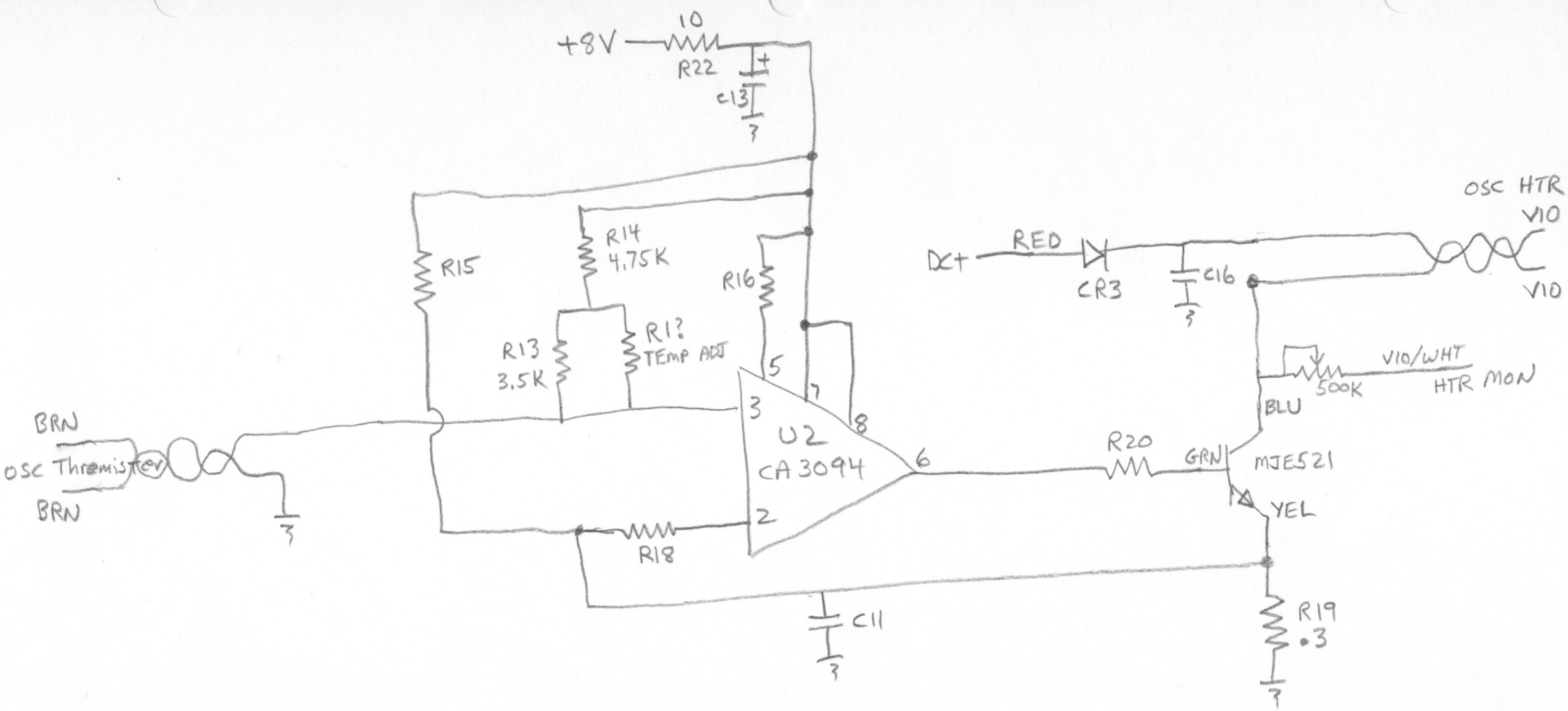

Austron 1150
Heater Control

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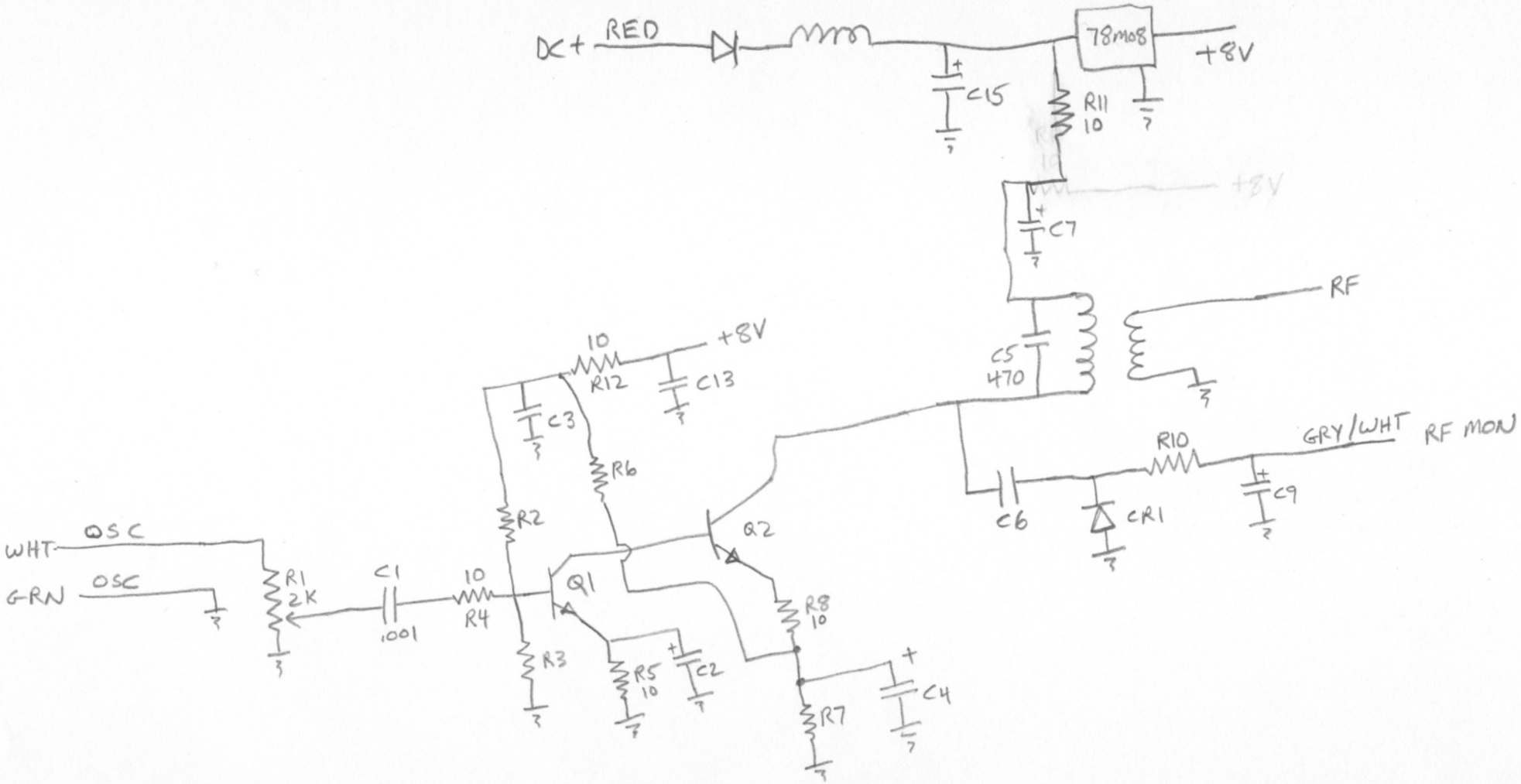
9 MAR 2017



Austron 1150

OSC Buffer

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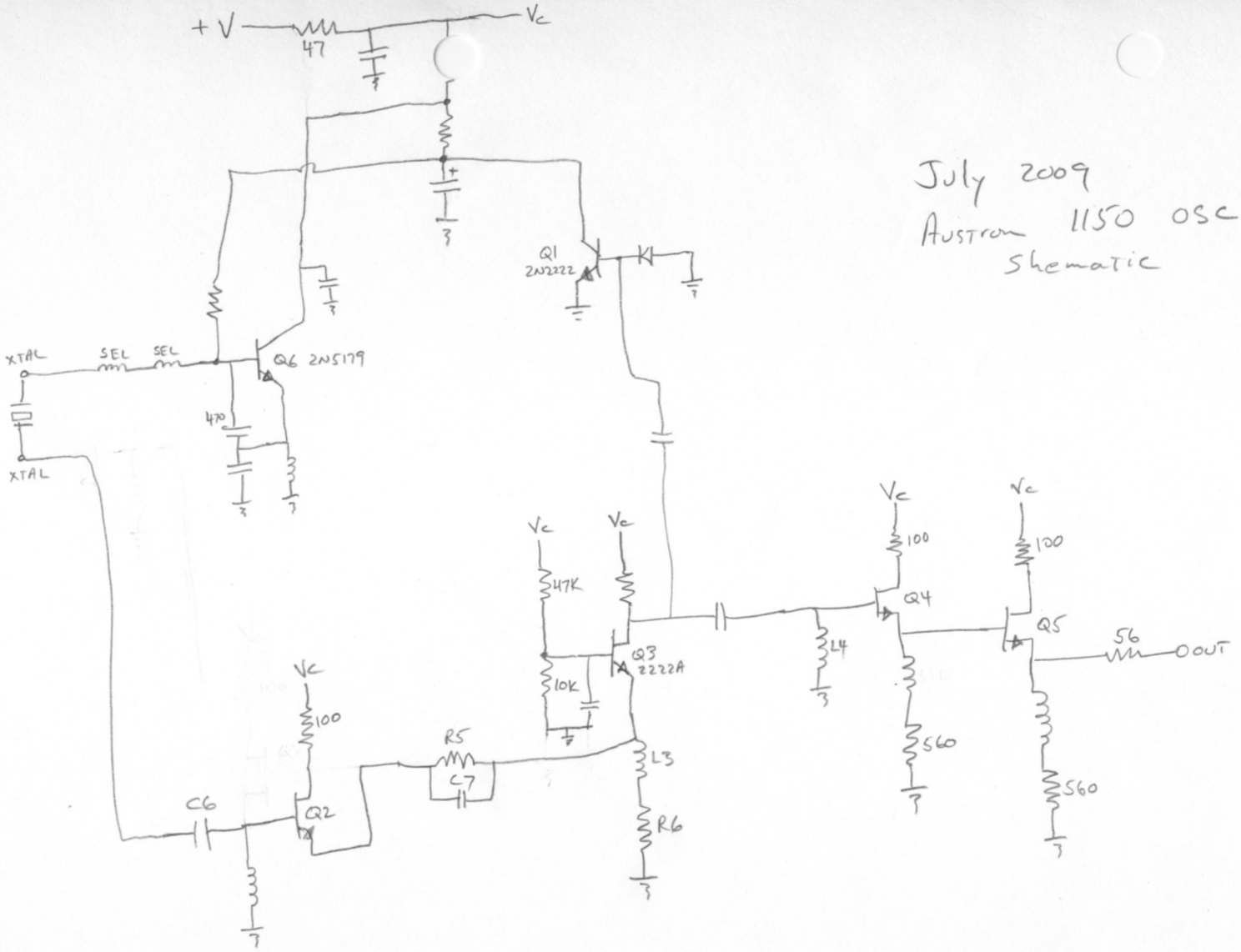
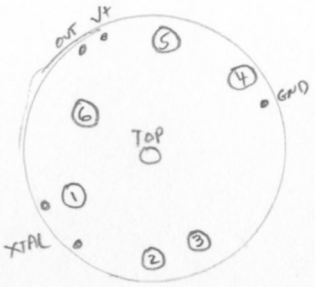
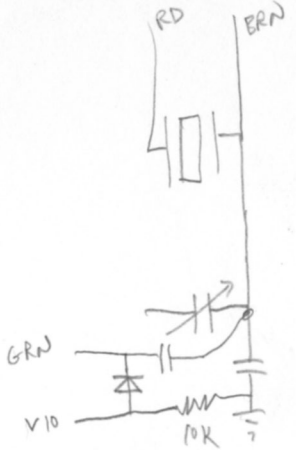
9 MAR 2017

July 2009
Austron 1150 osc
Shematic





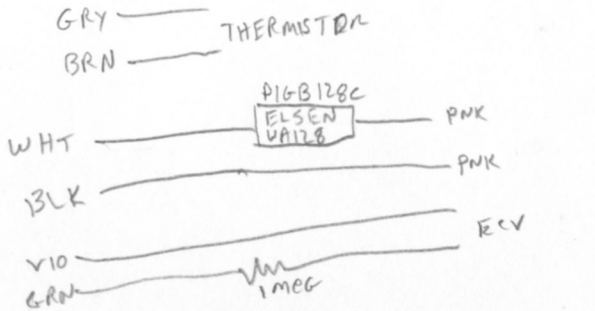


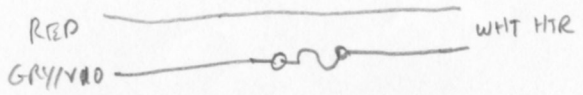
Themistor – 19.0K 25°C

Clear – 34.8 Ω

PNK – 22.3 Ω

XTAL 78.1°C
Bliley
BG61AH-5S





July 2009
Austron 1150 OSC