

2 August 1956

Listening Test at 450 pm - 545 pm.

Bent callator dial 46.0

BC stations at 45.0, 49.0, 57.2, 61.0, 53.1

BC stars
on every
10 KC channel

No carriers below 45.0

Returned antennas to 606

Set receiver dial to 37.5, Input 77.0

Attenuator 90 B, Clamping circuit on long time constant

Started recording running at 545 pm.

By 545 pm a few weak atmospheric coming thru.

Left at 550 pm

Bias 100 volts

B+ 128 watts

Time constant 10^{-2}

Listened 810 p -

Weak code at 28.0 on intermittently off after 830 p

Very faint carrier 40.8 fades out frequently

Moderate code 10W 3.0 off mostly; also 6.0

Moderate code 5.0

BC stars all very much stronger now.

Code at 28.0 faded in momentarily about 830 p + 839 p

833 p very faint carrier at times on 37.1

Region between 30 + 36 seems always empty.

836 p very faint carrier at times 33.7 33.1

840 carrier at 40.8 stronger now

845 Rest dial to 37.5 + 77.0

Ran on short time constant for a couple of minutes.

850 - 905 p changed pen to other galvanometer so that ink track will run down center of paper and not blot under wheels

915 p left.

2nd less than half used.
14 August 1956 Arrive 255 pm. Everything running.
Bias 10.3V, B+ 118V, all A Batts 1.95-2.05V
Listening with beat oscillator at 460
305p - 320p BC stars at 45.0, 49.0, 53.0 faint,
57.0 faint, 61.0 etc. No carrier near 41,
moderate ICW at 33.5 only on for a few minutes.
There is occasional splatter of music without
a carrier near 37.5. Apparently this is some
overmodulation from station at 450. Few
faint atmospherics, may be due to 15 mph wind.
The zero has risen by 1/2 ma when on dummy,
however zero on chart constant over entire run.
Bias on R.F. 1.7V, Modulator 0.9V, I.F. stages 1.0,
1.2, 1.1 respectively

845p - 907p Listened. Usual BC carriers
code 32.5 21.8 ICW, 12.9 faint, 17.0 strong, 28.0 weak,
Carrier at 41.0 very weak with flutter fading of
about 3 cps. Call 27.5 weak ICW.

855p second time pulses at 27.0 with 50% 400 cps
modulation. Very strong, attenuator 33DB + input
mistuned to zero. The first eight seconds clear. The
9th + 10th second run together in a long dash. This
goes on from 855 - 859. Then a minute of silence.
Then second ticks for 58 seconds with 5th second
omitted until 4 minutes past nine. Call is V15.

910 p increased gain 3DB by setting attenuator at 6DB.

925p reversed leads on south antenna tuner box.

Output went up at least twice to limiting range.

935p decreased gain 9DB, changed attenuator to 15DB.

Now atmospherics worse + record very rough.

1015p changed tuner box leads back to crossed position

Reset attenuator to 9DB.

Began snowing about 90 pm. Paul Blizzard at 1015p

1030 p

17 Aug 1956 Arrived 1250 pm. Everything going but set appears weak. Cut off tape after 1 pm.

Bases 10.2V B+ 114V set B+ 138V DC amp.

Filaments 1.98V, 1.99V, 1.99V, 1.99V, 2.00V, 1.99V set 3

Filaments 1.97V, 1.91V, 1.96V DC Amp.

Cathodes ¹²²⁵ 1.6V, ¹¹¹⁰ 0.2V, ¹¹⁷² — 0.9V, 1.1V, 0.9V

all cells
1220-1240
grants

R.F., Mod, Osc 1.F., 1.F., 1.F.,

One of the 24V batteries had died and showed -1.8V across terminals. Nothing to do but shut system down as no spare available.

Turned off 205 pm.

210-220 p Listened

Code 34.1, 28.5, Usual BC str. No carrier 41.0
VMFX, code 33.5

VLKF at 28.7, also very broad spark transmitter from 30-42 on dial.

Ink half used up. as level drops it doesn't feed so fast and doesn't run on paper. This Brush ink is not very fast drying. Removed old ink and cleaned pen and ink well.

Took DiC. Amplifier back to install a vibrator oscillator.

Left about 320 pm after shutting down dock.

The dead B battery with -1.8V across terminals above is probably the Delco with leaky partitions which was later demolished when unable to charge it.

18 August Arrive 4:10 pm.

D.C. Amp B batts 41V dry cells. 121V storage cells.

Gravity 1225-1250 water quite low.

A batts. 7.97V, 2.00V, 1.99V

Gravities 1172, 1248, 1223,

R.F. Amp. B batts. 118V Bias. 10.3V

A batts. as yesterday

5:30 p started run. Dial 37.5, attenuator 9DB
About 6:12 pm some ICW code on near 37.5 but it
didn't appear to affect trace as hand keyed.

From 5:55 - 6:10 p put three extra spacers across
bottom of down lead on north antenna. When
wind blows from north a lot of slack is
produced in down lead and there was a tendency
for feeders to short at bottom.

Tried vibrator set for 0.3V of AC in pen circuit.
It seemed to lay down a great deal of ink so
that blots would occur.

Tried some blue-black fountain pen ink but it too
thin and fed too fast 5:30 - 5:40 pm. Put back the
Brush ink.

7:20 p examined cathode to ground bias on various
stages. Atmospheric caused no change in R.F. Mod.,
1st I.F.; 2nd I.F. varied from 1.0V down to 0.7 volts
during crashes. 3rd I.F. varied from 1.0V up to 1.4V volts
during crashes. This small variation is well within
operating range of tubes.

7:57 some monkey chatter from station at 44

8:10 - listened in. Code 28.1, 13.8,

BC sta at 41 quite strong at times. This may be

from station at 41.0.

When everything tuned up properly and listening is done at same time as recording it is quite easy to hear the hiss in background when atmospherics die momentarily, between quiet places due to limiting. The hiss is smooth in sound like cosmic static.

Left about 840 pm. Quite clear, near full moon.

19 Aug. Arrive 410 pm. abnormal atmospherics.

Frequency Calibration, Beat ox at 46.0

500 KC	28.1	490 KC	23.7
510 KC	32.5	480 KC	19.9
520 KC	36.8	470 KC	14.0
530	41.0	460 KC	9.0
540	45.0	450 KC	3.1
550			

Rcvr. B batts 119V, Bias 10.3V

A batts 1.98, 1.99, 2.00, 1.99, 2.00, 1.99 volts.

DC Amps B batts 40V dry, 121V wet

A batts. 1.96V, 1.99V, 1.98V

Changed tuner boxes to 300 inductances and 100 capacitors. Receiver dial to 36.0, antenna dial to 78.0, Attenuator 9DB.

Raised R.F. B batts to 137V, bias still 10.2V.

Left about 530 pm

26 Aug 1956 Arrive 9:30pm. Set very weak.

also turned adjusting screw on clock 1/4 turn counter clockwise.

Clock 20 min slow. Setting clock.
Tub down to 1/8 inch. Added two droppers worth of ink. 7000 level 3/8 inch.
Shut off vibrator.

R.F. B batts 121v Bias. 10.3v
R.F. A batts 2.01v 1.98v 1.99v 1.99v 1.99v 1.98v

Grids
Cathodes. 1.8v 0 - 1.0v 1.1v 1.0v

R.F. Mixer Osc. 1.F. 1.F. 1.F.
D.C. Amp B batts 117.5v Wet, 40.5v Dry
A batts 2.01v, 2.00v, 1.99v
Grids

Increased R.F. B batts to 142v

Changed attenuator to 0DB.

Something defective in set.

1025p - 1035p listened, Weak receiver at 41.0

Code at 35.9, 33.1, 31.0, 28.1, 14.5, 13.2 stars

R.F. Mix Osc 1.F. 1.F. 1.F.
Cathodes now 2.5v, 0.4v, - 1.6v, 1.7v, 1.6v

Obviously set should be taken back and fixed.

1035p - 1240a tried different combinations of extra code delay in north + south leads as shown. Results not significant. Apparently phenomenon weak tonight and code quite bad.

Left attenuator at 0DB & vibrator running.

Left about 1am 27/8/56

27 Aug 1956 Arrive 250 pm. Everything going.
Listened 255p - 305p. Strong code for a
few moments 36.0, Weak 29.1, 28.2, 33.7, no carrier 41.0

R.F. Batts. 138 v Bias. 10.3 v

R.F. A Batts. R.F. Mix, Osc, 1.F., 1.F., 1.F.
Cathodes 2.4 v, 0.25 v, — 1.5 v, 1.5 v, 1.6 v
Voltage 2.0 v, 1.97 v, 1.98 v, 1.97 v, 1.98 v, 1.97 v

Trouble seems to be in mixer which is losing bias.

D.C. Amp. Batts. set by.
" A Batts 2.00 v, 1.99 v, 1.98 v,
Grants.

305 - 520 made phase observations, No code,
weak intermittent atmospheric perhaps due to a
west wind on antenna. High background,
sounds OK. Obviously energy coming from south.
615p atmospheric becoming worse.

630p - 915 pm Further phase tests. Some moderate
code coming in about 7 pm but doesn't affect pen.

830 atmospheric becoming severe & trace ragged.
835 - 840p distorted. No code near 36.0. Closest at 28.6,
Carrier at 41.2 moderate to weak with flutter fading.

It seems apparent that this energy is arriving from a diffuse
patch to south of zenith.

Put 250 ft in south lead and let run.
Attenuator 0 dB, Dial 36, Ant 78, 10^{-2} sec integrate,
integrator running.

30 Aug 1956. Arrive 1030 am, Everything going.
 Considerable wind from north. Daytime
 atmospherics bad.

1035a - 1045a Listened.

Strong code at 34.1 with 400 cps modulation. It is
 this station which is occasionally heard on
 modulation only when tuned to 36.0. No
 carrier at 41.0 but other Q signals present. Faint
 code at 29.1. Set pretty much.

1047a took 256 ft out of south lead so that
 now beam points up. Notice great reduction in
 both atmospherics and base level.

1250p - 102p listened for VIS tune on 500 KC. Was
 not able to hear them. Faint code on momentarily
 at 1258. This turned out to be ZLB? probably a
 ship near Hobart. Ayr at 220p + 245.

It would seem the high south background present
 today may be due to industrial noise from Hobart.
 at 120 + 124p it dropped markedly for a fraction of
 a minute.

R.F. B batte	131V	Bias	10.3V
R.F. A batte	199V, 196V, 197V, 196V, 198V, 197V		
Grids	1210, 1155, 1170, 1160, 1175, 1155		
Cathode	2.1V 0.0V - 1.7V, 1.5V, 1.5V		
Stagl. R.F.	Mix, Osc, I.F., I.F., I.F.		
D.C. Amp. B batte	114V wet 40.0V dry		
D.C. Amp. A batte	199V, 196V, 195V		
Grids	1205, 1155, ?		
	1215, 1160, 1125		
	1210, 1160, 1125		

Stage Input Driver Output

It seems apparent from phase tests that a minimum occurs with either 64 ft or 96 ft in north lead. A maximum occurs with either 256 or 384 ft in south lead. Thus the day time continuum is coming from south of zenith.

3:35 pm shut system down and took apparatus to town.

3:35-3:40 listened faint code 33.8

$\frac{1}{16}$ " ink left in container. Turned off clock.

Weak B Batteries

Date	Number of Batteries	Cell from Neg End	Volts closed	Open	Grainity	Dead	Changed
17/8/56	?		-1.8V	whole battery	dismantled at		
17/10/56	# 3?		13 1/2				

21/11/56	9		13 1/2		1100	1300
13/2/57	9	# 10	0.1	1.5	1115	1300
15/2/57	8	low water				
1/3/57	3	# 8	-0.1		1090	
15/3/57	9	# 10	0.4		1125	
25/3/57	3	# 8	-0.1		1160	