

8TH AUGUST 1959
P.O. Box 2
GREEN BANK, WEST VIRGINIA

MR. LESLIE A. GALLOWAY
1713 EVERETT ST.
LAFAYETTE, INDIANA

DEAR MR. GALLOWAY:

THE THREE RECEIVERS #1, #2, #3
ARRIVED HERE A MONTH AGO ALL IN GOOD CONDITION, AT
LEAST INSOFAR AS TRANSPORT IS CONCERNED.

SET #1 WAS VERY DIRTY AND NOT PARTICULARLY
SIGNIFICANT. I DISMANTLED IT AND CLEANED UP AND SAVED
ALL THE PARTS. THE MOST IMPORTANT PARTS AS THE MADISON-
MOORE I.F. TRANSFORMERS,

SET #2 TURNED OUT TO BE PROBABLY THE BEST SET
MR. BAIRD BUILT. THE REMLER I.F. TRANSFORMERS WERE
THE BEST OF THEIR DAY. UNFORTUNATELY BOTH A.F.
TRANSFORMERS HAD OPEN WINDINGS AND THE B- MILLIAMETER
WAS MISSING FROM FRONT PANEL. HOWEVER, BY GOOD LUCK
EXACTLY THESE PARTS WERE AVAILABLE FROM SET #1 WHICH
I HAVE NOW TRANSPLANTED INTO SET #2. THE RECEIVER
WORKS FINE. I ALSO HAD TO REPLACE A COUPLE OF INF
BYPASS CONDENSERS WITH MODERN UNITS AS THE OLD ONES
HAD ONLY ABOUT 70,000 OHMS LEAKAGE RESISTANCE.

SET #3 WAS PROBABLY BUILT BY MR. BAIRD JUST PRIOR
TO SET #2. THERE WAS A WIRING ERROR IN THE OSCILLATOR
AND LACK OF A TERTIARY COIL. WHILE THE OSCILLATOR
OSCILLATED, IT DREW AN EXCESSIVE PLATE CURRENT. I FIXED
THIS UP. BOTH A.F. TRANSFORMERS HAD OPEN WINDINGS.
HOWEVER, AGAIN I WAS ABLE TO SALVAGE TWO TRANSFORMERS
FROM SET #9 FOR REPLACEMENTS. THE DIALS HAD TO BE
REPLACED BY OTHERS I HAD. ALL THOSE ACCRATUNE DIALS
WERE DONE FOR. THE DIE CASTINGS HAD SWELLED UP AND
DISTORTED OVER THE MANY YEARS SO THAT NONE OF THE
GEARS WOULD RUN. CHEAP AND EFFECTIVE IN THEIR DAY,
BUT NOT BUILT TO LAST; LIKE BRASS GEARS. IN ANY CASE,
SET #3 IS NOW IN GOOD ORDER AND OPERATES WELL.

BY NOW, I HAVE A BIT OF TIME ON MY HANDS AND MY BANK ACCOUNT HAS RECOVERD AGAIN. PERHAPS WE CAN GET TOGETHER ON THE REMAINING ITEMS YOU STILL HAVE. THESE ARE RATHER LESS DESIRABLE AND I CANNOT OFFER AS MUCH AS THE PREVIOUS SETS.

THE SMALL RECEIVER #6 SEEMS TO BE THE BEST OF THE LOT. I CAN OFFER \$25 FOR IT, AND THE PHONES.

RECEIVER #5 IS PRETTY DISMANTLED AND CAN ONLY BE GOOD FOR THE REMAINING PARTS. I GATHER THAT THE AUDIO TRANSFORMERS, TUBES, SOCKETS, JACKS, ETC. ARE STILL ON HAND EVEN THO LOOSE. THE REMAINS ARE PROBABLY WORTH \$15.00

RECEIVER #4 ALSO LOOKS TO BE PARTLY DISMANTLED, ALTHO NOT VERY BADLY. SINCE THERE IS NO CABINET, I SUSPECT THE RECEIVER TO BE VERY DIRTY. WHETHER OR NOT IT IS WORTH FIXING, OR JUST WORTH PARTS ONLY, I CANNOT GUESS. APPARENTLY THERE ARE NO TUBES. THIS SET IS PROBABLY WORTH \$15 FOR THE PARTS.

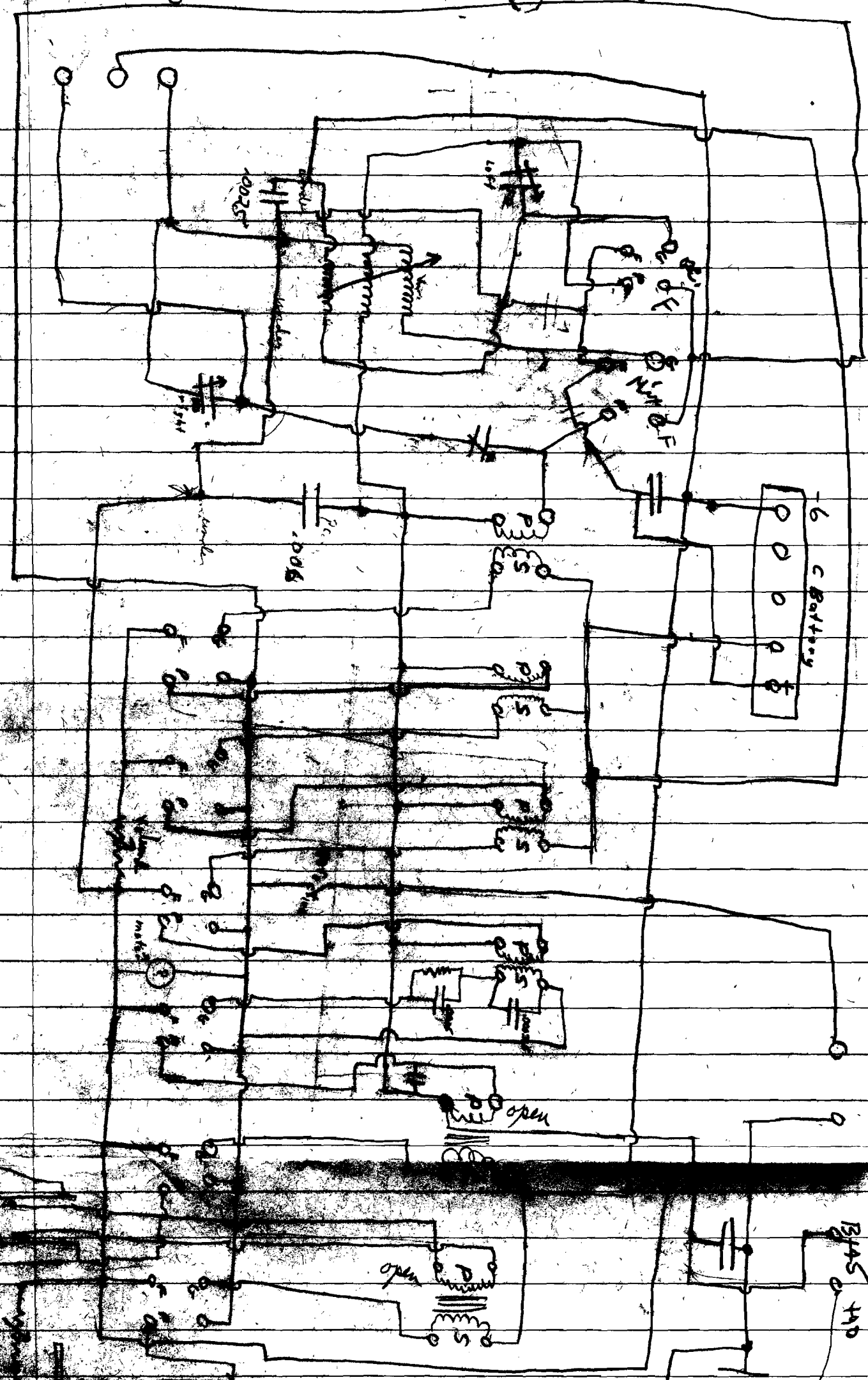
APPARENTLY YOU HAVE SOME EXTRA TYPE 199 TUBES AND 201A TUBES. I DON'T KNOW HOW MANY, BUT I'LL OFFER \$1.75 EACH FOR ALL THAT STILL SHOW FILAMENT CONTINUITY. I'LL GAMBLE ON THE EMISSION STILL BEING UP AND THE TUBES FREE FROM GAS.

PLEASE TAKE THE MATTER UP WITH MR. GORDON SMITH. IF HE IS AGREEABLE, I'LL WRITE MY CHECK FOR THE APPROPRIATE SUM.

VERY TRULY YOURS,

Grote Reber
GROTE REBER

59



~~1/2 V = 0.07~~
~~450 = 0.073~~
~~22 1/2 V = 0.073~~

Detection Performance

Input	.025	.059	.200
90	.25	1.50	44
67 1/2	.50	2.45	50
45	.95	2.70	48 use 45V
22 1/2	.60	3.0	49

Tube marked 1.5

Set still needs a bit more shielding
 under 1st around 1st I.F. & tubes,
 lack thereof causes mistuning of
 1st I.F. tone.

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Volume control action
 Filament on 3 I.F. tubes
 Factory well at 3.0V total
 Fil volts: Input mV Loss

3.0	1.3	2.3V	1.82 mV	Loss
2.8	1.3	2.2	4.4 "	37.1
2.6	4.9	2.1	11.6 "	39.8
2.5	13.1			98.2
2.4	33.2			

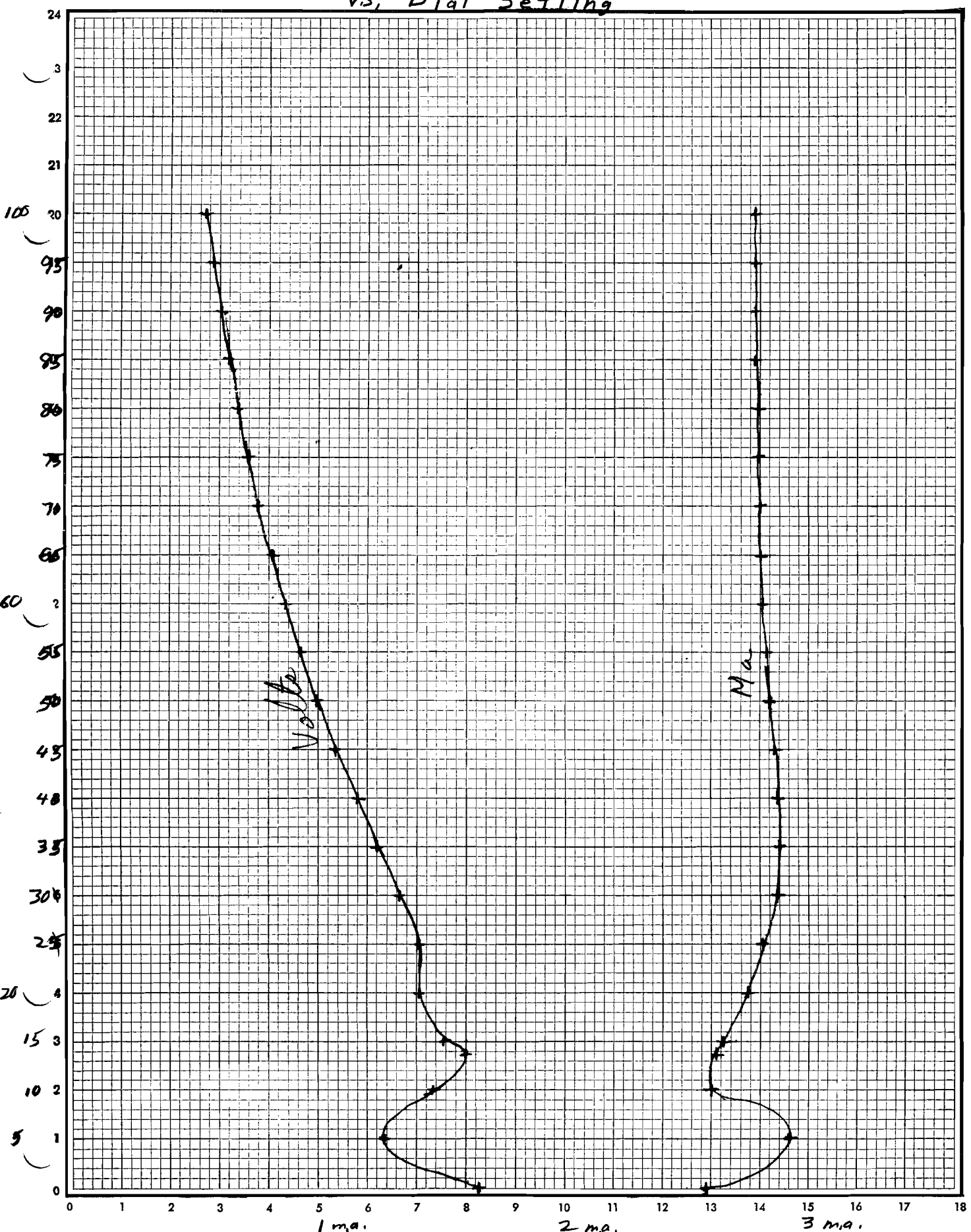
10 vlt output
 59
 60% Mod.
 Gain
 DB

1st I.F. plate	235	100	-	7.4
" grid	38			15.8
2nd I.F. plate	22			4.7
" grid	3.6			15.7
3rd I.F. plate	1.7			6.5
" grid	.26			16.3
Mixer plate	.23			1.1
" grid	.015			14.2

15700R series resistance
 for plate tone, Tube
 removed when input on plate.

B+ = 88V, I = 12.2 ma, E_G = -4.2
 Markings on tube are 2.0, 1.6, 1.8, 1.9, 2.0, 3.1
 from Mixer to 2nd A.F. Total 12.7 ma
 45w carrier (no mod) on mixer grid gives
 0.60 output noise volts. 3 sig/ma = 24.4 dB
 No measurable noise output without carrier

Oscillator Plate Current and Output Voltage vs. Dial Setting



Volts

1 ma.

2 ma.

3 ma.

5

10

15

Oscillator Test

27 Aug 54

Pickup

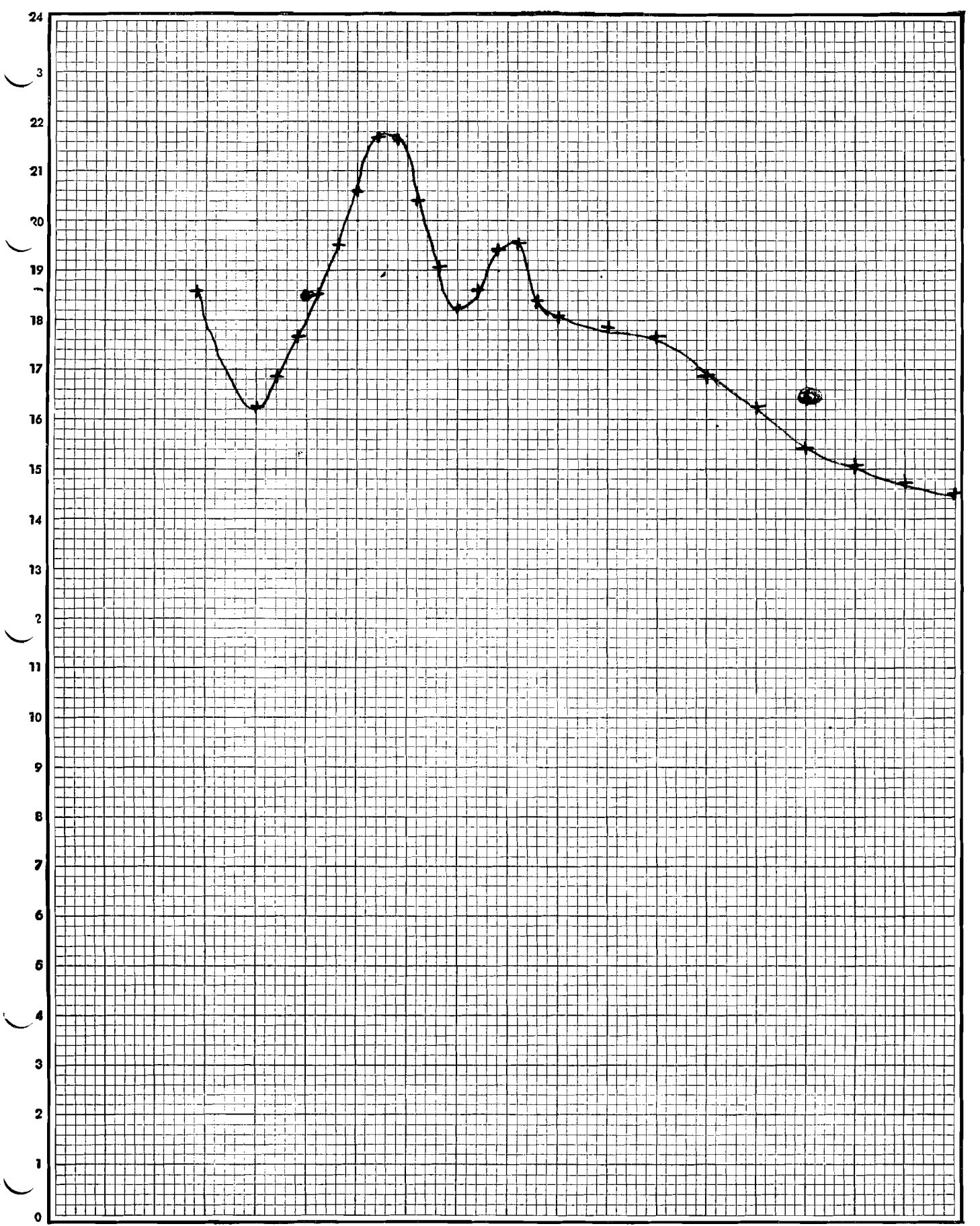
Coil set $\frac{5}{8}$ in

Dial Settings

Oscillator Plate Current

Output Voltage

Dial Settings	Oscillator Plate Current	Output Voltage
0	2.58	8.26
5	2.92	6.37 min
10	2.60	7.36
13.75	2.62	8.00
15	2.65	7.55
20	2.75	7.03
25	2.81	7.02
30	2.87	6.65
35	2.88	6.20
40	2.87	5.80
45	2.86	5.36
50	2.84	4.98
55	2.83	4.63
60	2.81	4.34
65	2.80	4.07
70	2.80	3.80
75	2.79	3.60
80	2.79	3.40
85	2.78	3.20
90	2.78	3.02
95	2.78	2.88
100	2.78	2.73



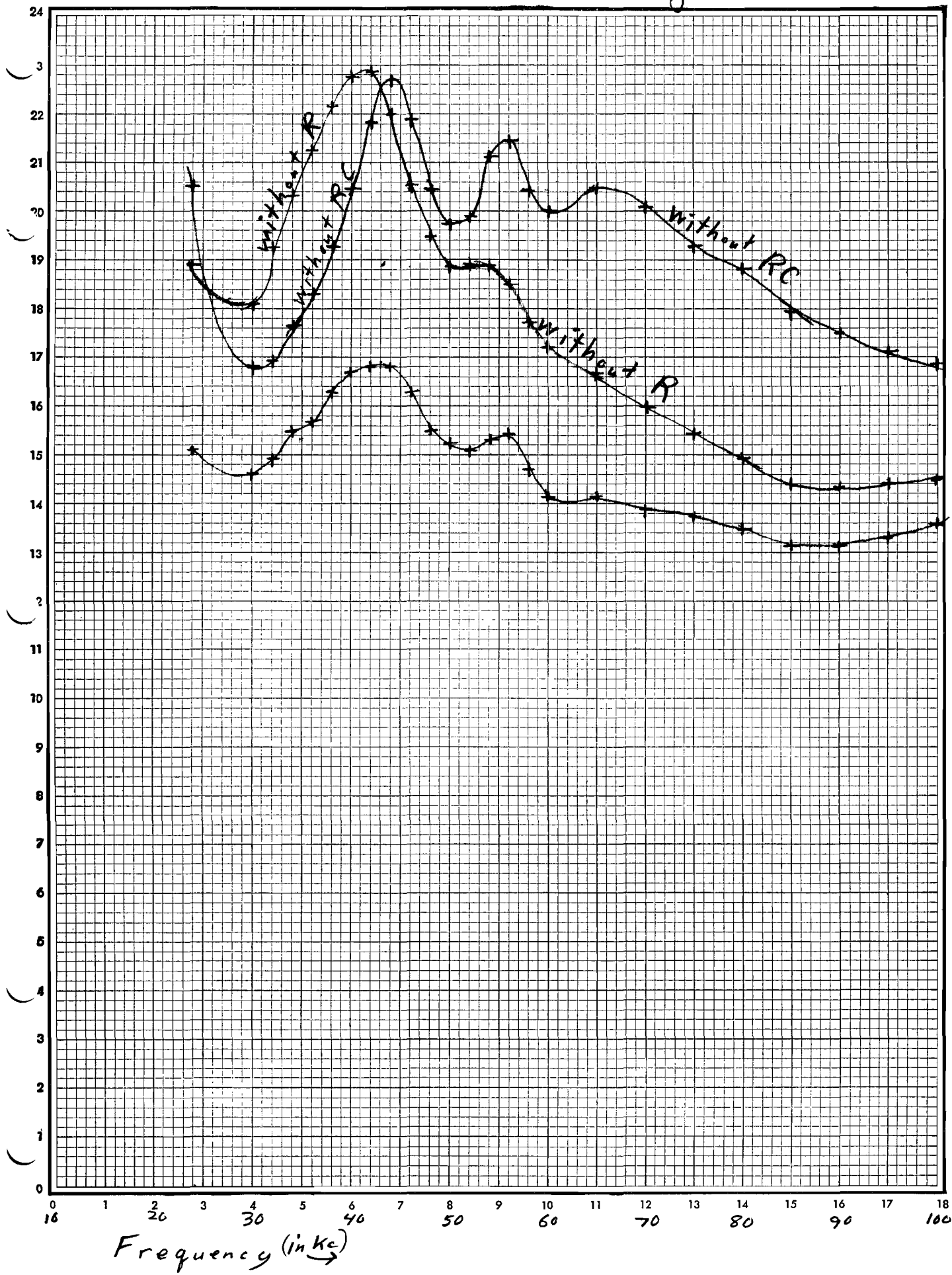
Frequency in kc →

949 952

Mixer Grid with RC Circuit Removed from
Transformer With New Transformer db

Frequency	Voltage	1st IF.		
24	2.2	23.4	2.75	18.60
30	1.720	11.07	1.708	16.24
32	1.097	7.70	1.110	16.82
34	.717	5.46	.716	17.64
36	.461	3.80	.450	18.52
38	1.288	2.65	.280	19.52
40	.1750	1.842	.1721	20.60
42	.1000	1.236	.1022	21.65
44	.0620	.844	.0700	21.62
46	.0461	.574	.0548	20.46
48	.0358	.376	.0420	19.04
50	.0261	.254	.0311	18.24
52	.01748	.1720	.0202	18.60
54	.01622	.1849	.01978	19.40
56	.0210	.1248	.0261	18.56
58	.0334	.1350	.0420	18.40
60	.0480	.1480	.0600	18.06
65	.0840	.1885	.1094	17.86
70	.1375	1.388	.1820	17.64
75	.219	2.02	.290	16.86
80	.321	2.80	.431	16.24
85	.459	3.64	.616	15.40
90	.630	4.74	.838	15.06
95	.839	6.03	1.101	14.76
100	1.070	7.43	1.402	14.48

25 Aug 59



828 991
876 963

66' - 97 After Putting on R.F. Choke
db Gain (Mixer to 1st I.F.)

Frequency	With Resistor	Without Resistor ⁽¹⁾	Without Cap. 6.18
24 Kc	15.12	18.92	20.54
30	14.60	18.06	16.80
32	14.94	19.24	16.94
34	15.46	20.34	17.62
36	15.66	21.24	18.32
38	16.26	22.18	19.26
40	16.68	22.78	20.46
42	16.80	22.84	21.84
44	16.80	22.06	22.68
45	16.28	20.56	21.90
48	15.46	19.46	20.43
50	15.22	18.84	19.76
52	15.06	18.92	19.88
54	15.33	18.98	21.14
56	15.42	18.52	21.44
58	14.72	17.72	20.41
60	14.16	17.20	20.00
65	14.16	16.66	20.48
70	13.88	16.00	20.08
75	13.76	15.42	19.28
80	13.46	14.96	18.80
85	13.16	14.40	17.98
90	12.18	14.36	17.52
95	13.32	14.40	17.14
100	13.60	14.44	16.82

(1) On primary of transformer

After Putting on R.F. Choke

Frequency	1st IF Grid	(with resistor) Mixer	(without resistor on transformer primary) Mixer
24 kc	23.4	4.10	2.65
30	11.07	2.06	1.382
32	7.70	1.38	.840
34	5.46	.920	.525
36	3.80	.620	.330
38	2.65	.407	.206
40	1.842	.270	.1340
42	1.236	.1787	.0890
44	.844	.1220	.0670
46	.574	.0880	.0539
48	.376	.0628	.0400
50	.254	.0440	.0290
52	.1720	.0304	.01945
54	.1849	.0316	.0210
56	.248	.0420	.0294
58	.350	.0643	.0454
60	.480	.0939	.0662
65	.885	.1732	.11300
70	1.388	.280	.220
75	2.02	.414	.342
80	2.80	.594	.500
85	3.64	.800	.692
90	4.74	1.040	.906
95	6.05	1.301	1.150
100	7.43	1.556	1.410

changed to Mod.

Comparison of gains from 1st I.F. and Mixer

Frequency	Voltage		Frequency	Voltage	
	on Mixer	on 1st I.F.		on Mixer	on 1st I.F.
22.75		.1746	65	.1471	.922
25.15	.01735	.1746	70	.222	1.475
28	4.6 m.v.	.84	75	.341	2.16
30	1.86 m.v.	11.20	80	.500	2.94
32	1.846	7.80	85	.692	3.90
34	.878	5.60	90	.967	5.02
36	.612	3.90	95	1.143	6.40
38	.422	2.69	100	1.392	7.83
40	.300	1.867			
42	.200	1.246			
44	.1443	.860			
46	.1100	.575			
48	.0750 m.v.	.386			
50	.0432	.260			
52	⁺⁵³ .01790	.1799			
54	.0240	.1966			
56	.0390	.260			
58	.0606	.365			
60	.0801	.504			

$$f_1^2 (C_1 L) = f_2^2 (C_2 + C_1) L$$

$$C_0 (f_1^2 - f_2^2) = C_2 f_2^2 - C_1 f_1^2$$

$$-3C_0 = 4C_2 - C_1$$

$$C_0 = \frac{C_1 - 4C_2}{3}$$

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$$L = \frac{1}{(2\pi)^2 f_2^2 (C_2 + C_1)} = \frac{1}{(2\pi)^2 (300)^2 10^6 (122) 10^{-12}} = 1.716 \times 10^{-3} \text{ h}$$

$$36 \cdot 10^5 \cdot 10^6 \cdot 122 \cdot 10^{-12} = 5 \cdot 10^9$$

$$a = \frac{wL}{R} \quad R = \frac{wL}{a} = \frac{2\pi f L}{a}$$

$$R_1 = \frac{2\pi (174) 10^3 \cdot 1.716 \times 10^{-3}}{2.5} = 2.205 \times 10^2 = 220.5 \Omega$$

$$R_2 = \frac{2\pi (348) (1.716)}{9} = 4.17 \times 10^2 = 417$$

$$\frac{1091}{9} = 121.22$$

$$L = \frac{1}{(2\pi)^2 (152)^2 484 \times 10^{-6}} = 2.26 \times 10^{-3} = 2.26 \text{ mH}$$

$$3827$$

$$40 \cdot 2.25 \cdot 10^4 \cdot 500 \cdot 10^6$$

$$R_1 = \frac{2\pi 152 \times 10^3 \cdot 2.26 \times 10^{-3}}{11} = 196$$

$$R_2 = \frac{2\pi 304 \cdot 2.26}{7} = 616$$

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$$\frac{2\pi f L}{a} = \frac{2\pi 50 \cdot 2.26}{11} = 64.5$$

August 24, 1959

Choke Coil for Filament Circuit

Air Core

at 1kc

$$L = 2.5 \text{ mh}$$

$$DQ = 6.15$$

$$C_1 = 473 \text{ pF}$$

$$f_1 = 152 \text{ kc}$$

$$Q_1 = 8.5$$

$$C_2 = 147 \text{ pF}$$

$$f_2 = 304 \text{ kc}$$

$$Q_2 = 9$$

$$C_0 = 11 \text{ pF}$$

$$L = 2.26 \text{ mh}$$

$$R_1 = 126 \Omega$$

$$R_2 = 616 \Omega$$

$$R_{pc} = 1.84 \Omega$$

$$C_1 = 300 + 3977?$$

$$f_1 = 50$$

$$Q_1 = 11$$

$$C_2 = 410 + 889?$$

$$f_2 = 100$$

$$Q_2 = 7$$

$$C_0 = ?$$

$$L =$$

$$R_1 = 64.5 \Omega$$

$$R_2 =$$

$$R_{pc} = 1.84 \Omega$$

August 29, 1959

Choke Coil for Filament Circuit

(Iron Core)

At 1 Kc

$$L = 15.2 \text{ mH}$$

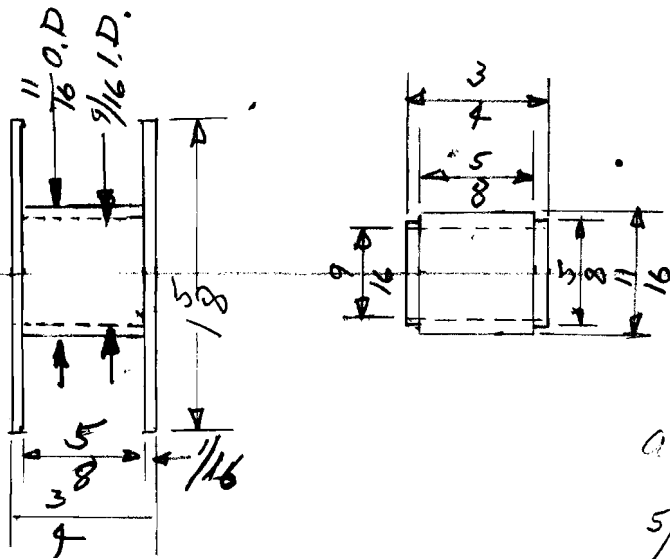
DQ off scale above 10

$$Q = 21$$

$$R_{1Kc} = 4.85 \Omega$$

$C_1 =$	Not	$Q_1 =$ Obtainable	$f_1 =$
$C_2 =$		$Q_2 =$	$f_2 =$

$$wL \text{ at } 50 \text{ Kc} = 5030 \Omega$$



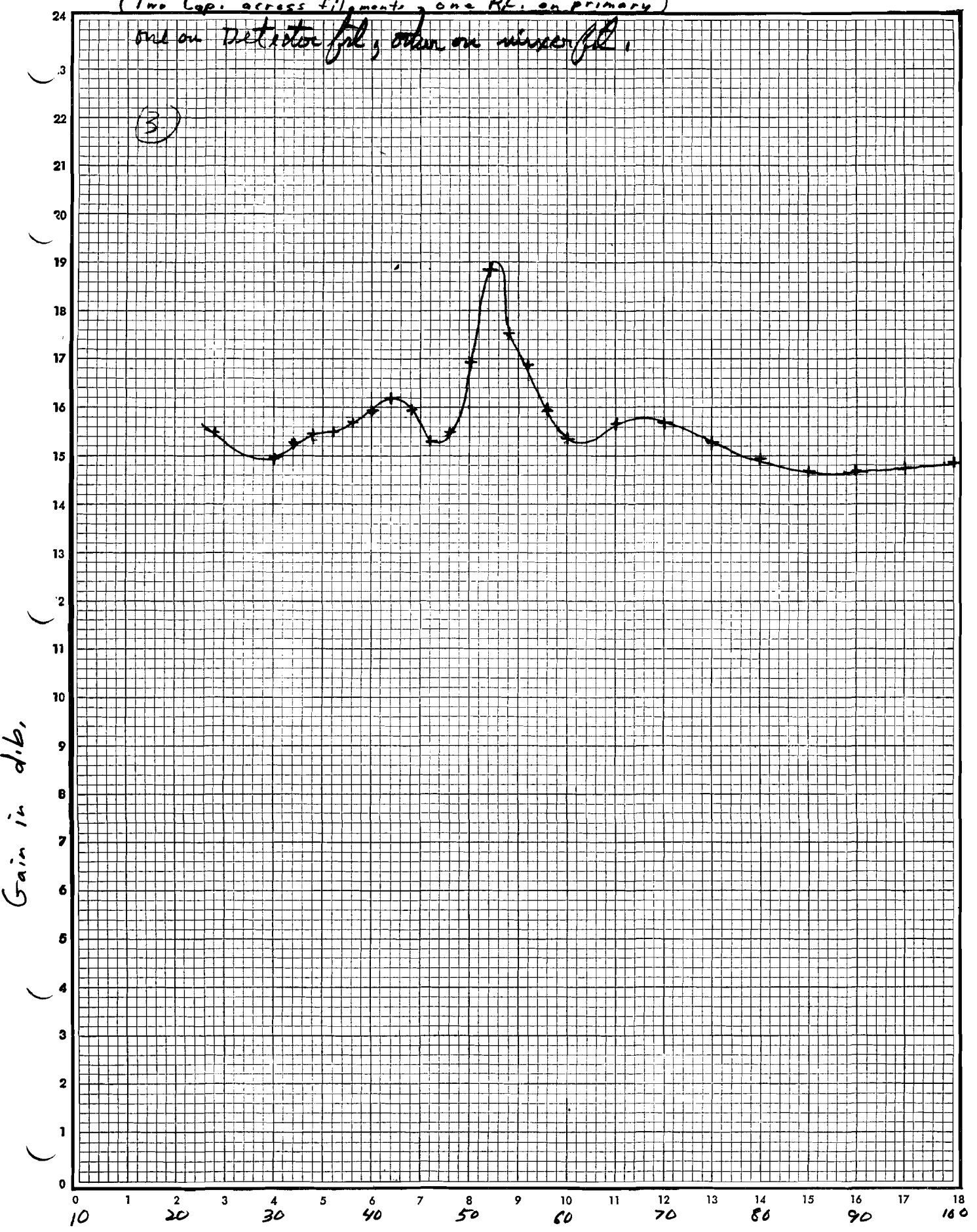
also two disks
 $5/8$ " I.D., $1 5/8$ " O.D., $1/16$ " thick.

Gain From Mixer to First I.F. Grid
(Two Cap. across filaments, one R.F. on primary)

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one on Detector fil., other on mixer fil.

(3)



Frequency in Kc

August 21, 1959

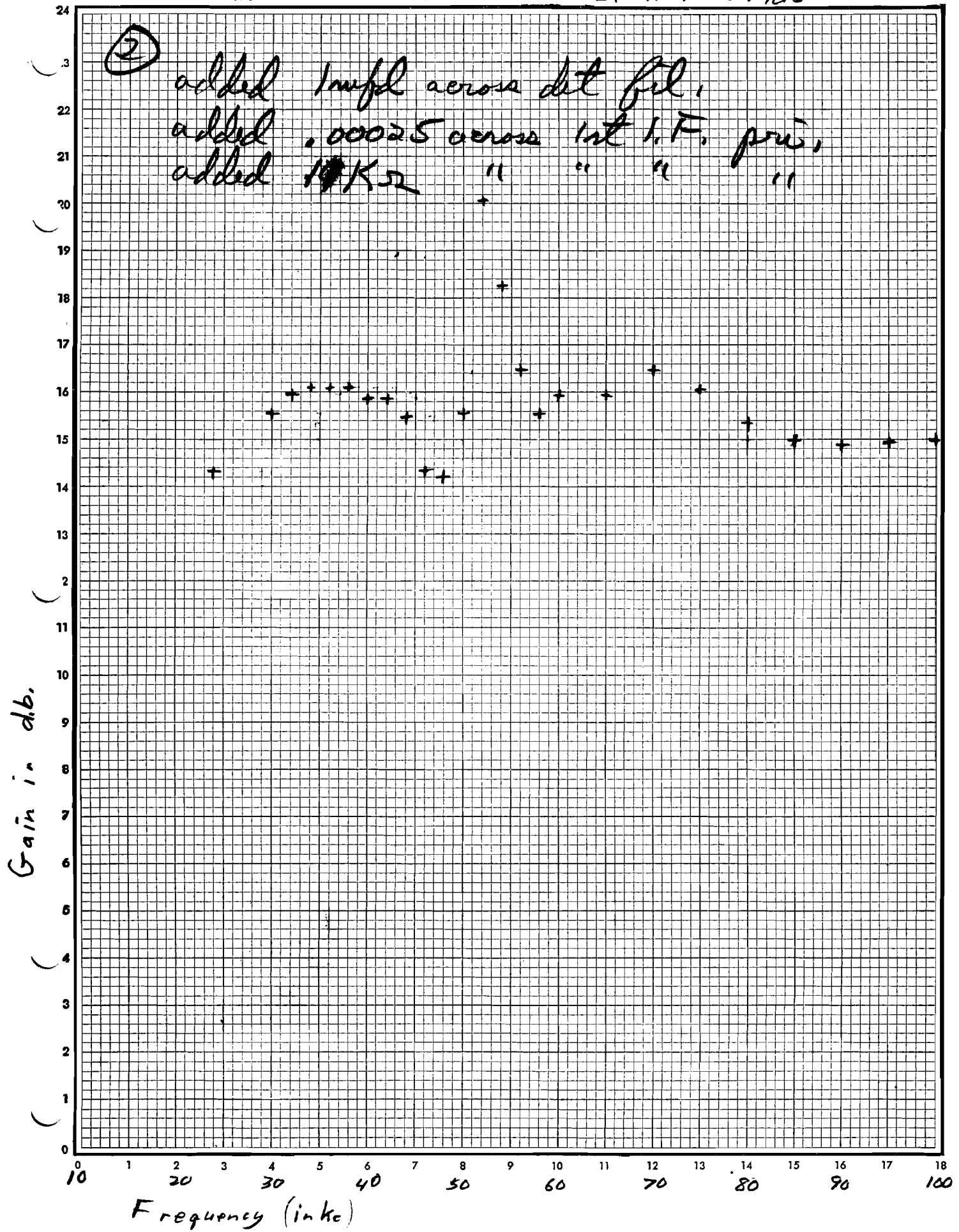
With two capacitors across filaments and one RC circuit on transformer primary (mixer - 1st I.F.)

Frequency	Gain From Mixer Grid to First I.F. Grid			
	Mixer Voltage	First I.F.	Ratio	dB
24 Kc	4.00	23.8	5.95	15.48
30	2.000	11.2	5.60	14.96
32	1.355	7.83	5.775	15.24
34	.940	5.56	5.915	15.44
36	.648	3.86	5.96	15.50
38	.438	2.67	6.10	15.69
40	.295	1.852	6.28	15.96
42	.1940	1.252	6.46	16.20
44	.1344	.843	6.26	15.96
46	.0963	.560	5.81	15.28
48	.0639	.380	5.95	15.48
50	.0367	.259	7.06	16.96
52	.0207	.1830	8.85	18.82
54	.0258	.1948	7.55	17.56
56	.0370	.258	6.98	16.86
58	.0565	.355	6.29	15.96
60	.0832	.490	5.89	15.38
65	.1472	.894	6.06	15.64
70	.239	1.440	6.10	15.68
75	.360	2.08	5.78	15.24
80	.520	2.91	5.60	14.96
85	.713	3.86	5.42	14.68
90	.925	5.00	5.41	14.86
95	1.170	6.38	5.45	14.74
100	1.419	7.81	5.50	14.82

Gain From Mixer to First I.F. Grids

②

added 1μfd across det. fil.
 added .00025 across 1st I.F. grid,
 added 10KΩ " " " "

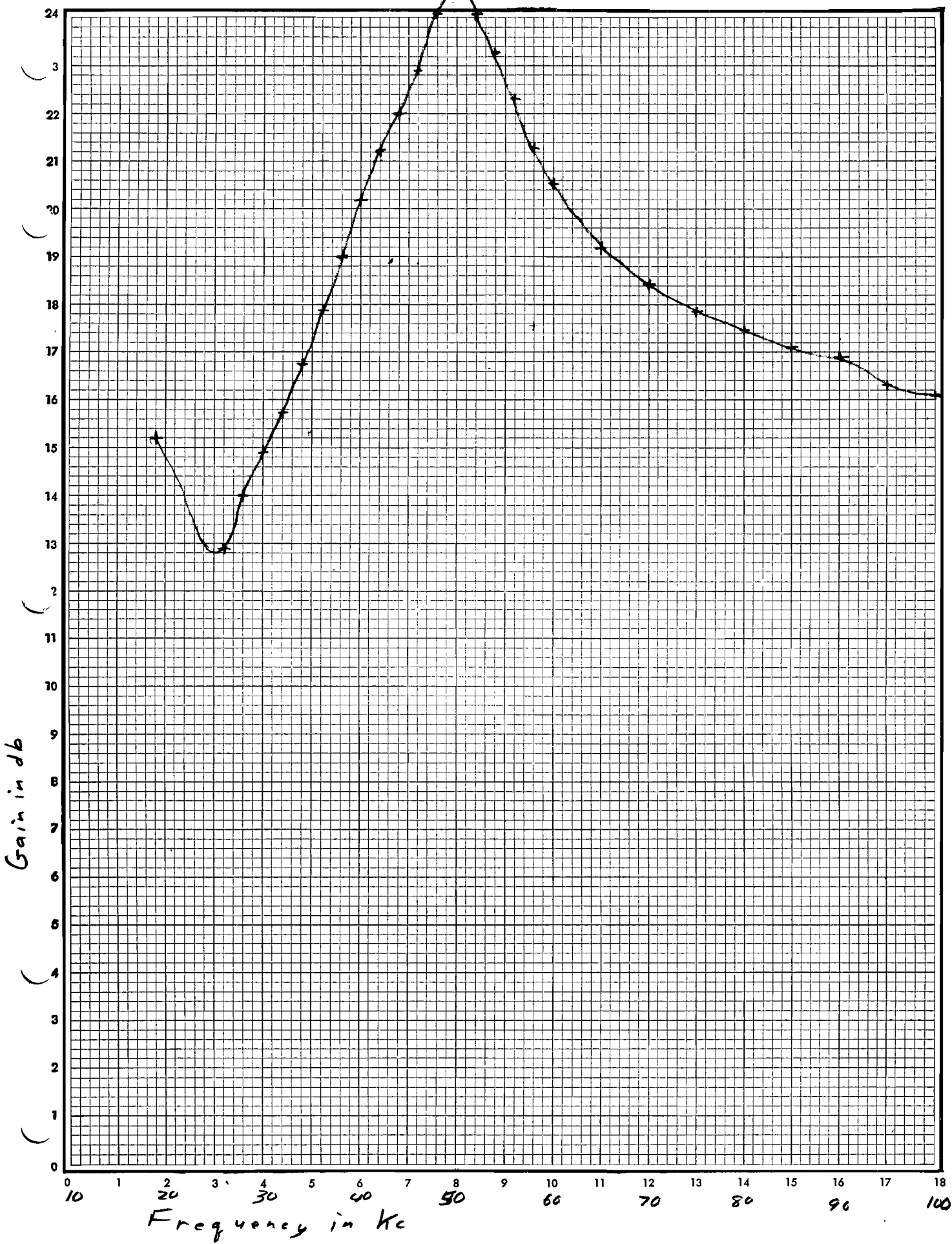


Gain from Mixer Grid to 1st i.F. Tube Grid

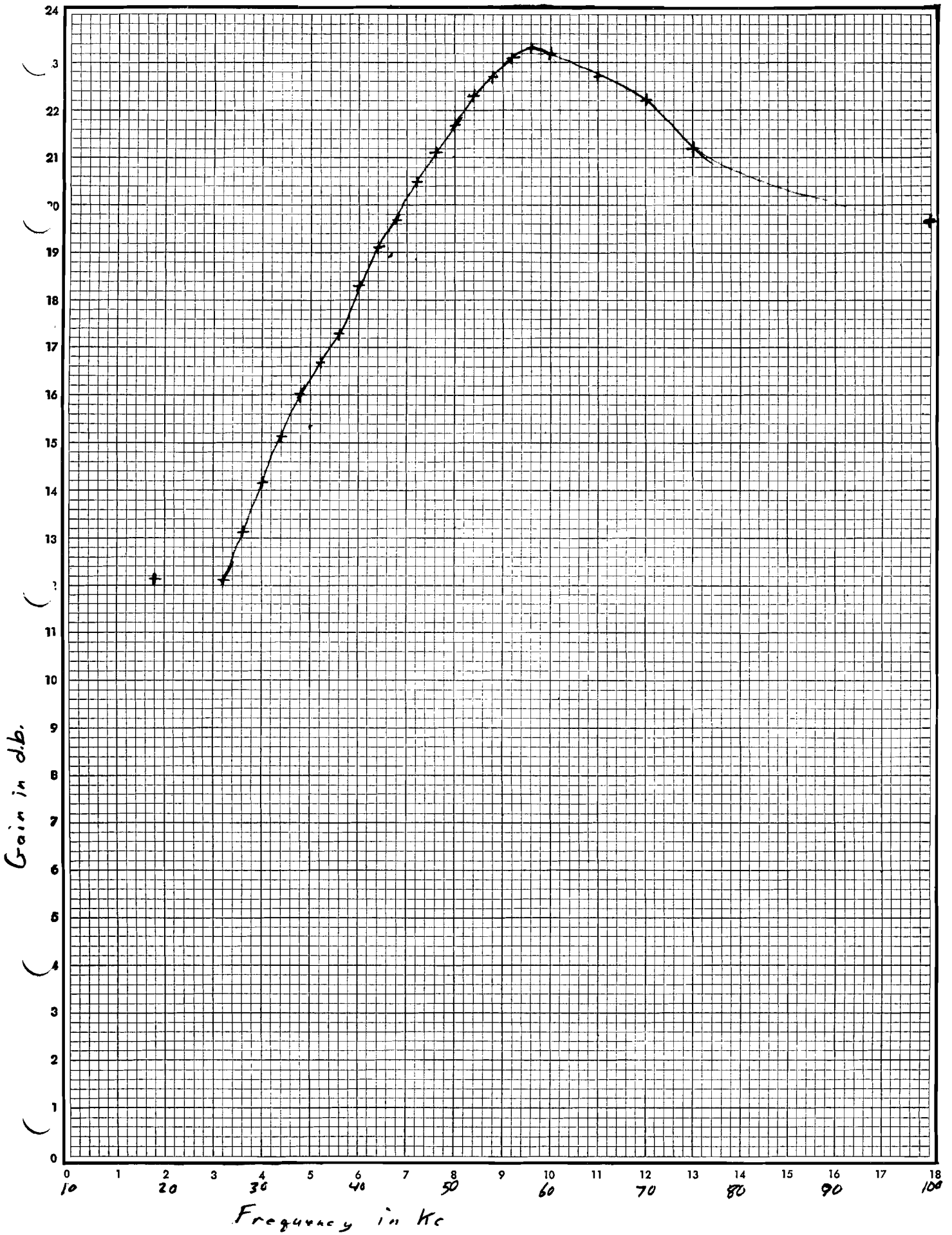
① initial



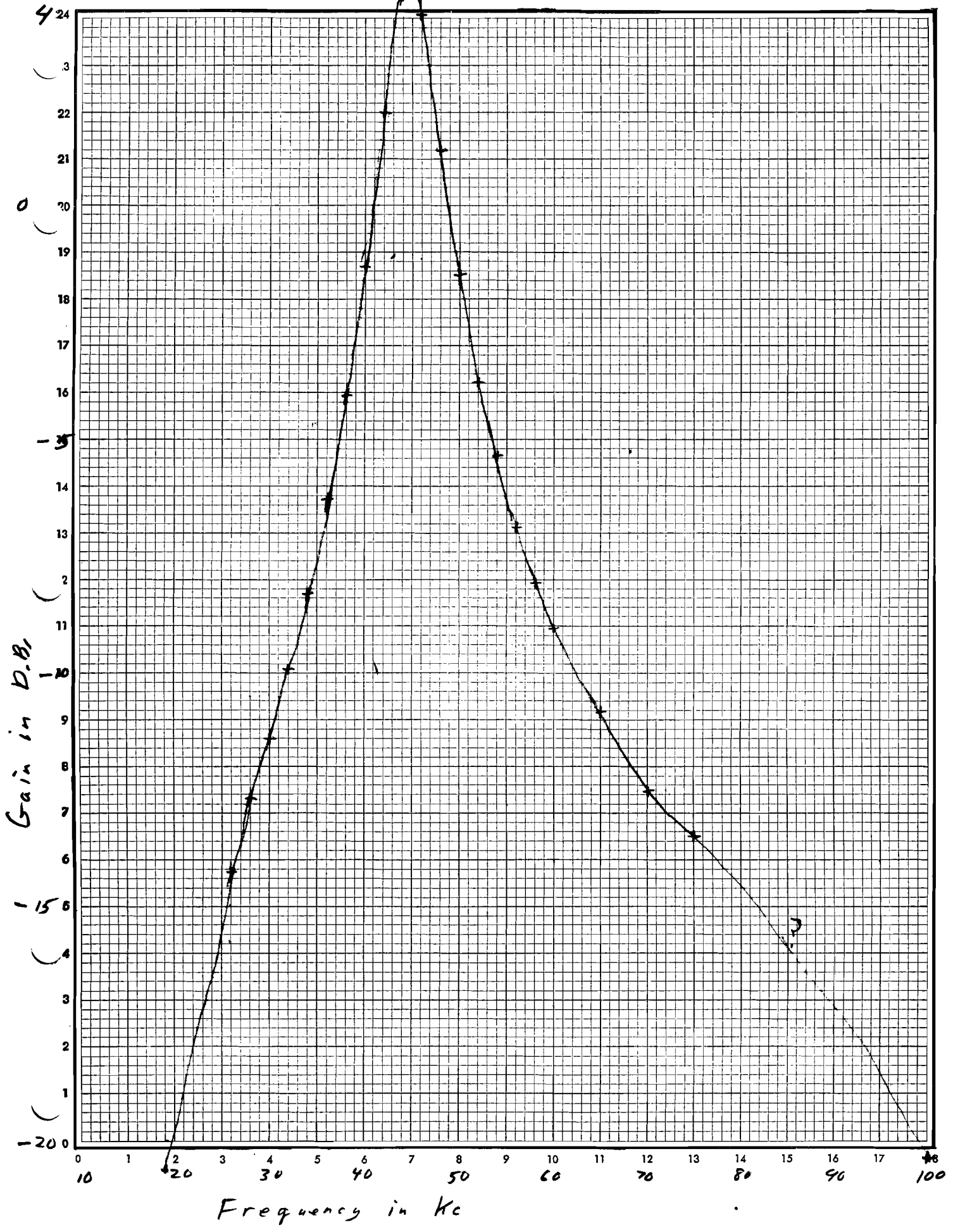
Gain from 1st to 2nd I.F. Tube Grids



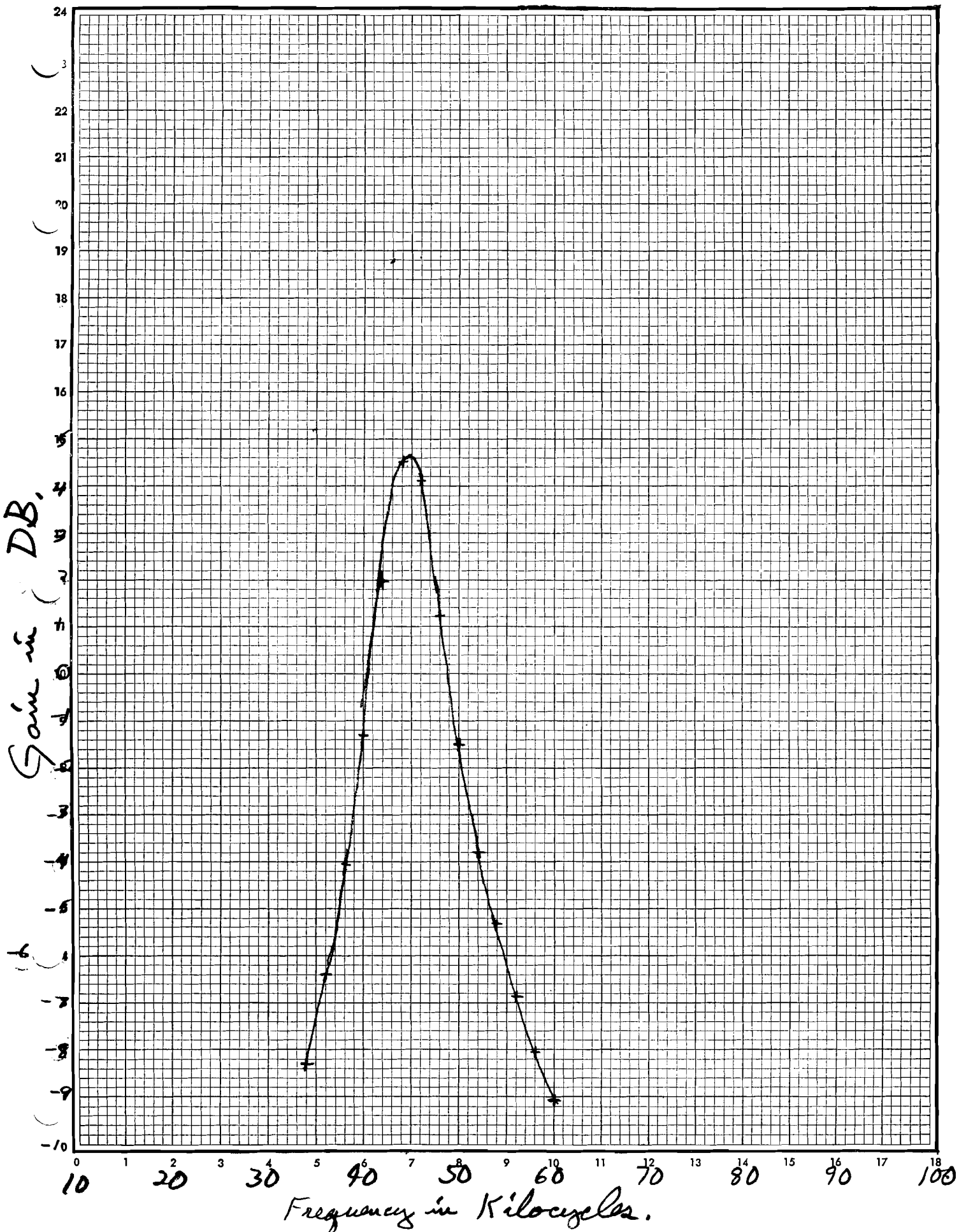
Gain from 2nd I.F. Grid to 3rd I.F. Grid



Gain from 3rd I.F. Grid to Detector Grid



Gain from 3rd. W. Grid to Detector Grid



7.4371

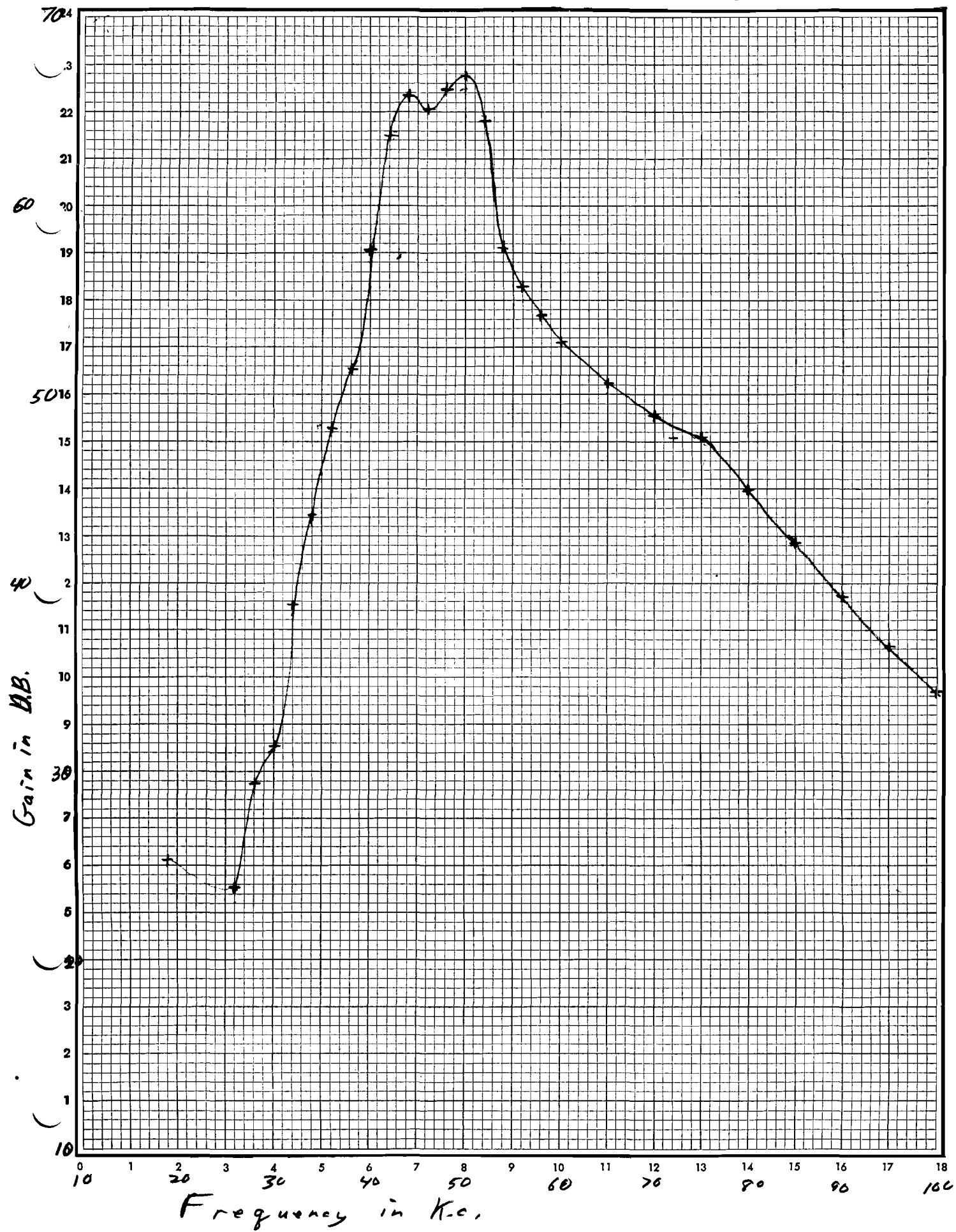
7.98

7.48

Gain From Mixer Grid to 1st I.F. Grid

Frequency	Ratio	db
24	5.22	14.34
30	6.02	15.58
32	6.26	15.94
34	6.39	16.08
36	6.37	16.07
38	6.78	16.08
40	6.22	15.86
42	6.22	15.86
44	5.95	15.50
46	5.22	14.34
48	5.15	14.20
50	6.02	15.58
52	10.02	20.04
54	8.19	18.26
56	6.67	16.48
58	6.02	15.58
60	6.29	15.96
65	6.26	15.94
76	6.65	16.44
75	6.34	16.02
80	5.89	15.38
85	5.64	15.00
90	5.54	14.86
95	5.59	14.96
100	5.61	15.00

Overall gain from Mixer grid to Detector grid



(in kc) frequency	Output Ratios in db				
	1+2	2+3	3+4	4+5	1+5
19 kc	-20.78	12.18	15.2	18.7	25.30
26	-14.24	12.14	12.9	13.14	23.92
28	-12.68	13.14	14	15	29.42
30	-11.40	14.18	14.9	16.12	31.38
32	-9.92	15.14	15.74	17.90	38.86
34	-8.3	16	16.76	19.18	43.60
36	-6.4	16.7	17.86	20	48.16
38	-4.04	17.3	19	20.3	52.56
40	-1.32	18.3	20.2	20.54	57.60
42	2	19.1	21.22	21.52	63.76
44	4.5	19.7	22.0	19.74	65.90
46	4.1	20.5	22.9	17.66	65.10
48	4.2	21.1	24.1	19.74	66.14
50	-1.48	21.7	24.66	20	64.94
52	-3.8	22.3	24.1	17.84	60.45
54	-5.34	22.7	23.26	17.20	57.76
56	-6.86	23.1	22.34	17.11	55.74
58	-8.04	23.3	21.28	17.58	54.14
60	-9.04	23.2	20.55	17.94	52.74
65	-10.82	22.72	19.20	19.46	50.52
70	-12.54	22.20	18.42	20.86	48.92
75	-13.5?	21.2?	17.84	22.20	47.70
80	20.30		17.46	22.0	44.96
85			17.08	21.36	42.08
90			16.90	20.48	39.30
95			16.32	19.64	36.54
100	-20.36	19.64	16.08	19.0	34.22

(4)

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Detector and Three I.F. Stages

frequency (in m.v.)	voltage	freq.	voltage
19 Kc	32.3	65	1.880
26	19.06	70	2.66
28	12.82	75	3.58
30	8.70	80	4.78
32	5.96	85	6.20
34	4.00	90	7.71
36	2.60	95	9.52
38	1.639	100	10.59
40	.940		
42	.521		
44	.330		
46	.285		
48	.320		
50	.380		
52	.500		
54	.633		
56	.790		
58	1.000		
60	1.239		

⑤

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Detector Three IF Stages and Mixer

frequency	voltage	freq	voltage
19 Kc	3.74	65	.2002
26	4.20	70	.241
28	2.28	75	.278
30	1.357	80	.380
32	.758	85	.529
34	.440	90	.730
36	.260	95	.994
38	.1579	100	1.300
40	.0881		
42	.0438		
44	.0340		
46	.0372		
48	.0330 ±		
50	.0379		
52	.0640		
54	.0870		
56	.1100		
58	.1320		
60	.1555		

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(3)

757

729

65

12

6,27

Detector and Two I.F. Stages

frequency	voltage ^{in mv}	frequency	voltage
19 Kc	18.5	65	17.12
26	8.4	70	22.24
28	6.4	75	28.0
30	48.3	80	35.8
32	36.5	85	44.3
34	27.5	90	54.0
36	20.3	95	62.5
38	14.6	100	73.9
40	9.60		
42	6.00		
44	4.15		
46	3.98		
48	5.12		
50	6.50		
52	8.00		
54	9.21		
56	10.35		
58	11.58		
60	13.10		

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Ratios of Outputs at Various Stages

Ratios

(in Kc)
frequency

	1+2	2+3	3+4	4+5
19 Kc			5.735	8.61
26			4.41	4.54
28			4.99	5.635
30			5.55	6.41
32			6.125	7.87
34	1.384	6.3	6.88	9.10
36	1.478	6.85	7.81	10.00
38	1.628	7.31	8.91	10.39
40	1.859	8.12	10.20	10.65
42	1.255	8.98	11.50	11.90
44	1.672	9.65	12.58	9.71
46	1.592	10.55	13.97	7.66
48	1.154	11.30	16.00	9.70
50	1.844	12.20	17.07	10
52	1.645	13.01	16.00	7.81
54	1.533	13.7	14.54	7.26
56	1.454	14.3	13.10	7.18
58	1.378	14.66	11.58	7.58
60	1.353	14.51	10.66	7.90
65			9.12	9.40
70			8.35	11.05
75			7.81	12.89
80			7.49	12.58
85			7.15	11.70
90			7.00	10.57

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①

Detector Stage

frequency	voltage (in mm)	freq.	Voltage
19 kc	56.8	96	"
26 kc	58	95	"
28 kc	58	100	"
30 kc	58.5		"
32	58.5		"
34	56		"
36	57.5		"
38	57.5		"
40	57.5		"
42	57.5		"
44	57.5		"
46	57.5		"
48	"		"
50	"		"
52	"		"
54	"		"
56	"		"
58	"		"
60	"		"
65	"		"
70	"		"
75	"		"
80	"		"

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(2)

1.4
1.6
870
100
2.3

Detector and One I.F. Stage

Frequency	voltage	freq.	voltage
19 kc	750?	65	234.0
26	340?	70	285.5
28	290.3	75	320?
30	247.2	80	
32	208.8	85	
34	173.2	90	
36	139.0	95	
38	106.8	100	700?
40	78.0		
42	53.8		
44	40.0		
46	42.0		
48	58.0		
50	79.5		
52	104.1		
54	126.1		
56	148		
58	169.8		
60	190.4		

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Millivolts input for 25 volts output on 611 tubes.
Detector

frequency	voltage	freq.	voltage
19 kc	68.8	85	67.3
26	66	90	"
28	67.5	95	66.7
30	66.5	100	"
32	66.5		
34	66.5		
36	66.5		
38	67		
40	67		
42	67.5		
44	67		
46	67		
48	67		
50	67		
52	67.3		
54	"		
56	"		
58	"		
60	"		
65	"		
70	"		
75	"		
80	"		

19 dB

(4)

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Three hf. Stages & One Detector

frequency	voltage	frequency	voltage
19 kc	31	85	7.2
26	15.6	90	9.00
28	10.8	95	11.00
30	7.3	100	13.40
32	4.9		
34	3.22		
36	2.05		
38	1.24		
40	.730		
42	.401		
44	.280		
46	.295		
48	.355		
50	.443		
52	.562 .560		
54	.718		
56	.900		
58	1.121		
60	1.360		
65	2.10		
70	3.000		
75	4.15		
80	5.46		

reset to
3 volts

Two I.f. Stages & One Detector

frequency	voltage	freq	voltage
19 kc	17.5	85	48.5
26 kc	75.3	90	59.5
28	57.5	95	70
30	44	100	81.5
32	34.7		
34	25		
36	17.95		
38	12.35		
40	8.05		
42	5.1		
44	3.96		
46	4.4		
48	5.6		
50	6.93		
52	8.5		
54	9.8		
56	11.0		
58	12.7		
60	13.8		
65	18.7		
70	25		
75	32.0		
80	40		

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(2)

One I.F. Stage & Detector

frequency	(in mV) voltage	freq.	voltage
19 kc	196.5	85	
26		90	
28		95	
30		100	
32	196.5		
34	161		
36	129		
38	96.5		
40	70		
42	47.5		
44	40		
46	48.7		
48	67.5		
50	88		
52	113		
54	135.5		
56	156		
58	177		
60	198		
65			
70			
75			

Ratios of Voltages at Various Stages

in Kc frequency	Ratio		
	1+2	2+2+3	3+3+4
19			5.65
26			4.83
28			5.32
30			6.025
32	.298	5.67	7.10
34	.1348	6.44	7.76
36	.1446	7.19	8.76
38	.596	7.81	9.96
40	.822	8.70	10.03
42	1.223	9.31	12.70
44	1.44	10.0	14.11
46	1.18	10.05	14.90
48	.852	12.05	15.78
50	.654	12.70	15.61
52	.509	13.30	15.1
54	.424	13.82	13.65
56	.368	14.20	12.20
58	.325	13.90	
60	.290	14.32	
65			
70			
75			

One Mixer Three ~~RF~~ Stages and Detector
frequency ~~stage~~ frequency voltage

19 Kc 3.3 80 1.548

26 3.1 85 1.747

28 1.68 90 1.900

30 1.018 95 1.203

32 .613 100 1.580

34 .365

36 .222

38 11310

40 .0725

42 10300

44 .0200

46 10360

48 .0445 ^{after set} .0460

reset to
3 volts

50 .0508

52 .0581

54 .0703

56 .0853

58 .0955

60 11056

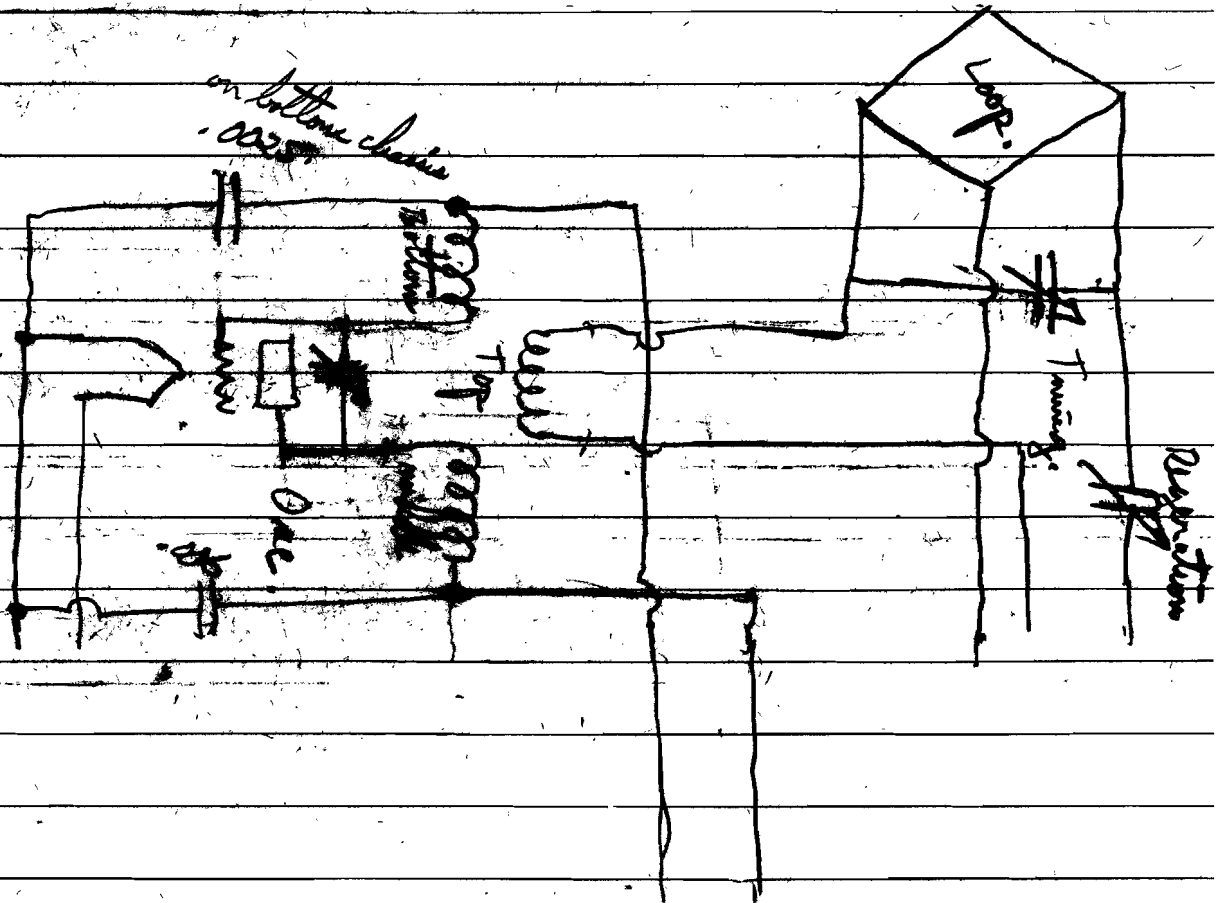
65 11695

70 .260

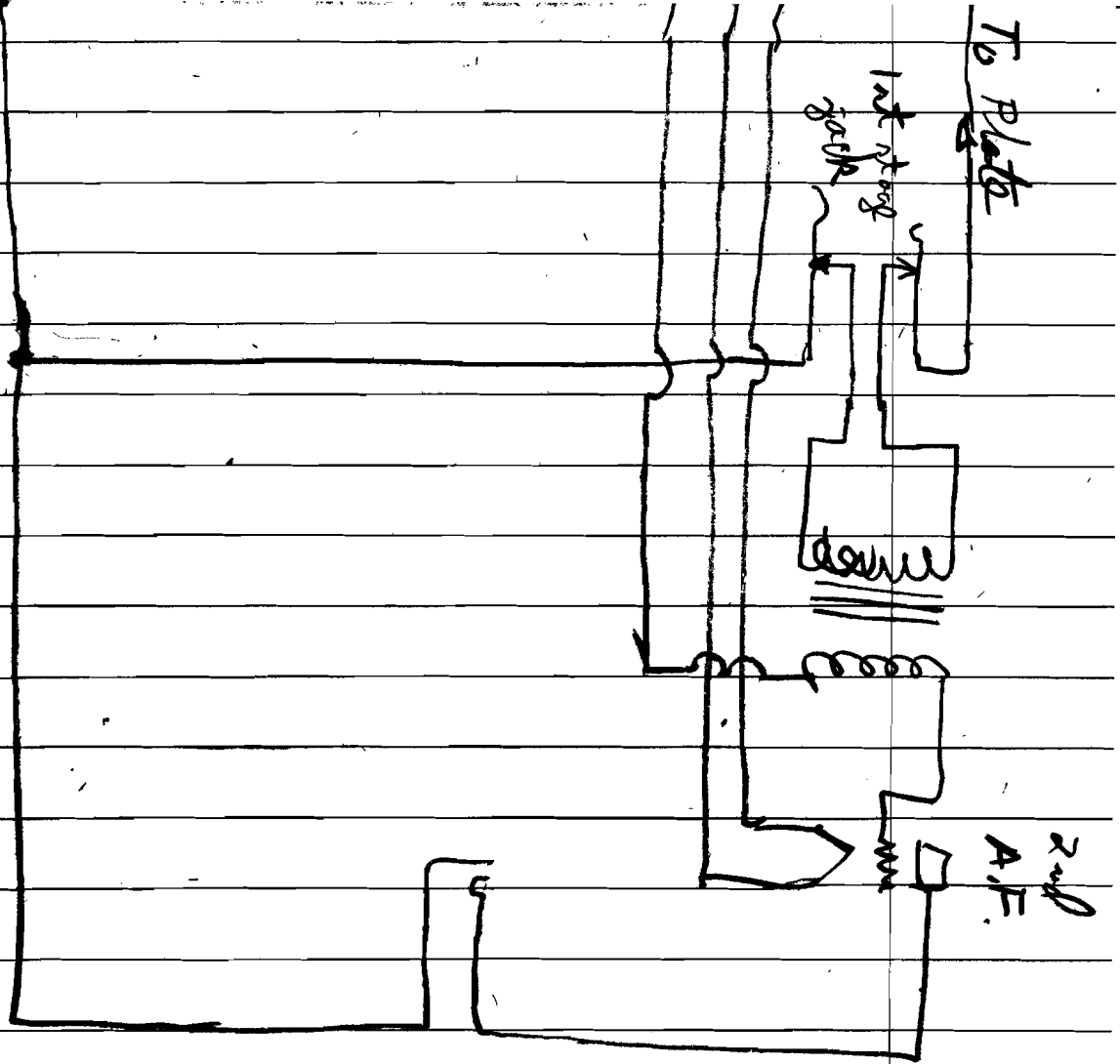
75 1376

Galloway set #2
with corrections. also sketch added.

10 Aug 59



100000 500



To Plate

1st stage

100000 500

2nd A.F.

4"

Galloway

18 Aug 59
#2

~~$\frac{1}{8}$, $\frac{1}{2}$, $1\frac{3}{4}$, $\frac{1}{2}$, $\frac{1}{8}$~~

10V output

~~40mw~~

40mw

49.9 KC

3rd I.F.

4mw

45.1 KC

2nd I.F.

.28mw

45.6 KC

1st I.F.

.032mw 43.0 KC

.038mw 45.5 KC

.032mw 48.5 KC

} Hetero