

MAGNA

SONY VFET

CLASS A

HIGH LEVEL PREAMPLIFIER

MINIMALIST DESIGN

PRECISION DUAL MONO

AGUSTIN SEIJAS LAB. COM

MAGNA

TECHNICAL DATA

FREQUENCY RESPONSE: 5HZ TO 200KHZ - 3 dB

T.H.D.: 0.1% (REF.: 3 VOLTS R.M.S. / 1 KHZ.)

I.M.D.: 0.25% MAX. (REF.: 3 VOLTS R.M.S.) SMPTE

D.I.M. (I.M.D.): 0.03% MAX. (REF.: 3 VOLTS R.M.S.)

MAXIMUM OUTPUT: 10 VOLTS (R.M.S. / 100K LOAD)

RISE TIME: 1 μ S MAX. (REF.: 3 VOLTS / 10KHZ)

GAIN: 12.75 dB (+/- 0.25 dB)

PHASE SHIFT: ZERO (+/- 5 DEGREE)

PHASE: ABSOLUTE

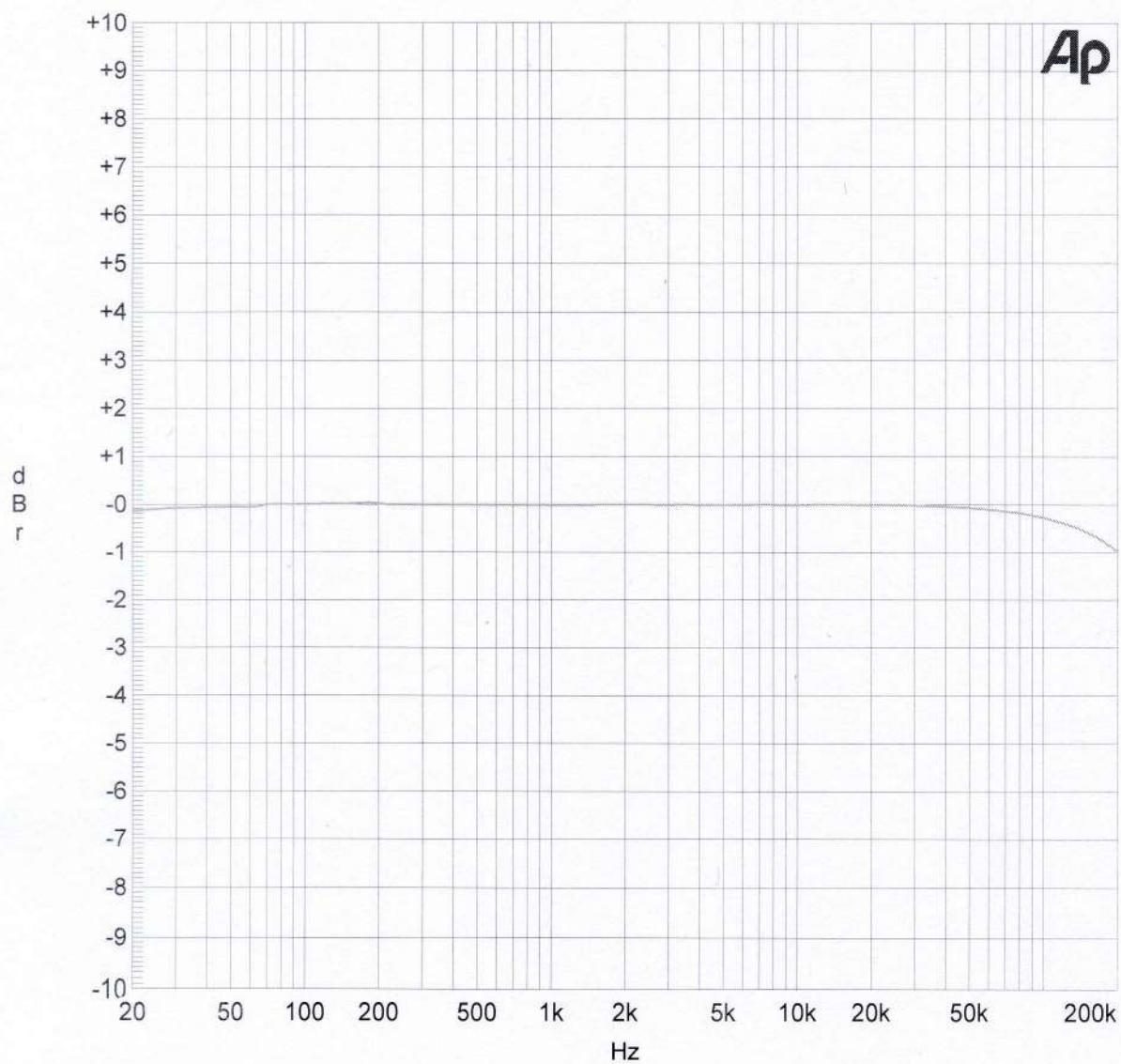
INPUT IMPEDANCE: 9,000 OHM (1KHZ REF.)

OUTPUT IMPEDANCE: 900 OHM (1KHZ REF.)

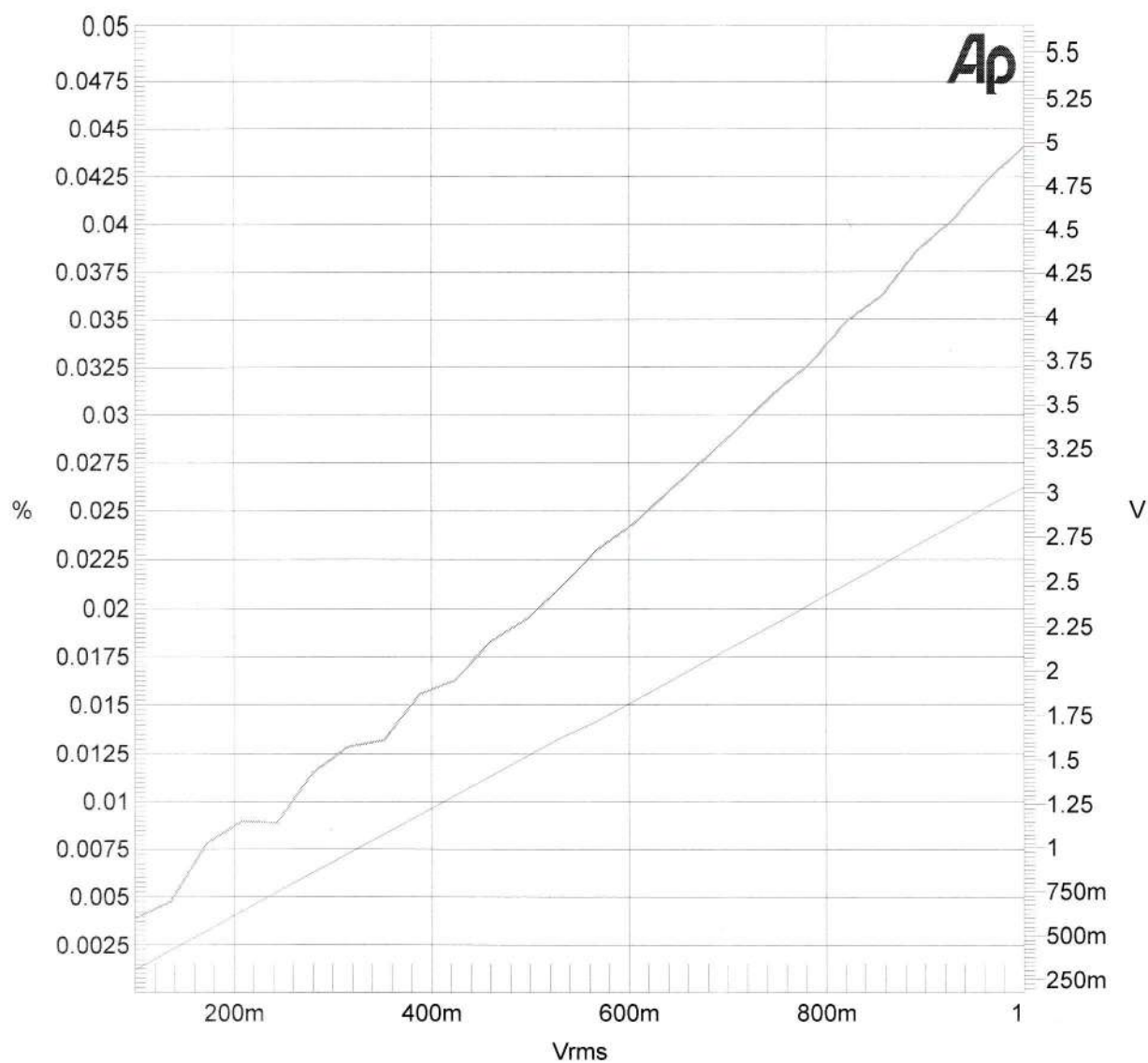
OUTPUT NOISE: 100 μ V (MAX.)

AUDIO ACTIVE DEVICES: SONY VFETS

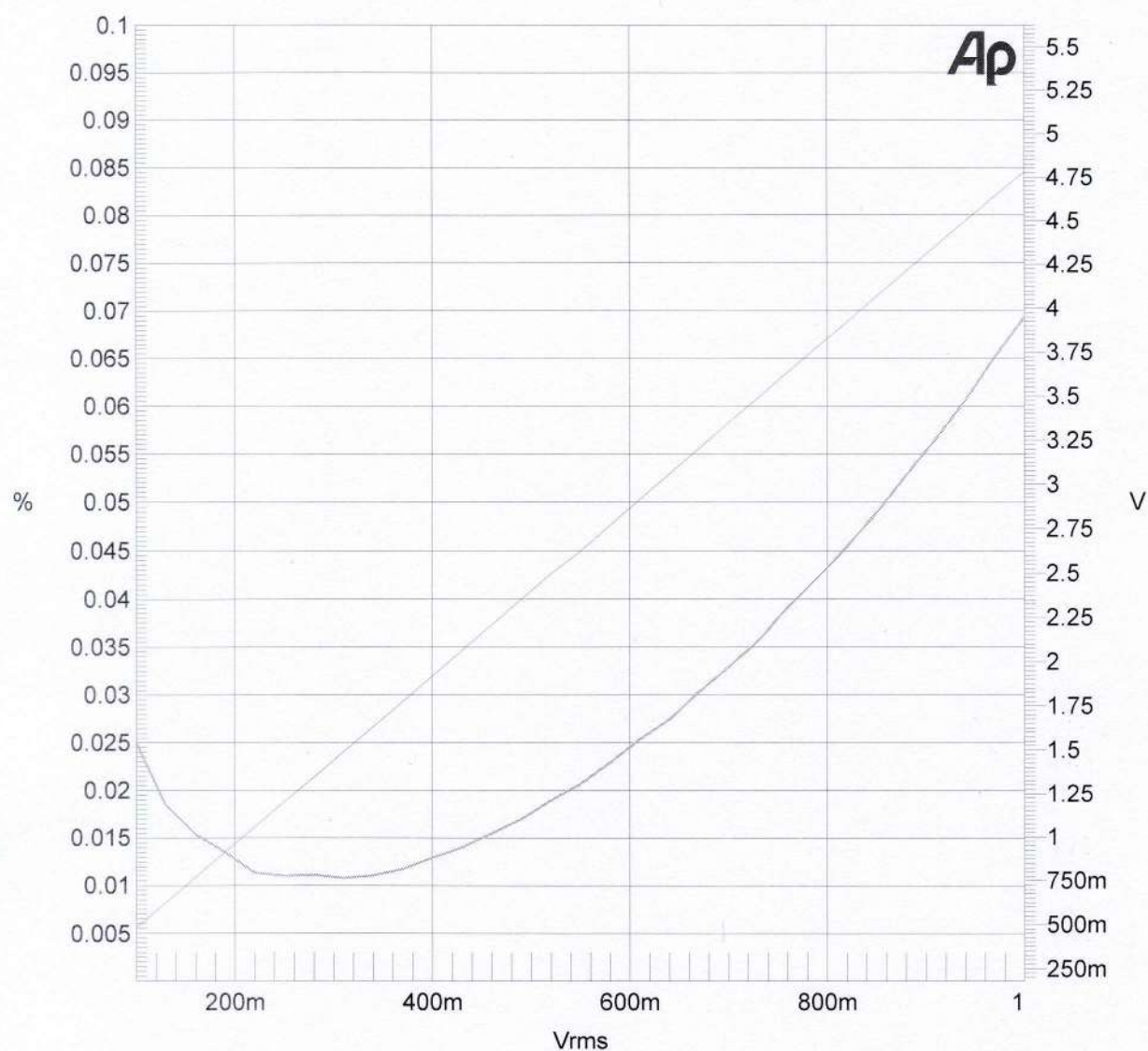
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AUSTIN SENJAS LAB

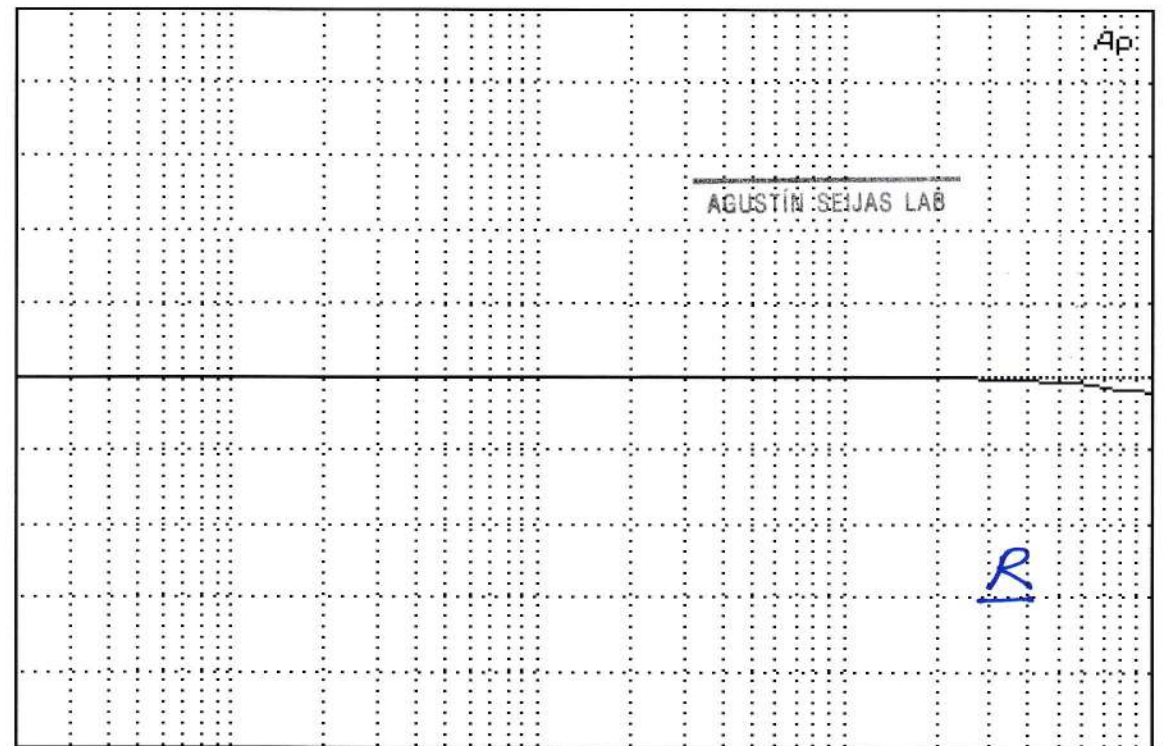


0 dBr=2.017 V

10.00dBr

AMPL A
0 dBr

-10.00dBr



20.000 Hz LOG FREQUENCY 100.00kHz
SETTINGS (UN-WTD <10 Hz - >300 kHz GEN:SINE 461.5 mV)

GEN	FREQ	AMPL	A	GEN	FREQ	AMPL	A	GEN	FREQ	AMPL	A	Ap
20.00	Hz	-0.02	dBr	382.9	Hz	0.00	dBr	7.330	kHz	-0.01	dBr	
22.40	Hz	-0.02	dBr	428.9	Hz	0.00	dBr	8.212	kHz	-0.01	dBr	
25.09	Hz	-0.02	dBr	480.5	Hz	0.00	dBr	9.199	kHz	-0.01	dBr	
28.11	Hz	-0.01	dBr	538.2	Hz	0.00	dBr	10.305	kHz	-0.01	dBr	
31.49	Hz	-0.01	dBr	603.0	Hz	0.00	dBr	11.544	kHz	-0.01	dBr	
35.28	Hz	-0.01	dBr	675.5	Hz	0.00	dBr	12.933	kHz	-0.02	dBr	
39.52	Hz	-0.01	dBr	756.7	Hz	0.00	dBr	14.488	kHz	-0.02	dBr	
44.27	Hz	-0.01	dBr	847.7	Hz	0.00	dBr	16.230	kHz	-0.02	dBr	
49.60	Hz	0.00	dBr	949.6	Hz	0.00	dBr	18.181	kHz	-0.03	dBr	
55.56	Hz	0.00	dBr	1.063	kHz	0.00	dBr	20.367	kHz	-0.03	dBr	
62.24	Hz	0.00	dBr	1.191	kHz	0.00	dBr	22.816	kHz	-0.04	dBr	
69.73	Hz	0.00	dBr	1.335	kHz	0.00	dBr	25.559	kHz	-0.05	dBr	
78.11	Hz	0.00	dBr	1.495	kHz	0.00	dBr	28.633	kHz	-0.06	dBr	
87.51	Hz	0.00	dBr	1.675	kHz	0.00	dBr	32.076	kHz	-0.08	dBr	
98.03	Hz	0.00	dBr	1.876	kHz	0.00	dBr	35.932	kHz	-0.09	dBr	
109.8	Hz	0.00	dBr	2.102	kHz	0.00	dBr	40.253	kHz	-0.11	dBr	
123.0	Hz	0.00	dBr	2.355	kHz	0.00	dBr	45.093	kHz	-0.14	dBr	
137.8	Hz	0.00	dBr	2.638	kHz	0.00	dBr	50.515	kHz	-0.17	dBr	
154.3	Hz	0.00	dBr	2.955	kHz	0.00	dBr	56.588	kHz	-0.20	dBr	
172.9	Hz	0.00	dBr	3.311	kHz	0.00	dBr	63.392	kHz	-0.25	dBr	
193.7	Hz	0.00	dBr	3.709	kHz	0.00	dBr	71.015	kHz	-0.29	dBr	
217.0	Hz	0.00	dBr	4.155	kHz	0.00	dBr	79.553	kHz	-0.35	dBr	
243.1	Hz	0.00	dBr	4.654	kHz	0.00	dBr	89.118	kHz	-0.42	dBr	
272.3	Hz	0.00	dBr	5.214	kHz	0.00	dBr	100.00	kHz	-0.49	dBr	
305.1	Hz	0.00	dBr	5.841	kHz	0.00	dBr					
341.8	Hz	0.00	dBr	6.543	kHz	-0.01	dBr					

90.0 deg

Ap

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LIN
PHASE A-G

R

GEN FREQ	PHASE	A-G	GEN FREQ	PHASE	A-G	GEN FREQ	PHASE	A-G	Ap
20.00 Hz	-1.4	deg	250.0 Hz	-0.1	deg	3.150 kHz	0.4	deg	
25.00 Hz	-1.1	deg	315.0 Hz	-0.1	deg	4.000 kHz	0.6	deg	
31.50 Hz	-0.9	deg	400.0 Hz	0.0	deg	5.000 kHz	0.8	deg	
40.00 Hz	-0.7	deg	500.0 Hz	0.0	deg	6.300 kHz	1.1	deg	
50.00 Hz	-0.6	deg	630.0 Hz	0.0	deg	8.000 kHz	1.3	deg	
63.00 Hz	-0.5	deg	800.0 Hz	0.0	deg	10.000kHz	1.7	deg	
80.00 Hz	-0.4	deg	1.000 kHz	0.0	deg	12.500kHz	2.1	deg	
100.0 Hz	-0.3	deg	1.250 kHz	0.1	deg	16.000kHz	2.7	deg	
125.0 Hz	-0.2	deg	1.600 kHz	0.1	deg	20.000kHz	3.4	deg	
160.0 Hz	-0.2	deg	2.000 kHz	0.2	deg				
200.0 Hz	-0.1	deg	2.500 kHz	0.3	deg				

GEN	FREQ	THD+N	A	GEN	FREQ	THD+N	A	GEN	FREQ	THD+N	A	Ap
20.00	Hz	0.0310%		251.7	Hz	0.0307%		3.169	kHz	0.0318%		
25.17	Hz	0.0314%		316.9	Hz	0.0313%		3.990	kHz	0.0319%		
31.69	Hz	0.0313%		399.0	Hz	0.0315%		5.023	kHz	0.0322%		
39.90	Hz	0.0313%		502.3	Hz	0.0314%		6.324	kHz	0.0326%		
50.23	Hz	0.0349%		632.4	Hz	0.0319%		7.962	kHz	0.0332%		
63.24	Hz	0.0321%		796.2	Hz	0.0317%		10.023	kHz	0.0341%		
79.62	Hz	0.0310%		1.002	kHz	0.0314%		12.619	kHz	0.0354%		
100.2	Hz	0.0291%		1.261	kHz	0.0317%		15.886	kHz	0.0373%		
126.1	Hz	0.0312%		1.588	kHz	0.0317%		20.000	kHz	0.0392%		
158.8	Hz	0.0312%		2.000	kHz	0.0318%						
200.0	Hz	0.0321%		2.517	kHz	0.0317%						

IMD	A	LEVEL	A								Ap
0.107	%	1.660	V		GEN:IMD	461.5	mV	70Hz/8kHz			

RATIO A/G		FREQ	GA								Ap
12.81dB		996.37	Hz		GEN:SINE	461.5	mV	1.000	kHz		

NOISE	A				UN-WTD	22	Hz	-	22	kHz	Ap
71.11	uV				GEN:SINE	461.5	mV		1.000	kHz	

NOISE	A				UN-WTD	400	Hz	-	22	kHz	Ap
21.47	uV				GEN:SINE	461.5	mV		1.000	kHz	

R

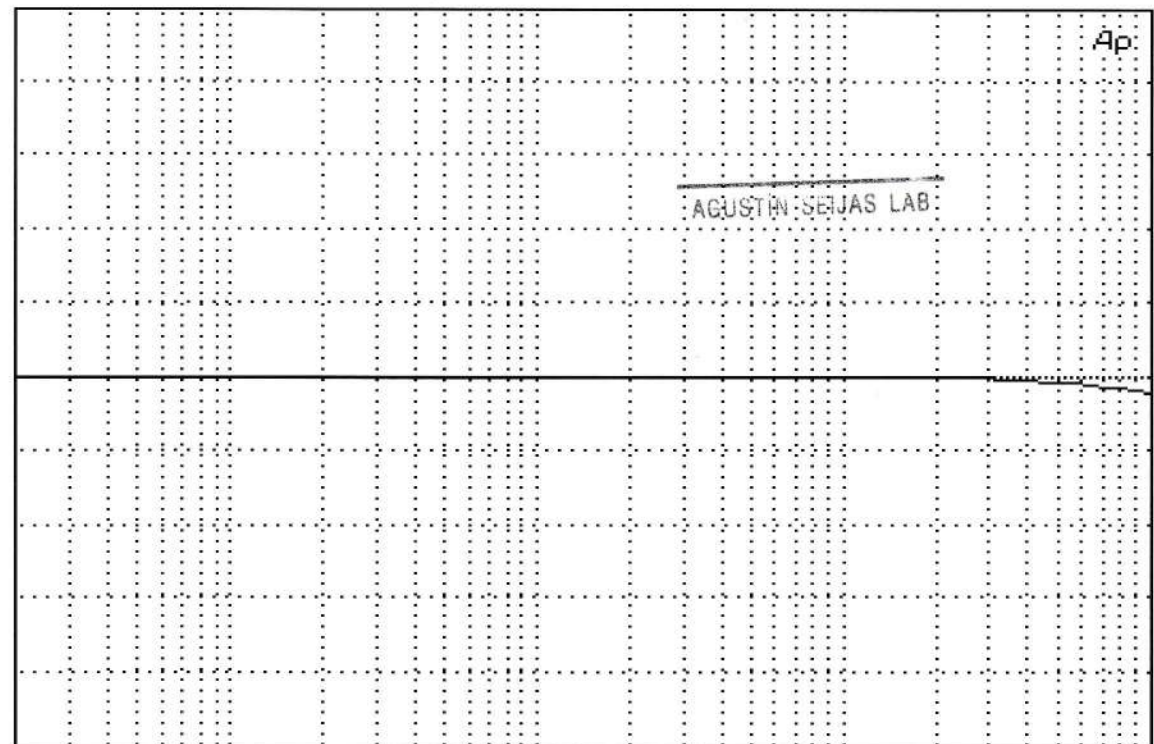
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0 dBr=2.017 V

10.00dBr

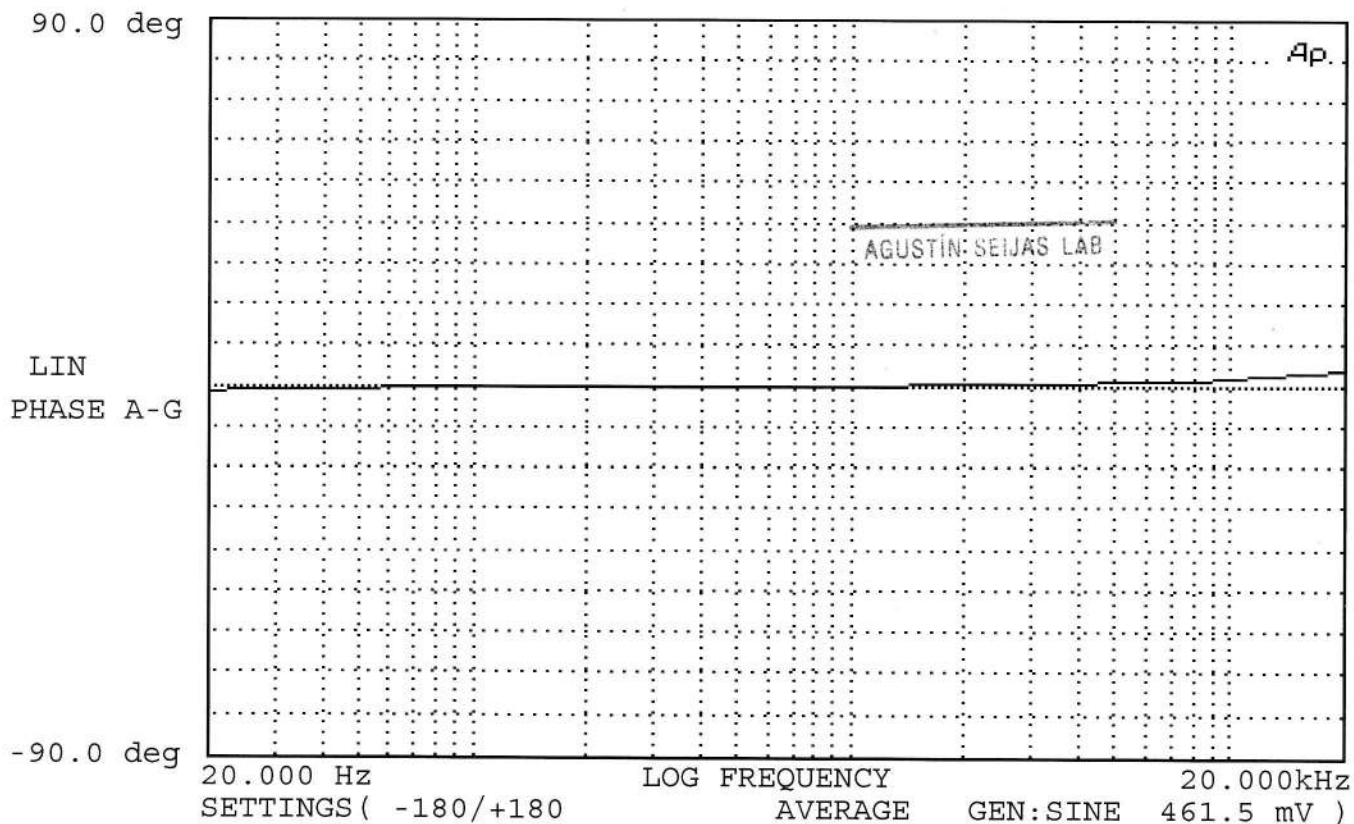
AMPL A
0 dBr

-10.00dBr



20.000 Hz LOG FREQUENCY 100.00kHz
SETTINGS(UN-WTD <10 Hz - >300 kHz GEN:SINE 461.5 mV)

GEN	FREQ	AMPL	A	GEN	FREQ	AMPL	A	GEN	FREQ	AMPL	A	Ap
20.00	Hz	-0.02	dBr	382.9	Hz	0.00	dBr	7.330	kHz	0.00	dBr	
22.40	Hz	-0.02	dBr	428.9	Hz	0.00	dBr	8.212	kHz	-0.01	dBr	
25.09	Hz	-0.01	dBr	480.5	Hz	0.00	dBr	9.199	kHz	-0.01	dBr	
28.11	Hz	-0.01	dBr	538.2	Hz	0.00	dBr	10.305	kHz	-0.01	dBr	
31.49	Hz	-0.01	dBr	603.0	Hz	0.00	dBr	11.544	kHz	-0.01	dBr	
35.28	Hz	-0.01	dBr	675.5	Hz	0.00	dBr	12.933	kHz	-0.01	dBr	
39.52	Hz	-0.05	dBr	756.7	Hz	0.00	dBr	14.488	kHz	-0.02	dBr	
44.27	Hz	0.00	dBr	847.7	Hz	0.00	dBr	16.230	kHz	-0.02	dBr	
49.60	Hz	0.00	dBr	949.6	Hz	0.00	dBr	18.181	kHz	-0.02	dBr	
55.56	Hz	0.00	dBr	1.063	kHz	0.00	dBr	20.367	kHz	-0.03	dBr	
62.24	Hz	0.00	dBr	1.191	kHz	0.00	dBr	22.816	kHz	-0.04	dBr	
69.73	Hz	0.00	dBr	1.335	kHz	0.00	dBr	25.559	kHz	-0.05	dBr	
78.11	Hz	0.00	dBr	1.495	kHz	0.00	dBr	28.633	kHz	-0.06	dBr	
87.51	Hz	0.00	dBr	1.675	kHz	0.00	dBr	32.076	kHz	-0.07	dBr	
98.03	Hz	0.00	dBr	1.876	kHz	0.00	dBr	35.932	kHz	-0.09	dBr	
109.8	Hz	0.00	dBr	2.102	kHz	0.00	dBr	40.253	kHz	-0.11	dBr	
123.0	Hz	0.00	dBr	2.355	kHz	0.00	dBr	45.093	kHz	-0.13	dBr	
137.8	Hz	0.00	dBr	2.638	kHz	0.00	dBr	50.515	kHz	-0.16	dBr	
154.3	Hz	0.00	dBr	2.955	kHz	0.00	dBr	56.588	kHz	-0.20	dBr	
172.9	Hz	0.00	dBr	3.311	kHz	0.00	dBr	63.392	kHz	-0.24	dBr	
193.7	Hz	0.00	dBr	3.709	kHz	0.00	dBr	71.015	kHz	-0.29	dBr	
217.0	Hz	0.00	dBr	4.155	kHz	0.00	dBr	79.553	kHz	-0.35	dBr	
243.1	Hz	0.00	dBr	4.654	kHz	0.00	dBr	89.118	kHz	-0.42	dBr	
272.3	Hz	0.00	dBr	5.214	kHz	0.00	dBr	100.00	kHz	-0.49	dBr	
305.1	Hz	0.00	dBr	5.841	kHz	0.00	dBr					
341.8	Hz	0.00	dBr	6.543	kHz	0.00	dBr					



GEN	FREQ	PHASE	A-G	GEN	FREQ	PHASE	A-G	GEN	FREQ	PHASE	A-G	Ap
20.00	Hz	-1.4	deg	250.0	Hz	-0.1	deg	3.150	kHz	0.4	deg	
25.00	Hz	-1.1	deg	315.0	Hz	-0.1	deg	4.000	kHz	0.6	deg	
31.50	Hz	-0.9	deg	400.0	Hz	0.0	deg	5.000	kHz	0.8	deg	
40.00	Hz	-0.7	deg	500.0	Hz	0.0	deg	6.300	kHz	1.0	deg	
50.00	Hz	-0.6	deg	630.0	Hz	0.0	deg	8.000	kHz	1.3	deg	
63.00	Hz	-0.5	deg	800.0	Hz	0.0	deg	10.000	kHz	1.7	deg	
80.00	Hz	-0.4	deg	1.000	kHz	0.0	deg	12.500	kHz	2.1	deg	
100.0	Hz	-0.3	deg	1.250	kHz	0.1	deg	16.000	kHz	2.7	deg	
125.0	Hz	-0.2	deg	1.600	kHz	0.1	deg	20.000	kHz	3.4	deg	
160.0	Hz	-0.2	deg	2.000	kHz	0.2	deg					
200.0	Hz	-0.1	deg	2.500	kHz	0.3	deg					

GEN	FREQ	THD+N	A	GEN	FREQ	THD+N	A	GEN	FREQ	THD+N	A	Ap
20.00	Hz	0.0369%		251.7	Hz	0.0383%		3.169	kHz	0.0380%		
25.17	Hz	0.0364%		316.9	Hz	0.0380%		3.990	kHz	0.0380%		
31.69	Hz	0.0372%		399.0	Hz	0.0380%		5.023	kHz	0.0382%		
39.90	Hz	0.0373%		502.3	Hz	0.0379%		6.324	kHz	0.0385%		
50.23	Hz	0.0356%		632.4	Hz	0.0379%		7.962	kHz	0.0390%		
63.24	Hz	0.0374%		796.2	Hz	0.0379%		10.023	kHz	0.0395%		
79.62	Hz	0.0375%		1.002	kHz	0.0379%		12.619	kHz	0.0403%		
100.2	Hz	0.0382%		1.261	kHz	0.0379%		15.886	kHz	0.0415%		
126.1	Hz	0.0374%		1.588	kHz	0.0380%		20.000	kHz	0.0425%		
158.8	Hz	0.0378%		2.000	kHz	0.0382%						
200.0	Hz	0.0379%		2.517	kHz	0.0378%						

IMD A LEVEL A
0.131 % 1.661 V

GEN:IMD 461.5 mV 70Hz/8kHz Ap

RATIO A/G
12.82dB

FREQ GA
996.36 Hz

GEN:SINE 461.5 mV 1.000 kHz Ap

NOISE A
57.44 uV

UN-WTD 22 Hz - 22 kHz Ap
GEN:SINE 461.5 mV 1.000 kHz

NOISE A
19.78 uV

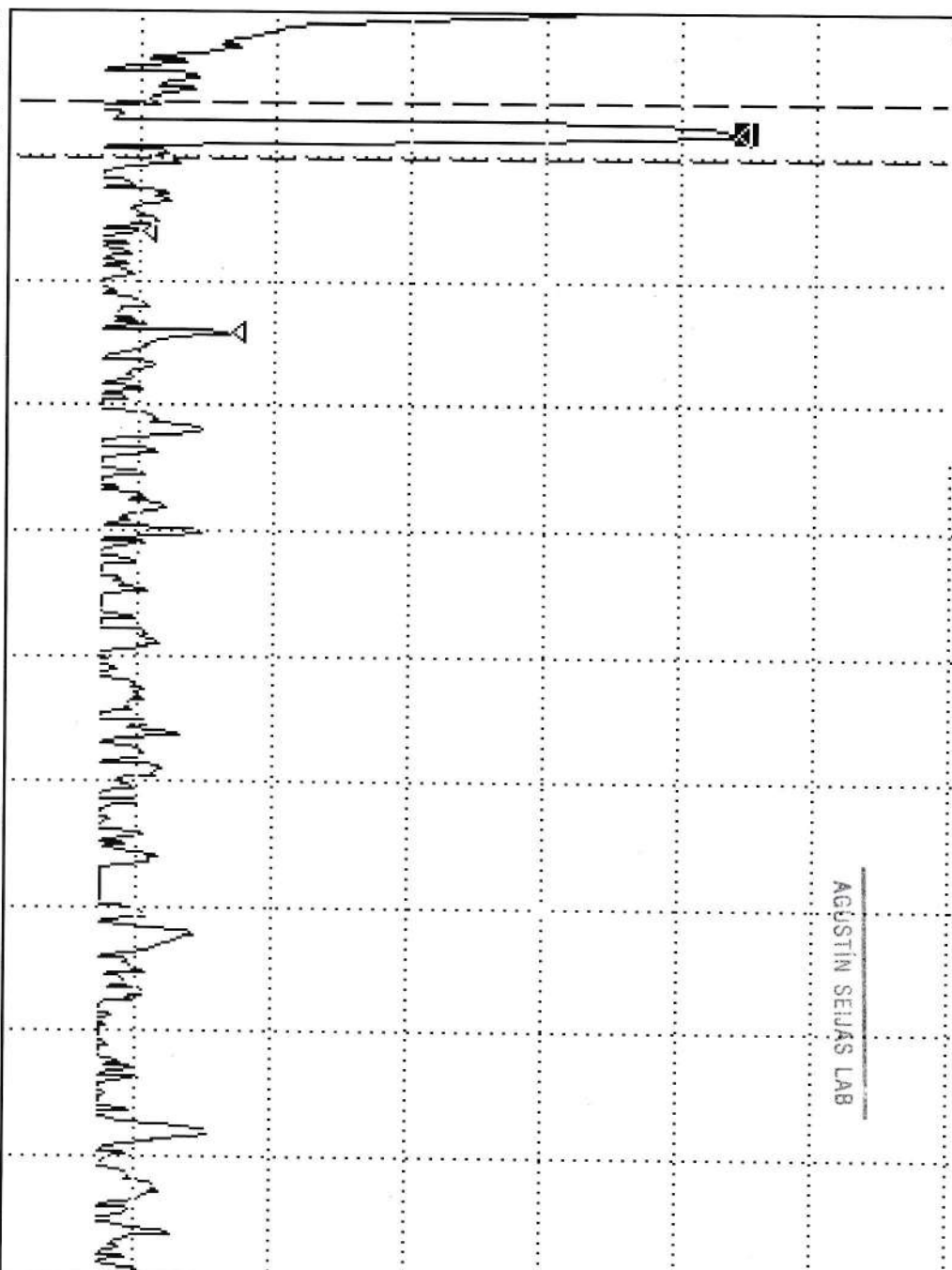
UN-WTD 400 Hz - 22 kHz Ap
GEN:SINE 461.5 mV 1.000 kHz

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1.000000 kHz Y = 201.3 mVrms

LogMag Spec 0

Harm. = 3.87e-005 Vrms
THD = 0.01922%



0.0 kHz

6.250000 kHz

12.500000 kHz

Top = 79.4328 Vrms 20 dB/div Wndo: BMH

File= Live

PLN

10 dBu

No Avg.

Span

12.5 kHz

Linewidth

31.25 Hz

Acq. Time

32.00 ms

Full

Span:

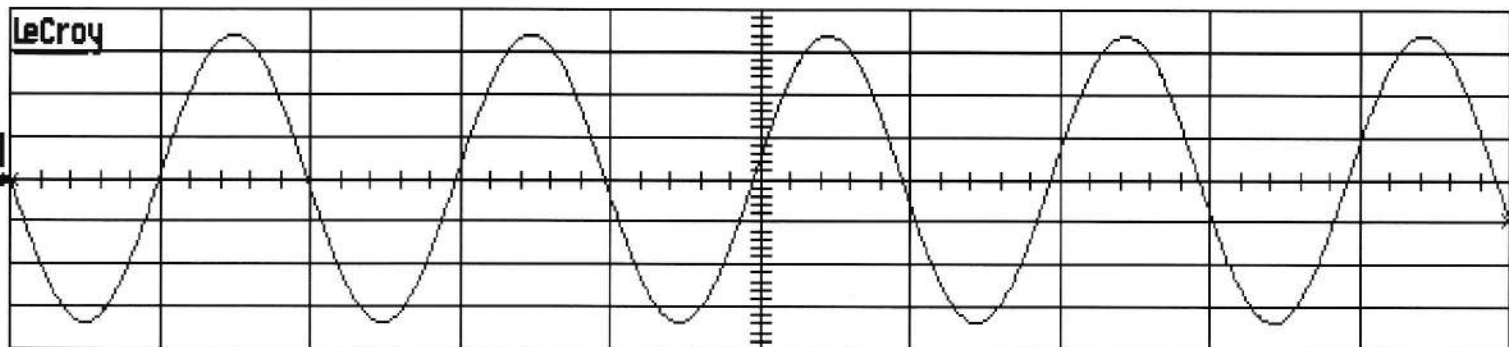


Start Freq.

0.0 kHz

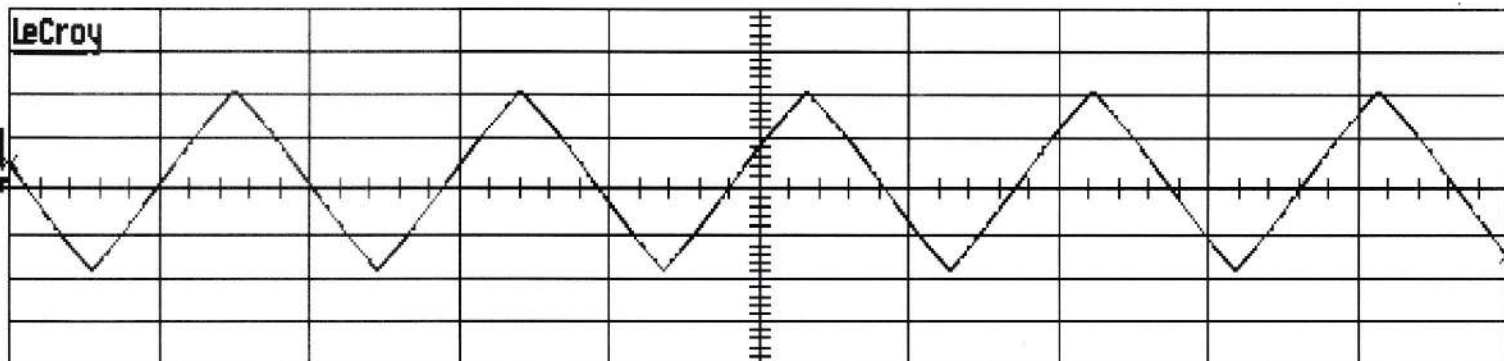
Center Freq.

6.25000 kHz



1 .5 μ s 0.50 V

pkpk(1)	3.375 V	Freq(1)	1.00915 MHz
sdev(1)	1.1796 V	period(1)	990.9 ns
rms(1)	1.1794 V	width(1)	493.4 ns
cmean(1) $\sim$	-2.6mV	rise(1)	290.0 ns
csdev(1) $\sim$	1.1846 V	Fall(1)	288.3 ns
crms(1) $\sim$	1.1843 V	r20-80%(1)	202.1 ns
top(1)	1.667 V	F80-20%(1)	201.1 ns
base(1)	-1.658 V	over+(1)	0.64 %
ampl(1)	3.325 V	over-(1)	0.87 %
mean(1)	-4.6mV	xamn(1)	-247.00 ns
minimum(1)	-1.687 V	xamx(1)	245.03 ns
maximum(1)	1.688 V	delay(1)	-0.8 ns
area(1)	-22.8750 nVs	cycles(1)	4

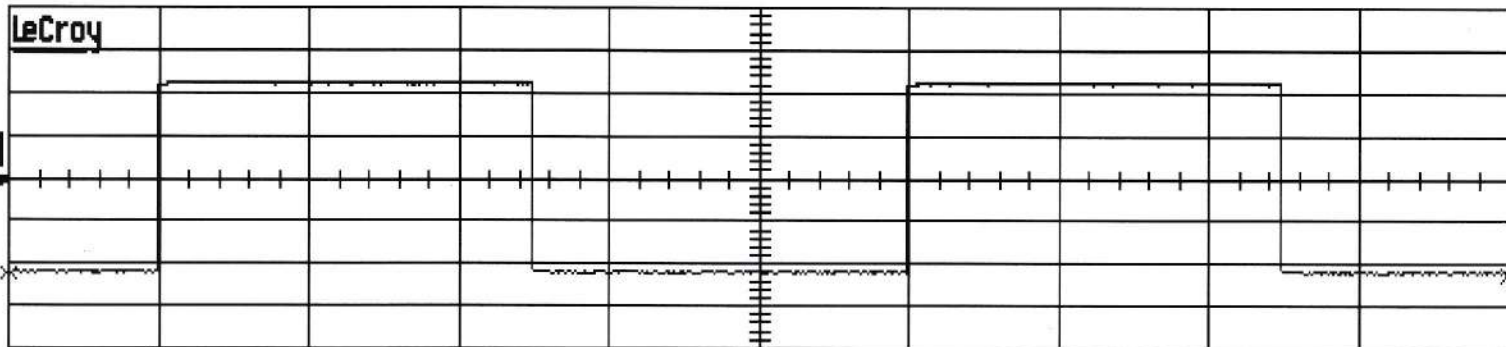


1 .5 ms 1.00 V

pkpk(1)	3.91 V	Freq(1)	1.04767 kHz
sdev(1)	1.099 V	period(1)	954.500 μs
rms(1)	1.100 V	width(1)	480.290 μs
cmean(1)	6mV	rise(1)	382.993 μs
csdev(1)	1.112 V	Fall(1)	383.209 μs
crms(1)	1.112 V	r20-80%(1)	280.170 μs
top(1)	1.94 V	F80-20%(1)	281.900 μs
base(1)	-1.96 V	over+(1)	0.00 %
ampl(1)	3.91 V	over-(1)	0.00 %
mean(1)	-21mV	xamn(1)	-221.611 μs
minimum(1)	-1.96 V	xamx(1)	254.100 μs
maximum(1)	1.94 V	delay(1)	11.271 μs
area(1)	-105.844 pVs	cycles(1)	4

AbuSTIN 5-10-2008

□ AUTO

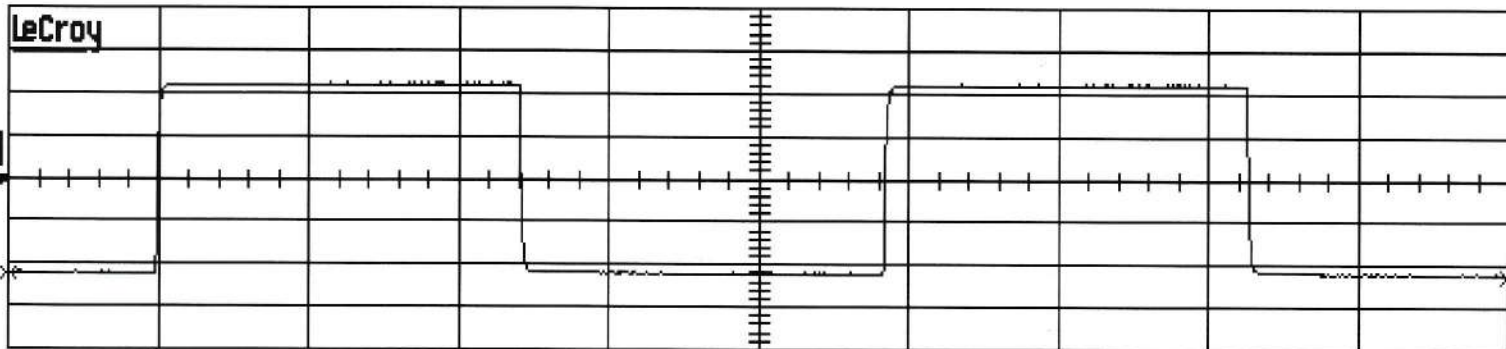


1 .2 ms 0.50 V

pkpk(1)	2.234 V	Freq(1)	1.00178 kHz
sdev(1)	1.0944 V	period(1)	998.221 μ s
rms(1)	1.0944 V	width(1)	μ s 499.655
cmean(1) $\checkmark$	-1.0mV	rise(1)	μ s 581
csdev(1) $\checkmark$	1.0943 V	Fall(1)	μ s 582
crms(1) $\checkmark$	1.0943 V	r20-80%(1)	μ s 356
top(1)	1.094 V	F80-20%(1)	μ s 355
base(1)	-1.093 V	over+(1)	0.71 %
ampl(1)	2.188 V	over-(1)	1.42 %
mean(1)	-2.8mV	xamn(1)	552.517 μ s
minimum(1)	-1.124 V	xamx(1)	16.7882 μ s
maximum(1)	1.110 V	delay(1)	-5 ns
area(1)	-5.57469 μ Vs	cycles(1)	1

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□ AUTO

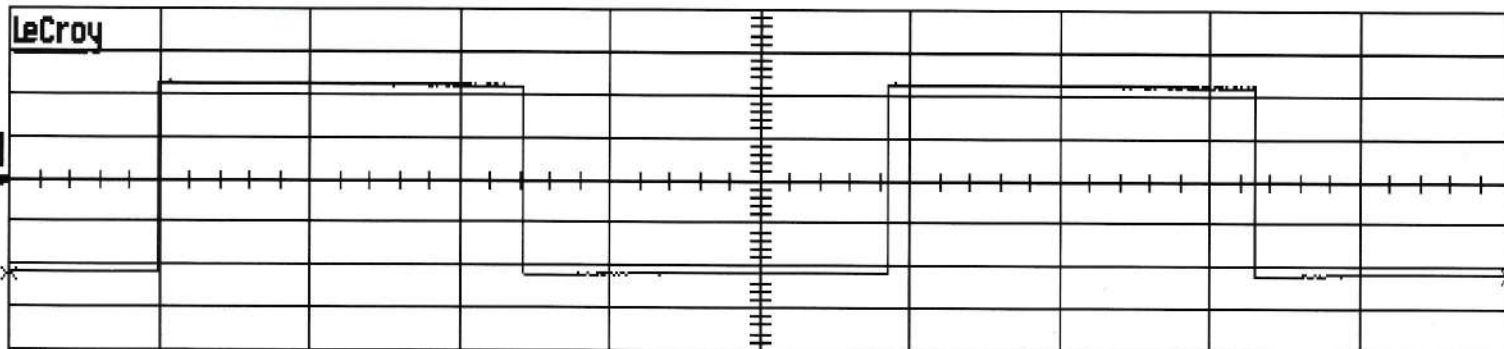


20 μ s 0.50 V

pkpk(1)	2.234 V	Freq(1)	10.3094 kHz
sdev(1)	1.0836 V	period(1)	96.9987 μ s
rms(1)	1.0845 V	width(1)	μ s 48.5016 μ s
cmean(1) $\sim$	-9.8mV	rise(1)	μ s 572.4 ns
csdev(1) $\sim$	1.0839 V	Fall(1)	μ s 570.1 ns
crms(1) $\sim$	1.0839 V	r20-80%(1)	μ s 353.1 ns
top(1)	1.079 V	F80-20%(1)	μ s 354.8 ns
base(1)	-1.100 V	over+(1)	1.43 %
ampl(1)	2.179 V	over-(1)	1.10 %
mean(1)	-42.6mV	xamn(1)	67.2671 μ s
minimum(1)	-1.124 V	xamx(1)	33.4053 μ s
maximum(1)	1.110 V	delay(1)	-3.9 ns
area(1)	-8.51425 μ Vs	cycles(1)	1

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☐ AUTO



20 ms 0.50 V

pkpk(1)	2.266 V	Freq(1)	10.26 Hz
sdev(1)	1.0946 V	period(1)	97.4259 ms
rms(1)	1.0949 V	width(1)	48.7791 ms
cmean(1) $\int$	4.3mV	rise(1)	1.7 μ s
csdev(1) $\int$	1.0947 V	Fall(1)	2.1 μ s
crms(1) $\int$	1.0947 V	r20-80%(1)	1.3 μ s
top(1)	1.101 V	F80-20%(1)	1.4 μ s
base(1)	-1.093 V	over+(1)	1.81 %
ampl(1)	2.195 V	over-(1)	1.42 %
mean(1)	-23.5mV	xamn(1)	48.8302 ms
minimum(1)	-1.124 V	xamx(1)	438.28 μ s
maximum(1)	1.141 V	delay(1)	-0.5 μ s
area(1)	-4.69200 mVs	cycles(1)	1

GUARANTEE:

THIS EQUIPMENT IS GUARANTEED AGAINST ANY DEFECT
IN MATERIAL OR WORKMANSHIP FOR A PERIOD OF FIVE
(5) YEARS FROM DATE OF PURCHASE.

SPARE PARTS AVAILABILITY: TEN (10) YEARS.

NUMBER: HAGUA # 10

DATE:

AGUSTIN SEIJAS LAB.



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