An Axiometrix Solutions Brand

Calibration Services
9290 SW Nimbus Ave
Beaverton, Oregon 97008
USA

ACCREDITED

Calibration Cert #2527.01

Calibration Report

Accredited Calibration

Report Number: XXXXXXXXX-XXXXXX-X

Model: APx515 **Data Type:** **AS SHIPPED, NEW** **Program:**
Serial Number: XXXXXXXXX **Date of Cal:** 14-Apr-2026 APxCalibration.exe 24.01

Internal Module Status and Data			
AP Name	***Description***	***Serial No.***	***Revision***
BXAN	Main Board	71393	702

Advanced Measurement Software License SW-AML	installed

Explanatory notes to the last three columns of the calibration report

"MU" - The column labeled "MU" lists the expanded measurement uncertainties derived from equipment specifications, repeatability data, and other significant sources. These are stated at a minimum confidence of 95% using a coverage factor k=2 (except as appropriate) following the recommendations in ISO/IEC 98-3 *Guide to the expression of uncertainty in measurement (GUM:1995)* , BIPM JCGM 100:2008, and NIST Technical Note 1297.

"TUR" - The column labeled "**TUR**" lists the test uncertainty ratio calculated by dividing the lesser of the lower and upper reading tolerances by the 95% expanded measurement uncertainty. An entry of "**na**" indicates [1] the specified limits are one-sided, or [2] the performance characteristic is not accredited.

"Result" - The column labeled "Result" lists color-coded assessments that the observed characteristic is within its specified limits of performance. There are three possible indications:

pass -- *The READING is within the specified upper and lower limits reduced by guard-bands equal to the 95% expanded measurement uncertainty. The probability or risk of false acceptance is very low, typically <0.2%.*

uncertain -- *The READING is within the specified upper and lower limits, but it is close to one of the limits by an amount that is less than the 95% expanded measurement uncertainty. The probability or risk of false acceptance is elevated.*

>> FAIL << -- *The READING is outside of the specified limit range.*

Accredited measurements listed in the following pages correlate to Audio Precision's Scope of Accreditation as noted:

note 1 - Frequency Measurement
note 2 - AC Voltage Measurement
note 3 - AC Flatness Measurement
note 4 - Resistance Measurement
note 5 - DC Voltage Measurement
note 6 - AC Voltage Source and AC Flatness Source for testing AC Measurement Equipment
note 7 - DC Voltage Source for testing DC Measurement Equipment

This report is valid only when accompanied by a signed Certificate of Calibration.

Uncertainty Calcs: 201804

Item	Setting(s)	Lower Limit	READING	Upper Limit	MU	TUR	Result
ANALOG GENERATOR CHARACTERISTICS							
[1] Sine Frequency Accuracy (Hz) - *note 1*							
	10 kHz	9999.9700	**10000.0037**	10000.0300	0.0063	4.8	**pass**
[2] Sine Amplitude Accuracy, 1 kHz (Volts, mVolts) - *note 2*							
Channel 1	8.00 V	7.9541	**8.0017**	8.0462	0.0022	≥10	**pass**
	5.000 V	4.9713	**5.0008**	5.0289	0.0014	≥10	**pass**
	3.000 V	2.9828	**3.0020**	3.0173	0.0011	≥10	**pass**
	1.500 V	1.49139	**1.50078**	1.50866	0.00054	≥10	**pass**
	1.000 V	0.99426	**1.00018**	1.00577	0.00036	≥10	**pass**
	100 mV	99.426	**100.006**	100.577	0.038	≥10	**pass**
	12 mV	11.931	**12.002**	12.069	0.013	5.5	**pass**
Channel 2	8.00 V	7.9541	**8.0013**	8.0462	0.0022	≥10	**pass**
	5.000 V	4.9713	**5.0007**	5.0289	0.0014	≥10	**pass**
	3.000 V	2.9828	**3.0019**	3.0173	0.0011	≥10	**pass**
	1.500 V	1.49139	**1.50082**	1.50866	0.00054	≥10	**pass**
	1.000 V	0.99426	**1.00007**	1.00577	0.00036	≥10	**pass**
	100 mV	99.426	**100.008**	100.577	0.038	≥10	**pass**
	12 mV	11.931	**12.002**	12.069	0.013	5.5	**pass**
[3] Sine Flatness, 1.15 Vrms (dB) - *note 3*							
Channel 1	10 Hz	-0.0100	**-0.0001**	0.0100	0.0018	5.6	**pass**
	20 Hz	-0.0100	**-0.0002**	0.0100	0.0017	5.9	**pass**
	20 kHz	-0.0100	**-0.0050**	0.0100	0.0019	5.3	**pass**
	50 kHz	-0.0300	**0.0025**	0.0300	0.0040	7.5	**pass**
	80 kHz	-0.1000	**0.0026**	0.1000	0.0094	≥10	**pass**
Channel 2	10 Hz	-0.0100	**-0.0003**	0.0100	0.0018	5.6	**pass**
	20 Hz	-0.0100	**-0.0002**	0.0100	0.0017	5.9	**pass**
	20 kHz	-0.0100	**-0.0033**	0.0100	0.0019	5.3	**pass**
	50 kHz	-0.0300	**0.0039**	0.0300	0.0040	7.5	**pass**
	80 kHz	-0.1000	**-0.0031**	0.1000	0.0094	≥10	**pass**
[4] DC Offset (mV), Unbal - *note 5*							
Channel 1	8.0 V	-20.10	**-2.18**	20.10	0.40	≥10	**pass**
	1.000 V	-2.600	**-0.555**	2.600	0.046	≥10	**pass**
	100 mV	-0.350	**-0.050**	0.350	0.024	≥10	**pass**
	10 mV	-0.125	**-0.050**	0.125	0.024	5.2	**pass**
Channel 2	8.0 V	-20.10	**-4.11**	20.10	0.40	≥10	**pass**
	1.000 V	-2.600	**-0.788**	2.600	0.046	≥10	**pass**
	100 mV	-0.350	**-0.073**	0.350	0.024	≥10	**pass**
	10 mV	-0.125	**-0.074**	0.125	0.024	5.2	**pass**
[5] Source Resistance Accuracy (Ω) - *note 4*							
Channel 1	50 Ω	49.250	**50.132**	50.750	0.060	≥10	**pass**
Unbalanced	600 Ω	594.00	**599.61**	606.00	0.28	≥10	**pass**
Channel 1	100 Ω	99.00	**100.18**	101.00	0.10	≥10	**pass**
Balanced	600 Ω	594.00	**599.43**	606.00	0.30	≥10	**pass**
Channel 2	50 Ω	49.250	**50.072**	50.750	0.060	≥10	**pass**
Unbalanced	600 Ω	594.00	**599.36**	606.00	0.28	≥10	**pass**
Channel 2	100 Ω	99.00	**100.07**	101.00	0.10	≥10	**pass**
Balanced	600 Ω	594.00	**599.45**	606.00	0.30	≥10	**pass**

Item	Setting(s)	Lower Limit	READING	Upper Limit	MU	TUR	Result
ANALOG ANALYZER CHARACTERISTICS							
[6] Input Termination Accuracy (Ω) - *note 4*							
Channel 1	600 Ω	594.00	**600.28**	606.00	0.30	≥10	**pass**
Channel 2	600 Ω	594.00	**600.43**	606.00	0.30	≥10	**pass**
[7] DC Measurement Accuracy (Volts, mVolts) - *note 7*							
Channel 1	+120 V	119.080	**119.981**	120.920	0.072	≥10	**pass**
	+80 V	79.360	**79.993**	80.640	0.048	≥10	**pass**
	+25 V	24.800	**24.997**	25.200	0.015	≥10	**pass**
	+8.0 V	7.9360	**7.9990**	8.0640	0.0048	≥10	**pass**
	+2.5 V	2.4800	**2.5000**	2.5200	0.0015	≥10	**pass**
	+800 mV	793.40	**799.93**	806.60	0.48	≥10	**pass**
	+250 mV	247.25	**249.85**	252.75	0.15	≥10	**pass**
	0 mV	-1.000	**-0.114**	1.000	0.046	≥10	**pass**
	-250 mV	-252.75	**-250.08**	-247.25	0.15	≥10	**pass**
	-800 mV	-806.60	**-800.03**	-793.40	0.48	≥10	**pass**
	-2.5 V	-2.5200	**-2.4998**	-2.4800	0.0015	≥10	**pass**
	-8 V	-8.0640	**-7.9979**	-7.9360	0.0048	≥10	**pass**
	-25 V	-25.200	**-24.994**	-24.800	0.015	≥10	**pass**
	-80 V	-80.640	**-79.982**	-79.360	0.048	≥10	**pass**
	-120 V	-120.920	**-119.971**	-119.080	0.072	≥10	**pass**
Channel 2	+120 V	119.080	**119.968**	120.920	0.072	≥10	**pass**
	+80 V	79.360	**79.977**	80.640	0.048	≥10	**pass**
	+25 V	24.800	**24.992**	25.200	0.015	≥10	**pass**
	+8.0 V	7.9360	**7.9974**	8.0640	0.0048	≥10	**pass**
	+2.5 V	2.4800	**2.4994**	2.5200	0.0015	≥10	**pass**
	+800 mV	793.40	**799.88**	806.60	0.48	≥10	**pass**
	+250 mV	247.25	**249.98**	252.75	0.15	≥10	**pass**
	0 mV	-1.000	**0.054**	1.000	0.046	≥10	**pass**
	-250 mV	-252.75	**-249.87**	-247.25	0.15	≥10	**pass**
	-800 mV	-806.60	**-799.84**	-793.40	0.48	≥10	**pass**
	-2.5 V	-2.5200	**-2.4997**	-2.4800	0.0015	≥10	**pass**
	-8 V	-8.0640	**-7.9988**	-7.9360	0.0048	≥10	**pass**
	-25 V	-25.200	**-24.997**	-24.800	0.015	≥10	**pass**
	-80 V	-80.640	**-79.993**	-79.360	0.048	≥10	**pass**
	-120V	-120.920	**-119.982**	-119.080	0.072	≥10	**pass**
[8] Input Common Mode Rejection (mV) - non-accredited							
Channel 1 (5V CM signal)	2.5V range, 200 Hz	0	**0.019**	0.500	0.070	na	**pass**
	2.5V range, 5 kHz	0	**0.013**	0.500	0.082	na	**pass**
	2.5V range, 20 kHz	0	**0.03**	1.58	0.18	na	**pass**
	8V range, 20 kHz	0	**0.59**	15.81	0.22	na	**pass**
	80V range, 20 kHz	0	**3.58**	28.12	0.27	na	**pass**
Channel 2 (5V CM signal)	2.5V range, 200 Hz	0	**0.030**	0.500	0.070	na	**pass**
	2.5V range, 5 kHz	0	**0.068**	0.500	0.082	na	**pass**
	2.5V range, 20 kHz	0	**0.25**	1.58	0.18	na	**pass**
	8V range, 20 kHz	0	**0.66**	15.81	0.22	na	**pass**
	80V range, 20 kHz	0	**3.74**	28.12	0.27	na	**pass**

Item	Setting(s)	Lower Limit	READING	Upper Limit	MU	TUR	Result
ANALOG ANALYZER, continued							
[9] Level Meter AC Accuracy, 1 kHz (Volts, mVolts) - *note 6*							
Channel 1	85 V	84.512	**84.986**	85.491	0.048	≥10	**pass**
	20 V	19.885	**19.996**	20.115	0.011	≥10	**pass**
	5 V	4.9713	**4.9990**	5.0289	0.0029	≥10	**pass**
	2 V	1.9885	**2.0000**	2.0115	0.0011	≥10	**pass**
	500 mV	497.13	**500.00**	502.89	0.29	≥10	**pass**
	200 mV	198.85	**199.98**	201.15	0.11	≥10	**pass**
	5 mV	4.9713	**5.0000**	5.0289	0.0031	9.7	**pass**
Channel 2	85 V	84.512	**84.984**	85.491	0.048	≥10	**pass**
	20 V	19.885	**19.995**	20.115	0.011	≥10	**pass**
	5 V	4.9713	**4.9987**	5.0289	0.0029	≥10	**pass**
	2 V	1.9885	**1.9997**	2.0115	0.0011	≥10	**pass**
	500 mV	497.13	**499.93**	502.89	0.29	≥10	**pass**
	200 mV	198.85	**199.95**	201.15	0.11	≥10	**pass**
	5 mV	4.9713	**4.9990**	5.0289	0.0031	9.7	**pass**
[10] Level Meter AC Flatness, 1.15 Vrms (dB) - *note 6*							
Channel 1	10 Hz	-0.0100	**-0.0014**	0.0100	0.0030	3.3	**pass**
	20 Hz	-0.0100	**-0.0005**	0.0100	0.0029	3.4	**pass**
	20 kHz	-0.0100	**0.0014**	0.0100	0.0024	4.2	**pass**
	50 kHz	-0.0300	**0.0040**	0.0300	0.0031	9.7	**pass**
	80 kHz	-0.1000	**-0.0226**	0.1000	0.0061	≥10	**pass**
Channel 2	10 Hz	-0.0100	**-0.0013**	0.0100	0.0030	3.3	**pass**
	20 Hz	-0.0100	**-0.0004**	0.0100	0.0029	3.4	**pass**
	20 kHz	-0.0100	**0.0020**	0.0100	0.0024	4.2	**pass**
	50 kHz	-0.0300	**0.0071**	0.0300	0.0031	9.7	**pass**
	80 kHz	-0.1000	**-0.0150**	0.1000	0.0061	≥10	**pass**

Item	Setting(s)	Lower Limit	READING	Upper Limit	MU	TUR	Result
ANALOG ANALYZER, continued							
[11] Phase Measurement Offset (Deg), DC Coupled - non-accredited, self-test							
Ch1 - Ch 2	50Hz	-0.200	**0.000**	0.200	0.001	na	**pass**
	200Hz	-0.200	**0.000**	0.200	0.001	na	**pass**
	5kHz	-0.200	**0.004**	0.200	0.004	na	**pass**
	20kHz	-0.800	**0.016**	0.800	0.016	na	**pass**
	50kHz	-2.000	**0.037**	2.000	0.040	na	**pass**
[12] Frequency Measurement Accuracy (uHz/Hz) - *note 1*							
	10 kHz	-3.00	**-0.38**	3.00	0.63	4.8	**pass**
[13] Input Residual Crosstalk at 20 kHz (dB) - non-accredited							
Ch2 into Ch 1		-999	**-129.1**	-120.0	4.0	na	**pass**
Ch 1 into Ch 2		-999	**-128.4**	-120.0	4.0	na	**pass**

Item	Setting(s)	Lower Limit	READING	Upper Limit	MU	TUR	Result
NON-ACCREDITED CHARACTERISTICS							
[14] Sine THD+N (dB) - non-accredited, self-test							
Channel 1	20 Hz, 16V, 20k BW	-999	**-108.9**	-102.0	1.0	na	**pass**
Balanced	1 kHz,16V, 20k BW	-999	**-108.0**	-102.0	1.0	na	**pass**
	5 kHz, 16V, 20k BW	-999	**-107.3**	-102.0	1.0	na	**pass**
	20 kHz, 16V, 20k BW	-999	**-108.1**	-102.0	1.5	na	**pass**
Unbalanced	20 Hz, 2V, 20k BW	-999	**-110.1**	-102.0	1.0	na	**pass**
	1 kHz, 2V, 20k BW	-999	**-109.5**	-102.0	1.0	na	**pass**
	20 kHz, 2V, 20k BW	-999	**-107.9**	-102.0	1.5	na	**pass**
Channel 2	20 Hz, 16V, 20k BW	-999	**-108.6**	-102.0	1.0	na	**pass**
Balanced	1 kHz,16V, 20k BW	-999	**-108.2**	-102.0	1.0	na	**pass**
	5 kHz, 16V, 20k BW	-999	**-107.8**	-102.0	1.0	na	**pass**
	20 kHz, 16V, 20k BW	-999	**-109.5**	-102.0	1.5	na	**pass**
Unbalanced	20 Hz, 2V, 20k BW	-999	**-110.2**	-102.0	1.0	na	**pass**
	1 kHz, 2V, 20k BW	-999	**-109.7**	-102.0	1.0	na	**pass**
	20 kHz, 2V, 20k BW	-999	**-110.1**	-102.0	1.5	na	**pass**
[15] Residual Crosstalk (dB), Output Related, 20kHz - non-accredited, self-test							
Unbalanced,	*2 into 1*	-999	**-124.3**	-120.0	2.0	na	**pass**
8V, 20 kHz.	*1 into 2*	-999	**-123.1**	-120.0	2.0	na	**pass**
Balanced,	*2 into 1*	-999	**-158.1**	-120.0	4.0	na	**pass**
16V, 20 kHz.	*1 into 2*	-999	**-151.3**	-120.0	4.0	na	**pass**
[16] Residual Noise (uVolts) - non-accredited, self-test							
Balanced Input,	Ch 1, 20 kHz BW	0	**1.05**	1.40	0.06	na	**pass**
inputs shorted.	Ch 2, 20 kHz BW	0	**1.06**	1.40	0.06	na	**pass**
[17] Residual SMPTE IMD (%), 4:1, 60Hz:7kHz - non-accredited, self-test							
Balanced,	Ch 1	0%	**0.00102%**	0.00250%	0.00030%	na	**pass**
16 Vrms.	Ch 2	0%	**0.00088%**	0.00250%	0.00030%	na	**pass**
[18] Residual MOD IMD (%), 4:1, 60Hz:7kHz - non-accredited, self-test							
Balanced,	Ch 1	0%	**0.00086%**	0.00250%	0.00020%	na	**pass**
16 Vrms.	Ch 2	0%	**0.00082%**	0.00250%	0.00020%	na	**pass**
[19] Residual DFD IMD (%), mean 19.5kHz, diff 1kHz - non-accredited, self-test							
Balanced,	Ch 1	0%	**0.00016%**	0.00100%	0.00020%	na	**pass**
16 Vrms.	Ch 2	0%	**0.00026%**	0.00100%	0.00020%	na	**pass**
[20] Digital Output Amplitude Accuracy (Volts) - non-accredited, oscilloscope referenced							
Unbal, consumer	0.5 Vpp	0.450	**0.487**	0.550	0.009	na	**pass**
Unbal, professional	1.0 Vpp	0.900	**0.980**	1.100	0.016	na	**pass**
Balanced	5.0 Vpp	4.500	**5.027**	5.500	0.077	na	**pass**

END OF REPORT