

# CERTIFICATE OF CALIBRATION

**Issued to:** Pioneer Dietecs  
73 Wood Rock Road  
Weymouth, MA 02189


**Cert. #:** 17120500  
**Calibration Date:** 12/05/2017  
**Calibration Due:** December, 2018

This is to certify that the RAM Optical Sprint 250, S/N RSC250P1283, Asset No., referenced by this document has been calibrated to a standard that is traceable to the National Institute of Standards and Technology. Certification is per National Institute of Standards and meets ANSI/NCSL Z540-1.

Calibration Method and consistency meets current specifications pertinent to ISO 17025:2005

Calibration Conditions:

*Calibration Equipment and Method: QVI Glass Grid Serial Number 001/1201. Calibration Due Date: March, 2018*

Certified by:   
**Don Edmands**  
**Automation Components, Incorporated**  
**25 Kenwood Circle**  
**Franklin, MA 02038**  
**(508) 520-0001**

# Certificate of Calibration - Video

Date: 12/5/17 Manufacturer: RAM OPTICAL Model: SPRINT 250  
 Serial Number: PSLZ5CP12X3 Asset Number: N/A  
 Standards Used: QVI CLASS Grid Display Box S/N: N/A  
 Company: PIONEER Die-tecs  
 Address: 73 Wood Rock Rd  
 City, State, Zip: Weymouth MA 02189  
 Contact: Jerry Larson Phone: 781-682-7900  
 Email: herson@pioneerdie.com

**Electro/ Mechanical Components Cleaned & Checked for Wear & Function.**

Serviced OK	Serviced OK	Serviced OK
Power Supplies <input type="checkbox"/> <input checked="" type="checkbox"/>	Drive Assys. <input type="checkbox"/> <input checked="" type="checkbox"/>	Joystick <input type="checkbox"/> <input checked="" type="checkbox"/>
Fans <input type="checkbox"/> <input checked="" type="checkbox"/>	Lubrication Pts. <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Monitor <input type="checkbox"/> <input checked="" type="checkbox"/>
Motors <input type="checkbox"/> <input checked="" type="checkbox"/>	Filters <input type="checkbox"/> <input checked="" type="checkbox"/>	Keyboard, Mouse <input type="checkbox"/> <input checked="" type="checkbox"/>

**Optical Components:**

Serviced OK	As Found	Corrected
Light Source (Back) <input type="checkbox"/> <input checked="" type="checkbox"/>	Parrfocal Alignment <u>.0005</u>	
Light Source (Ring) <input type="checkbox"/> <input checked="" type="checkbox"/>	Rotational Alignment	
Light Source (Aux.) <input type="checkbox"/> <input checked="" type="checkbox"/>	Lens Concentricity X = <u>.0005</u> Y = <u>.0004</u>	X = <u>.0001</u> Y = <u>.0001</u>
SmartRing Light <input type="checkbox"/> <input checked="" type="checkbox"/>	Metrology Display Angle: <u>89.9</u>	
Stage Glass <input type="checkbox"/> <input checked="" type="checkbox"/>	Metrology Display Radius: <u>1.5001</u>	

	Accuracy	Range
X	.0002	12"
Y	.0002	6"
Z	.0005	

**X-AXIS**

**Y-AXIS**

X	BEFORE	AFTER	BEFORE	AFTER
1"			13"	
2"			14"	
3"			15"	
4"			16"	
5"			17"	
6"			18"	
7"			19"	
8"			20"	
9"			21"	
10"			22"	
11"			23"	
12"			24"	

*C: Drive*  
*L @ VSI*  
*L measure X*  
*L concentricity*  
*L non linear X-Y*  
*(ATTACHED)*

Y	BEFORE	AFTER	BEFORE	AFTER
1"			13"	
2"			14"	
3"			15"	
4"			16"	
5"			17"	
6"			18"	
7"			19"	
8"			20"	
9"			21"	
10"			22"	
11"			23"	
12"			24"	

*Verification Report 11/5/17*

**Remarks:**

\_\_\_\_\_

\_\_\_\_\_ Humidity \_\_\_\_\_

\_\_\_\_\_ TEMP F \_\_\_\_\_

\_\_\_\_\_

Z	BEFORE	AFTER
1"	1.0001	
2"	2.0002	
3"	3.0003	

Customer's Signature: \_\_\_\_\_

Service Engineer's Signature: \_\_\_\_\_

Verification Started At: Tue Dec 05 11:37:17 2017  
Verification Completed At: Tue Dec 05 11:39:01 2017

Verification report  
Grid S/N: 1201 Units: IN

Machine S/N:RSC25P1283  
11:39AM on 12\05\17

	X Location (0.00014)			Y Location (0.00014)		
	Nominal	Actual	Deviation	Nominal	Actual	Deviation
1	-5.87492	-5.87490	+0.00002	+2.87506	+2.87506	-0.00000
2	-2.93742	-2.93744	-0.00002	+2.87508	+2.87505	-0.00003
3	+0.00006	+0.00007	+0.00001	+2.87502	+2.87500	-0.00002
4	+2.93750	+2.93757	+0.00007	+2.87500	+2.87498	-0.00002
5	+5.87502	+5.87505	+0.00002	+2.87503	+2.87498	-0.00005
6	+5.87502	+5.87504	+0.00003	+1.43751	+1.43752	+0.00001
7	+2.93754	+2.93757	+0.00003	+1.43749	+1.43748	-0.00001
8	+0.00003	+0.00004	+0.00001	+1.43749	+1.43746	-0.00003
9	-2.93743	-2.93747	-0.00004	+1.43754	+1.43755	+0.00001
10	-5.87493	-5.87492	+0.00001	+1.43754	+1.43753	-0.00001
11	-5.87500	-5.87501	-0.00001	+0.00004	+0.00005	+0.00001
12	-2.93749	-2.93752	-0.00003	+0.00006	+0.00009	+0.00003
13	+0.00000	+0.00000	+0.00000	+0.00000	+0.00000	+0.00000
14	+2.93746	+2.93748	+0.00002	+0.00003	+0.00002	-0.00001
15	+5.87496	+5.87500	+0.00005	+0.00004	+0.00003	-0.00001
16	+5.87492	+5.87495	+0.00003	-1.43744	-1.43741	+0.00003
17	+2.93744	+2.93745	+0.00001	-1.43744	-1.43743	+0.00001
18	-0.00002	-0.00006	-0.00004	-1.43746	-1.43743	+0.00003
19	-2.93751	-2.93756	-0.00005	-1.43743	-1.43743	+0.00000
20	-5.87509	-5.87510	-0.00001	-1.43744	-1.43742	+0.00002
21	-5.87497	-5.87500	-0.00002	-2.87493	-2.87493	+0.00000
22	-2.93748	-2.93752	-0.00005	-2.87493	-2.87490	+0.00003
23	+0.00002	-0.00002	-0.00004	-2.87496	-2.87498	-0.00002
24	+2.93748	+2.93747	-0.00001	-2.87494	-2.87495	-0.00001
25	+5.87495	+5.87495	-0.00000	-2.87493	-2.87493	+0.00001