#### Jerome Manarchuck

From:

Gary Cavell < gcavell@cavellmertz.com>

Sent:

Wednesday, September 13, 2017 12:40 PM

To: Cc:

Jerome Manarchuck

Brian C. Edwards

Subject:

WNWR STA Update

**Attachments:** 

WNWR AM 1900 Calibration Certificate.pdf

Hi Jerry,

RE: BSTA- 20170808AAM

I have been advised that the antenna monitor has been reinstalled at WNWR in Philadelphia, PA following the factory work - adding the nighttime mode (soon to be proofed) and full recalibration. The antenna monitor certificate of calibration is attached.

All directional antenna readings are essentially unchanged, as shown below.

Readings as of Wednesday September 13, 2017 - 8:10am

TX Output - 52.6 KW

CP - 32.45 A

CP Power - 52.650 kW

#### Licensed Daytime Antenna Monitor Parameters (Ratio/Phase)

Tower 1 1.000/0.01°

(Lic. 1.000/0.0°)

Tower 2 0.441/-119.2°

(Lic. 0.441/-119.3°)

Tower 3 0.735/+141.7° (Lic. 0.735/+141.7°)

#### Daytime Tower Base Currents (Not required but recorded and monitored by station)

Tower 1 - 27.9 A (Baseline 27.9 A)

Tower 2 - 12.3 A (Baseline 12.3 A)

Tower 3 - 19.5 A (Baseline 19.5 A)

This shows that the daytime array remains within licensed limits. There is no longer a need for the STA.

The sample system will be checked recertified with the completion of the proof supporting the nighttime CP – which is expected to be completed within the next 30-45 days.

Let me know if this helps to close this matter or if you will need anything else.

With best regards,

-gary

Garrison C. Cavell

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### Potomac Instruments, inc.

7309 Grove Rd Unit D Frederick, MD 21704 Phone 301-696-5550 Fax 301-696-5553

## Certificate of Calibration

For

Medium Wave Directional Antenna Monitor

Model: 1901-3

Serial Number: 855

Performed for: WNWR - Global Radio LLC.

Address:

2890 Emma Lee Street

Suite 201

Falls Church, VA 22042

Calibration Frequency: 1540 kHz

Termination Impedance:  $50 \Omega$ 

Temperature: 72° F

Relative Humidity: 42%

Equipment Modifications from Standard: None

This document certifies that the above instrument has been tested and calibrated in accordance with factory calibration procedures under the conditions noted using standards that are traceable to the National Institute of Standards and Technology (NIST).

Approved By:

chary Babendreier

Calibration Date: 8/22/2017

Next Recommended Calibration: August 2020

PI Potomac Instruments, Inc.

## 1900 Series Antenna Monitor Factory Configuration

WNWR / 3279       August 14, 2017         Model Number of 1901 □ 1903 □ 1902 Included       Chassis Serial Number 855         Number of Towers       □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 □ 8 □ 9 □ 10 □ 11 □ 12         Number of Patterns       □ 1 □ 2 □ 3 □ 3         Non-Directional Patterns       □ Yes □ No         Reference Tower for each Pattern       □ Day Twr # 1 □ Night Twr # 2 □ 3RD Twr # □         Common Point       □ N/A Slot □         Operating Frequency (kHz)       1540 kHz	General Information	Rev
1901	1	August 14, 2017
Number of Towers       □2       □3       □4       □5       □6       □7       □8       □9       □10       □11       □12         Number of Patterns       □1       □2       □3         Non-Directional Patterns       □Yes       □No         Reference Tower for each Pattern       □Day Twr # 1       □Night Twr # 2       □3RD Twr #         Common Point       □N/A       Slot         Operating Frequency (kHz)       1540 kHz		
Number of Patterns  I 1 2 3  Non-Directional Patterns  I Yes  I No  Reference Tower for each Pattern  Day Twr # 1 Night Twr # 2 3RD Twr #  Common Point  N/A Slot  Operating Frequency (kHz)		
Non-Directional Patterns  Per No  Reference Tower for each Pattern  Non-Directional Pattern  Day Twr # 1 Night Twr # 2 3RD Twr #  Non-Directional Pattern  Non-Directional Patterns  Non-Directiona		
Common Point	Non-Directional Patterns	
Common Point	Reference Tower for each Pattern	□ Day Twr# 1 □ Night Twr# 2 □ 3RD Twr#
Operating Frequency (kHz) 1540 kHz	Common Point	
Point Filter Fraguencies (VHz)	Operating Frequency (kHz)	
Neject rite requencies (knz)	Reject Filter Frequencies (kHz)	N/A
Sampling Line Impedance	Sampling Line Impedance	■ 50 Ohms □ Hi Z
Input Connector Type UHF Type N	Input Connector Type	■ UHF ☐ Type N
AC Power ☐ 117 VAC ☐ 230 VAC (3/4 Ampere Fuse) (3/8 Ampere Fuse)	AC Power	
Power Supply Serial Number 5010 0774	Power Supply Serial Number	
Notes:	Notes:	
Display Board Configuration		
Decimal Point Selection (JP1)	Decimal Point Selection (JP1)	□2 <b>■</b> 3 □4
Control Board Configuration Serial Number	Control Board Configuration	
Tower Output Resistor Values         R82         R83         R85         R86           (if different than shown on schematic)         R87         R88         R89         R90	(if different than shown on schematic)	
R91 R92 R93 R93		R91 R92 R93
The state of the s	JP1 JP2	
	JP3	
	JP4	<u></u>
JP5	JP5	
JP6		
JP7 □2 ■3 □4 □5 □6 □7 □8 □9 □10 □11 □12		
	JP8 JP9	□ 1 □ 2
JP9	JF3	U D (Day) U N (Night)
1920 Modules or Blank Panels 1920 1930	1920 M	
Boxes show: Upper Box = Tower No. assignment for slots holding 1910 Modules  Middle Box = 1910 Module No. (JP2 / JP3) if different from Tower Number  Lower Box = 1910 Module reference assignment; See Key, Table 3, Page 20	Middle Box = 1910 Mo	odule No. (JP2 / JP3) if different from Tower Number
Lower Box = 1910 Module reference assignment; See Key, Table 3, Page 20	Lowel Box - 1910 IVIO	route reference assignment; See Key, Table 3, Page 20
A B C D E F G H I J K L	A B C D F	

# $\fbox{PI}$ Potomac Instruments, Inc.

## 1910 Metering Module Configurations

			***************************************				****		***************************************					Rev A
1910	Serial Number				1910	Serial Nun	iber			1910	Serial Nun	ber		(:
Slot A	ļ				Slot B	:				Slot C	1			1:
JP1	REF□DAY □NIT □3RD				JP1	REF□DA'	REF□DAY □NIT □3RD			JP1	REF□DA	Y CINIT	□3RD	
<u> </u>	Non-D	DDAY		□3RD	01 1	Non-D	DDAY	DNIT	□3RD	JES	Non-D	DAY	□NIT	□3RD
JP2	<b>Q</b> 1	<b>2</b>	□3	□4	JP2		<b>2</b> 2	□3	<b>Q</b> 4	ID0	<b>Q</b> 1	<b>2</b>	<b>Q</b> 3	<b>Q</b> 4
JP3	□5 □6	□7	□8		JP3	<b>4</b> 5 <b>4</b> 6	<b>1</b> 7	□8	-	JP2	□5 □6	<b>1</b> 7	□8	
01-0	□9 □10	<b>11</b>	<b>□12</b>		UF 3	□9 □10	<b>Q</b> 11	<b>□</b> 12		JP3	<b>1</b> 9 <b>1</b> 10	<b>11</b>	<b>□</b> 12	
JP4	COPEN	□SHORT	ED		JP4	□ OPEN	JOPEN USHORTED				□OPEN □SHORTED			
JP5	⊠OPEN		JP5	⊠OPEN	(Test Only	)		JP5	⊠OPEN	(Test Only	1			
JP6	OPEN OSHORTED				JP6	OPEN OSHORTED				JP6	OPEN	□ SHORT	ED.	
JP7	☐2 to 6 Towers ☐7 to 12 Towers			Towers	JP7	□2 to 6 To	12 to 6 Towers			JP7	□2 to 6 To	wers	□7 to 12 1	Towers
JP8	□1 - 2 and	3 - 4 (CP)	<b>□</b> 2 - 3 (1	WR)	JP8	□1 - 2 and	3 - 4 (CP)	□2-3(T	WR)	JP8	□1 - 2 and	3 - 4 (CP)	□2 - 3 (TV	VR)
R101	□50	<b>□</b> 75	□High Z		R101	□50	<b>1</b> 75	☐High Z		R101	□50	□75	☐High Z	
Filter	□N/A	A10468 -			Filter	□N/A	A10468 -			Filter	□N/A	A10468 -		
Notes					Notes				***************************************	Notes	<u> </u>			

1910 Slot D	Serial Nur	nber 251	10 29	96	1910 Slot E	Serial Number 2510 2997				1910 Slot F	Serial Number 2510 2998				
JP1	REF □DAY □NIT □3RD				JP1	REF□DAY ■NIT □3RD				104	REF DA		□3RD	1	
ווט	Non-D	□DAY	TIND	□3RD	JEI	Non-D	□ DAY	□NIT	□3RD	JP1	Non-D	DDAY	□NIT	□3RD	
JP2	<b>a</b> 1	<b>Q</b> 2	□3	□4	JP2	<b>□</b> 1	₩2	□3	□4	JP2	<b>1</b>	<b>1</b> 2	<b>₽</b> 3	<b>4</b>	
JP3	□5 □6	<b>□</b> 7	□8		JP3	□5 □6	□7	□8		JP3	□5 □6	<b>□</b> 7	□8	-	
0, 0	□9 □10	Q11	□12		31 3	□9 □10	<b>□</b> 11	□ 12		JPJ	□9 □10	<b>□</b> 11	<b>□12</b>		
JP4	☐ OPEN	■SHOR1	ΓED		JP4	□ OPEN	<b>⊘</b> SHOR	TED		JP4	<b>O</b> OPEN	□ SHORT	ED		
JP5	☑OPEN (Test Only)				JP5	<b>⊠</b> OPEN	(Test Onl	y)		JP5	<b>⊠</b> OPEN	(Test Only	).		
JP6	DOPEN	■SHOR1	ΓED		JP6	<b></b> ■OPEN	□SHOR*	TED	***************************************	JP6	<b> ■ OPEN</b>	SHORT	ED		
JP7	■2 to 6 T	owers	□7 to 12	? Towers	JP7	■2 to 6 To	owers	□7 to 12	Towers	JP7	<b>2</b> to 6 To	owers	□7 to 12	Towers	
JP8	□1 - 2 an	d 3 - 4 (CP)	<b>2</b> -3(	TWR)	JP8	□1 - 2 an	d 3 - 4 (CP)	<b>©</b> 2 - 3 (T	WR)	JP8	□1 - 2 and	d 3 - 4 (CP)	€2-3 (T		
R101	<b>₩</b> 50	<b>□</b> 75	☐High 2		R101	<b>■</b> 50	<b>Q</b> 75	□High Z		R101	<b>3</b> 50	<b>□</b> 75	☐High Z	h	
Filter	<b>⊚</b> N/A	A10468 -		manyardy.man.ir	Filter	■N/A	A10468 -			Filter	<b>⊌</b> N/A	A10468 -			
Notes					Notes					Notes					
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1910 Slot G	Serial Nur	ber			1910 Slot H	Serial Num	ber			1910 Slot I	Serial Nurr	nber		
JP1	REFODA'	Y 🗆 NIT	□3RD	***************************************	JP1	REFUDA	/ 🗆 NIT	□3RD			REF□DA'	Y DNIT	□3RD	1
JFI	Non-D	□DAY	□NIT	□3RD	JPI	Non-D	DDAY	DNIT	□3RD	JP1	Non-D	DDAY	ONIT	□3RD
JP2	<b>□</b> 1	□2	□3	□4	JP2	<b>□</b> 1	<b>□</b> 2	<b>3</b>	<b>Q</b> 4	JP2	<b>Q</b> 1	<b>Q</b> 2	<u>3</u>	□4
JP3	□5 □6	<b>□</b> 7	□8		JP3	□5 □6	<b>□</b> 7	□8		JP3	□5 □6	<b>□</b> 7	□8	
	Q9 Q10	<b>Q11</b>	<b>1</b> 12			□9 □10	<b>□</b> 11	<b>1</b> 2		JFO	<b>□</b> 9 <b>□</b> 10	Q11	<b>□</b> 12	1
JP4	COPEN	□ SHORT	ED		JP4	□OPEN □SHORTED				JP4	□OPEN □SHORTED			
JP5	⊠OPEN	(Test Only	)		JP5	<b>⊠</b> OPEN	(Test Only			JP5	<b>⊠</b> OPEN	(Test Only	)	
JP6	☐ OPEN	□ SHORT	ED		JP6	□OPEN □SHORTED			JP6	□ OPEN	<b>USHORT</b>	ED	Ş	
JP7	□2 to 6 To	owers	□7 to 12	Towers	JP7	□2 to 6 To	wers	☐7 to 12	Towers	JP7	□2 to 6 To	owers	□7 to 12 1	owers
JP8	□1 - 2 and	13 - 4 (CP)	□2 - 3 (T	WR)	JP8	□1 - 2 and	3 - 4 (CP)	□2 - 3 (T\	WR)	JP8	□1 - 2 and	3 - 4 (CP)	Q2 - 3 (TV	VR)
R101	□50	<b>□</b> 75	□High Z		R101	□50	<b>□</b> 75	□High Z		R101	<b>□</b> 50	<b>□75</b>	□High Z	
Filter	□N/A	A10468			Filter	□N/A	A10468 -			Filter	QN/A	A10468 -	· · · · · · · · · · · · · · · · · · ·	11.4
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1910 Slot J	Serial Num	ber			1910 Slot K	Serial Num	ber			1910 Slot L	Serial Num	iber	<del></del>		
JP1	REFODAY	/ DNIT	□3RD	,	JP1	REFUDAY	′ □NIT	□3RD			REF DDA'	Y ONIT	□3RD	- i	
JF I	Non-D	□DAY	ONIT	□3RD	JF I	Non-D	□DAY	TIND	□3RD	JP1	Non-D	DDAY	□NIT	□3RD	
JP2 JP3	□1 □5 □6 □9 □10	□2 □7 □11	□3 □8 □12	<b>-</b> 4	JP2 JP3	□1 □5 □6 □9 □10	□2 □7 □11	□3 □8 □12	<b>□</b> 4	JP2 JP3	□1 □5 □6 □9 □10	□2 □7 □11	□3 □8 □12	<b>Q</b> 4	
JP4	□ OPEN	□ SHORT	ED		JP4	□OPEN □SHORTED				JP4	□OPEN □SHORTED				
JP5	<b>⊠</b> OPEN	(Test Only	').		JP5	☑OPEN (Test Only)				JP5	⊠OPEN	)			
JP6	DOPEN	□ SHORT	ED		JP6	□OPEN □SHORTED				JP6	□ OPEN	DSHORT	ED		
JP7	☐2 to 6 Towers ☐7 to 12 Towers				JP7	□2 to 6 To	wers	□7 to 12	Towers	JP7	□2 to 6 To	owers	□7 to 12	Towers	
JP8	1 - 2 and	13-4 (CP)	<b>1</b> 2 - 3 (	rwr)	JP8	□1 - 2 and	3 - 4 (CP)	□2-3(T	WR)	JP8	□1 - 2 and	3 - 4 (CP)	□2 - 3 (TV	VR)	
R101	□50	<b>□</b> 75	□High Z		R101	□50	□75	□High Z		R101	□50	<b>□</b> 75	□Hiah Z		
Filter	□N/A	A10468 -			Filter	□N/A	A10468 -			Filter	□N/A	A10468 -			
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