

Specialist's Report – Attachment 1

Archived observations from the MWM AWOS and email correspondence with the MWM AWOS technician.

METEOROLOGY

CEN21LA075

*Submitted by: Mike Richards
NTSB, AS-30*

BitCom 3.55 DIAL

ID=windom DESC=windom 12/07/120 11:08 am

ATE1V1X4DT15078311833RCONNECT 1200/NONE

COMMAND UNKNOWN SIGN ON

ENTER ID CODE :ENTER YOUR INITIALS : DA 50 1000050 2012070021 CLR BLO

120	10	001 -00222 006	3005	00N
0051	2012070001	CLR BLO 120	10	000 -00222 006 3005
00N				
0052	2012062341	CLR BLO 120	10	-002-00323 004 3006
00N				
0053	2012062321	CLR BLO 120	10	001 -00222 004 3006
00N				
0054	2012062301	CLR BLO 120	10	001 -00221 004 3006
00N				
0055	2012062241	CLR BLO 120	10	001 -00120 005 3006
00D				
0056	2012062221	CLR BLO 120	10	002 -00120 004 3006
00D				
0057	2012062201	CLR BLO 120	10	003 -00122 004 3007
00D				
0058	2012062141	CLR BLO 120	10	003 000 23 005 3007
00D				
0059	2012062121	CLR BLO 120	10	003 000 24 006 3008
00D				
0060	2012062101	CLR BLO 120	10	003 -00125 008 3008
00D				
0061	2012062041	SCT010	10	002 -00124 008 3008
00D				
0062	2012062021	BKN008	10	002 -00123 007 3008
00D				
0063	2012062001	OVC006	10	001 -00126 008 3009
00D				
0064	2012061941	OVC006	10	001 -00125 007 3010
00D				
0065	2012061921	OVC006	10	000 -00128 007 3010
00D				
0066	2012061901	OVC006	10	000 -00127 008 3010
00D				
0067	2012061841	OVC006	10	000 -00127 006 3012
00D				
0068	2012061821	OVC006	10	000 -00126 006 3012
00D				
0069	2012061801	OVC004	7	-001-00129 008 3013
00D				
0070	2012061741	OVC004	7	-001-00126 004 3013
00D				
0071	2012061721	OVC002	7	-001-00228 002 3014
00D				
0072	2012061701	OVC002	4	-001-00233 001 3014
00D				

BR	0073	2012061641	OVC002	3	-001-00131 004	3015
00D						
BR	0074	2012061621	OVC002	1 1/2	-001-00230 004	3015
00D						
		1	V 2 1/2			
BR	0075	2012061601	OVC002	1 3/4	-001-00231 006	3015
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BR	0076	2012061541	OVC004	2 1/2	-001-00232 005	3014
00D						
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BR	0083	2012061321	BKN004 OVC033	5	-002-00201 004	3014
00N						
BR	0084	2012061301	OVC004	5	-002-00201 007	3014
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0101	2012060721	CLR BLO 120	10	-001-00335 009	3011
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0103	2012060641	SCT016	10	-001-00335 009	3011
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00N					
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0107	2012060521	CLR BLO 120	10	-003-00434 009	3011
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00N					

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00D
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00D
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00D
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00D
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00D
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00D
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00D
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00D
0147 2012051601 CLR BLO 120 10 000 -00329 008 3015
00D
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00D
0149 2012051521 CLR BLO 120 10 -001-00330 006 3015
00D
SCREEN ON

WINDOM MUNICIPAL AIRPORT WINDOM MINNESOTAMWM ELEV: 1406
UTC:DATE:CIG:VSBY:PRSNT WEA:TEMP/DWPNT:WND:ALTM:DNS
ALT:RMRKS:THUNST:PCPN:17:09 180 /03 M1/4 FZFG
OVC002 -03 /-03 30.07
20/12/07 N
00N00N00N00N00N00N00N00N00N00N00N00N00N00N00N00N
00N00N00N00N00N00N00N00N00N00N00N00N00N00M
028M
0311
90 0
00055590106E00101XY>
0000>5214

METAR KMWM 071709Z AUTO 19003KT M1/4SM FZFG OVC002 M03/M03 A3007 RMK
AO2

Richards Michael

From: Josh Bohm - DBT <[REDACTED]@DBTTranServ.com>
Sent: Friday, December 11, 2020 5:05 PM
To: Richards Michael <[REDACTED]@ntsb.gov>
Subject: RE: MWM fatal airplane crash/need anyAWOS data

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That is correct, each voice cycle is updated with whatever the AWOS sensors are reporting at the moment.

From: Richards Michael <[REDACTED]@ntsb.gov>
Sent: Friday, December 11, 2020 12:37 PM
To: Josh Bohm - DBT <[REDACTED]@DBTTranServ.com>
Subject: RE: MWM fatal airplane crash/need anyAWOS data

Thanks Josh.

To be clear though, the NADIN dissemination failure would not affect the ability of the AWOS to broadcast updated obs every minute by VHF to anyone listening locally, correct?

From: Josh Bohm - DBT <[REDACTED]@DBTTranServ.com>
Sent: Friday, December 11, 2020 12:34 PM
To: Richards Michael <[REDACTED]@ntsb.gov>
Subject: RE: MWM fatal airplane crash/need anyAWOS data

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Hello Mike,

I'll try to answer the questions the best I can.

- What make/model is the MWM AWOS?

The AWOS is a Vaisala VB

- Why do some AWOS systems record one-minute observations and other don't? Is it simply a limit to the particular model of AWOS? Or is this a setting that is chosen by a human somewhere? Or both? Any ideas on how we might know when to expect these data to be available from a particular AWOS in the future?

The AWOS archives capabilities vary from model to model, the Vaisala VB does not have the memory to store more than about 30 days of data at 20 minute intervals. More modern AWOS's can, and some do, store more frequent observations but the FAA Advisory Circular only requires that the archive store data at twenty minute intervals.

- Why were there no METARs publicly available from the MWM AWOS between 0903Z-1241Z, but you were able to retrieve some observations from that time period? I'm trying to identify a reason for the gap in the publicly available longline data (though I assume the obs were still broadcast in realtime via VHF locally, correct?)

If the NADIN providers equipment that collects the AWOS data and then sends out to WMSCR fails for any reason such as a power outage, internet interruptions, etc., then there could be a gap or missing METAR which is probably what happened at MWM between the times you inquired about. The AWOS still stores data in the archives so if there NADIN

is interrupted the data can still be pulled directly from the AWOS which generally stores about 30 days of the weather data. Depending on how the NADIN provider collects and stores METARS is dependent on how much data can be collected and at what frequency.

I hope this helps but let me know if you have any further questions I understand that the whole NADIN network data dissemination can be difficult follow. Please have a nice weekend and a Merry Christmas.

Kind Regards,



Josh Bohm

Field Service Engineer

[REDACTED]
[REDACTED]
[REDACTED] [@DBTTranServ.com](mailto:[REDACTED]@DBTTranServ.com) | www.DBTTranServ.com



From: Richards Michael [REDACTED] [@ntsb.gov](mailto:[REDACTED]@ntsb.gov)>

Sent: Tuesday, December 08, 2020 3:06 PM

To: Josh Bohm - DBT [REDACTED] [@DBTTranServ.com](mailto:[REDACTED]@DBTTranServ.com)

Cc: Christenson, Kris (DOT) <[REDACTED]@state.mn.us>; Kim or Brian Underwood

<[REDACTED]@hotmail.com>; Folkerts Michael <[REDACTED]@ntsb.gov>; Richards Michael

<[REDACTED]@ntsb.gov>

Subject: RE: MWM fatal airplane crash/need anyAWOS data

Hi Josh, thanks for the chat today and being willing to provide answers to the questions in the previous email. In addition, as we discussed, would you also be able to answer the following question...

- Why were there no METARs publicly available from the MWM AWOS between 0903Z-1241Z, but you were able to retrieve some observations from that time period? I'm trying to identify a reason for the gap in the publicly available longline data (though I assume the obs were still broadcast in realtime via VHF locally, correct?)

Again thanks for all of your help here.

Mike

Mike Richards

Aviation Safety Investigator - Senior Meteorologist

Operational Factors Division

National Transportation Safety Board

[REDACTED] [@ntsb.gov](mailto:[REDACTED]@ntsb.gov)

[REDACTED]

From: Richards Michael <[REDACTED]@ntsb.gov>
Sent: Tuesday, December 8, 2020 10:10 AM
To: Josh Bohm - DBT <[REDACTED]@DBTTranServ.com>
Cc: Christenson, Kris (DOT) <[REDACTED]@state.mn.us>; Kim or Brian Underwood <[REDACTED]@hotmail.com>; Folkerts Michael <[REDACTED]@ntsb.gov>; Richards Michael <[REDACTED]@ntsb.gov>
Subject: RE: MWM fatal airplane crash/need anyAWOS data

Thanks Josh. Really appreciate the information. Just two additional questions for you by email if that's ok (so its documented) when you have time.

- What make/model is the MWM AWOS?

- Why do some AWOS systems record one-minute observations and other don't? Is it simply a limit to the particular model of AWOS? Or is this a setting that is chosen by a human somewhere? Or both? Any ideas on how we might know when to expect these data to be available from a particular AWOS in the future?

Thanks again for your assistance here.

- Mike

From: Josh Bohm - DBT <[REDACTED]@DBTTranServ.com>
Sent: Monday, December 7, 2020 2:48 PM
To: Richards Michael <[REDACTED]@ntsb.gov>
Cc: Christenson, Kris (DOT) <[REDACTED]@state.mn.us>; Kim or Brian Underwood <[REDACTED]@hotmail.com>; Folkerts Michael <[REDACTED]@ntsb.gov>
Subject: Re: MWM fatal airplane crash/need anyAWOS data

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Mike,

Hello I am the AWOS technician for the MWM airport. Kris was correct about available weather data, the AWOS collects and keeps about 30 days of weather data in 20 minutes increments and retrieving 1 minute data is not possible directly from the AWOS processor. The AWOS data is passed on to WMSCR but my understanding is that data is only 20 minute increments as well.

I hope this helps and feel free to contact me if you have any further questions. I spend most of my time driving so the best way to reach me is to call my cell but I do try periodically check my email throughout the day.

Kind Regards,

Josh Bohm
Field Service Engineer
DBT Transportation Services

On Dec 7, 2020, at 1:17 PM, Richards Michael <[REDACTED]@ntsb.gov> wrote:

Thank you for your help here Kris. Often times the technician is able to retrieve one minute data from the machine remotely or in person. To be clear, does this AWOS not record one minute observations locally? Also do you know if the machine disseminates them to WMSCR via ADAS?

Thx again for your assistance.

Mike

From: Christenson, Kris (DOT) <[REDACTED]@state.mn.us>
Sent: Monday, December 7, 2020 11:55:08 AM
To: Kim or Brian Underwood <[REDACTED]@hotmail.com>
Cc: Richards Michael <[REDACTED]@ntsb.gov>; Folkerts Michael <[REDACTED]@ntsb.gov>; undefined <[REDACTED]@dbttranserv.com>
Subject: Re: MWM fatal airplane crash/need anyAWOS data

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Attached are the records from the MWM AWOS with the time interval you requested.

This Vaisala VB system only archives METAR data every 20 min.

Kris Christenson
Navigation Systems Radio Engineer
Minnesota Department of Transportation Aeronautics and Aviation



From: Christenson, Kris (DOT) <[REDACTED]@state.mn.us>
Sent: Monday, December 7, 2020 10:51 AM
To: Kim or Brian Underwood <[REDACTED]@hotmail.com>
Cc: Richards Michael <[REDACTED]@ntsb.gov>; Folkerts Michael <[REDACTED]@ntsb.gov>;

undefined [REDACTED]@dbttranserv.com>

Subject: Re: MWM fatal airplane crash/need anyAWOS data

Hello everyone,

I have contacted the Technician of Record Josh Bohm [REDACTED]@dbttranserv.com [REDACTED]

We are in the processes of retrieving the information requested.

Kris Christenson

Navigation Systems Radio Engineer

Minnesota Department of Transportation Aeronautics and Aviation

[REDACTED]

From: Kim or Brian Underwood <[REDACTED]@hotmail.com>

Sent: Monday, December 7, 2020 8:58 AM

To: Christenson, Kris (DOT) <[REDACTED]@state.mn.us>

Cc: Richards Michael <[REDACTED]@ntsb.gov>; Folkerts Michael <[REDACTED]@ntsb.gov>

Subject: MWM fatal airplane crash/need anyAWOS data

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Do not select links or open attachments unless verified. Report all suspicious emails to Minnesota IT Services Security Operations Center.

Hello Kris

Sadly, we had a fatal airplane crash yesterday. Please see the email from the gentlemen below.

Would you please forward the information they are requesting to their email?

Please let me know if there is anything I need to do or be of assistance.

Brian Underwood

Windom Municipal Airport

[REDACTED]

From: Richards Michael <[REDACTED]@ntsb.gov>

Sent: Sunday, December 6, 2020 6:49 PM

To: [REDACTED]@hotmail.com <[REDACTED]@hotmail.com>

Cc: Folkerts Michael <[REDACTED]@ntsb.gov>; Richards Michael <[REDACTED]@ntsb.gov>

Subject: MWM AWOS one-minute data

Hello Mr. Underwood,

In support of our investigation, could you please assist us with connecting with the technician responsible for maintaining the AWOS at MWM. We need to request from him the following:

one minute AWOS observations for the time period of: 0900 UTC - 1400 UTC on 6 December 2020.

Thanks for your help here,
Mike

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