

## Product Requirement Specification MBScope, Alarm Snapshot Data (ASD) File Format

**994-0118-002**  
**Rev A**

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### REVISION HISTORY

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## 2 ALARM SNAPSHOT DATA FILE FORMAT

### 2.1 ASD File

The alarm data shall be stored to a text file with a ASD extension. This file is divided into header and data sections.

#### 2.1.1 Header Section

The header section is in the form of an INI file (see SKF document 994-0118-003) with the following sections, parameters and values. The data interpretation format and an example of a typical value, is also provided for each parameter.

Section	Parameter	Description	Format	Valid Options	Example	Controller Types
[File Info]	Version	Trending file version	float	2.0, 2.1, 2.3	2.3	All
	Type	Always set to "Alarm Snapshot"	string	Alarm Snapshot	Alarm Snapshot	All
[Alarm Info]	Latched	A bitfield of latched alarms	uint		578359	G3/G4 Only
	Time (RT)	Time at which the shutdown request occurred. Expressed in real time	time		2008/10/15 17:16:35.001	All
	Time (RT-UTC)	Time at which the shutdown request occurred. Expressed in UTC	time		2008/10/15 21:16:35.001	All
	Time	Time at which the shutdown request occurred in ticks (Represents controller hours for MBG4 and real-time for EA300)	long		785971140000	All
	Controller Type	A string describing the type of controller from which the trend file was generated	string	<linked to an MBScope enumerated type>	EA300	All
	Number of Frames	Number of frames sampled [K]	uint		1000	All
	Number of Channels	Number of channels sampled [n]	uint		16	All
	Number of Events	Number of events sampled [e]	uint		234	EA300 Only
[Channels]	Ch0	Associates each channel in the data section with an MBScope enumerated channel type	int	<linked to an MBScope enumerated channel>	0	All
	Ch1				5	
	...				...	
	Ch[n-1]				23	
[Alarm Events]	Event0	Logged event, stored in the Event Log format, except the timestamp is stored as ticks.	Event Log			EA300 Only
	Event1					
	...					
	Event[e-1]					

2.1.2 Data Section

The data section shall be in the form of a tab-delimited table. The start of the data section is denoted by the section tag [data] and is followed on the next line by the column headers. Each proceeding line contains data related to the column headers defined in the table below. **If there is no data for a particular channel in a given frame, the cell will be left empty.**

Column Header	Description	Data Format
Time	Frame time in ticks (real-time)	long
Scope	Reserved	int
{NameOfCh0}	Channel 1 data in engineering units (2 decimal digits of precision)	float
{NameOfCh1}	Channel 2 data in engineering units (2 decimal digits of precision)	float
{NameOfCh2}	Channel 3 data in engineering units (2 decimal digits of precision)	float
...	...	...
{NameOfCh[n-1]}	Channel [n-1] data in engineering units (2 decimal digits of precision)	float

2.1.3 Example

The following is an example of an ASD file, captured from an EA300 controller.

```
[File Info]
Type=Alarm Snapshot
Version=2.3
[Alarm Info]
Latched=0
Time (RT)=2010/10/06 17:42:10.0
Time (RT-UTC)=2010/10/06 23:42:10.0
Time=634219837s304130000
Controller Type=EA300
Number of Frames=70000
Number of Channels=82
Number of Events=4
[Channels]
Ch0=0
Ch1=1
Ch2=2
Ch3=3
Ch4=71
Ch5=72
Ch6=4
[Alarm Events]
Event0=634219837302570000, 14, H warning alarm active, 753, Speed Sensor failure B
Event1=634219837304110000, 16, HH action alarm active, 737, Speed Sensor failure A
Event2=634219837304120000, 2, Inactive, 30, AMB ready to levitate (waiting mode)
Event3=634219837304120000, 2, Inactive, 32, AMB levitated, ready to rotate

[data]
Time          Scope  Position_V13  Position_W13  Position_V24  Position_W24  Position_V57  Position_W57  Position_Z12
634496306524931202  0    0.59         -0.2         -0.58         0.21         0.3          -0.4         0.02
634496306524934101  0    0.61         -0.22        -0.6          0.23         0.31         -0.44        0.02
634496306524937000  0    0.59         -0.22        -0.58         0.23         0.3          -0.44        0.02
634496306524939899  0    0.57         -0.22        -0.56         0.23         0.29         -0.44        0.02
634496306524942798  0    0.56         -0.23        -0.55         0.24         0.28         -0.47        0.02
634496306524945697  0    0.56         -0.25        -0.55         0.26         0.28         -0.51        0.02
634496306524948596  0    0.56         -0.25        -0.55         0.26         0.28         -0.51        0.02
634496306524951495  0    0.54         -0.31        -0.53         0.32         0.27         -0.62        0.02
...
```

2.2 Event Log Format

Events are stored in the form of a tab-delimited table. Each line contains data related to the column headers defined in the table below.

Column Header	Description	Data Format
Time (UTC)	Time stamp of the event (in UTC)	time
Time (Local)	Time stamp of the event (in Local Time)	time
Tag_ID	A unique identifier for the event	uint
Tag_Description	The description of the event	string
Event_ID	A unique identifier for the event state	uint
Event_Description	The description of the event state	string

The **Tag\_ID** and **Event\_ID** details are particular to each controller.