

miniSEED and StationXML: Request for Comment



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SEED

- **Standard for the Exchange of Earthquake Data**
- **SEED v2.4:** August 2012 (v2 - February 25, 1988)
- miniSEED: metadata

blockette number and name

chapter

Chapter 6 • Station Control Headers

[51] Station Comment Blockette

blockette use

Name:	Station Comment Blockette
Blockette Type:	051
Control Header:	Station
Field Station Volume:	Optional
Station Oriented Network Volume:	Optional
Event Oriented Network Volume:	Optional

field type

field length

field format

Sample:

05100351992,001-1992,002-0740000000

blockette fields

Note	Field name	Type	Length	Mask or Flags
1	Blockette type — 051	D	3	"###"
2	Length of blockette	D	4	"####"
3	Beginning effective time	V	1-22	TIME
4	End effective time	V	1-22	TIME
5	Comment code key	D	4	"####"
6	Comment level	D	6	"#####"

Notes for fields:

- 1 Standard blockette type identification number.
- 2 Length of the entire blockette, including the 7 bytes in fields 1 and 2.
- 3 The time when the comment comes into effect.
- 4 The time when the comment is no longer in effect.
- 5 The comment code key (field 3) of the associated Comment Description Dictionary Blockette [31] in the abbreviation dictionary section.
- 6 The numeric value associated with the level unit in the above Comment Description Dictionary Blockette [31] (if any).

blockette cross reference

notes for blockette fields

NOTE: Include any data outages and time corrections in the station comments.



Ideas to update miniSEED

- **Network codes:** Up to four (4), 2 alpha followed by two digits for start year of temporary network
- **Timing Quality:** no current way to put in unknown/cannot trust; push for a way to document
- Move blockette 1000 (data only (miniSEED)) to header
- Removal of unused blockettes
- **Compression:** Adopt one schema for compression of integers, floats, etc.
- **Fixed Point Data:** Pick a standard
- **Location ID:** Make it required, even if it's '--'
- **Minimal format considerations:** allow for shorter record lengths (important for EEW)



StationXML

- **XML:** Extensible Markup Language
- **Purpose:** XML representation of most important and commonly used structures of SEED 2.4 metadata
- **Goal:** mapping between SEED 2.4 dataless and StationXML with:
 - Little transformation or loss of information
 - Simplifying metadata representation when possible
 - Content and clarification added where lacking in SEED
 - Base schema to represent similar data types



Transition to StationXML

- IRIS DS: (**Goal**) Majority of metadata to StationXML by 2018
- **Translator tool:** transition away from dataless SEED to StationXML

(Available on IRIS

SeisCode)

- Need to think about how to implement through Antelope (to sway users and instrument vendors to StationXML)



Potential Changes

miniSEED:

- Collins: increase timing precision, ie. 'tick' size (currently 0.1 ms)
- Collins: Clock corrections lead to non-integer sample rates. Currently, non-integer sample rates are accommodated by adding Blockette 100. Would be nice to avoid this.

StationXML:

- Collins: think about how the schema could incorporate tags unique to OBS work

Request for Comment will be the process by which we gather information to propose to DS