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# Rockhound v3.16, v3.17

## Antelope/Kinemetrics User's Group

5/28-5/30, 2019


**Dennis Pumphrey**
**Manager, Software Engineering**
**Kinemetrics, Inc.**

# Rockhound v3.16

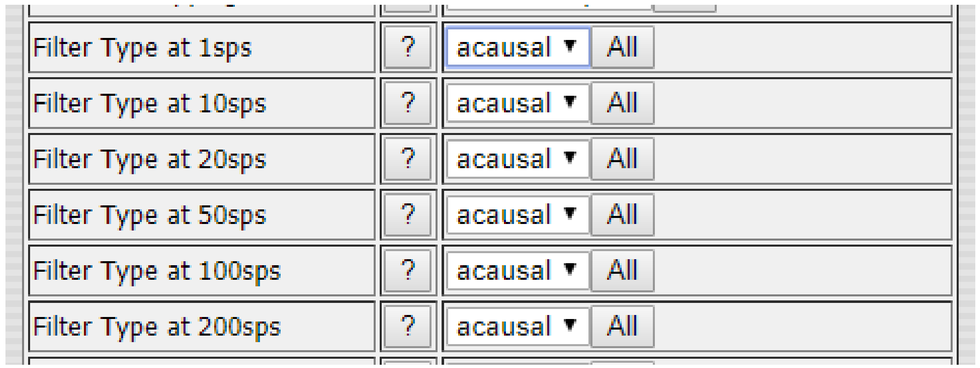
v3.16 released October 2018

- GUI & usability improvements
- MBB2 support
- Ring Buffer reliability changes
- Various changes in support of OASIS & Q330 family
- General stability changes and fixes

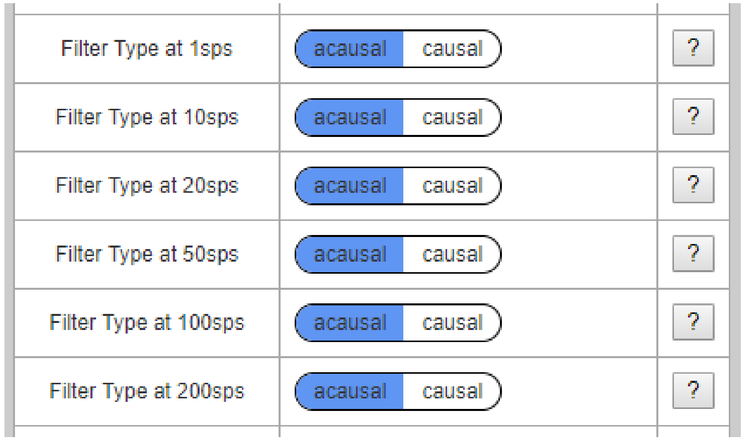
# GUI and Usability[1]

Segmented controls and toggles to reduce the needed number of clicks

## v3.15



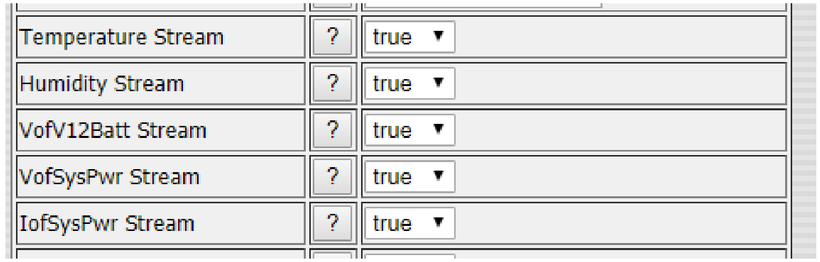

## v3.16



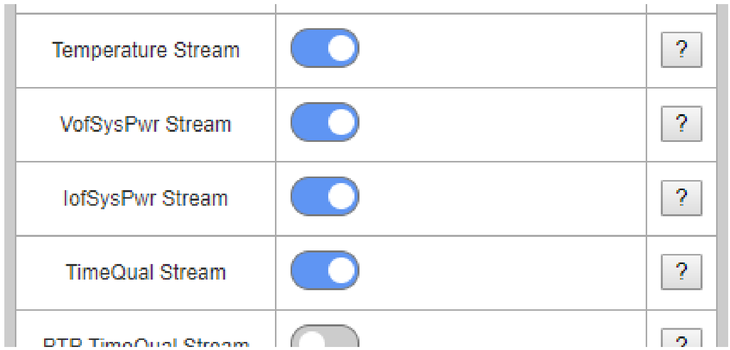
# GUI and Usability[2]

Segmented controls and toggles to reduce the needed number of clicks

## v3.15



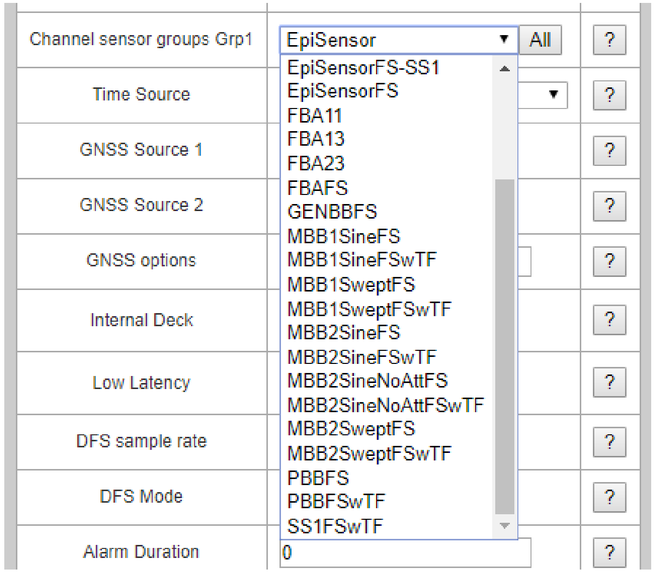

## v3.16



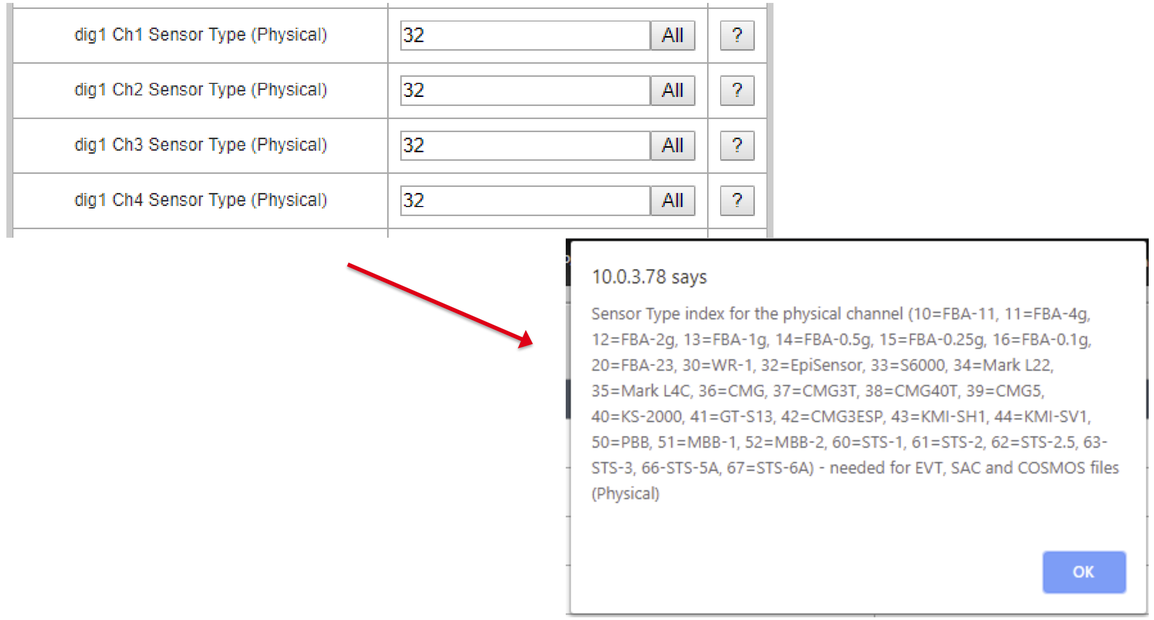
# MBB-2 & Sensors

Specific support for MBB-1 & 2

## Sensor Control




## Sensor Types



# Ring Buffer

Fixes specific to the Ring Buffer

- Remove sync from RBServer arrival that could help avoid FrontEnd watchdogs related to an orb2orb restart talking to a digitizer with a large ring buffer.

- Corrected problems with potential loss of RB data stream sync if ORB packet messages were sent on an open connection that was currently performing a reap. Traffic from the packet response could momentarily corrupt the traffic from the reap – although the original data in the ring buffer was itself not affected.

- Corrected problems with the RingBuffer server that could very rarely cause it to get "stuck" at the buffer wraparound point. Also fixed problems with long reject strings being too large for the fixed size return packet.

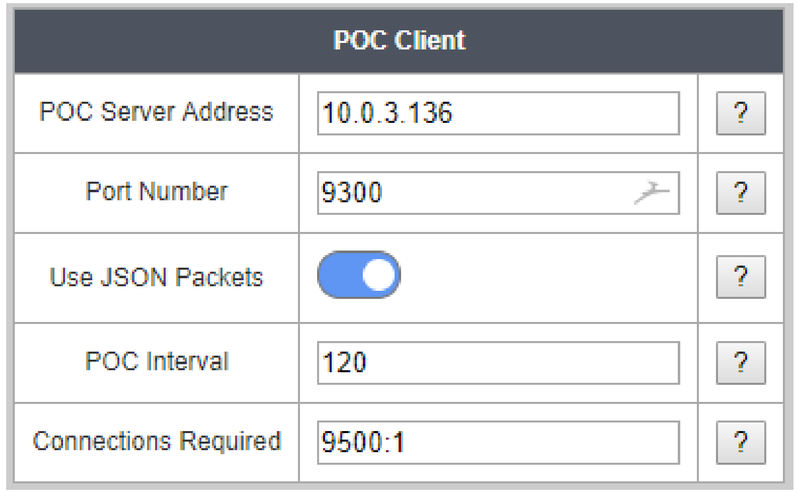
# Rockhound v3.17

Slated for release late 2019

- New PoC mechanism
- Layout Differences page
- UpdateMonitor supports ssh
- Bit weight in g
- Station XML for configuration upload/download
- Potential additions:
  - Multiplexed ORB packets

# PoC Mechanism[1]

New PoC mechanism based on JSON packets




**POC Client module**. Runs in a digitizer to broadcast unit's unique ID and outside IP address to a data center

**POC Server Address**: Space separated list of POC server addresses to receive broadcasts. Blank if unused. The POC Client will periodically connect to the POC Server(s) at these addresses to communicate this unit's information and outside IP address.
**Port Number**: TCP Port for POC server connection
**Use JSON Packets**: Use JSON packets for communication with the POC host, else uses legacy KMI POC format
**POC Interval**: Interval in seconds for POC broadcasts. See Connections Required.
**Connections Required**: Stop sending POC messages when connected. This is a space separated list of required connections. Each entry is a port number and a number of connections. Example 9500:2, meaning 2 connections on port 9500. If connections not met or parameter is blank, then POC messages will continue to be sent at the specified interval

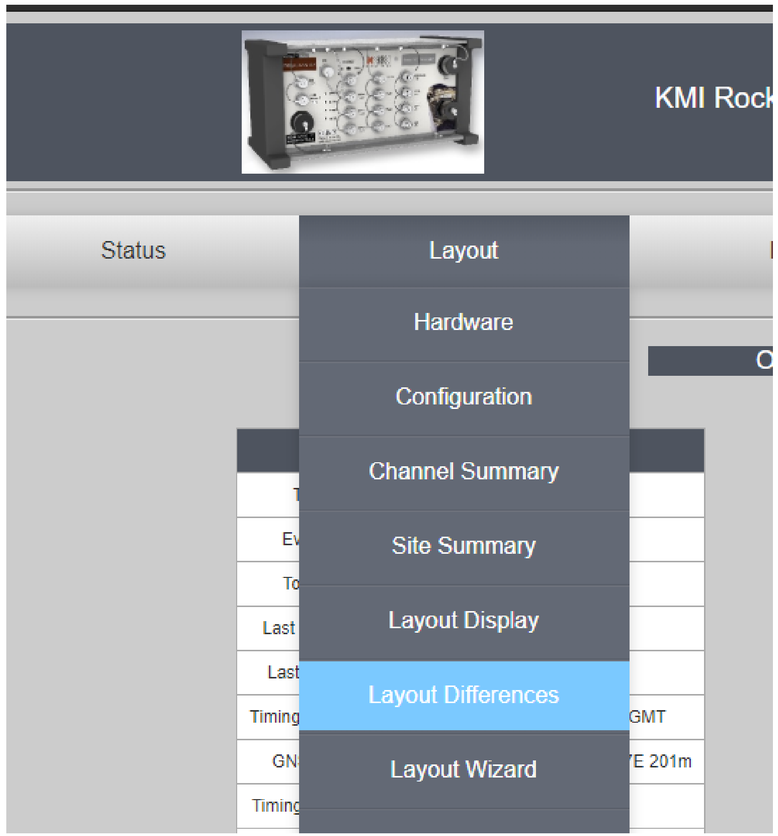
# PoC Mechanism [2]

Content of the JSON packets


{
"CREATED_ON":"2019-04-23T15:59:10Z",
"UNIT_TYPE":"ETNA2",
"ESN":"E52988XXXXXXXXX",
"TAG":"3",
"STATION":"ETNX",
"NETWORK":"KM",
"SYSTEM_STARTED":"2019-04-23T15:50:03Z",
"TIMING_TYPE":"GNSS",
"TIMING_QUALITY":"100.0%",
"LATITUDE":"34.150109N",
"LONGITUDE":"-118.101093E",
"ELEVATION":"248M",
"PORT_CONNECTIONS": [
{ "PORT":0, "EXPECTED":0 }
]
"POCS_NOTIFIED": [
{ "HOST":"10.0.3.136" }
]
"RH_VERSION":"V3.16.1S PRE-RELEASE",
"HASH":"6E6982921171F2ADAD7239EE3971AD6B"
}

# Layout Differences

Overview of configuration differences from factory setup




Layout | Files | Triggering

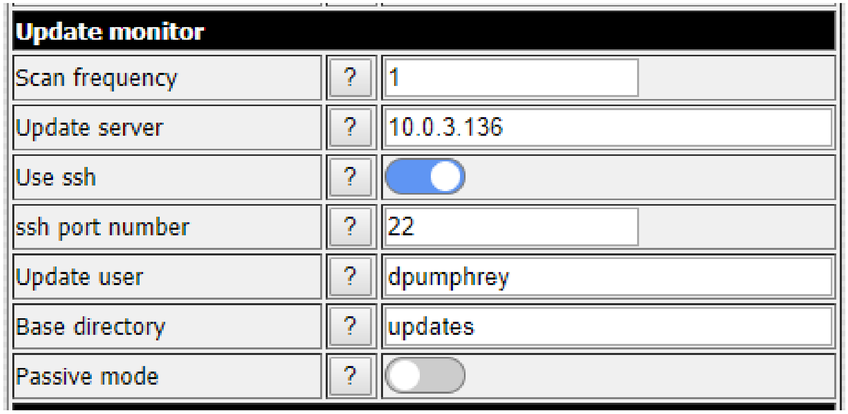
**Layout Differences**

Differences From Factory Configuration

| Modules Removed | | | |
|---|---|---|---|
| Status Server | | | ? |
| **Modules Added** | | | |
| Aged Auto File Delete | | | ? |
| Rock Monitor Client | | | ? |
| Summary File Generator | | | ? |
| **Module Parameters** | | | |
| **Parameter** | **Factory** | **Active** | **?** |
| **Waveform viewer** | | | |
| Real-time FFT and PSD | false | true | ? |
| **dig1, Rock2 Data Interface** | | | |
| Low Latency | false | true | ? |
| VofV12Batt Stream | true | false | ? |
| Mass Position Stream | false | true | ? |
| Mass Position Stream | false | true | ? |
| Mass Position Stream | false | true | ? |
| Max SPS (Advanced) | 200 | 5000 | ? |

# UpdateMonitor ssh

Allow UpdateMonitor access via ssh




**Monitors a system input directory watching for updated firmware and/or configuration information to be loaded to the unit.**

**Scan frequency**: Frequency to check for remote configuration or firmware updates, in hours. If remote updates are enabled, parameter and firmware updates will also be checked for remote updates at this interval. Set the interval to zero to disable remote updates.
**Update server**: Remote update server. e.g.: myserver.com or 10.0.0.1. Set this parameter blank to disable remote updates, or set it to the server that will contain firmware and configuration updates.
**Use ssh**: Use ssh rather than FTP when true. If false, use FTP.
ssh port number: Port number for ssh connections. Typically port 22.
**Update user**: Remote update user for login to the update server, e.g.: fred
**Update password**: Remote update password for login to the update server, e.g.: mypassword
**Base directory**: Base directory for where to get files on the update server, e.g.: pub/incoming
**Passive mode**: Passive FTP mode, to be used when FTP server does not support active mode

# Bit Weight in g

Reports the bit weight of each channel on the channel summary page

| Channels and Sensors | | | | | | | |
|---|---|---|---|---|---|---|---|
| VCh | Id | SPS | Sensor Type | Full Scale | Sensitivity | G Range | Bit Weight |
| 1 | C1 | 100 | 32: EpiSensor [a] | 20.0V | 10.0V/g | 2g | 0.23841858ug |
| 2 | C2 | 100 | 32: EpiSensor [a] | 20.0V | 10.0V/g | 2g | 0.23841858ug |
| 3 | C3 | 100 | 32: EpiSensor [a] | 20.0V | 10.0V/g | 2g | 0.23841858ug |
| 4 | C4 | 100 | 32: EpiSensor [a] | 20.0V | 10.0V/g | 2g | 0.23841858ug |

# Station XML

Station configuration accepted as XML or JAR files

**Administrative Details**

Click Here to download parameters (as JAR)
Click Here to download parameters (as XML)

- System's configuration presented in both forms
- Edited XML can be uploaded same as "config.jar" files
- XML can be served by remote UpdateMonitor server

```
<?xml version="1.0" encoding="iso-8859-1" ?>

<!-- Rockhound configuration -->
<!-- File /usr/rock/SMARTSDist/config/config.xml -->
<!-- Written 2019/04/30 17:25:01 GMT -->

<identification>
  <ESN>1C7FBA7E010000A6</ESN>
  <Tag>4</Tag>
  <UnitType>Basalt</UnitType>
  <Version>3.16.1s Pre-release</Version>
</identification>
<Configuration>
  <smarts>
    <DataCushion>10000</DataCushion>
    <DataDir>\data</DataDir>
    <EasyMode>true</EasyMode>
    <MaxLogBytes>102400</MaxLogBytes>
    <PostEventSec>10</PostEventSec>
    <PreEventSec>5</PreEventSec>
    <PublishDebug>0</PublishDebug>
    <TempDataDir>NONE</TempDataDir>
  </smarts>
  <layout>
    <AltusEvtArchiver>
      <type>AltusEvtArchiver</type>
      <subscribesTo>EventRecorder_Output</subscribesTo>
    </AltusEvtArchiver>
    <AutoFileDelete>
      <type>AutoFileDelete</type>
      <subscribesTo>NOTHING</subscribesTo>
    </AutoFileDelete>
    <CommandConsole>
      <type>CommandConsole</type>
      <subscribesTo>NOTHING</subscribesTo>
    </CommandConsole>
    <DataIntegrator>
      <type>DataIntegrator</type>
      <subscribesTo>_dig1_1_RockFrontEnd_Output</subscribesTo>
      <subscribesTo>EventRecorder_Request</subscribesTo>
    </DataIntegrator>
    <EMailMsgSender>
      <type>EMailMsgSender</type>
      <subscribesTo>NOTHING</subscribesTo>
```

# Potential Changes

Possibly included in the 3.17 release

- Multiplexed ORB packets
- Other useful improvements?

# Resources

- support@kmi.com
- wiki.kmi.com
  - visitor, worldcup
- unitdata.kmi.com
  - Instrument and sensor data sheets

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**Kinemetrics Datasheet Request Form**

Product Type: Etna2

Serial Number 1:

Serial Number 2:

Serial Number 3:

E-mail Address:

Submit

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KINEMETRICS


**Address**
Kinemetrics
222 Vista Avenue
Pasadena, CA 91107

**Phone & Fax**
Direct Line: +1-626-795-2220
Fax: +1-626-795-0868
sales@kmi.com

**Social Media**
facebook.com/osskinemetrics
twitter.com/osskinemetrics
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