NAOMI Sequencer API
Version 0.1
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wht-naomi-50

1. **Scope**
    This is a preliminary document that defines the parts of the API to the Naomi sequencer that relate to the WFS and SG libraries.
    This will be incorporated into the full sequencer API document.

2. WFSEPM
This library provides EPM aware facilities related to the operation of the Naomi wave-front sensor.

2.1 Offsets

2.1.1 Get
Get the WFS offsets from the C40s to the EPM:
Call: WFSEPM.WFSoffsets.Get()
(Not used as yet)

2.1.2 Set
Set the WFS offsets to the values stored in the EPM:
Call: WFSEPM.WFSoffsets.Set()
(Not used yet)

2.1.3 SetToCurrentCentroids
Set the offsets from the current centroids.
Call: WFSEPM.WFSoffsets.SetToCurrentCentroids(<numFrames>, <camera>)
Where:
    'numFrames' is the number of frames of centroids to use to calculate the offsets
    'camera' should be set to 'master' or 'slave'. Defaults to 'master'

2.1.4 Zero
Set the offsets in the C40s to zero.
Call: WFSEPM.WFSoffsets.Zero()

2.1.5 Save
Save the current offsets to file.
Call: WFSEPM.WFSoffsets.Save(<camera>)
Where:
    'camera' should be set to 'master' or 'slave'.
The filename is set in WFSlib.

2.1.6 Load
Load WFS offsets from file and set in C40s.
Call: WFSEPM.WFSoffsets.Load(<filename>)
Where:

'filename' is the full path name of the file to be loaded.

2.2 Pixel Decimation

2.2.1 Get
Get the pixel decimation rate from the realtime system to the EPM.
Call: WFSEPM.PixelDecimate.Get()

2.2.2 Set
Set the pixel decimation rate in the realtime system
Call: WFSEPM.PixelDecimate.Set()

2.2 Centroid Decimation

2.2.1 Get
Get the centroid decimation rate from the realtime system to the EPM.
Call: WFSEPM.CentroidDecimate.Get()

2.2.2 Set
Set the centroid decimation rate in the realtime system
Call: WFSEPM.CentroidDecimate.Set()

2.3 Framing State

2.3.1 Set
Set the framing state of the WFS.
Call: WFSEPM.FramingState.Set(<state>)
Where:
  'state' should be set to 'Start' or 'Stop'

2.4 Loop State

2.4.1 Get
Get the state of the WFS loop to the EPM.
Call: WFSEPM.LoopState.Get()

2.4.2 Set
Set the WFS loop state
Call: WFSEPM.LoopState.Set(<state>)
Where:
  'state' should be set to 'Closed' or 'Open'

2.5 Loop Gain

2.5.1 Get
Get the loop gain to the EPM
Call: WFSEPM.GlobalLoopGain.Get()

2.5.2 Set
Set the loop gain
Call: WFSEPM.GlobalLoopGain.Set(<gain>)

2.6 Tip/Tilt Loop Gain

2.6.1 Get
Get the tip/tilt gains to the EPM
Call: WFSEPM.TTloopGain.Get()

2.6.2 Set
Set the tip/tilt gains
Call: WFSEPM.TTloopGain.Set([<xgain>, <ygain>]
Where:
      [<xgain>, <ygain>] is a list

2.7 Break Transaction

2.7.1 Set
This will break a WFS transaction
Call: WFSEPM.BreakTransaction.Set()

2.8 Segment Tilt Limit

2.8.1 Get
Get the current segment tilt limit to the EPM
Call: WFSEPM.SegTiltLimit.Get()

2.8.2 Set
Set the segment tilt limit
Call: WFSEPM.SegTiltLimit.Set(<limit>)

3 SGEPM
This library provides EPM aware facilities related to the strain guages.

3.1 Framing State

3.3.1 Set
Set the framing state of the SG.
Call: SGEPM.FramingState.Set(<state>)
Where:
      'state' should be set to 'Start' or 'Stop'

3.2 Loop State

3.2.1 Get
Get the state of the SG loop to the EPM.
Call: SGEPM.LoopState.Get()

3.2.2 Set
Set the SG loop state
Call: SGEPM.LoopState.Set(<state>)

Where:
        'state' should be set to 'Closed' or 'Open'

3.3 Break Transaction

3.3.1 Set
This will break a SG transaction
Call: SGEPM.BreakTransaction.Set()