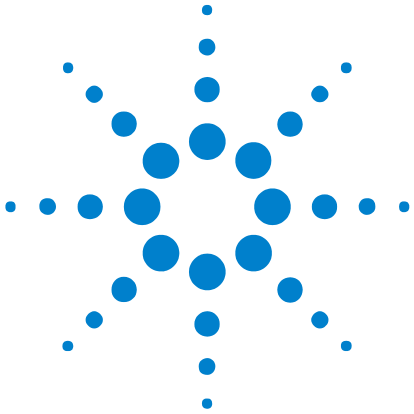

XML Format

Online Help

Agilent Technologies

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XML Format—At a Glance

Logic analyzer configurations can be saved to XML-format files (or ALA-format files, see "ALA vs. XML, When to Use Each Format" (in the online help)). Trigger specifications can be saved to XML-format files. You can use XML-format strings with several of the COM automation remote programming commands.

XML format files and strings have markup like `<Tag>data</Tag>` where `Tag` is an element name, `<Tag>` is a start tag, and `</Tag>` is an end tag. You can edit XML files (see page 11) using any text editor.

XML elements can have data or child elements; child elements can have data or children, and so on. In logic analyzer configuration files, the `<Configuration>` element can have the child element `<Setup>`.

```
<File Content='Hardware Independent Logic Analyzer Configuration'
      Owner='' Project='' Desc='' Version='01.40.0000'
      Date='Oct 20, 2002 10:58:45'>
   <Configuration>
      <Setup>
         <Overview>
            <Clear/>
            ...
         </Overview>
         ...
      </Setup>
   </Configuration>
</File>
```

XML elements can have attributes, which are *name='value'* pairs within the element's start tag. In the example above, the `<File>` element's `Version` attribute has the value `'01.40.0000'` and its `Date` attribute has the value `'Oct 20, 2002 10:58:45'`. Values must be contained in quotes.

Empty tags are used for elements that don't have any data. Empty tags are distinguished from start tags by a closing `/>` instead of a closing `>`. For example, in logic analyzer configuration files, `<Clear/>` is an empty tag. Empty tags can have attributes just like ordinary start tags.

- XML Element Hierarchy (see page 13)
- XML Element Listing (see page 21)

Contents

1 Simple XML File Editing

A simple way to edit XML files is:

1 Open the file with the Internet Explorer web browser.

Internet Explorer displays XML files in an indented, colorized format. You can also contract and expand elements in the hierarchy by clicking the "-" or "+" symbols.

2 In the web browser's page display area, right-click and choose **View Source** from the popup menu.

This opens the file in the Notepad text editor.

3 After you have saved your changes and exited Notepad, click **Refresh** in the web browser (or press the F5 key, or choose the **View>Refresh** command) to view your changes.

1 Simple XML File Editing

2 XML Element Hierarchy

- Configuration Files (see page 13)
- Trigger Specification Files (see page 20)
- XMLCommand Setup Strings (Not in Configuration Files) (see page 20)

Configuration Files

- <File> (see page 68)
  - <Configuration> (see page 53)
    - <Clear/> (see page 47)
    - <Setup> (see page 118)
      - <Overview> (see page 96)
        - <Setup> (see page 119)
          - <Module> (see page 87)
          - <Tool> (see page 142)
          - <Window> (see page 151)
          - <Probe> (see page 108)
        - <Module> (see page 85)
          - <Tool> (see page 141)
            - <Window> (see page 150)
          - <Window> (see page 150)
        - <Probe> (see page 107)
          - <Module> (see page 86)
      - <Module> (see page 84)
        - <PodAssignment> (see page 102)
          - <Clear/> (see page 47)
          - <Pod> (see page 99)
        - <SamplingSetup> (see page 112)
          - <Sampling> (see page 114)
          - <StateClockSpec> (see page 127)
            - <Clear/> (see page 47)

- <Master> (see page 83)
  - <ClockGroup> (see page 49)
    - <Edges> (see page 61)
      - <Edge> (see page 60)
    - <Qualifiers> (see page 110)
      - <Qualifier> (see page 109)
  - <Slave> (see page 125)
    - <ClockGroup> (see page 49)
      - <Edges> (see page 61)
        - <Edge> (see page 60)
      - <Qualifiers> (see page 110)
        - <Qualifier> (see page 109)
- <TimingZoom> (see page 138)

- <BusSignalSetup> (see page 40)
  - <PodSettings> (see page 103)
    - <Pod> (see page 100)
      - <SamplingPositions> (see page 124)
        - <Channel> (see page 45)
  - <BusSignals> (see page 44)
    - <Clear/> (see page 47)
    - <BusSignal> (see page 34)
      - <Channels> (see page 46)
      - <Symbols> (see page 132)
        - <Clear/> (see page 47)
        - <Symbol> (see page 131)
    - <Folder> (see page 76)
  - <NetlistImport> (see page 88)

- <Trigger> (see page 145)
  - <StoreQual> (see page 129)
    - <Event> (see page 63)
      - <BusSignal> (see page 35)
      - <Anything/> (see page 29)
      - <TimerEvent> (see page 137)
      - <Nothing/> (see page 89)
      - <CounterEvent> (see page 55)

- <CounterEvent> (see page 55)
- <FlagEvent> (see page 75)
- <Arm/> (see page 30)

- <Or> (see page 93)
  - <BusSignal> (see page 35)
  - <Anything/> (see page 29)
  - <TimerEvent> (see page 137)
  - <Nothing/> (see page 89)
  - <CounterEvent> (see page 55)
  - <FlagEvent> (see page 75)
  - <Arm/> (see page 30)

- <Occurrence> (see page 90)
- <PresentForGreater> (see page 105)
- <Action> (see page 24)
  - <CounterAction> (see page 54)
  - <Goto> (see page 77)
  - <ResetOccurrenceCount/> (see page 111)
  - <Store> (see page 130)
  - <TimerAction> (see page 136)
  - <TriggerAction> (see page 143)
    - <Email> (see page 62)
    - <Goto> (see page 77)
    - <StoreQual> (see page 129)
      - <Event> (see page 63)
        - <DefaultStore/> (see page 58)
        - <Anything/> (see page 29)
        - <Nothing/> (see page 89)
        - <BusSignal> (see page 35)
        - <And> (see page 26)
          - <Anything/> (see page 29)
          - <Nothing/> (see page 89)
          - <BusSignal> (see page 35)
        - <Or> (see page 93)
          - <Anything/> (see page 29)
          - <Nothing/> (see page 89)

- <BusSignal> (see page 35)
- <PatternNTimes> (see page 97)
  - <Event> (see page 63)
    - <BusSignal> (see page 35)
    - <Anything/> (see page 29)
    - <Nothing/> (see page 89)
    - <FlagEvent> (see page 75)
    - <Arm/> (see page 30)
    - <And> (see page 26)
      - <BusSignal> (see page 35)
      - <Anything/> (see page 29)
      - <Nothing/> (see page 89)
      - <FlagEvent> (see page 75)
      - <Arm/> (see page 30)
    - <Or> (see page 93)
      - <BusSignal> (see page 35)
      - <Anything/> (see page 29)
      - <Nothing/> (see page 89)
      - <FlagEvent> (see page 75)
      - <Arm/> (see page 30)
  - <Occurrence> (see page 91)
- <PatternReset> (see page 98)
  - <Event> (see page 63)
    - <BusSignal> (see page 35)
    - <Anything/> (see page 29)
    - <Nothing/> (see page 89)
    - <FlagEvent> (see page 75)
    - <Arm/> (see page 30)
    - <And> (see page 26)
      - <BusSignal> (see page 35)
      - <Anything/> (see page 29)
      - <Nothing/> (see page 89)
      - <FlagEvent> (see page 75)
      - <Arm/> (see page 30)
    - <Or> (see page 93)

- <Save> (see page 115)
- <Template> (see page 134)
- <VbaProject> (see page 146)

- <Probe> (see page 106)

- <VbaProjects> (see page 148)
  - <VbaProject> (see page 147)

Trigger Specification Files

- <File> (see page 68)
  - <Trigger> (see page 145) (same hierarchy as <Trigger> above)

XMLCommand Setup Strings (Not in Configuration Files)

- <Find> (see page 73)
  - <Event> (see page 65)
    - <And> (see page 28)
    - <Or> (see page 95)
      - <BusSignal> (see page 39)
- <Markers> (see page 82)
  - <Marker> (see page 81)

3 XML Element Listing

<Action> Element

The <Action> element specifies an action to take in the trigger sequence.

Children This element can have the following children: <CounterAction> (see page 54), <Goto> (see page 77), <ResetOccurrenceCount/> (see page 111), <Store> (see page 130), <TimerAction> (see page 136), <TriggerAction> (see page 143).

Parents This element can have the following parents: <If> (see page 78).

Example

```
<Action>
   <TriggerAction Operator='Fill Memory'>
      <StoreQual>
         <Event>
            <Anything/>
         </Event>
      </StoreQual>
   </TriggerAction>
</Action>
```

<Analog> Element

The <Analog> element contains the properties of an analog signal in the Waveform window.

Attributes

Name	Description
Connected	'F' (false) or 'T' (true)
Offset	'number voltage_unit (see page 153)'
PerDivision	'number voltage_unit (see page 153)'

Children This element can have the following children: <Axis> (see page 31), <Clipped> (see page 48).

Parents This element can have the following parents: <BusSignal> (see page 33).

Example

```
<BusSignal Module='My External Oscilloscope-1' Name='My Scope C1'
      Color='hFFFF00' Height='150'>
   <Analog Connected='T' PerDivision='969 mV' Offset='1.45 V'>
      <Axis Style='Axis' Color='h808080'/>
      <Clipped Show='T' Color='hFF8000'/>
   </Analog>
</BusSignal>
```

<And> Element

The <And> element is a conjunction combiner for events in the trigger specification.

Children This element can have the following children: <BusSignal> (see page 35), <Anything/> (see page 29), <TimerEvent> (see page 137), <Nothing/> (see page 89), <CounterEvent> (see page 55), <FlagEvent> (see page 75), <Arm/> (see page 30).

Parents This element can have the following parents: <Event> (see page 63).

Example

```
<Event>
   <And>
      <BusSignal Name='ADDR' SymbolName='update_system'
            Value='hFFF034D8' Operator='Equals' Base='Symbol'/>
      <TimerEvent ID='1' Operator='Greater Than or Equal To'
            Value='80 ns'/>
   </And>
</Event>
```

<And> Element (under FilterExpression Event)

The <And> element combines bus/signal descriptions in a filter event.

Children This element can have the following children: <BusSignal> (see page 37).

Parents This element can have the following parents: <Event> (see page 64).

Example

```
<Event>
   <And>
      <BusSignal Name='ADDR' Value='h000041B0' Operator='Equals'
            Base='Hex'/>
      <BusSignal Name='DATA' Value='h004123D7' Operator='Equals'
            Base='Hex'/>
   </And>
</Event>
```

<And> Element (under Find Event)

The <And> element combines bus/signal descriptions in a find event.

Children This element can have the following children: <BusSignal> (see page 39).

Parents This element can have the following parents: <Event> (see page 65).

Example

```
<Event>
   <And>
      <BusSignal Name='My Bus 1' Bit='All' Operator='Equals'
            Value='h80'/>
      <BusSignal Name='My Bus 128' Bit='All' Operator='Equals'
            Value='h288080'/>
   </And>
</Event>
```

<Anything/> Element

The <Anything/> element specifies any sample will cause the event.

Parents This element can have the following parents: <Event> (see page 63), <And> (see page 26), <Or> (see page 93).

Example

```
<Event>
   <Anything/>
</Event>
```

<Arm/> Element

The <Arm/> element specifies that an arming signal from another module or an external trigger source will cause the event.

Attributes

Name	Description
ArmFrom	'External trigger' or module name 'string'

Parents This element can have the following parents: <Event> (see page 63), <And> (see page 26), <Or> (see page 93).

Example

```
<Event>
   <Arm ArmFrom='External trigger'/>
</Event>
```

<Axis> Element

The <Axis> element describes the axis style and color of an analog signal in the Waveform window.

Attributes

Name	Description
Color	'hex_RGB_value'
Style	'Axis','Grid',or 'None'

Parents This element can have the following parents: <Analog> (see page 25).

Example

```
<Analog Connected='T' PerDivision='969 mV' Offset='1.45 V'>
   <Axis Style='Axis' Color='h808080'/>
   <Clipped Show='T' Color='hFF8000'/>
</Analog>
```

<BusSignal> Element (for Listing, Compare, and Source Windows)

The <BusSignal> element contains the properties of a bus/signal (or other) column in the Listing window.

Attributes

Name	Description
Alignment	'Left', 'Center', or 'Right'
Color	'hex_RGB_value'
DefaultBase	'Binary', 'Hex', 'Octal', 'Decimal', 'Signed Decimal', 'ASCII', 'Symbol', 'Voltage' (for analog signals from external oscilloscope module), 'Absolute' (for Time column), 'Relative Previous' (for Time column), or 'Relative Marker' (for Time column)
Module	'string' (name of module that bus/signal comes from)
Name	'string' (column name)
Width	'number_of_pixels'

Parents This element can have the following parents: <BusSignals> (see page 42).

Example

```
<Window Name='Listing-2'>
   <BusSignals>
      <Clear/>
      <BusSignal Module='My 1682D-1' Name='Sample Number'
            Color='hFFFFFF' Alignment='Right' Width='112'/>
      <BusSignal Module='My 1682D-1' Name='My Bus 1' DefaultBase='Hex'
            Color='hFFFFFF' Alignment='Right' Width='113'/>
      <BusSignal Module='My External Oscilloscope-1'
            Name='Sample Number C1' Color='hFFFFFF' Alignment='Right'
            Width='132'/>
      <BusSignal Module='My External Oscilloscope-1' Name='My Scope C1'
            DefaultBase='Voltage' Color='hFFFF00' Alignment='Right'
            Width='98'/>
      <BusSignal Module='My External Oscilloscope-1'
            Name='Sample Number C2' Color='hFFFFFF' Alignment='Right'
            Width='132'/>
      <BusSignal Module='My External Oscilloscope-1' Name='My Scope C2'
            DefaultBase='Voltage' Color='h00FF00' Alignment='Right'
            Width='98'/>
      <BusSignal Name='Time' DefaultBase='Absolute' Color='hFFFFFF'
            Alignment='Right' Width='152'/>
   </BusSignals>
</Window>
```

<BusSignal> Element (for Waveform Window)

The <BusSignal> element contains the properties of a bus/signal (or other) row in the Waveform window.

Attributes

Name	Description
Color	'hex_RGB_value'
DefaultBase	'Binary','Hex','Octal','Decimal', 'Signed Decimal','ASCII',or 'Symbol'
Height	'number_of_pixels'
Module	'string' (name of module that bus/signal comes from)
Name	'string' (row name)

Children This element can have the following children: <Analog> (see page 25).

Parents This element can have the following parents: <BusSignals> (see page 43).

Example

```
<Window Name='Waveform-2'>
   <Setup>
      <Sampling PerDivision='5 ns' Delay='0 s'/>
      <BusSignals>
         <Clear/>
         <BusSignal Module='My 1682D-1' Name='My Bus 1'
               DefaultBase='Hex' Color='hFFFFFF' Height='30'/>
         <BusSignal Module='My External Oscilloscope-1'
               Name='My Scope C1' Color='hFFFF00' Height='150'>
            <Analog Connected='T' PerDivision='969 mV' Offset='1.45 V'>
               <Axis Style='Axis' Color='h808080'/>
               <Clipped Show='T' Color='hFF8000'/>
            </Analog>
         </BusSignal>
         <BusSignal Module='My External Oscilloscope-1'
               Name='My Scope C2' Color='h00FF00' Height='150'>
            <Analog Connected='T' PerDivision='683 mV' Offset='2.494 V'>
               <Axis Style='Axis' Color='h808080'/>
               <Clipped Show='T' Color='hFF8000'/>
            </Analog>
         </BusSignal>
         <BusSignal Name='Time' Color='hFFFFFF' Height='30'/>
      </BusSignals>
   </Setup>
</Window>
```

<BusSignal> Element (under Module BusSignals)

The <BusSignal> element contains a bus/signal definition.

Attributes

Name	Description
Comment	'string'
DefaultBase	'Binary','Hex','Octal','Decimal', 'Signed Decimal','ASCII', or 'Symbol'
Name	'string'
Polarity	'Positive' or 'Negative'

Children This element can have the following children: <Channels> (see page 46), <Symbols> (see page 132).

Parents This element can have the following parents: <BusSignals> (see page 44), <Folder> (see page 76).

Example

```
<BusSignal Name='Motorola PowerQUICC (MPC8XX)\ADDR' Polarity='Positive'
      Comment='' DefaultBase='Hex'>
   <Channels>Pod 2[15:0], Pod 1[15:0]</Channels>
   <Symbols>
      <Clear/>
      <Symbol LowRange='hFFF034D8' Name='update_system'
            Operator='Range' Base='Hex' HighRange='hFFF03557'/>
   </Symbols>
</BusSignal>
```

<BusSignal> Element (under Event)

The <BusSignal> element defines a bus/signal value that will cause an event.

For more information on symbols and symbol files, see "Setting Up Symbols" (in the online help).

Attributes

Name	Description
Base	'Binary', 'Hex', 'Octal', 'Decimal', 'Signed Decimal', 'ASCII', or 'Symbol'. This attribute specifies the displayed number base.
Bit	'All' or comma-separated string of bit numbers.
Edge	'R' (rising), 'F' (falling), 'E' (either), 'G' (glitch), or 'X' (don't care). This attribute only applies when Operator='Edge'. The attribute value is multiple characters when used with a bus; for example, an 8-bit bus could have the value 'XXRFXXEG'.
HighRange	'value (see page 153)' (when Operator='In Range' or 'Not In Range')
LowRange	'value (see page 153)' (when Operator='In Range' or 'Not In Range')
Module	'string'
Name	'string'
Operator	For signals (= 1 bit): 'Rising Edge', 'Falling Edge', 'Either Edge', 'Glitch', 'High', 'Low', or 'Dont Care' For buses (> 1 bit): 'Equals', 'Not Equal To', 'Greater Than', 'Less Than', 'Greater Than or Equal To', 'Less Than or Equal To', 'In Range', 'Not In Range', or 'Edge'.
SymbolFile	'full_path_to_file' (when Base='Symbol' and the symbol is from a symbol file, can have a leading shell variable)
SymbolFileHighRange	'full_path_to_file' (when Base='Symbol' and the symbol is from a symbol file, this is the symbol file for the HighRange attribute, can have a leading shell variable)
SymbolName	'string' (when Base='Symbol')
SymbolNameHighRange	'string' (when Base='Symbol', this is the symbol name for the HighRange attribute)

SymbolOffset	'value (see page 153)' or 'End' (when Base='Symbol', this is the offset from the start of SymbolName, 'End' means the end address of the symbol)
SymbolOffsetHighRange	'value (see page 153)' or 'End' (when Base='Symbol', this is the offset from the start of SymbolNameHighRange, 'End' means the end address of the symbol)
SymbolType	'Function','Label','Section','User', or 'Variable' (when Base='Symbol' and the symbol is from a symbol file)
SymbolTypeHighRange	'Function','Label','Section','User', or 'Variable' (when Base='Symbol' and the symbol is from a symbol file, this is the symbol type for the HighRange attribute)
Value	'value (see page 153)'

Remarks If a SymbolName is not found and a Value exists, the Value will be used.

Parents This element can have the following parents: <Event> (see page 63), <And> (see page 26), <Or> (see page 93).

Example

```
<Event>
   <BusSignal Name='ADDR' SymbolName='update_system'
         Value='hFFF034D8' Operator='Equals' Base='Symbol'/>
</Event>
```

<BusSignal> Element (under FilterExpression Event)

The <BusSignal> element describes a bus/signal name and value in a filter event.

For more information on symbols and symbol files, see "Setting Up Symbols" (in the online help).

Attributes

Name	Description
Base	'Binary', 'Hex', 'Octal', 'Decimal', 'Signed Decimal', 'ASCII', 'Symbol', 'String', or 'Voltage' (for analog signals) ('String' is only available when filtering on an inverse assembler generated *text only* column like the one that contains mnemonics; in this case, the Value attribute should be like Value='$string')
Bit	'All' or 'number'
HighRange	'value (see page 153)' (when Operator='In Range' or 'Not In Range')
LowRange	'value (see page 153)' (when Operator='In Range' or 'Not In Range')
Name	'string'
Operator	For buses (> 1 bit): 'Equals', 'Not Equal To', 'Greater Than', 'Less Than', 'Greater Than or Equal To', 'Less Than or Equal To', 'In Range', or 'Not In Range' For signals (= 1 bit): 'Dont Care', 'High', or 'Low'
SymbolFile	'full_path_to_file' (when Base='Symbol' and the symbol is from a symbol file, can have a leading shell variable)
SymbolFileHighRange	'full_path_to_file' (when Base='Symbol' and the symbol is from a symbol file, this is the symbol file for the HighRange attribute, can have a leading shell variable)
SymbolName	'string' (when Base='Symbol')
SymbolNameHighRange	'string' (when Base='Symbol', this is the symbol name for the HighRange attribute)
SymbolOffset	'value (see page 153)' or 'End' (when Base='Symbol', this is the offset from the start of SymbolName, 'End' means the end address of the symbol)

SymbolOffsetHighRange	'value (see page 153)' or 'End' (when Base='Symbol', this is the offset from the start of SymbolNameHighRange, 'End' means the end address of the symbol)
SymbolType	'Function', 'Label', 'Section', 'User', or 'Variable' (when Base='Symbol' and the symbol is from a symbol file)
SymbolTypeHighRange	'Function', 'Label', 'Section', 'User', or 'Variable' (when Base='Symbol' and the symbol is from a symbol file, this is the symbol type for the HighRange attribute)
Value	'value (see page 153)'

Parents This element can have the following parents: <And> (see page 27), <Event> (see page 64), <Or> (see page 94).

Example

```
<BusSignal Name='Cycle Type-1' SymbolName='overfetch'
   Value='bXXXX XXXX XXXX XXXX XX1X XXXX XXX1 XXX1'
   Operator='Equals' Base='Symbol'/>
```

<BusSignal> Element (under Find Event)

The <BusSignal> element describes a bus/signal name and value in a find event.

Attributes

Name	Description
Bit	'All' or 'number'
HighRange	'value (see page 153)' (when Operator='In Range' or 'Not In Range')
LowRange	'value (see page 153)' (when Operator='In Range' or 'Not In Range')
Name	'string'
Operator	For buses (> 1 bit): 'Equals', 'Not Equal To', 'Greater Than', 'Less Than', 'Greater Than or Equal To', 'Less Than or Equal To', 'In Range', or 'Not In Range' For signals (= 1 bit): 'Rising Edge', 'Either Edge', or 'Falling Edge', or 'High', or 'Low' For all buses/signals: 'Entering', 'Exiting', or 'Transitioning'
Value	'value (see page 153)'

Remarks In the find Operator:

- 'Entering' means the first sample of one or more consecutive samples that match the pattern.
- 'Exiting' means the sample after one or more consecutive samples that match the pattern.
- 'Transitioning' means entering or exiting one or more consecutive samples that match the pattern.

Parents This element can have the following parents: <And> (see page 28), <Event> (see page 65), <Or> (see page 95).

Example

```
<BusSignal Name='My Bus 1' Bit='All' Operator='Equals' Value='h80'/>
```

<BusSignalSetup> Element

The <BusSignalSetup> element contains a <PodSettings> element and a <BusSignals> element.

Children This element can have the following children: <BusSignals> (see page 44), <PodSettings> (see page 103), <NetlistImport> (see page 88).

Parents This element can have the following parents: <Module> (see page 84).

Example

```
<BusSignalSetup>
   <PodSettings>
      <Pod Index='1' StateClockSetting='Master Clock'
            ProbeType='General purpose probing' Threshold='TTL'/>
      <Pod Index='2' StateClockSetting='Master Clock'
            ProbeType='General purpose probing' Threshold='TTL'/>
      <Pod Index='3' StateClockSetting='Master Clock'
            ProbeType='General purpose probing' Threshold='TTL'/>
      <Pod Index='4' StateClockSetting='Master Clock'
            ProbeType='General purpose probing' Threshold='TTL'/>
   </PodSettings>
   <BusSignals>
      <Clear/>
      <BusSignal Name='Motorola PowerQUICC (MPC8XX)\VFLS'
            Polarity='Positive' Comment='' DefaultBase='Symbol'>
         <Channels>Pod 3[15:14]</Channels>
         <SamplingPositions>
            <Channel Index="0" SamplePosition="1.25 ns" />
            <Channel Index="1" SamplePosition="1.25 ns" />
         <SamplingPositions/>
         <Symbols>
            <Clear/>
            <Symbol Name='debug' Value='h3' Operator='Equals'
                  Base='Hex'/>
            <Symbol Name='2 flsh' Value='h2' Operator='Equals'
                  Base='Hex'/>
            <Symbol Name='1 flsh' Value='h1' Operator='Equals'
                  Base='Hex'/>
            <Symbol Name='0 flsh' Value='h0' Operator='Equals'
                  Base='Hex'/>
         </Symbols>
      </BusSignal>
   </BusSignals>
   <Probes>
      <Clear/>
      <Probe Name='J2' Type='E5385A - 100 pin single-ended Samtec probe'
            NumberOfPins='80' NumberOfPods='2'>
         <Pod Index='3' Prompt='Odd'/>
         <Pod Index='4' Prompt='Even'/>
      </Probe>
      <Probe Name='J1' Type='E5394A - Soft touch single-ended probe'
            NumberOfPins='54' NumberOfPods='2'>
         <Pod Index='1' Prompt='Odd'/>
         <Pod Index='2' Prompt='Even'/>
```

```
        </Probe>
    </Probes>
</BusSignalSetup>
```

<BusSignals> Element (for Listing, Compare, and Source Windows)

The <BusSignals> element contains the buses/signals that are in the Listing, Compare, or Source window.

Children This element can have the following children: <Clear/> (see page 47), <BusSignal> (see page 32).

Parents This element can have the following parents: <Window> (see page 149).

Example

```
<Window Name='Listing-2'>
   <BusSignals>
      <Clear/>
      <BusSignal Module='My 1682D-1' Name='Sample Number'
            Color='hFFFFFF' Alignment='Right' Width='112'/>
      <BusSignal Module='My 1682D-1' Name='My Bus 1' DefaultBase='Hex'
            Color='hFFFFFF' Alignment='Right' Width='113'/>
      <BusSignal Module='My External Oscilloscope-1'
            Name='Sample Number C1' Color='hFFFFFF' Alignment='Right'
            Width='132'/>
      <BusSignal Module='My External Oscilloscope-1' Name='My Scope C1'
            DefaultBase='Voltage' Color='hFFFF00' Alignment='Right'
            Width='98'/>
      <BusSignal Module='My External Oscilloscope-1'
            Name='Sample Number C2' Color='hFFFFFF' Alignment='Right'
            Width='132'/>
      <BusSignal Module='My External Oscilloscope-1' Name='My Scope C2'
            DefaultBase='Voltage' Color='h00FF00' Alignment='Right'
            Width='98'/>
      <BusSignal Name='Time' DefaultBase='Absolute' Color='hFFFFFF'
            Alignment='Right' Width='152'/>
   </BusSignals>
</Window>
```

<BusSignals> Element (for Waveform Window)

The <BusSignals> element contains the buses/signals that are in the Waveform window.

Children This element can have the following children: <Clear/> (see page 47), <BusSignal> (see page 33).

Parents This element can have the following parents: <Window> (see page 149).

Example

```
<Window Name='Waveform-2'>
   <Setup>
      <Sampling PerDivision='5 ns' Delay='0 s'/>
      <BusSignals>
         <Clear/>
         <BusSignal Module='My 1682D-1' Name='My Bus 1'
               DefaultBase='Hex' Color='hFFFFFF' Height='30'/>
         <BusSignal Module='My External Oscilloscope-1'
               Name='My Scope C1' Color='hFFFF00' Height='150'>
            <Analog Connected='T' PerDivision='969 mV' Offset='1.45 V'>
               <Axis Style='Axis' Color='h808080'/>
               <Clipped Show='T' Color='hFF8000'/>
            </Analog>
         </BusSignal>
         <BusSignal Module='My External Oscilloscope-1'
               Name='My Scope C2' Color='h00FF00' Height='150'>
            <Analog Connected='T' PerDivision='683 mV' Offset='2.494 V'>
               <Axis Style='Axis' Color='h808080'/>
               <Clipped Show='T' Color='hFF8000'/>
            </Analog>
         </BusSignal>
         <BusSignal Name='Time' Color='hFFFFFF' Height='30'/>
      </BusSignals>
   </Setup>
</Window>
```

<BusSignals> Element (under BusSignalSetup)

The <BusSignals> element contains bus/signal definitions.

Children This element can have the following children: <Clear/> (see page 47), <Folder> (see page 76), <BusSignal> (see page 34).

Parents This element can have the following parents: <BusSignalSetup> (see page 40).

Example

```
<BusSignals>
   <Clear/>
   <BusSignal Name='Motorola PowerQUICC (MPC8XX)\AT2'
         Polarity='Positive' Comment='' DefaultBase='Symbol'>
      <Channels>Pod 3[13]</Channels>
      <SamplingPositions>
         <Channel Index="0" SamplePosition="1.25 ns" />
      <SamplingPositions/>
      <Symbols>
         <Clear/>
         <Symbol Name='----' Operator='High' Base='Symbol'/>
         <Symbol Name='----' Operator='High' Base='Symbol'/>
      </Symbols>
   </BusSignal>
   ...
   <BusSignal Name='Motorola PowerQUICC (MPC8XX)\VFLS'
         Polarity='Positive' Comment='' DefaultBase='Symbol'>
      <Channels>Pod 3[15:14]</Channels>
      <SamplingPositions>
         <Channel Index="0" SamplePosition="1.25 ns" />
         <Channel Index="1" SamplePosition="1.25 ns" />
      <SamplingPositions/>
      <Symbols>
         <Clear/>
         <Symbol Name='debug' Value='h3' Operator='Equals' Base='Hex'/>
         <Symbol Name='2 flsh' Value='h2' Operator='Equals' Base='Hex'/>
         <Symbol Name='1 flsh' Value='h1' Operator='Equals' Base='Hex'/>
         <Symbol Name='0 flsh' Value='h0' Operator='Equals' Base='Hex'/>
      </Symbols>
   </BusSignal>
</BusSignals>
```

<Channel> Element

The <Channel> element is used when setup/hold values are specified for logic analyzer channels individually.

Attributes

Name	Description
FindEye	'Off' or 'On'
SamplePosition	'number time_unit (see page 153)'
Index	'number'

Parents This element can have the following parents: <SamplingPositions> (see page 124)

Example

```
<SamplingPositions'>
   <Channel Index='0' FindEye='On' SamplePosition='615 ps'/>
   <Channel Index='1' FindEye='On' SamplePosition='-517 ps'/>
   <Channel Index='2' FindEye='On' SamplePosition='-366 ps'/>
   <Channel Index='3' FindEye='On' SamplePosition='1.025 ns'/>
   <Channel Index='4' FindEye='On' SamplePosition='439 ps'/>
   <Channel Index='5' FindEye='On' SamplePosition='-79 ps'/>
   <Channel Index='6' FindEye='On' SamplePosition='-79 ps'/>
   <Channel Index='7' FindEye='On' SamplePosition='-38 ps'/>
   <Channel Index='8' FindEye='Off' SamplePosition='-800 ps'/>
   <Channel Index='9' FindEye='Off' SamplePosition='-800 ps'/>
   <Channel Index='10' FindEye='Off' SamplePosition='-800 ps'/>
   <Channel Index='11' FindEye='Off' SamplePosition='-800 ps'/>
   <Channel Index='12' FindEye='Off' SamplePosition='-800 ps'/>
   <Channel Index='13' FindEye='Off' SamplePosition='-800 ps'/>
   <Channel Index='14' FindEye='Off' SamplePosition='-800 ps'/>
   <Channel Index='15' FindEye='Off' SamplePosition='-800 ps'/>
   <Channel Index='16' FindEye='Off' SamplePosition='-800 ps'/>
</SamplingPositions>
```

<Channels> Element

The <Channels> element specifies the logic analyzer channels assigned to the bus/signal.

Data This element's data is a string representing the selected channels for a bus/signal (as shown in the user interface — see "To reorder bits by editing the Channels Assigned string" (in the online help)).

Parents This element can have the following parents: <BusSignal> (see page 34).

Example

```
<Channels>Pod 2[15:0], Pod 1[15:0]</Channels>
```

<Clear/> Element

The <Clear/> element tells the logic analyzer to clear all the setup information related to the parent element.

Parents This element can have the following parents: <BusSignals> (see page 44), <Configuration> (see page 53), <PodAssignment> (see page 102), <StateClockSpec> (see page 127), <Symbols> (see page 132).

Example

```
<Configuration>
   <Clear/>
   ...
</Configuration>
```

<Clipped> Element

The <Clipped> element describes whether clipped portions of an analog signal in the Waveform window are displayed in the defined color.

Attributes

Name	Description
Color	'hex_RGB_value'
Show	'F' (false) or 'T' (true)

Parents This element can have the following parents: <Analog> (see page 25).

Example

```
<Analog Connected='T' PerDivision='969 mV' Offset='1.45 V'>
   <Axis Style='Axis' Color='h808080'/>
   <Clipped Show='T' Color='hFF8000'/>
</Analog>
```

<ClockGroup> Element

The <ClockGroup> element contains edges and qualifier specifications.

Children This element can have the following children: <Edges> (see page 61), <Qualifiers> (see page 110).

Parents This element can have the following parents: <Master> (see page 83), <Slave> (see page 125).

Example

```
<StateClockSpec Mode='Master/Slave/Demux'>
   <Clear/>
   <Master>
      <ClockGroup>
         <Edges>
            <Edge PodIndex='1' Value='Rising'/>
         </Edges>
         <Qualifiers Operator='And'>
            <Qualifier PodIndex='4' Level='High'/>
            <Qualifier PodIndex='2' Level='Low'/>
         </Qualifiers>
      </ClockGroup>
   </Master>
   <Slave>
      <ClockGroup>
         <Edges>
            <Edge PodIndex='2' Value='Falling'/>
         </Edges>
      </ClockGroup>
      <ClockGroup>
         <Edges>
            <Edge PodIndex='3' Value='Rising'/>
            <Edge PodIndex='4' Value='Either'/>
         </Edges>
      </ClockGroup>
   </Slave>
</StateClockSpec>
```

<Column> Element

The <Column> element describes a column of data in an import file.

Attributes

Name	Description
Exponent	'number' (when Type='Time Absolute' or 'Time Relative')
Format	'Ignored' or 'Voltage'
Index	'number'
Name	'string'
Scale	'number'
Type	'Line Number','Sample Number','Time Absolute','Time Relative', or 'Value'
Width	'number' (when Type='Value')

Parents This element can have the following parents: <Columns> (see page 51).

Example

```
<Columns>
   <Column Index="1" Name="Sample Number" Type="Sample Number"
         Format="Ignored" />
   <Column Index="2" Name="My Bus 1" Type="Value" Format="Voltage"
         Width="8" />
   <Column Index="3" Name="Time" Type="Time Absolute" Format=""
         Scale="1e+000" Exponent="-12" />
</Columns>
```

See Also

- " COLUMN Syntax" (in the online help) in Module CSV and Module Binary File Header Format

<Columns> Element

The <Columns> element contains a data import file's column descriptions.

Children This element can have the following children: <Column> (see page 50).

Parents This element can have the following parents: <FileInfo> (see page 69).

Example

```
<Columns>
   <Column Index="1" Name="Sample Number" Type="Sample Number"
         Format="Ignored" />
   <Column Index="2" Name="My Bus 1" Type="Value" Format="Voltage"
         Width="8" />
   <Column Index="3" Name="Time" Type="Time Absolute" Format=""
         Scale="1e+000" Exponent="-12" />
</Columns>
```

<Config> Element

The <Config> element is used when setup/hold values are specified for logic analyzer channels individually.

Attributes

Name	Description
CorrelatedTriggerTime	'number time_unit (see page 153)' (relative to system trigger time)
SystemTrigger	'F' (false) or 'T' (true)
TimeOfTrigger	'number time_unit (see page 153)' (seconds since the epoch)
UserSkewTime	'number time_unit (see page 153)'

Parents This element can have the following parents: <Module> (see page 84).

Example

```
<Config TimeOfTrigger='1.07412004001872 Gs'
      CorrelatedTriggerTime='43.69575 us' UserSkewTime='0 s'
      SystemTrigger='T'/>
```

<Configuration> Element

The <Configuration> element contains the logic analyzer setup information.

Children This element can have the following children: <Clear/> (see page 47), <Setup> (see page 118), <VbaProjects> (see page 148).

Parents This element can have the following parents: <File> (see page 68).

Example

```
<Configuration>
   <Clear/>
   <Setup>
      ...
   </Setup>
</Configuration>
```

<CounterAction> Element

The <CounterAction> element specifies a counter action.

Attributes

Name	Description
ID	'counter_number'
Operator	'Increment' or 'Reset'

Parents This element can have the following parents: <Action> (see page 24).

Example

```
<Action>
   <CounterAction ID='1' Operator='Increment'/>
</Action>
```

<CounterEvent> Element

The <CounterEvent> element defines a counter value that will cause an event.

Attributes

Name	Description
ID	'counter_number'
Operator	'>=' or '<' ("greater than or equal to" or "less than")
Value	'integer'

Parents This element can have the following parents: <Event> (see page 63), <And> (see page 26), <Or> (see page 93).

Example

```
<Event>
   <CounterEvent ID='1' Operator='&gt;=' Value='10'/>
</Event>
```

<Data> Element

When data and setup information are saved to XML format configuration files, the <Data> element contains information about the binary data files that are saved.

Children This element can have the following children: <TableSetup> (see page 133), <TimingZoomTable> (see page 139).

Parents This element can have the following parents: <Module> (see page 84).

Example

```
<Data>
   <TableSetup RowCount='65536' TriggerIndex='0' OffsetTime='0 s'
         TimePrecision='1 ns' FileName='las33_data02of04.mfb'>
      <SampleNumberDataSource Type='Periodic'>
         <SetupInfo RowCount='65536' TriggerIndex='0' SamplePeriod='1'/>
      </SampleNumberDataSource>
      <LogicBitsBlockDataSource Type='Page'>
         <SetupInfo RowCount='65536' BitsPerSample='68' PageSize='32768'
               FileOffset='0'/>
      </LogicBitsBlockDataSource>
      <TimeDataSource Type='Page'>
         <SetupInfo RowCount='65536' PageSize='2048' ValidTime='T'
               FileOffset='589824'/>
      </TimeDataSource>
   </TableSetup>
   <TimingZoomTable RowCount='65519' TriggerIndex='32510'
         OffsetTime='0 s' TimePrecision='10 ps'
         FileName='las33_data02of04.mfb'>
      <SampleNumberDataSource Type='Periodic'>
         <SetupInfo RowCount='65519' TriggerIndex='32510'
               SamplePeriod='1'/>
      </SampleNumberDataSource>
      <LogicBitsBlockDataSource Type='Page'>
         <SetupInfo RowCount='65519' BitsPerSample='68' PageSize='43690'
               FileOffset='1638400'/>
      </LogicBitsBlockDataSource>
      <TimeDataSource Type='Periodic'>
         <SetupInfo RowCount='65519' TriggerIndex='32510'
               SamplePeriod='250 ps'/>
      </TimeDataSource>
   </TimingZoomTable>
</Data>
```

Binary Data File Format For each module, there is a single binary data file that contains the module’s data, timing information or time tags, timing zoom data (if appropriate), as well as any hardware filtering information (if applicable). Each section is stored contiguously, with the XML elements under <Data> pointing to the byte offsets within the file for each section. Data is dumped simply by sample/row, starting with the first sample of data, all the way through the last.

If the XML with data file is read back into the system, the paging information in the XML file is used to load the data by pages to increase performance. There is no checksumming of any kind on the data, so data integrity is assumed to be valid whenever these files are loaded. If the file is altered in any way, it should be kept consistent with the format described.

If the number of bits per sample is not a multiple of a byte, then the bytes used for a sample is rounded up to the nearest byte. For example, if a LogicBitsBlockDataSource element specifies 68 bits per sample, then 9 bytes per sample is stored to the file with the upper four bits being undefined.

If you are interested in processing the binary data files saved with XML format configuration files, please contact Agilent Technologies ("http://www.agilent.com/find/contactus") for sample parsing code.

<DefaultStore/> Element

The <DefaultStore/> element specifies to use the default storage qualifier when filling memory after a trigger.

Parents This element can have the following parents: <Event> (see page 63) (within the <TriggerAction> and <StoreQual> element hierarchy).

Example

```
<TriggerAction Operator='Fill Memory'>
   <StoreQual Mode='Custom'>
      <Event ParensNeeded='F'>
         <DefaultStore / >
      </Event>
   </StoreQual>
</TriggerAction>
```

<Directory> Element

The <Directory> element specifies a directory in the source directories search path.

Attributes

Name	Description
Path	'string' (full path)

Parents This element can have the following parents: <SourceDirectories> (see page 126).

Example

```
<SourceDirectories SearchSubdirectories='T'>
   <Directory Path='C:\My Documents\source'/>
   <Directory Path='C:\My Documents\build'/>
</SourceDirectories>
```

<Edge> Element

The <Edge> element describes a clock edge.

Attributes

Name	Description
PodIndex	'number'
Value	'Rising','Falling' or 'Either'

Parents This element can have the following parents: <Edges> (see page 61).

Example

```
<Edge PodIndex='2' Value='Falling'/>
```

<Edges> Element

The <Edges> element describes one or more clock edges. Multiple edges are logically OR'ed.

NOTE Edges from different pod pairs appear in separate <ClockGroup> elements.

Children This element can have the following children: <Edge> (see page 60).

Parents This element can have the following parents: <ClockGroup> (see page 49).

Example

```
<ClockGroup>
   <Edges>
      <Edge PodIndex='2' Value='Falling'/>
   </Edges>
</ClockGroup>
<ClockGroup>
   <Edges>
      <Edge PodIndex='3' Value='Rising'/>
      <Edge PodIndex='4' Value='Either'/>
   </Edges>
</ClockGroup>
```

<Email> Element

The <Email> element specifies e-mail parameters when a trigger action specifies to "e-mail and fill memory".

Attributes

Name	Description
Body	'string'
Subject	'string'
To	'string'

Parents This element can have the following parents: <TriggerAction> (see page 143).

Example

```
<TriggerAction Operator='Email and Fill Memory'>
   <StoreQual Mode='Custom'>
      <Event>
         <DefaultStore/>
      </Event>
   </StoreQual>
   <Email To='first_last@company.com' Subject='Logic analyzer triggered'
         Body='Here's the message body.'/>
</TriggerAction>
```

<Event> Element

The <Event> element contains a Boolean combination of individual events, using conjunctions as combiners.

Attributes

Name	Description
ParensNeeded	'F' (false) or 'T' (true) (whether user-defined parentheses are used in the event list)

Children This element can have the following children: <BusSignal> (see page 35), <Anything/> (see page 29), <TimerEvent> (see page 137), <Nothing/> (see page 89), <CounterEvent> (see page 55), <FlagEvent> (see page 75), <Arm/> (see page 30), <And> (see page 26), <Or> (see page 93).

Parents This element can have the following parents: <If> (see page 78), <StoreQual> (see page 129).

Example

```
<Event>
   <And>
      <BusSignal Name='ADDR' SymbolName='update_system'
            Value='hFFF034D8' Operator='Equals' Base='Symbol'/>
      <TimerEvent ID='1' Operator='Greater Than or Equal To'
            Value='80 ns'/>
   </And>
</Event>
```

<Event> Element (under FilterExpression)

The <Event> element describes a filter event.

Children This element can have the following children: <BusSignal> (see page 37), <And> (see page 27), <Or> (see page 94).

Parents This element can have the following parents: <FilterExpression> (see page 71).

Example

```
<Event>
   <Or>
      <BusSignal Name='Cycle Type-1' SymbolName='overfetch'
         Value='bXXXX XXXX XXXX XXXX XX1X XXXX XXX1 XXX1'
         Operator='Equals' Base='Symbol'/>
      <BusSignal Name='Cycle Type-1' SymbolName='overfetch'
         Value='bXXXX XXXX XX1X XXXX 1XXX XXXX XXXX XXX1'
         Operator='Equals' Base='Symbol'/>
   </Or>
</Event>
```

<Event> Element (under Find)

The <Event> element describes a find event.

Children This element can have the following children: <BusSignal> (see page 39), <And> (see page 28), <Or> (see page 95).

Parents This element can have the following parents: <Find> (see page 73).

Example

```
<Event>
   <And>
      <BusSignal Name='My Bus 1' Bit='All' Operator='Equals'
            Value='h80'/>
      <BusSignal Name='My Bus 128' Bit='All' Operator='Equals'
            Value='h288080'/>
   </And>
</Event>
```

<ExcludedLabels> Element

The <ExcludedLabels> element contains buses/signals to be excluded from the storage qualifier in the transitional timing mode.

Children This element can have the following children: <Label/> (see page 79).

Parents This element can have the following parents: <StoreQual> (see page 129).

Example

```
<StoreQual Mode='Transitional'>
   <ExcludedLabels>
      <Label Name='My Signal 1'/>
      <Label Name='My Signal 2'/>
      <Label Name='My Signal 3'/>
   </ExcludedLabels>
</StoreQual>
```

<Favorite> Element

The <Favorite> element names and contains a favorite trigger specification.

Attributes

Name	Description
Name	'string'

Children This element can have the following children: <Trigger> (see page 145).

Parents This element can have the following parents: <TriggerFavorites> (see page 144).

Example

```
<Favorite Name='First Trigger'>
   <Trigger Mode='State'>
      ...
   </Trigger>
</Favorite>
```

<File> Element

Agilent logic analyzer XML-format files begin with a <File> element that indicates:

- the type of content (configuration file or trigger specification file)
- owner, project, and description information if saved with the file
- the *Agilent Logic Analyzer* version that created the file
- the date the file was created

Attributes

Name	Description
Content	'Hardware Independent Logic Analyzer Configuration' or 'Logic Analyzer Trigger Specification'
Date	'string'
Desc	'string'
Owner	'string'
Project	'string'
Version	'string'

Children This element can have the following children: <Configuration> (see page 53) (in configuration files) or <Trigger> (see page 145) (in trigger specification files).

Parents None. The <File> element must be the first element in any logic analyzer configuration or trigger specification file.

Example

```
<File Content='Hardware Independent Logic Analyzer Configuration'
      Version='01.40.0000' Desc='' Project='' Owner=''
      Date='Oct 7, 2002 11:08:54'>
   <Configuration>
      ...
   </Configuration>
</File>

<File Content='Logic Analyzer Trigger Specification'
      Version='01.40.0000' Desc='' Project='' Owner=''
      Date='Oct 7, 2002 11:41:37'>
   <Trigger Mode='State'>
      ...
   </Trigger>
</File>
```

<FileInfo> Element

The <FileInfo> element is used with data import modules.

Attributes

Name	Description
BytesPerRow	'number'
FillInPolicy	'string'
Format Description	'string'
IsBigEndian	'F' (false) or 'T' (true)
IsBinary	'F' (false) or 'T' (true)
Name	'string'
NumRows	'number'
SamplePeriod	'number'
Separator	'string'
TimeColumn	'string'
tModified	'number'
tRead	'number'
TriggerOffset	'number'
TriggerRow	'number'

Children This element can have the following children: <Columns> (see page 51).

Parents This element can have the following parents: <Module> (see page 84).

Example

```
<FileInfo Name="C:\My Documents\Config Files\large.csv"
      tRead="1131750085" tModified="1131570783"
      FormatDescription="Text (.csv)" IsBinary="F" IsBigEndian="T"
      NumRows="16777216" BytesPerRow="1" TriggerRow="8388608"
      Separator="," TriggerOffset="1.293243909e-002" TimeColumn="Time"
      SamplePeriod="1.67e-009" FillInPolicy="Zeros">
   <Columns>
      <Column Index="1" Name="Sample Number" Type="Sample Number"
            Format="Ignored" />
      <Column Index="2" Name="My Bus 1" Type="Value" Format="Voltage"
            Width="8" />
      <Column Index="3" Name="Time" Type="Time Absolute" Format=""
            Scale="1e+000" Exponent="-12" />
   </Columns>
</FileInfo>
```

See Also

- "Module CSV and Module Binary File Header Format" (in the online help)

<FilterAction> Element

The <FilterAction> element describes a filter action.

Attributes

Name	Description
Color	'hex_RGB_value' (when Type='Color')
Type	'Color','Hide' or 'Show'

Parents This element can have the following parents: <FilterExpression> (see page 71).

Example

```
<FilterAction Type='Hide'/>

<FilterAction Type='Color' Color='h00ff00'/>
```

<FilterExpression> Element

The <FilterExpression> element describes a single filter event and action.

Attributes

Name	Description
Enabled	'F' (false) or 'T' (true)
Name	'string'

Children This element can have the following children: <Event> (see page 64), <FilterAction> (see page 70).

Parents This element can have the following parents: <Filter> (see page 72).

Example

```
<FilterExpression Name='Overfetch States' Enabled='T'>
   <Event>
      <Or>
         <BusSignal Name='Cycle Type-1' SymbolName='overfetch'
            Value='bXXXX XXXX XXXX XXXX XX1X XXXX XXX1 XXX1'
            Operator='Equals' Base='Symbol'/>
         <BusSignal Name='Cycle Type-1' SymbolName='overfetch'
            Value='bXXXX XXXX XXXX XXXX XX1X XXXX XXX1 XXX1'
            Operator='Equals' Base='Symbol'/>
      </Or>
   </Event>
   <FilterAction Type='Hide'/>
</FilterExpression>
```

<Filter> Element

The <Filter> element contains setup information for the Filter/Colorize tool.

Attributes

Name	Description
Enabled	'F' (false) or 'T' (true)

Children This element can have the following children: <FilterExpression> (see page 71).

Parents This element can have the following parents: <Tool> (see page 140).

Example

```
<Filter Enabled='T'>
   <FilterExpression Name='Idle/Wait States' Enabled='T'>
      <Event>
         <BusSignal Name='Cycle Type-1' SymbolName='idle'
            Value='bXXXX XXXX XXXX XXXX XXXX XXXX X1XX XXX1'
            Operator='Equals' Base='Symbol'/>
      </Event>
      <FilterAction Type='Hide'/>
   </FilterExpression>
   <FilterExpression Name='Extension Words' Enabled='T'>
      <Event>
         <BusSignal Name='Cycle Type-1' SymbolName='extension'
            Value='bXXXX XXXX XXXX XXXX XXXX XXXX XX1X XXX1'
            Operator='Equals' Base='Symbol'/>
      </Event>
      <FilterAction Type='Hide'/>
   </FilterExpression>
   <FilterExpression Name='Overfetch States' Enabled='T'>
      <Event>
         <Or>
            <BusSignal Name='Cycle Type-1' SymbolName='overfetch'
               Value='bXXXX XXXX XXXX XXXX XX1X XXXX XXX1 XXX1'
               Operator='Equals' Base='Symbol'/>
            <BusSignal Name='Cycle Type-1' SymbolName='overfetch'
               Value='bXXXX XXXX XXXX XXXX XX1X XXXX XXX1 XXX1'
               Operator='Equals' Base='Symbol'/>
         </Or>
      </Event>
      <FilterAction Type='Hide'/>
   </FilterExpression>
</Filter>
```

<Find> Element

When setting up to find samples in captured data using a "COM automation" (in the online help) program, the <Find> element is the top element in the XML format string that can be used in the "Find method" (in the online help)'s Event parameter.

Attributes

Name	Description
Direction	'F' (forward), 'B' (backward)
Duration	'number time_unit (see page 153)' (when When='Present>', 'Present>=', 'Present<', or 'Present<=')
From	'Display Center', 'Beginning Of Data', 'End Of Data', 'Trigger', or 'marker_name' (name of currently defined marker)
HighDuration	'number time_unit (see page 153)' (when When='Present In Range' or 'Not In Range')
LowDuration	'number time_unit (see page 153)' (when When='Present In Range' or 'Not In Range')
Occurrence	'number'
When	'Present', 'Not Present', 'Entering', 'Exiting', 'Transitioning', 'Present>', 'Present>=', 'Present<', 'Present<=', 'Present In Range', or 'Not In Range'

Remarks In the When find qualifier:

- 'Entering' means the first sample of one or more consecutive samples that match the pattern.
- 'Exiting' means the sample after one or more consecutive samples that match the pattern.
- 'Transitioning' means entering or exiting one or more consecutive samples that match the pattern.

Children This element can have the following children: <Event> (see page 65).

Parents None.

Example

```
<Find Occurrence='1' From='M1' Direction='F' When='Present'>
   <Event>
      <And>
         <BusSignal Name='My Bus 1' Bit='All' Operator='Equals'
               Value='h80'/>
         <BusSignal Name='My Bus 128' Bit='All' Operator='Equals'
               Value='h288080'/>
```

```
            </And>
         </Event>
      </Find>
```

<FlagEvent> Element

The <FlagEvent> element defines a flag value that will cause an event.

Attributes

Name	Description
ID	'flag_number'
Function	'Clear' or 'Set'

Parents This element can have the following parents: <Event> (see page 63), <And> (see page 26), <Or> (see page 93).

Example

```
<Event>
   <FlagEvent ID='1' Function='Set'/>
</Event>
```

<Folder> Element

The <Folder> element contains a named group of bus/signal definitions.

Attributes

Name	Description
Comment	'string'
Name	'string'

Children This element can have the following children: <BusSignal> (see page 34), <Folder> (see page 76).

Parents This element can have the following parents: <BusSignals> (see page 44), <Folder> (see page 76).

Example

```
<BusSignals>
   <Clear/>
   <BusSignal Name='My Bus 1' Polarity='Positive' DefaultBase='Hex'
         Comment=''>
      <Channels>Pod 1[7:0]</Channels>
   </BusSignal>
   <Folder Name='My Folder 1' Comment=''>
      <BusSignal Name='My Bus 2' Polarity='Positive' DefaultBase='Hex'
            Comment=''>
         <Channels>Pod 1[15:8]</Channels>
      </BusSignal>
      <Folder Name='My Folder 2' Comment=''>
         <BusSignal Name='My Bus 3' Polarity='Positive'
               DefaultBase='Hex' Comment=''>
            <Channels>Pod 2[7:0]</Channels>
         </BusSignal>
         <Folder Name='My Folder 3' Comment=''>
            <BusSignal Name='My Bus 4' Polarity='Positive'
                  DefaultBase='Hex' Comment=''>
               <Channels>Pod 2[15:8]</Channels>
            </BusSignal>
         </Folder>
      </Folder>
   </Folder>
</BusSignals>
```

<Goto> Element

The <Goto> element specifies the level to go to in the trigger sequence.

Attributes

Name	Description
Step	'Next' or 'number'

Parents This element can have the following parents: <Action> (see page 24), <TriggerAction> (see page 143).

Example

```
<Action>
   <Goto Step='3'/>
</Action>
```

<If> Element

Each <If> element contains an <Event>, an <Occurrence> or <PresentForGreater>, and an <Action>.

Children This element can have the following children: <Event> (see page 63), <Occurrence> (see page 90) or <PresentForGreater> (see page 105), <Action> (see page 24).

Parents This element can have the following parents: <Step> (see page 128).

Example

```
<If>
   <Event>
      <BusSignal Name='ADDR' SymbolName='update_system'
            Value='hFFF034D8' Operator='Equals' Base='Symbol'/>
   </Event>
   <Occurrence Value='1'/>
   <Action>
      <TriggerAction Operator='Fill Memory'>
         <StoreQual>
            <Event>
               <Anything/>
            </Event>
         </StoreQual>
      </TriggerAction>
   </Action>
</If>
```

<Label/> Element

The <Label/> element describes the name of a bus/signal to be excluded from the storage qualifier in the transitional timing mode.

Attributes

Name	Description
Name	'string'

Parents This element can have the following parents: <ExcludedLabels> (see page 66).

Example

```
<StoreQual Mode='Transitional'>
   <ExcludedLabels>
      <Label Name='My Signal 1'/>
      <Label Name='My Signal 2'/>
      <Label Name='My Signal 3'/>
   </ExcludedLabels>
</StoreQual>
```

<LogicBitsBlockDataSource> Element

The <LogicBitsBlockDataSource> element contains information about the module's data from the binary data file.

Attributes

Name	Description
Type	'Page'

Children This element can have the following children: <SetupInfo> (for LogicBitsBlockDataSource) (see page 120).

Parents This element can have the following parents: <TableSetup> (see page 133), <TimingZoomTable> (see page 139).

Example

```
<LogicBitsBlockDataSource Type='Page'>
   <SetupInfo RowCount='65536' BitsPerSample='68' PageSize='32768'
         FileOffset='0'/>
</LogicBitsBlockDataSource>
```

See Also

- <SetupInfo> (for LogicBitsBlockDataSource) (see page 120)

<Marker> Element

The <Marker> element describes a marker and its properties.

Attributes

Name	Description
BackgroundColor	'hex_RGB_value'
Comments	'string'
ForegroundColor	'hex_RGB_value'
LockPosition	'F' (false) or 'T' (true)
Name	'string'
Position	'number time_unit (see page 153)'

Parents This element can have the following parents: <Markers> (see page 82).

Example

```
<Marker Name='XML M1' Comments='My Marker' ForegroundColor='hff00ff'
      BackgroundColor='h00ffff' Position='10 ns' LockPosition='T' />
```

<Markers> Element

When adding or removing markers using a "COM automation" (in the online help) program, you can use an XML format string to list the markers. The <Markers> element is the top element in the XMLMarkers string parameter of the "AddXML" (in the online help) and "RemoveXML" (in the online help) methods.

Children This element can have the following children: <Marker> (see page 81).

Parents None.

Example

```
<Markers>
   <Marker Name='XML M1' Comments='My Marker' ForegroundColor='hff00ff'
         BackgroundColor='h00ffff' Position='10 ns' LockPosition='T' />
   <Marker Name='XML M2' ForegroundColor='hff00ff'
         BackgroundColor='h00ffff' Position='15 ns' LockPosition='F' />
   <Marker Name='XML M3' BackgroundColor='h00ffff' Position='20 ns'
         LockPosition='T' />
   <Marker Name='XML M4' Position='25 ns' LockPosition='F' />
   <Marker Name='XML M5' LockPosition='T' />
   <Marker Name='XML M6' />
</Markers>
```

<Master> Element

The <Master> element describes the state mode's master sampling clock.

Children This element can have the following children: <ClockGroup> (see page 49).

Parents This element can have the following parents: <StateClockSpec> (see page 127).

Example

```
<Master>
   <ClockGroup>
      <Edges>
         <Edge PodIndex='1' Value='Rising'/>
      </Edges>
      <Qualifiers Operator='And'>
         <Qualifier PodIndex='4' Level='High'/>
         <Qualifier PodIndex='2' Level='Low'/>
      </Qualifiers>
   </ClockGroup>
</Master>
```

<Module> Element (under Configuration Setup)

The <Module> element describes how the logic analyzer module (hardware) is set up.

Attributes

Name	Description
Name	'string'

Children This element can have the following children: <PodAssignment> (see page 102), <SamplingSetup> (see page 112), <BusSignalSetup> (see page 40), <Trigger> (see page 145), <TriggerFavorites> (see page 144), <Config> (see page 52), <Data> (see page 56), <FileInfo> (see page 69).

Parents When used in an XML file, this element can have the following parents: <Setup> (see page 118).

When used in COM automation, this element is used by the "Setup property" (in the online help).

Example

```
<Module Name='168x/9x Logic Analyzer - 1'>
   <PodAssignment>
      ...
   </PodAssignment>
   <SamplingSetup>
      ...
   </SamplingSetup>
   <BusSignalSetup>
      ...
   </BusSignalSetup>
   <Trigger Mode='State'>
      ...
   </Trigger>
   <TriggerFavorites/>
   <Config ... />
   <Data>
      ...
   </Data>
   <FileInfo>
      ...
   </FileInfo>
</Module>
```

<Module> Element (under Overview)

The <Module> element is a hierarchy describing how modules, tools, and display windows are connected in the Overview window.

Attributes

Name	Description
Name	'string'

Children This element can have the following children: <Tool> (see page 141), <Window> (see page 150).

Parents This element can have the following parents: <Overview> (see page 96).

Example

```
<Module Name='168x/9x Logic Analyzer - 1'>
   <Tool Name='Motorola PowerQUICC (MPC8XX) Inverse Assembler - 1'>
      <Tool Name='Filter/Colorize - Motorola PowerQUICC (MPC8XX)'>
         <Window Name='Listing - 1'/>
         <Window Name='Waveform - 1'/>
      </Tool>
   </Tool>
   <Window Name='Compare - 1'/>
</Module>
```

<Module> Element (under Overview Probe)

The <Module> element describes a module name in the Overview window hierarchy.

Attributes

Name	Description
Name	'string'

Parents This element can have the following parents: <Probe> (see page 107).

Example

```
<Module Name='168x/9x Logic Analyzer - 1'/>
```

<Module> Element (under Overview Setup)

The <Module> element describes the name and type of a module in the Overview window list.

Attributes

Name	Description
Enabled	'F' (false) or 'T' (true) (optional, corresponds to enabled status in Overview window)
Name	'string'
NumSlots	'number' (optional, used for more accurate re-creation of modules when loading XML format configuration files in offline mode)
Split	'string' (name of other module in split analyzer)
Type	'168x/9x','1674x/5x','16753-56', '16910-16911','Data Import', or 'Virtual'

Parents This element can have the following parents: <Setup> (see page 119).

Example

```
<Module Name='168x/9x Logic Analyzer - 1' Type='168x/9x'
      Enabled='T' NumSlots='1'/>
<Module Name='168x/9x Logic Analyzer - 2' Type='168x/9x'
      Enabled='T' Split='168x/9x Logic Analyzer - 1' NumSlots='1'/>
```

<NetlistImport/> Element

The <NetlistImport/> element is an empty element that appears in XML format configuration files.

Parents This element can have the following parents: <BusSignalSetup> (see page 40).

Example

```
<BusSignalSetup>
   ...
   <NetlistImport/>
</BusSignalSetup>
```

<Nothing/> Element

The <Nothing/> element specifies no sample will cause the event.

Parents This element can have the following parents: <Event> (see page 63), <And> (see page 26), <Or> (see page 93).

Example

```
<Event>
   <Nothing/>
</Event>
```

<Occurrence> Element

The <Occurrence> element specifies the number of times an event must occur and whether the number of events must occur consecutively or eventually.

Attributes

Name	Description
Mode	'Consecutive' or 'Eventual'
Value	'number'

Parents This element can have the following parents: <If> (see page 78).

Example

```
<Occurrence Value='1' Mode='Eventual'/>
```

<Occurrence> Element (under PatternNTimes)

The <Occurrence> element specifies the number of times an event must occur.

Attributes

Name	Description
Value	'number'

Parents This element can have the following parents: <PatternNTimes> (see page 97).

Example

```
<Occurrence Value='3'/>
```

<Options> Element

The <Options> element describes Compare window options.

Attributes

Name	Description
MaxDifferences	'unsigned_int32' This attribute is used when stopping the comparison after a specified number of differences.
Range	'marker_name..marker_name' This attribute is used when comparing the range of samples between the first and second marker. Predefined marker names are: • Beginning Of Data • End Of Data • Trigger
ReferenceOffset	'signed_int32' This attribute represents the movement of the reference buffer relative to the input.

Parents When used in an XML file, this element can have the following parents: <Window> (see page 149).

When used in COM automation, this element is used by the "Options property" (in the online help).

Example

```
<Options ReferenceOffset='-2' Range='M1..M2' MaxDifferences='0'/>
```

<Or> Element

The <Or> element is a conjunction combiner for events in the trigger specification.

Children This element can have the following children: <BusSignal> (see page 35), <Anything/> (see page 29), <TimerEvent> (see page 137), <Nothing/> (see page 89), <CounterEvent> (see page 55), <FlagEvent> (see page 75), <Arm/> (see page 30).

Parents This element can have the following parents: <Event> (see page 63).

Example

```
<Event>
   <Or>
      <BusSignal Name='ADDR' SymbolName='update_system'
            Value='hFFF034D8' Operator='Equals' Base='Symbol'/>
      <TimerEvent ID='1' Operator='Greater Than or Equal To'
            Value='80 ns'/>
   </Or>
</Event>
```

<Or> Element (under FilterExpression Event)

The <Or> element combines bus/signal descriptions in a filter event.

Children This element can have the following children: <BusSignal> (see page 37).

Parents This element can have the following parents: <Event> (see page 64).

Example

```
<Event>
   <Or>
      <BusSignal Name='Cycle Type-1' SymbolName='overfetch'
         Value='bXXXX XXXX XXXX XXXX XX1X XXXX XXX1 XXX1'
         Operator='Equals' Base='Symbol'/>
      <BusSignal Name='Cycle Type-1' SymbolName='overfetch'
         Value='bXXXX XXXX XX1X XXXX 1XXX XXXX XXXX XXX1'
         Operator='Equals' Base='Symbol'/>
   </Or>
</Event>
```

<Or> Element (under Find Event)

The <Or> element combines bus/signal descriptions in a find event.

Children This element can have the following children: <BusSignal> (see page 39).

Parents This element can have the following parents: <Event> (see page 65).

Example

```
<Event>
   <Or>
      <BusSignal Name='My Bus 1' Bit='All' Operator='Equals'
            Value='h80'/>
      <BusSignal Name='My Bus 128' Bit='All' Operator='Equals'
            Value='h288080'/>
   </Or>
</Event>
```

<Overview> Element

The <Overview> element describes the content of and the connection hierarchy in the Overview window.

Children This element can have the following children: <Setup> (see page 119), <Module> (see page 85), <Probe> (see page 107).

The <Setup> child element lists all the modules, tools, display windows, and probes in the Overview window.

The <Module> child element is a hierarchy describing how modules, tools, and display windows are connected in the Overview window.

The <Probe> child element is a hierarchy describing how probes are connected in the Overview window.

NOTE Both the <Setup> and <Module> child elements are required in order for display windows to appear.

Parents When used in an XML file, this element can have the following parents: <Setup> (see page 118).

When used in COM automation, this element is used by the "Overview property" (in the online help).

Example

```
<Overview>
   <Clear/>
   <Setup>
      <Module Name='168x/9x Logic Analyzer - 1' Type='168x/9x'/>
      <Tool Name='Motorola PowerQUICC (MPC8XX) Inverse Assembler - 1'
         Type='Motorola PowerQUICC (MPC8XX) Inverse Assembler'/>
      <Tool Name='Filter/Colorize - Motorola PowerQUICC (MPC8XX)'
         Type='Filter/Colorize'/>
      <Window Name='Compare - 1' Type='Compare'/>
      <Window Name='Listing - 1' Type='Listing'/>
      <Window Name='Waveform - 1' Type='Waveform'/>
   </Setup>
   <Module Name='168x/9x Logic Analyzer - 1'>
      <Tool Name='Motorola PowerQUICC (MPC8XX) Inverse Assembler - 1'>
         <Tool Name='Filter/Colorize - Motorola PowerQUICC (MPC8XX)'>
            <Window Name='Listing - 1'/>
            <Window Name='Waveform - 1'/>
         </Tool>
      </Tool>
      <Window Name='Compare - 1'/>
   </Module>
   <Probe Name='General Purpose Probe-1'>
      <Module Name='168x/9x Logic Analyzer - 1'/>
   </Probe>
</Overview>
```

<PatternNTimes> Element

The <PatternNTimes> element is used when the <Trigger> element's Mode attribute is 'Turbo'. It contains elements that set up the "Find pattern n times" trigger function.

Children This element can have the following children: <Event> (see page 63), <Occurrence> (see page 91).

Parents This element can have the following parents: <Trigger> (see page 145).

Example

```
<PatternNTimes>
   <Event ParensNeeded='F'>
      <BusSignal Module='My 16950A-1' Name='My Bus 1' Bit='All'
            Operator='Equals' Value='hAA' />
   </Event>
   <Occurrence Value='3' />
</PatternNTimes>
```

<PatternReset> Element

The <PatternReset> element is used when the <Trigger> element's Mode attribute is 'Turbo'. It contains elements that set up the "Find pattern1, or reset on pattern2" trigger function.

Children This element can have the following children: <Event> (see page 63).

Parents This element can have the following parents: <Trigger> (see page 145).

Example

```
<PatternReset>
   <Event ParensNeeded='F'>
      <BusSignal Module='My 16950A-1' Name='My Bus 1' Bit='All'
            Operator='Equals' Value='h55' />
   </Event>
   <Event ParensNeeded='F'>
      <BusSignal Module='My 16950A-1' Name='My Bus 1' Bit='All'
            Operator='Equals' Value='hAA' />
   </Event>
</PatternReset>
```

<Pod> Element (under PodAssignment)

The <Pod> element lists its index and whether it has inputs for state mode sampling clocks.

Attributes

Name	Description
ClockingPod	'F' (false) or 'T' (true)
Index	'number'
ReservedForTagging	'F' (false) or 'T' (true) (whether the pod is reserved for time tag storage)

Parents This element can have the following parents: <PodAssignment> (see page 102).

Example

```
<Pod Index='1' ClockingPod='T'/>
```

<Pod> Element (under PodSettings)

The <Pod> element describes a pod's state clock setting, threshold voltage setting, and, if it can be detected, probe type. (If the probe type cannot be detected, "General purpose probing" is used.)

Attributes

Name	Description
ClockThreshold	'AGP','CCT','CMOS 5V','ECL','GTL', 'GTLPlus','HSTL','LVCMOS 1.5V','LVCMOS 1.8V','LVCMOS 2.5V','LVCMOS 3.3V', 'LVPECL','LVTTL','PECL','SSTL2', 'SSTL3','TTL', or 'User' (only available on certain logic analyzers, options vary depending on the probe type detected)
ClockThresholdVoltageValue	'number voltage_unit (see page 153)' (when ClockThreshold='User')
Index	'number'
ProbeType	probe name 'string' if the probe type can be detected by the logic analyzer; otherwise, 'General purpose probing'
StateClockSetting	'Master Clock','Slave Clock', 'Demultiplex','Dual Sample', or 'Unused'
Threshold	'AGP','CCT','CMOS 5V','ECL','GTL', 'GTLPlus','HSTL','LVCMOS 1.5V','LVCMOS 1.8V','LVCMOS 2.5V','LVCMOS 3.3V', 'LVPECL','LVTTL','PECL','SSTL2', 'SSTL3','TTL', or 'User' (options vary depending on the probe type detected)
ThresholdValue	'number voltage_unit (see page 153)' (when Threshold='User')

Children This element can have the following children: <SamplingPositions> (see page 124).

Parents This element can have the following parents: <PodSettings> (see page 103).

Example

```
<Pod Index='1' StateClockSetting='Master Clock'
      ProbeType='Differential probe' Threshold='Differential'
      ClockThreshold='Differential'>
   <SamplingPositions'>
      <Channel Index='0' FindEye='On' SamplePosition='615 ps'/>
      <Channel Index='1' FindEye='On' SamplePosition='-517 ps'/>
      <Channel Index='2' FindEye='On' SamplePosition='-366 ps'/>
      <Channel Index='3' FindEye='On' SamplePosition='1.025 ns'/>
      <Channel Index='4' FindEye='On' SamplePosition='439 ps'/>
```

```
      <Channel Index='5' FindEye='On' SamplePosition='-79 ps'/>
      <Channel Index='6' FindEye='On' SamplePosition='-79 ps'/>
      <Channel Index='7' FindEye='On' SamplePosition='-38 ps'/>
      <Channel Index='8' FindEye='Off' SamplePosition='-800 ps'/>
      <Channel Index='9' FindEye='Off' SamplePosition='-800 ps'/>
      <Channel Index='10' FindEye='Off' SamplePosition='-800 ps'/>
      <Channel Index='11' FindEye='Off' SamplePosition='-800 ps'/>
      <Channel Index='12' FindEye='Off' SamplePosition='-800 ps'/>
      <Channel Index='13' FindEye='Off' SamplePosition='-800 ps'/>
      <Channel Index='14' FindEye='Off' SamplePosition='-800 ps'/>
      <Channel Index='15' FindEye='Off' SamplePosition='-800 ps'/>
      <Channel Index='16' FindEye='Off' SamplePosition='-800 ps'/>
   </SamplingPositions>
<Pod/>
```

<PodAssignment> Element

The <PodAssignment> element contains <Pod> child elements that describe which of the pods have inputs for state mode sampling clocks.

Children This element can have the following children: <Clear/> (see page 47), <Pod> (see page 99).

Parents This element can have the following parents: <Module> (see page 84).

Example

```
<PodAssignment>
   <Clear/>
   <Pod Index='1' ClockingPod='T'/>
   <Pod Index='2' ClockingPod='T'/>
   <Pod Index='3' ClockingPod='F'/>
   <Pod Index='4' ClockingPod='F'/>
</PodAssignment>
```

<PodSettings> Element

The <PodSettings> element describes state clock and threshold voltage settings for each pod.

Attributes

Name	Description
SamplingOffset	'number time_unit (see page 153)'

Children This element can have the following children: <Pod> (see page 100).

Parents This element can have the following parents: <BusSignalSetup> (see page 40).

Example

```
<PodSettings>
   <Pod Index='1' StateClockSetting='Master Clock'
         ProbeType='General purpose probing' Threshold='TTL'
         ClockThreshold='TTL'/>
   <Pod Index='2' StateClockSetting='Master Clock'
         ProbeType='General purpose probing' Threshold='TTL'
         ClockThreshold='TTL'/>
   <Pod Index='3' StateClockSetting='Master Clock'
         ProbeType='General purpose probing' Threshold='TTL'
         ClockThreshold='TTL'/>
   <Pod Index='4' StateClockSetting='Master Clock'
         ProbeType='General purpose probing' Threshold='TTL'
         ClockThreshold='TTL'/>
</PodSettings>

<PodSettings SamplingOffset='800 ps'>
   <Pod Index='1' StateClockSetting='Master Clock'
         ProbeType='No probe attached'>
      <SamplingPositions>
         <Channel Index='0' FindEye='Off' SamplePosition='-800 ps' />
         ...
      </SamplingPositions>
   </Pod>
   <Pod Index='2' StateClockSetting='Master Clock'
         ProbeType='No probe attached'>
      <SamplingPositions>
         <Channel Index='0' FindEye='Off' SamplePosition='-800 ps' />
         ...
      </SamplingPositions>
   </Pod>
   <Pod Index='3' StateClockSetting='Master Clock'
         ProbeType='Differential probe' Threshold='Differential'
         ClockThreshold='Differential'>
      <SamplingPositions>
         <Channel Index='0' FindEye='On' SamplePosition='615 ps' />
         ...
      </SamplingPositions>
   </Pod>
   <Pod Index='4' StateClockSetting='Master Clock'
```

```
            ProbeType='No probe attached'>
         <SamplingPositions>
            <Channel Index='0' FindEye='Off' SamplePosition='-800 ps' />
            ...
         </SamplingPositions>
      </Pod>
   </PodSettings>
```

<PresentForGreater> Element

The <PresentForGreater> element specifies an amount of time an event must be present for. This element is used in timing mode triggers.

Attributes

Name	Description
Duration	'number time_unit (see page 153)'

Parents This element can have the following parents: <If> (see page 78).

Example

```
<PresentForGreater Duration='80 ns'/>
```

<Probe> Element (under Configuration Setup)

The <Probe> element contains setup information for a probe.

Attributes

Name	Description
Name	'string'

Children This element can have the following children:

- For information about child elements for probes, see the "Probe Setup, XML Format" topic in the Probe's online help.

Parents This element can have the following parents: <Setup> (see page 118).

Example

```
<Probe Name='General Purpose Probe-1'>
   <Properties>
      <DefinedProbes>
         <Probe Name='J1' Type='E5346A 34-ch Mictor single-ended probe'>
            <Pods>
               <Pod Index='0'/>
               <Pod Index='1'/>
            </Pods>
            <Signals/>
         </Probe>
      </DefinedProbes>
   </Properties>
</Probe>
```

<Probe> Element (under Overview)

The <Probe> element is a hierarchy describing how probes are connected in the Overview window.

Attributes

Name	Description
Name	'string'

Children This element can have the following children: <Module> (see page 86).

Parents This element can have the following parents: <Overview> (see page 96).

Example

```
<Probe Name='General Purpose Probe-1'>
   <Module Name='168x/9x Logic Analyzer - 1'/>
</Probe>
```

<Probe> Element (under Overview Setup)

The <Probe> element describes the name and type of a probe in the Overview window list.

Attributes

Name	Description
Enabled	'F' (false) or 'T' (true) (optional, corresponds to enabled status in Overview window)
Name	'string'
Type	'General Purpose Probe','FPGA Dynamic Probe', etc.

Parents This element can have the following parents: <Setup> (see page 119).

Example

```
<Probe Name='General Purpose Probe-1' Type='General Purpose Probe'
      Enabled='T'/>
```

<Qualifier> Element

The <Qualifier> element describes a state mode sampling clock qualifier.

Attributes

Name	Description
Level	'High' or 'Low'
PodIndex	'number'

Parents This element can have the following parents: <Qualifiers> (see page 110).

Example

```
<Qualifier PodIndex='2' Level='Low'/>
```

<Qualifiers> Element

The <Qualifiers> element describes one or more clock qualifiers. The operator for multiple qualifiers is specified as an attribute. (Qualifiers are always logically AND'ed with edges.)

Attributes

Name	Description
Operator	'And' or 'Or'

Children This element can have the following children: <Qualifier> (see page 109).

Parents This element can have the following parents: <ClockGroup> (see page 49).

Example

```
<Qualifiers Operator='And'>
   <Qualifier PodIndex='4' Level='High'/>
   <Qualifier PodIndex='2' Level='Low'/>
</Qualifiers>
```

<ResetOccurrenceCount/> Element

The <ResetOccurrenceCount/> element specifies a reset of the occurrence counter.

Parents This element can have the following parents: <Action> (see page 24).

Example

```
<Action>
   <ResetOccurrenceCount/>
</Action>
```

<SamplingSetup> Element

The <SamplingSetup> element describes the logic analyzer sampling mode (state or timing), and if in state mode, describes the sampling clock specification.

Children This element can have the following children: <Sampling> (see page 114), <StateClockSpec> (see page 127), <TimingZoom> (see page 138).

Parents This element can have the following parents: <Module> (see page 84).

Example Timing mode example:

```
<SamplingSetup>
   <Sampling ChannelMode='Full' MaxSpeed='400' SamplePeriod='2.5 ns'
      Type='Standard' Acquisition='Timing' AcquisitionDepth='256K'
      TriggerPosition='50'/>
</SamplingSetup>
```

State mode example:

```
<SamplingSetup>
   <Sampling ChannelMode='Full' Acquisition='State'
      AcquisitionDepth='256K' MaxSpeed='200' TriggerPosition='50'/>
   <StateClockSpec Mode='Master'>
      <Clear/>
      <Master>
         <ClockGroup>
            <Edges>
               <Edge PodIndex='1' Value='Rising'/>
            </Edges>
            <Qualifiers Operator='And'>
               <Qualifier Level='Low' PodIndex='2'/>
            </Qualifiers>
         </ClockGroup>
      </Master>
   </StateClockSpec>
</SamplingSetup>
```

<Sampling> Element (for Waveform Window)

The <Sampling> element contains the scale (time/division) and delay settings of a Waveform window.

Attributes

Name	Description
Delay	'number time_unit (see page 153)'
PerDivision	'number time_unit (see page 153)'

Parents This element can have the following parents: <Setup> (see page 117).

Example

```
<Sampling PerDivision='5 ns' Delay='0 s'/>
```

<Sampling> Element (under SamplingSetup)

The <Sampling> element describes the logic analyzer sampling mode (state or timing) and the sampling mode options.

Attributes

Name	Description
Acquisition	'State' or 'Timing'
AcquisitionDepth	'string' (as shown in user interface)
ChannelMode	'Full' or 'Half'
ForcePrestore	'F' (false) or 'T' (true)
MaxSpeed	'integer' (in MHz representing maximum sample rate in currently selected mode)
SamplePeriod	'real_number' (only when Acquisition='Timing')
TriggerPosition	'0-100'
Type	'Standard' or 'Transitional' only when Acquisition='Timing'

Parents This element can have the following parents: <SamplingSetup> (see page 112).

Example Timing mode example:

```
<Sampling Acquisition='Timing' Type='Standard' SamplePeriod='2 ns'
   ForcePrestore='T' TriggerPosition='50' AcquisitionDepth='1M'
   ChannelMode='Full' MaxSpeed='500' />
```

State mode example:

```
<Sampling Acquisition='State' Type='Normal' ForcePrestore='T'
   TriggerPosition='50' AcquisitionDepth='1M' ChannelMode='Full'
   MaxSpeed='250' />
```

<Save> Element

The <Save> element contains VbaView window information to be saved with configuration files.

Children The children of this element are defined by the VbaView window code (for examples, see the sample VbaView windows).

Parents This element can have the following parents: <Setup> (see page 116).

Example

```
<Window Name='Bus vs Bus Sample-1'>
   <Setup>
      <Save>
         <Properties XAxisBusSignal='Sample Number'
               YAxisBusSignal='My Bus 1' StartSample='-1000'
               EndSample='1000' XAxis2sComplement='0'
               YAxis2sComplement='0' ColorGradient='0'/>
      </Save>
      <Template Type='Bus vs Bus Sample'/>
   </Setup>
</Window>
```

<Setup> Element (for VbaView Windows)

The <Setup> element contains setup information for VbaView windows.

Children This element can have the following children: <Save> (see page 115), <Template> (see page 134), <VbaProject> (see page 146).

Parents This element can have the following parents: <Window> (see page 149).

Example

```
<Window Name='Bus vs Bus Sample-1'>
   <Setup>
      <Save>
         <Properties XAxisBusSignal='Sample Number'
               YAxisBusSignal='My Bus 1' StartSample='-1000'
               EndSample='1000' XAxis2sComplement='0'
               YAxis2sComplement='0' ColorGradient='0'/>
      </Save>
      <Template Type='Bus vs Bus Sample'/>
   </Setup>
</Window>
<Window Name='Bus vs Bus Sample-2'>
   <Setup>
      <Save>
         <Properties XAxisBusSignal='Sample Number'
               YAxisBusSignal='My Bus 1' StartSample='-1000'
               EndSample='1000' XAxis2sComplement='0'
               YAxis2sComplement='0' ColorGradient='0'/>
      </Save>
      <VbaProject FileName='C:\Documents and Settings\user\My
            Documents\Agilent Technologies\Logic Analyzer\Config
            Files\vbaview_setupVba01.zip'/>
   </Setup>
</Window>
```

<Setup> Element (for Waveform Window)

The <Setup> element contains setup information for the Waveform window.

Children This element can have the following children: <Sampling> (see page 113), <BusSignals> (see page 43).

Parents This element can have the following parents: <Window> (see page 149).

Example

```
<Window Name='Waveform-2'>
   <Setup>
      <Sampling PerDivision='5 ns' Delay='0 s'/>
      <BusSignals>
         <Clear/>
         <BusSignal Module='My 1682D-1' Name='My Bus 1'
               DefaultBase='Hex' Color='hFFFFFF' Height='30'/>
         <BusSignal Module='My External Oscilloscope-1'
               Name='My Scope C1' Color='hFFFF00' Height='150'>
            <Analog Connected='T' PerDivision='969 mV'
                  Offset='1.45 V'>
               <Axis Style='Axis' Color='h808080'/>
               <Clipped Show='T' Color='hFF8000'/>
            </Analog>
         </BusSignal>
         <BusSignal Module='My External Oscilloscope-1'
               Name='My Scope C2' Color='h00FF00' Height='150'>
            <Analog Connected='T' PerDivision='683 mV'
                  Offset='2.494 V'>
               <Axis Style='Axis' Color='h808080'/>
               <Clipped Show='T' Color='hFF8000'/>
            </Analog>
         </BusSignal>
         <BusSignal Name='Time' Color='hFFFFFF' Height='30'/>
      </BusSignals>
   </Setup>
</Window>
```

<Setup> Element (under Configuration)

The <Setup> element contains all the configuration information for the logic analyzer and any tools, such as inverse assemblers.

Children This element can have the following children: <Overview> (see page 96), <Module> (see page 84), <Tool> (see page 140), <Window> (see page 149), <Probe> (see page 106).

Parents This element can have the following parents: <Configuration> (see page 53).

Remarks Overview window information and setup appears in the <Overview> element.

Logic analyzer setup information appears in the <Module> element.

Tool setup information appears in the <Tool> element. Each tool must have a unique Name attribute.

Display window setup information appears in the <Window> element.

Example

```
<Setup>
   <Overview>
      ...
   </Overview>
   <Module Name='168x/9x Logic Analyzer - 1'>
      ...
   </Module>
   <Skew>
      ...
   </Skew>
   <Tool Name='Motorola PowerQUICC (MPC8XX) Inverse Assembler - 1'>
      ...
   </Tool>
   <Tool Name='Filter/Colorize - Motorola PowerQUICC (MPC8XX)'>
      ...
   </Tool>
   <Window Name='Compare - 1'/>
   <Window Name='Listing - 1'/>
   <Window Name='Waveform - 1'/>
</Setup>
```

<Setup> Element (under Overview)

The <Setup> element lists all the modules, tools, and display windows in the Overview window.

Children This element can have the following children: <Module> (see page 87), <Tool> (see page 142), <Window> (see page 151), <Probe> (see page 108).

Parents This element can have the following parents: <Overview> (see page 96).

Example

```
<Setup>
   <Module Name='MPC860 Demo Board' Type='16910-11' Enabled='T'
         NumSlots='1'/>
   <Module Name='My 16950A-1' Type='16753-56' Enabled='T' NumSlots='1'/>
   <Module Name='My 16750B-1' Type='1674x/5x' Enabled='T' NumSlots='1'/>
   <Module Name='My 16740A-1' Type='1674x/5x' Enabled='T' NumSlots='1'/>
   <Tool Name='Motorola PowerQUICC (MPC8XX) Inverse Assembler-1'
         Type='Motorola PowerQUICC (MPC8XX) Inverse Assembler'
         Enabled='T'/>
   <Tool Name='Packet Decoder-1' Type='Packet Decoder' Enabled='T'/>
   <Tool Name='Filter/Colorize-Motorola PowerQUICC (MPC8XX)'
         Type='Filter/Colorize' Enabled='T'/>
   <Window Name='Listing-2' Type='Listing'/>
   <Window Name='Waveform-2' Type='Waveform'/>
   <Window Name='Listing-3' Type='Listing'/>
   <Window Name='Waveform-3' Type='Waveform'/>
   <Window Name='Listing-4' Type='Listing'/>
   <Window Name='Listing-1' Type='Listing'/>
   <Window Name='Waveform-1' Type='Waveform'/>
   <Window Name='Source-1' Type='Source'/>
   <Probe Name='General Purpose Probe-1' Type='General Purpose Probe'
         Enabled='T'/>
   <Probe Name='General Purpose Probe-2' Type='General Purpose Probe'
         Enabled='T'/>
   <Probe Name='FPGA Dynamic Probe-1' Type='FPGA Dynamic Probe'
         Enabled='T'/>
   <Probe Name='N4220B Packet Analysis Probe-1'
         Type='N4220B Packet Analysis Probe' Enabled='T'/>
</Setup>
```

<SetupInfo> Element (for LogicBitsBlockDataSource)

The <SetupInfo> element contains additional setup information for the <LogicBitsBlockDataSource> (see page 80) element.

Attributes

Name	Description
BitsPerSample	'number'
FileOffset	'number' (bytes within the binary data file where the data begins)
PageSize	'number' (of bits per page of data)
RowCount	'number' (of samples)

Parents This element can have the following parents: <LogicBitsBlockDataSource> (see page 80).

Example

```
<LogicBitsBlockDataSource Type='Page'>
   <SetupInfo RowCount='65536' BitsPerSample='68' PageSize='32768'
         FileOffset='0'/>
</LogicBitsBlockDataSource>
```

See Also

- <LogicBitsBlockDataSource> (see page 80)

<SetupInfo> Element (for TimeDataSource)

The <SetupInfo> element contains additional setup information for the <TimeDataSource> (see page 135) element.

Attributes

Name	Description
FileOffset	'number' (bytes within the binary data file where the data begins)
PageSize	'number' (of bits per page of data)
RowCount	'number' (of samples)
SamplePeriod	'number time_unit (see page 153)' (sampling period for the timing data)
TriggerIndex	'number' (zero-based)
ValidTime	'F' (false) or 'T' (true)

Parents This element can have the following parents: <TimeDataSource> (see page 135).

Examples

```
<TimeDataSource Type='Page'>
   <SetupInfo RowCount='65536' PageSize='2048' ValidTime='T'
         FileOffset='589824'/>
</TimeDataSource>

<TimeDataSource Type='Periodic'>
   <SetupInfo RowCount='65519' TriggerIndex='32510'
         SamplePeriod='250 ps'/>
</TimeDataSource>
```

See Also

- <TimeDataSource> (see page 135)

<SetupInfo> Element (for SampleNumberDataSource)

The <SetupInfo> element contains additional setup information for the <SampleNumberDataSource> (see page 123) element.

Attributes

Name	Description
RowCount	'number' (of samples)
SamplePeriod	'1'
TriggerIndex	'number' (zero-based)

Parents This element can have the following parents: <SampleNumberDataSource> (see page 123).

Example

```
<SampleNumberDataSource Type='Periodic'>
   <SetupInfo RowCount='65536' TriggerIndex='0' SamplePeriod='1'/>
</SampleNumberDataSource>
```

See Also

- <SampleNumberDataSource> (see page 123)

<SampleNumberDataSource> Element

The <SampleNumberDataSource> element contains information about the sample column in the binary data file.

Attributes

Name	Description
Type	'Periodic'

Children This element can have the following children: <SetupInfo> (for SampleNumberDataSource) (see page 122).

Parents This element can have the following parents: <TableSetup> (see page 133), <TimingZoomTable> (see page 139).

Example

```
<SampleNumberDataSource Type='Periodic'>
   <SetupInfo RowCount='65536' TriggerIndex='0' SamplePeriod='1'/>
</SampleNumberDataSource>
```

See Also

- <SetupInfo> (for SampleNumberDataSource) (see page 122)

<SamplingPositions> Element

The <SamplingPositions> element specifies the setup/hold (sampling position) values used for the logic analyzer channels in the bus/signal definition.

Children This element can have the following children: <Channel> (see page 45).

Parents This element can have the following parents: <Pod> (see page 100).

Example

```
<SamplingPositions'>
   <Channel Index='0' FindEye='On' SamplePosition='615 ps'/>
   <Channel Index='1' FindEye='On' SamplePosition='-517 ps'/>
   <Channel Index='2' FindEye='On' SamplePosition='-366 ps'/>
   <Channel Index='3' FindEye='On' SamplePosition='1.025 ns'/>
   <Channel Index='4' FindEye='On' SamplePosition='439 ps'/>
   <Channel Index='5' FindEye='On' SamplePosition='-79 ps'/>
   <Channel Index='6' FindEye='On' SamplePosition='-79 ps'/>
   <Channel Index='7' FindEye='On' SamplePosition='-38 ps'/>
   <Channel Index='8' FindEye='Off' SamplePosition='-800 ps'/>
   <Channel Index='9' FindEye='Off' SamplePosition='-800 ps'/>
   <Channel Index='10' FindEye='Off' SamplePosition='-800 ps'/>
   <Channel Index='11' FindEye='Off' SamplePosition='-800 ps'/>
   <Channel Index='12' FindEye='Off' SamplePosition='-800 ps'/>
   <Channel Index='13' FindEye='Off' SamplePosition='-800 ps'/>
   <Channel Index='14' FindEye='Off' SamplePosition='-800 ps'/>
   <Channel Index='15' FindEye='Off' SamplePosition='-800 ps'/>
   <Channel Index='16' FindEye='Off' SamplePosition='-800 ps'/>
</SamplingPositions>
```

<Slave> Element

The <Slave> element describes the state mode's slave sampling clock.

Children This element can have the following children: <ClockGroup> (see page 49).

Parents This element can have the following parents: <StateClockSpec> (see page 127).

Example

```
<Slave>
   <ClockGroup>
      <Edges>
         <Edge PodIndex='2' Value='Falling'/>
      </Edges>
   </ClockGroup>
   <ClockGroup>
      <Edges>
         <Edge PodIndex='3' Value='Rising'/>
         <Edge PodIndex='4' Value='Either'/>
      </Edges>
   </ClockGroup>
</Slave>
```

<SourceDirectories> Element

The <SourceDirectories> element lists the directories in which to search for source files. It also specifies whether subdirectories are searched.

Attributes

Name	Description
SearchSubdirectories	'F' (false) or 'T' (true)

Children This element can have the following children: <Directory> (see page 59).

Parents This element can have the following parents: <Window> (see page 149).

Example

```
<SourceDirectories SearchSubdirectories='T'>
   <Directory Path='C:\My Documents\source'/>
   <Directory Path='C:\My Documents\build'/>
</SourceDirectories>
```

<StateClockSpec> Element

The <StateClockSpec> element describes the state mode sampling clock specification.

Attributes

Name	Description
Mode	'Master','Master/Slave/Demux','Dual Sample'

Children This element can have the following children: <Clear/> (see page 47), <Master> (see page 83), <Slave> (see page 125).

Parents This element can have the following parents: <SamplingSetup> (see page 112).

Example

```
<StateClockSpec Mode='Master/Slave/Demux'>
   <Clear/>
   <Master>
      <ClockGroup>
         <Edges>
            <Edge PodIndex='1' Value='Rising'/>
         </Edges>
         <Qualifiers Operator='And'>
            <Qualifier PodIndex='4' Level='High'/>
            <Qualifier PodIndex='2' Level='Low'/>
         </Qualifiers>
      </ClockGroup>
   </Master>
   <Slave>
      <ClockGroup>
         <Edges>
            <Edge PodIndex='2' Value='Falling'/>
         </Edges>
      </ClockGroup>
      <ClockGroup>
         <Edges>
            <Edge PodIndex='3' Value='Rising'/>
            <Edge PodIndex='4' Value='Either'/>
         </Edges>
      </ClockGroup>
   </Slave>
</StateClockSpec>
```

<Step> Element

The <Step> element's Number attribute is an integer >= 1 specifying the sequence step number of the trigger step. Each "Step" can have multiple "If" children.

Attributes

Name	Description
Number	'number'

Children This element can have the following children: <If> (see page 78).

Parents This element can have the following parents: <Trigger> (see page 145).

Example

```
<Step Number='1'>
   <If>
      <Event>
         <BusSignal Name='ADDR' SymbolName='update_system'
               Value='hFFF034D8' Operator='Equals' Base='Symbol'/>
      </Event>
      <Occurrence Value='1'/>
      <Action>
         <TriggerAction Operator='Fill Memory'>
            <StoreQual>
               <Event>
                  <Anything/>
               </Event>
            </StoreQual>
         </TriggerAction>
      </Action>
   </If>
</Step>
```

<StoreQual> Element

The <StoreQual> element can have the Not="T" attribute to specify a negation on the store qualifier.

The <StoreQual> element contains an <Event> element to specify the store qualifier.

Attributes

Name	Description
Mode	'Custom' or 'Transitional'
Not	'T'

Children This element can have the following children: <Event> (see page 63), <ExcludedLabels> (see page 66) (when Mode='Transitional' and you exclude buses/signals).

Parents This element can have the following parents: <Trigger> (see page 145), <TriggerAction> (see page 143).

Example

```
<StoreQual>
   <Event>
      <Anything/>
   </Event>
</StoreQual>
```

<Store> Element

The <Store> element specifies what to do with the sample that caused the event to occur or whether to turn default storing on or off.

Attributes

Name	Description
Operator	'Store sample','Don't store sample', 'Turn on default storing', or 'Turn off default storing'

Parents This element can have the following parents: <Action> (see page 24).

Example

```
<Action>
   <Store Operator='Store sample'/>
</Action>
```

<Symbol> Element

The <Symbol> element describes a symbol name and value.

Examples of Value, LowRange, and HighRange values are: "hff" (hex ff), "b1001" (binary 1001), etc. Base designations are "h", "b", "o", "d".

For more information on symbols and symbol files, see "Setting Up Symbols" (in the online help).

Attributes

Name	Description
Base	'Binary','Hex','Octal','Decimal', or 'Signed Decimal'
File	'full_path_to_file' (can have a leading shell variable)
HighRange	'value (see page 153)' (when Operator='Range', can include "X" for don't care digits)
LowRange	'value (see page 153)' (when Operator='Range', can include "X" for don't care digits)
Name	'string'
Operator	For buses (> 1 bit): 'Equals' or 'Range' For signals (= 1 bit): 'Dont Care','High', or 'Low'
Value	'value (see page 153)' (can include "X" for don't care digits)

Parents This element can have the following parents: <Symbols> (see page 132).

Example

```
<Symbol File="C:\My Documents\q.elf"/>

<Symbol File="%TMPDIR%\myfile.x"/>

<Symbol LowRange='hFFF034D8' Name='update_system' Operator='Range'
      Base='Hex' HighRange='hFFF03557'/>

<Symbol Name='----' Operator='High'/>

<Symbol Name='4 byte' Value='h0' Operator='Equals' Base='Hex'/>

<Symbol Name='111' Value='h7' Operator='Equals' Base='Hex'/>

<Symbol Name='debug' Value='h3' Operator='Equals' Base='Hex'/>
```

<Symbols> Element

The <Symbols> element contains the symbols defined for a bus/signal.

Children This element can have the following children: <Clear/> (see page 47), <Symbol> (see page 131).

Parents When used in an XML file, this element can have the following parents: <BusSignal> (see page 34).

When used in COM automation, this element is used by the "Symbols property" (in the online help).

Example

```
<Symbols>
   <Clear/>
   <Symbol Name='add_to_history' Operator='Range' LowRange='hFFF03AAC'
         HighRange='hFFF03B0F'/>
   <Symbol Name='boot_q' Operator='Range' LowRange='hFFF02114'
         HighRange='hFFF0241B'/>
   <Symbol Name='clear_hist_buff' Operator='Range' LowRange='hFFF03474'
         HighRange='hFFF034D3'/>
   <Symbol Name='do_sort' Operator='Range' LowRange='hFFF03394'
         HighRange='hFFF0346F'/>
   <Symbol Name='get_targets' Operator='Range' LowRange='hFFF0355C'
         HighRange='hFFF03643'/>
   <Symbol Name='init_system' Operator='Range' LowRange='hFFF03B14'
         HighRange='hFFF03D2B'/>
   <Symbol Name='main' Operator='Range' LowRange='hFFF03164'
         HighRange='hFFF031AF'/>
   <Symbol Name='proc_spec_init' Operator='Range' LowRange='hFFF0407C'
         HighRange='hFFF040C7'/>
   <Symbol Name='proc_specific' Operator='Range' LowRange='hFFF040CC'
         HighRange='hFFF044C7'/>
   <Symbol Name='read_conditions' Operator='Range' LowRange='hFFF03648'
         HighRange='hFFF03787'/>
   <Symbol Name='save_points' Operator='Range' LowRange='hFFF03984'
         HighRange='hFFF03AA7'/>
   <Symbol Name='set_outputs' Operator='Range' LowRange='hFFF0378C'
         HighRange='hFFF03897'/>
   <Symbol Name='update_display' Operator='Range' LowRange='hFFF031B4'
         HighRange='hFFF0338F'/>
   <Symbol Name='update_system' Operator='Range' LowRange='hFFF034D8'
         HighRange='hFFF03557'/>
</Symbols>
```

<TableSetup> Element

The <TableSetup> element describes the part of the binary data file that contains normal (that is, not TimingZoom) data.

Attributes

Name	Description
FileName	'relative_path_file_name'
OffsetTime	'number time_unit (see page 153)'
RowCount	'number'
TimePrecision	'number time_unit (see page 153)'
TriggerIndex	'number'

Children This element can have the following children: <SampleNumberDataSource> (see page 123), <LogicBitsBlockDataSource> (see page 80), <TimeDataSource> (see page 135).

Parents This element can have the following parents: <Data> (see page 56).

Example

```
<TableSetup RowCount='65536' TriggerIndex='0' OffsetTime='0 s'
      TimePrecision='1 ns' FileName='las33_data02of04.mfb'>
   <SampleNumberDataSource Type='Periodic'>
      <SetupInfo RowCount='65536' TriggerIndex='0' SamplePeriod='1'/>
   </SampleNumberDataSource>
   <LogicBitsBlockDataSource Type='Page'>
      <SetupInfo RowCount='65536' BitsPerSample='68' PageSize='32768'
            FileOffset='0'/>
   </LogicBitsBlockDataSource>
   <TimeDataSource Type='Page'>
      <SetupInfo RowCount='65536' PageSize='2048' ValidTime='T'
            FileOffset='589824'/>
   </TimeDataSource>
</TableSetup>
```

<Template> Element

The <Template> element identifies the template used to create the VbaView window. This element appears when there have been no modifications to the VbaView window code.

Attributes

Name	Description
Type	'Bus vs Bus Sample','Distribution Sample','Export to IE Sample', 'External Scope Web Control',or 'Hello World Sample'

Parents This element can have the following parents: <Setup> (see page 116).

Example

```
<Window Name='Bus vs Bus Sample-1'>
   <Setup>
      <Save>
         <Properties XAxisBusSignal='Sample Number'
               YAxisBusSignal='My Bus 1' StartSample='-1000'
               EndSample='1000' XAxis2sComplement='0'
               YAxis2sComplement='0' ColorGradient='0'/>
      </Save>
      <Template Type='Bus vs Bus Sample'/>
   </Setup>
</Window>
```

<TimeDataSource> Element

The <TimeDataSource> element contains information about the time column in the binary data file.

Attributes

Name	Description
Type	'Page' or 'Periodic'

Children This element can have the following children: <SetupInfo> (for TimeDataSource) (see page 121).

Parents This element can have the following parents: <TableSetup> (see page 133), <TimingZoomTable> (see page 139).

Examples

```
<TimeDataSource Type='Page'>
   <SetupInfo RowCount='65536' PageSize='2048' ValidTime='T'
         FileOffset='589824'/>
</TimeDataSource>

<TimeDataSource Type='Periodic'>
   <SetupInfo RowCount='65519' TriggerIndex='32510'
         SamplePeriod='250 ps'/>
</TimeDataSource>
```

See Also

- <SetupInfo> (for TimeDataSource) (see page 121)

<TimerAction> Element

The <TimerAction> element specifies a timer action.

Attributes

Name	Description
ID	'timer_number'
Operator	"Start from reset", "Stop and reset", "Pause", or "Resume"

Parents This element can have the following parents: <Action> (see page 24).

Example

```
<Action>
   <TimerAction ID='1' Operator='Stop and reset'/>
</Action>
```

<TimerEvent> Element

The <TimerEvent> element defines a timer value that will cause an event.

Attributes

Name	Description
ID	'timer_number'
Operator	'>=' or '<' ("greater than or equal to" or "less than")
Value	'number time_unit (see page 153)'

Parents This element can have the following parents: <Event> (see page 63), <And> (see page 26), <Or> (see page 93).

Example

```
<Event>
   <TimerEvent ID='1' Operator='&gt;=' Value='80 ns'/>
</Event>
```

<TimingZoom> Element

The <TimingZoom> element describes the timing zoom sampling settings.

Attributes

Name	Description
AlignWithSubModuleNumber	'number' (specifies the module to be used with when the logic analyzer is split)
Enabled	'F' (false) or 'T' (true)
SamplePeriod	'real_number'
TriggerPosition	'0-100'

Parents This element can have the following parents: <SamplingSetup> (see page 112).

Example

```
<TimingZoom Enabled='T' AlignWithSubModuleNumber='0'
      TriggerPosition='50' SamplePeriod='250 ps'/>
```

<TimingZoomTable> Element

The <TimingZoomTable> element describes the part of the binary data file that contains TimingZoom data.

Attributes

Name	Description
FileName	'relative_path_file_name'
OffsetTime	'number time_unit (see page 153)'
RowCount	'number'
TimePrecision	'number time_unit (see page 153)'
TriggerIndex	'number'

Children This element can have the following children: <SampleNumberDataSource> (see page 123), <LogicBitsBlockDataSource> (see page 80), <TimeDataSource> (see page 135).

Parents This element can have the following parents: <Data> (see page 56).

Example

```
<TimingZoomTable RowCount='65519' TriggerIndex='32510' OffsetTime='0 s'
      TimePrecision='10 ps' FileName='las33_data02of04.mfb'>
   <SampleNumberDataSource Type='Periodic'>
      <SetupInfo RowCount='65519' TriggerIndex='32510'
            SamplePeriod='1'/>
   </SampleNumberDataSource>
   <LogicBitsBlockDataSource Type='Page'>
      <SetupInfo RowCount='65519' BitsPerSample='68' PageSize='43690'
            FileOffset='1638400'/>
   </LogicBitsBlockDataSource>
   <TimeDataSource Type='Periodic'>
      <SetupInfo RowCount='65519' TriggerIndex='32510'
            SamplePeriod='250 ps'/>
   </TimeDataSource>
</TimingZoomTable>
```

<Tool> Element (under Configuration Setup)

The <Tool> element contains setup information for a tool.

Attributes

Name	Description
Name	'string'

Children This element can have the following children:

- <Filter> (see page 72) (for Filter/Colorize Tool)
- For information about child elements for other add-on tools, see the "Tool Setup, XML Format" topic in the tool's online help.

Parents This element can have the following parents: <Setup> (see page 118).

Example

```
<Tool Name='Filter/Colorize - Motorola PowerQUICC (MPC8XX)'>
   <Filter Enabled='T'>
      <FilterExpression Name='Idle/Wait States' Enabled='T'>
         <Event>
            <BusSignal Name='Cycle Type-1' SymbolName='idle'
               Value='bXXXX XXXX XXXX XXXX XXXX XXXX X1XX XXX1'
               Operator='Equals' Base='Symbol'/>
         </Event>
         <FilterAction Type='Hide'/>
      </FilterExpression>
      <FilterExpression Name='Extension Words' Enabled='T'>
         <Event>
            <BusSignal Name='Cycle Type-1' SymbolName='extension'
               Value='bXXXX XXXX XXXX XXXX XXXX XXXX XX1X XXX1'
               Operator='Equals' Base='Symbol'/>
         </Event>
         <FilterAction Type='Hide'/>
      </FilterExpression>
      <FilterExpression Name='Overfetch States' Enabled='T'>
         <Event>
            <Or>
               <BusSignal Name='Cycle Type-1' SymbolName='overfetch'
                  Value='bXXXX XXXX XXXX XXXX XX1X XXXX XXX1 XXX1'
                  Operator='Equals' Base='Symbol'/>
               <BusSignal Name='Cycle Type-1' SymbolName='overfetch'
                  Value='bXXXX XXXX XXXX XXXX XX1X XXXX XXX1 XXX1'
                  Operator='Equals' Base='Symbol'/>
            </Or>
         </Event>
         <FilterAction Type='Hide'/>
      </FilterExpression>
   </Filter>
</Tool>
```

<Tool> Element (under Module)

The <Tool> element describes the name of a tool in the Overview window hierarchy.

Attributes

Name	Description
Name	'string'

Children This element can have the following children: <Tool> (see page 141), <Window> (see page 150).

Parents This element can have the following parents: <Module> (see page 85).

Example

```
<Tool Name='Motorola PowerQUICC (MPC8XX) Inverse Assembler - 1'>
   <Tool Name='Filter/Colorize - Motorola PowerQUICC (MPC8XX)'>
      <Window Name='Listing - 1'/>
      <Window Name='Waveform - 1'/>
   </Tool>
</Tool>
```

<Tool> Element (under Overview Setup)

The <Tool> element describes the name and type of a tool in the Overview window list.

Attributes

Name	Description
Enabled	'F' (false) or 'T' (true) (optional, corresponds to enabled status in Overview window)
Name	'string'
Type	'Filter/Colorize','ARM Inverse Assembler','IBM PPC405 Inverse Assembler','Motorola 6833x7x Inverse Assembler','Motorola MPC8260 Inverse Assembler','Motorola PowerQUICC (MPC8XX) Inverse Assembler', or 'Motorola PPC6xx-7xx Inverse Assembler'.

Parents This element can have the following parents: <Setup> (see page 119).

Example

```
<Tool Name='Filter/Colorize - Motorola PowerQUICC (MPC8XX)'
      Type='Filter/Colorize'/>
```

<TriggerAction> Element

The <TriggerAction> element specifies a trigger action to take in the trigger sequence.

Attributes

Name	Description
Operator	'Fill Memory','Goto',or 'Email and Fill Memory'

Children This element can have the following children: <Email> (see page 62) (if Operator='Email and Fill Memory'), <Goto> (see page 77) (if Operator='Goto'), <StoreQual> (see page 129).

Parents This element can have the following parents: <Action> (see page 24).

Example

```
<TriggerAction Operator='Fill Memory'>
   <StoreQual>
      <Event>
         <Anything/>
      </Event>
   </StoreQual>
</TriggerAction>

<TriggerAction Operator='Goto'>
   <Goto Step='2'/>
</TriggerAction>

<TriggerAction Operator='Email and Fill Memory'>
   <StoreQual Mode='Custom'>
      <Event>
         <DefaultStore/>
      </Event>
   </StoreQual>
   <Email To='first_last@company.com' Subject='Logic analyzer triggered'
         Body='Here's the message body.'/>
</TriggerAction>
```

<TriggerFavorites> Element

The <TriggerFavorites> element contains zero or more favorite triggers.

Children This element can have the following children: <Favorite> (see page 67).

Parents This element can have the following parents: <Module> (see page 84).

Example

```
<TriggerFavorites>
   <Favorite Name='First Trigger'>
      <Trigger Mode='State'>
         ...
      </Trigger>
   </Favorite>
   <Favorite Name='Second Trigger'>
      <Trigger Mode='State'>
         ...
      </Trigger>
   </Favorite>
</TriggerFavorites>
```

<Trigger> Element

The <Trigger> element contains a logic analyzer trigger specification.

Attributes

Name	Description
Mode	'State', 'Turbo', or 'Timing'

Children This element can have the following children: <StoreQual> (see page 129), <Step> (see page 128), <PatternNTimes> (see page 97), <PatternReset> (see page 98).

Parents When used in an XML file, this element can have the following parents: <Favorite> (see page 67), <File> (see page 68), <Module> (see page 84).

When used in COM automation, this element is used by the "Trigger property" (in the online help).

Example

```
<Trigger Mode='State'>
   <StoreQual>
      <Event>
         <Anything/>
      </Event>
   </StoreQual>
   <Step Number='1'>
      <If>
         <Event>
            <BusSignal Name='ADDR' SymbolName='update_system'
                  Value='hFFF034D8' Operator='Equals' Base='Symbol'/>
         </Event>
         <Occurrence Value='1'/>
         <Action>
            <TriggerAction Operator='Fill Memory'>
               <StoreQual>
                  <Event>
                     <Anything/>
                  </Event>
               </StoreQual>
            </TriggerAction>
         </Action>
      </If>
   </Step>
</Trigger>
```

<VbaProject> Element (for VbaView Windows)

The <VbaProject> element specifies where VbaView window project code is saved.

Attributes

Name	Description
FileName	'string' (full path)

Parents This element can have the following parents: <Setup> (see page 116).

Example

```
<Window Name='Bus vs Bus Sample-2'>
   <Setup>
      <Save>
         <Properties XAxisBusSignal='Sample Number'
               YAxisBusSignal='My Bus 1' StartSample='-1000'
               EndSample='1000' XAxis2sComplement='0'
               YAxis2sComplement='0' ColorGradient='0'/>
      </Save>
      <VbaProject FileName='C:\Documents and Settings\user\My
            Documents\Agilent Technologies\Logic Analyzer\Config
            Files\vbaview_setupVba01.zip'/>
   </Setup>
</Window>
```

<VbaProject> Element (for VBA Macros)

The <VbaProject> element specifies where VBA macro project code is saved.

Attributes

Name	Description
FileName	'string' (full path)
Name	'MyConfigMacros'

Parents This element can have the following parents: <VbaProjects> (see page 148).

Example

```
<VbaProjects>
   <VbaProject FileName='C:\Documents and Settings\user\My
         Documents\Agilent Technologies\Logic Analyzer\Config
         Files\vbaview_test_setup2Vba01.zip' Name='MyConfigMacros'/>
</VbaProjects>
```

<VbaProjects> Element

The <VbaProjects> element contains VBA macro project file information.

Children This element can have the following children: <VbaProject> (see page 147).

Parents This element can have the following parents: <Configuration> (see page 53).

Example

```
<VbaProjects>
   <VbaProject FileName='C:\Documents and Settings\user\My
         Documents\Agilent Technologies\Logic Analyzer\Config
         Files\vbaview_test_setup2Vba01.zip' Name='MyConfigMacros'/>
</VbaProjects>
```

<Window> Element (under Configuration Setup)

The <Window> element contains setup information for the display windows. Currently, the window name is the only setup information.

Attributes

Name	Description
Name	'string'

Children This element can have the following children: <BusSignals> (see page 42) (for Listing, Compare, and Source windows), <Setup> (see page 117) (for Waveform window), <Options> (see page 92) (for Compare window), <SourceDirectories> (see page 126) (for Source window), <Setup> (see page 116) (for VbaView windows).

Parents This element can have the following parents: <Setup> (see page 118).

Example

```
<Window Name='Compare - 1'/>
<Window Name='Listing - 1'/>
<Window Name='Waveform - 1'/>
```

<Window> Element (under Module)

The <Window> element describes a window name in the Overview window hierarchy.

Attributes

Name	Description
Name	'string'

Parents This element can have the following parents: <Module> (see page 85), <Tool> (see page 141).

Example

```
<Window Name='Compare - 1'/>
```

<Window> Element (under Overview Setup)

The <Window> element describes the name and type of a window in the Overview window list.

Attributes

Name	Description
Name	'string'
Type	'Compare','Listing', or 'Waveform'

Parents This element can have the following parents: <Setup> (see page 119).

Example

```
<Window Name='Listing - 1' Type='Listing'/>
```

4 XML Element Values

frequency_unit	• GHz — gigahertz • MHz — megahertz • kHz — kilohertz • Hz — hertz
time_unit	• ps — picoseconds • ns — nanoseconds • us — microseconds • ms — milliseconds • s — seconds • Gs — gigaseconds
value	A number with one of the following prefixes: • h — hex • b — binary • o — octal • d — decimal For example: hFFF034D8
voltage_unit	• mV — millivolts • V — volts

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