New Control Types for P1722.1c

Florian Zeitz Marc Schettke

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Clock Sync State Control (CLOCK_SYNC)

- Indicate whether a clock input is in sync with the currently active clock in the associated clock domain
- boolean
- **control_value_type**: CONTROL_LINEAR_UINT8
- **minimum**: zero (0)
- **maximum**: 255
- **step**: 255
- **unit**: **multiplier** of zero (0), **code** of UNITLESS

Clock Sync State Control (CLOCK_SYNC)

7.3.5.36. Clock Sync State Control (CLOCK_SYNC)

The CLOCK_SYNC control is used to report whether available clock sources are in sync with the clock currently active in the associated clock domain.

A CLOCK_SYNC control consists of one or multiple boolean values implemented using a CONTROL_LINEAR_UINT8 value type, with a **minimum** of zero (0), a **maximum** of 255, a **step** of 255, and a **unit** field with a **multiplier** of zero (0) and a **code** of UNITLESS.

A CLOCK_SYNC control is read only.

Zero (0) is used to indicate that the clock source is out of sync, and 255 is used to indicate that the clock source is in sync with the clock currently active in the associated clock domain.

A CLOCK_SYNC control may be implemented as a child of a Unit, a Port or a Jack.

Nominal Clock Frequency Control (CLOCK_FREQUENCY)

- Indicate a nominal frequency detected at a clock input (Word Clock, MADI, ADAT, etc.)
- Vendor specific mechanism, typically relative to an internal oscillator
- **control_value_type**: any linear or sampling rate
- **minimum**: lowest detectable nominal frequency
- **maximum**: highest detectable nominal frequency
- **default**: zero (0)
- **current**:
  - as detected
  - may be outside **minimum** / **maximum**
  - zero (0) indicates no valid signal
- **unit**: **multiplier** as required, **code** of HERTZ

CLOCK_FREQUENCY control_value_type

- CONTROL_SAMPLING_RATE is required for some pull factors
- Linear controls allow more than one clock per controlt d
- Selector controls could be nice to indicate detectable nominal frequencies
- Probably don’t want to allow a plethora of different types

Nominal Clock Frequency Control (CLOCK_FREQUENCY)

7.3.5.35. Nominal Clock Frequency Control (CLOCK_FREQUENCY)

The CLOCK_FREQUENCY control is used to report whether one or multiple available clock sources are currently detecting a valid clock signal and the signal's nominal frequency. Determination of validity and nominal frequency is vendor specific. Typically it is performed by referencing some internal oscillator.

A CLOCK_FREQUENCY control is implemented using either a linear value type with a sufficient range and resolution for the implementation, or a sampling rate value type. For each value the **minimum** and **maximum** represents the range of detectable nominal frequencies. The **default** is zero (0). The **current** value is as determined by the detection mechanism. A lack of valid clock signal is signaled by a value of zero (0). When a linear value type is used the **unit** field's **code** is set to HERTZ and the **multiplier** is set to any multiplier which provides the resolution required for representing the detectable nominal frequencies.

A CLOCK_FREQUENCY control is read only.

A CLOCK_FREQUENCY control may be implemented as a child of a Unit, a Port or a Jack.

User Interface Brightness Control (UI_BRIGHTNESS)

- Control illumination of UI elements
- Different from pre-existing video signal BRIGHTNESS
- **control_value_type**: any linear
- **unit**: **multiplier** of zero (0), **code** of UNITLESS or PERCENT

User Interface Brightness Control (UI_BRIGHTNESS)

7.3.5.37 User Interface Brightness Control (UI_BRIGHTNESS)

The UI_BRIGHTNESS control is used to disable or dim illuminations of various user interface components.

A UI_BRIGHTNESS control is implemented using any linear value type with a sufficient range and resolution for the implementation and a **unit** field with a **multiplier** of zero (0) and a **code** of UNITLESS or PERCENT.

A value of zero (0) is used to indicate that illumination is disabled.

A UI_BRIGHTNESS control may be implemented as a child of any object that can contain a Control.