

HUTRR67 - Transducer Product

Request #: HUTRR67
Title: Transducer Product, Protocol, Switch, and Rate Usages.
Spec Release: 1.12
Received: 29 Apr 2016
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Required Voter: Wacom
Required Voter: nVidia
Required Voter: Microsoft

Summary:

This adds usages to aid in getting firmware update information for transducers, for digitizer report rates, and for digitizer and transducer protocol support.

Background:

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It is becoming more common that a transducer used on a digitizer device is from a different manufacturer. These usages help bundle together manufacturer and version information that is needed to determine if a transducer needs a firmware update. It also adds usages to identify which protocols a digitizer or stylus can support.

Some smoothing algorithms work better if they know the report rate. The polling rate is not an accurate representation of this rate so this adds a report rate usage.

Transducer buttons don't lend themselves to the usual button page due to different functions. This creates a container for transducer buttons and adds additional settings for those buttons.

Proposal:

All changes are localized to Chapter 16 Digitizers (0x0D).

New usages to be added to Table 18: Digitizer Page

90	Transducer Software Info.	CL	16.3.1
91	Transducer Vendor ID	SV	16.3.1
92	Transducer Product ID	SV	16.3.1
93	Device Supported Protocols	NAry, CL	16.3.1
94	Transducer Supported Protocols	NAry, CL	16.3.1
95	No Protocol	Se1	16.3.1
96	Wacom AES Protocol	Se1	16.3.1
97	USI Protocol	Se1	16.3.1
98-9F	Reserved for future transducer protocols		
A0	Supported Report Rates	SV, CL	16.3.1

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A1	Report Rate	DV	16.3.1
A2	Transducer Connected	SF	16.3.1
A3	Switch Disabled	Sel	16.3.1
A4	Switch Unimplemented	Sel	16.3.1
A5	Transducer Switches	CL	16.3.1

Change the following in Table 18 Digitizer Page:

From:

Usage ID: 93-FFFF

Usage Name: Reserved

To:

Usage ID: A6-FFFF

Usage Name: Reserved

Additions referenced by the above usages:

Section 16.3.1 Digitizer-Specific Fields

Transducer Software Info. CL A collection of usages that is useful for software update purposes. For example this may contain vendor ID, product ID, and software version information.

Transducer Vendor ID SV A vendor identification from a list of vendors. This may or may not be a vendor ID assigned by USB-IF.

Transducer Product ID SV A vendor defined product ID.

Device Supported Protocols NArY, CL - This is an array of the protocols that the digitizer device supports. This could also be used as a collection of protocol/protocol version pairs to indicate not only the protocols supported but also one or more versions of the protocol.

Transducer Supported Protocols NArY, CL - This is an array of the protocols that the transducer supports. This could also be used as a collection of protocol/protocol version pairs to indicate not only the protocols supported but also one or more versions of the protocol.

No Protocol Sel - No supported protocol. This can be used to fill empty array elements.

Wacom AES Protocol Sel - Indicates the transducer supports the Wacom Active Electrostatic Stylus protocol.

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USI Protocol Sel - Indicates the transducer supports the Universal Stylus Initiative protocol.

Supported Report Rates SV, CL - Reports per second supported by the digitizer. This may be a single value or may act as a collection of supported rates.

Report Rate DV - The current number of reports sent per second. If there is a single value for Supported Report Rates the rate is assumed to be fixed. If there is more than one value for Supported Report Rates the rate is assumed to be changeable to any of the rates in the Supported Report Rates collection.

Transducer Connected SF - The transducer is actively connected. This is an indication that commands and queries supported by the transducer can be issued.

Switch Disabled Sel - Used to indicate that one of the switches has been disabled.

Switch Unimplemented Sel - Used to indicate a switch does not exist (such as a stylus with no secondary barrel button).

Transducer Switches CL - Used as a container for switches on a transducer.

Response:

<Added by HID Chair upon closing the Request>