

Request #: HUTRR108
Title: Stylus Transducer Index Selector
Spec Release: 1.3
Requester: Anton Cheng
Company: Intel

Pages Affected: Digitizer (0x0D)
Values checked: Matthew Williams (Chair)

Current Status: **Approved**
Priority: Normal

Required Voter: Google
Required Voter: Microsoft
Required Voter: Wacom

Voting Begins: 30th May 2022
Voting Ends: 6th June 2022
Voting Result: 7-0

Summary:

Add a new Usage to the Digitizers Page (0x0D) to support differentiating transducers/styli when multiple transducers are simultaneously in range.

Background:

To query ink attributes (e.g. ink color) of a stylus when multiple styli are in-range, the Host is expected to select one 'Transducer Index' using a SetFeature before issuing GetFeature to retrieve ink attribute.

The current definition of 'Transducer Index' (below) does not fit with this pattern.

Indicates which transducer generated the current report. Transducer Index is useful if multiple transducers generate identical reports. Otherwise, report IDs should be used to distinguish different transducer types.

Proposal:

Instead of overloading 'Transducer Index' (UsageId:0x38) to affect subsequent GetFeature reports, a new UsageId, 'Transducer Index Selector' (UsageId:0xA6) is suggested. This will keep the definition of the existing 'Transducer Index' unchanged.

Add to Table 16.1: Digitizer Page (0x0D)

Usage Id	Usage Name	Usage Type
0xA6	Transducer Index Selector	DV

Add to Table 16.3.1 Digitizer-Specific Fields

Usage Name	Usage Type	Description
Transducer Index Selector	DV	Indicates the selected transducer index for subsequent GetFeature requests. The transducer index reported in subsequent GetFeature reports should be validated to ensure it matches the requested transducer index selector from the most recent SetFeature operation.

Sample Descriptor:

Descriptor snippet illustrating a Feature Report to set the 'Transducer Index Selector'

```
0x85, 0x01, // REPORT_ID (1)
0x05, 0x0d, // USAGE_PAGE (Digitizers)
0x09, 0xa6, // USAGE (Transducer Index Selector)
0x75, 0x08, // REPORT_SIZE (8)
0x95, 0x01, // REPORT_COUNT (1)
0x15, 0x00, // LOGICAL_MINIMUM (0)
0x25, 0x5, // LOGICAL_MAXIMUM (5) // Maximum supported styli
0xb1, 0x02, // FEATURE (Data,Var,Abs)
```