



DK2 Testware Document

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1 Revision History

Revision	Date	Description
0.1	18-08-2014	Preliminary document.

2 Introduction

The Rift DK2 is interfaced using USB HID with a 1000 Hz polling rate. The manufacturing feature report is set and checked for in the factory at different test stations using Feature Report Gets and Sets. For more information about the various other feature reports, see the DK2 Firmware Specification document. This document details the tests available in the factory and the data saved in the manufacturing report regarding each of these tests.

- **Vendor ID:** *0x2833*
- **Product ID:** *0x0021*
- **Vendor String:** *Oculus VR, Inc.*
- **Product String:** *Rift DK2*

3 Manufacturing Report

The 16 byte Manufacturing report has a ReportID of 18. It is used to record and display the results of each stage of the production of the DK2 product that has USB access. Stage, in this document, refers to the type of test performed along the factory floor and may consist of several stations (operators) each of which handle one HMD. The manufacturing report for each stage is read by successive calls to the manufacturing report to get the report from each stage present. EG on power on, reading the manufacturing report twice will return the manufacturing report for stage 0 and 1.

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31								
0	ReportID = 18								CommandID																NumStages															
4	Stage								StageVersion								StageLocation																							
8	StageTime																																							
12	Result																																							

- **ReportID** (8 bits): The USB Report ID for this report is 18.
- **CommandID** (16 bits): A sequence number that is then repeated in the LastCommandID field of the HID IN Report.
- **NumStages = 6** (8 bits)(Read only): The number of stages of production being recorded on the product. In DK2, the number of stages that are being stored are the number of active tests, utilizing USB HID interface. The number of such active tests in the current DK2 production line is 6¹.
- **Stage** (8 bits): The specific stage number being recorded or read from. This autoincrements on reads, and gets set to the written value on writes. The default before writing is 0.
- **StageVersion** (8 bits): The version of the specific manufacturing test, along with their stage numbers can be referred to from this table. The default before writing is 0. Table below also provides the cross-reference between the active test and their corresponding stage value for the 8 bits of Stage.

¹Reference: Berway Dongguan Factory Audit - 2014.07.09

- **Result** (32 bits): The following table provides details of the error codes available in Front Shell LED Test.
- **Result** (32 bits): The following table provides details of the error codes available in Shake Test.

Error Code	Description
0x0	Default
0x1	OK
0x2	Read Error
0x3	Out of Range Error
0x4	Update Error
0x5	INReport Unpack Error
0x6	Multiple HMD Error
0x7	Disconnected Error
0x8	No Movement Error
0x9	Zero value error

Shake Test Error Codes

- **Result** (32 bits): The following table provides details of the error codes available in LED LightBox Test.

Error Code	Description
0x0	Default
0x1	OK
0x2	Calibration Save Error
0x3	No Camera Error
0x4	Calibration Failed

LED Lightbox Test Error Codes

- **Result** (32 bits): The following table provides details of the error codes available in Magnetometer Calibration.

Error Code	Description
0x0	Default
0x1	OK
0x0	No Data
0x2	Mag Sanity Fail
0x3	Mag Length Fail
0x4	Mag Angle Fail

Magnetometer Calibration Test Error Codes

- **Result** (32 bits): The following error code tables provide the correlation of the error codes in Bundle Adjustment Station.

Error Code	Description
0x0	Default
0x1	OK
0x2	Bundle Empty
0x3	Optimization Failed
0x4	Bad LED Position
0x5	Bad Camera Params

Bundle Adjustment Station Error Codes

- **Result** (32 bits): The following error code tables provide the correlation of the error codes in Label Printer Station.

Error Code	Description
0x0	Default
0x1	OK
0x2	BarTender Not Installed
0x3	HMD Position Calibration Error
0x4	HMD MagCalibration Error
0x5	Multiple HMD Error

Label Printer Station Error Codes