How to Download the Firmware image over the USB

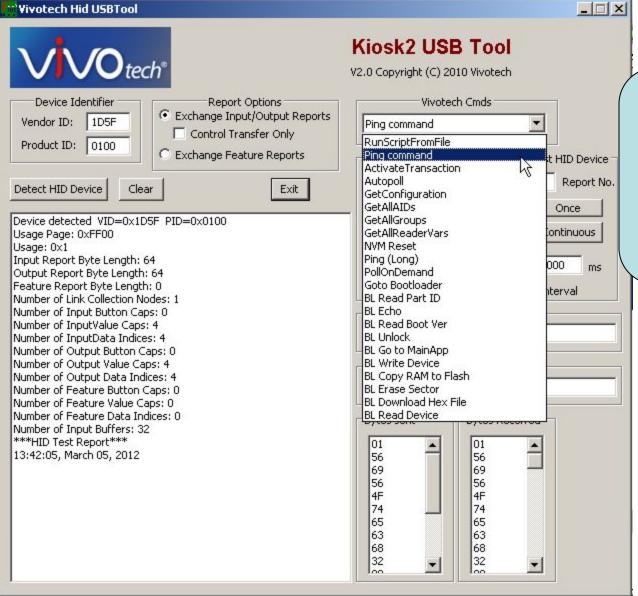
5/28/2015

Overview of Kiosk2 tools and firmware

- HidApp.exe the tool that is used for firmware download (Provide this tool to customer as reference only.)
- Two components of the Firmware
 - File Loader -- is a main image that can overwrite the Bootloader.
 - Application Image this is an image of the firmware that is downloaded over the USB interface. This image makes calls to the USB drivers that are contained in the boot-loader.
- Load file order:
 - 1. File Loader file. (EC8_FL_1_0_1_w_EC9_BL_x_x_x.hex)
 - 2. Main Image. (EC8_GR2_x_x_Cxx_-rxxxx.hex)

- 🗆 × Vivotech Hid USBTool Kiosk2 USB Tool /VO tech[®] V2.0 Copyright (C) 2010 Vivotech Connect the Vivotech Cmds Device Identifier Report Options reader using Exchange Input/Output Reports Vendor ID: 1D5F -Ping command Control Transfer Only the USB Product ID: 0100 C Exchange Feature Reports Write Command Params Test HID Device interface... 40002000 RAM Addr Report No. 1 Detect HID Device Clear Exit Click on Flash Addr 00010000 Once Device detected VID=0x1D5F PID=0x0100 "Detect HID 00000004 Data Size Continuous Usage Page: 0xFF00 Usage: 0x1 DEADBEEF Data Device" Input Report Byte Length: 64 1000 ms Output Report Byte Length: 64 Ouiet 0 C Debug Feature Report Byte Length: 0 Interval Number of Link Collection Nodes: 1 Number of Input Button Caps: 0 Download File Number of InputValue Caps: 4 CANDIDATE.hex Number of InputData Indices: 4 Number of Output Button Caps: 0 Number of Output Value Caps: 4 Upoad File Number of Output Data Indices: 4 memory_dump.txt Number of Feature Button Caps: 0 Number of Feature Value Caps: 0 Number of Feature Data Indices: 0 Bytes Received Bytes sent Number of Input Buffers: 32 ***HID Test Report*** 01 01 * 13:42:05, March 05, 2012 56 56 69 69 56 56 4F 4F 74 74 65 65 63 63 68 68 32 32 -loo

Vivotech Hid USBTool



To verify that the reader is communicating, select the "Ping Command" and then click on the "Once" button.

	Wivotech Hid USBTool	X
	Device Identifier Report Options	Kiosk2 USB Tool V2.0 Copyright (C) 2010 Vivotech Vivotech Cmds
	Product ID: 0100 Control Transfer Only Exchange Feature Reports	Ping command Image: Command Params Write Command Params Test HID Device RAM Addr 40002000 Flash Addr 00010000
	Output Report Byte Length: 64 Feature Report Byte Length: 0 Number of Link Collection Nodes: 1 Number of Input Button Caps: 0 Number of InputValue Caps: 4 Number of InputData Indices: 4 Number of Output Button Caps: 0	Data Size 00000004 Continuous Data DEADBEEF Quiet 0 Debug Interval
	Number of Output Value Caps: 4 Number of Output Data Indices: 4 Number of Feature Button Caps: 0 Number of Feature Value Caps: 0 Number of Feature Data Indices: 0 Number of Input Buffers: 32 ***HID Test Report***	Download File CANDIDATE.hex Upoad File memory_dump.txt
	13:42:05, March 05, 2012 Ping Packet 56 69 56 4F 74 65 63 68 32 00 18 01 00 00 B3 CD Sent Report type 1 len 64 total len 16 Read Response: ReportLength=64	Bytes sent Bytes Received
>	S6 69 56 4F 74 65 63 68 32 00 18 04 00 00 CC 35 00 00 00 00 00 00 00 00 00 00 00 00 00	56 56 4F 4F 74 74 65 63 68 68 32 32

You should see the response to the Ping packet in the window

Wivotech Hid USBTool	
VVO tech [®]	Kiosk2 USB Tool V2.0 Copyright (C) 2010 Vivotech
Device Identifier Report Options Vendor ID: 1D5F Product ID: 0100 Control Transfer Only Exchange Feature Reports Detect HID Device Clear Exit Exit Output Report Byte Length: 64 Feature Report Byte Length: 0 Number of Link Collection Nodes: 1 Number of Input Button Caps: 0 Number of Input Button Caps: 0 Number of Output Button Caps: 0 Number of Output Button Caps: 0 Number of Output Button Caps: 0 Number of Feature Button Caps: 0 Number of Feature Button Caps: 0 Number of Feature Button Caps: 0 Number of Feature Value Caps: 4 Number of Feature Data Indices: 4 Number of Feature Value Caps: 0 Number of Input Buffers: 32 ****HID Test Report*** 13:42:05, March 05, 2012 Ping Packet 56 69 56 4F 74 65 63 68 32 00 18 01 00 00 B3 CD Sent Report type 1 len 64 total len 16 Read Response: ReportLength=64 56 69 56 4F 74 65 63 68 32 00 18 04 00 00 CC 35 00 00 00 00 00 00 00 00 00 00 00 00 00	Wivotech Cmds Ping command RunScriptFromFile Ping command ActivateTransaction Autopoll GetAllAIDs GetAllGroups GetAllReaderVars NVM Reset Ping (Long) PollOnDemand Soto Bootloader BL Read Part ID BL Read Part ID BL Read Boot Ver BL Chop RAM to Flash BL Erase Sector BL Copy RAM to Flash BL Frase Sector BL Download Hex File BL Read Device 01 16 156 65 63 63 63 63 63 63

Select the "Goto Bootloader" command and then click on the "Once" button.

$\sqrt{\sqrt{O}}_{tech^*}$	Kiosk2 USB Tool V2.0 Copyright (C) 2010 Vivotech
Device Identifier Vendor ID: 1D5F Product ID: 0100 Detect HID Device Clear Report Options Report Options Exchange Input/Output Report Control Transfer Only Exchange Feature Reports Detect HID Device Clear Exit	S Goto Bootloader S Write Command Params Test HID I RAM Addr 40002000
Number of InputValue Caps: 4 Number of InputData Indices: 4 Number of Output Button Caps: 0 Number of Output Value Caps: 4 Number of Output Data Indices: 4 Number of Feature Button Caps: 0 Number of Feature Value Caps: 0 Number of Feature Data Indices: 0 Number of Input Buffers: 32 ****HID Test Report*** 13:42:05, March 05, 2012	Data Size 00000004 Continu Data DEADBEEF Quiet 0 Debug Interval CANDIDATE.hex
Ping Packet 56 69 56 4F 74 65 63 68 32 00 18 01 00 00 B3 CD Sent Report type 1 len 64 total len 16 Read Response: ReportLength=64	Upoad File memory_dump.txt Bytes sent Bytes Received
56 69 56 4F 74 65 63 68 32 00 18 04 00 00 CC 35 00 00 00 00 00 00 00 00 00 00 00 00 00	01 01 56 56 69 69 56 56 4F 4F 74 74 65 65 63 63
Goto Bootloader 56 69 56 4F 74 65 63 68 32 00 07 02 00 00 AA 5B Sent Report type 1 len 64 total len 16	

This is what you should see in the window.

Vivotech Hid USBTool - 🗆 × Kiosk2 USB Tool **NO**tech[®] V2.0 Copyright (C) 2010 Vivotech Vivotech Cmds Device Identifier Report Options Exchange Input/Output Reports Vendor ID: 1D5F Goto Bootloader • Control Transfer Only RunScriptFromFile 0100 Product ID: C Exchange Feature Reports Ping command t HID Device ActivateTransaction Autopoll Report No. Detect HID Device Exit Clear GetConfiguration GetAllAIDs Once Number of InputValue Caps: 4 * GetAllGroups GetAllReaderVars ontinuous Number of InputData Indices: 4 Number of Output Button Caps: 0 NVM Reset Pina (Lona) Number of Output Value Caps: 4 000 ms PollOnDemand Number of Output Data Indices: 4 Goto Bootloader Number of Feature Button Caps: 0 terval BL Read Part ID Number of Feature Value Caps: 0 Number of Feature Data Indices: 0 BL Echo BL Read Boot Ver Number of Input Buffers: 32 hà ****HID Test Report*** BL Unlock BL Go to MainApp 13:42:05, March 05, 2012 **BL Write Device** ---Ping Packet---BL Copy RAM to Flash **BL Erase Sector** 56 69 56 4F 74 65 63 68 32 00 18 01 00 00 B3 CD BL Download Hex File Sent Report type 1 len 64 total len 16 BL Read Device Read Response: ReportLength=64 56 69 56 4F 74 65 63 68 32 00 18 04 00 00 CC 35 01 01 56 56 69 69 56 56 4F 4F 64 (64) Bytes Read report 1 □ViVOtech2 74 74 65 65 63 63 ---Goto Bootloader---68 68 56 69 56 4F 74 65 63 68 32 00 07 02 00 00 AA 5B 32 32 --Sent Report type 1 len 64 total len 16 00 00

2.)To verify that you are communicating with the Bootloader, click on "BL Read Boot Ver." Then click "Once"

	Wivotech Hid USBTool	×
	VVO tech*	Kiosk2 USB Tool V2.0 Copyright (C) 2010 Vivotech
	Device Identifier Report Options Vendor ID: 1D5F Product ID: 0100 C Exchange Feature Reports	Vivotech Cmds BL Read Boot Ver Write Command Params Test HID Device
The bootloader	Detect HID Device Clear Exit	RAM Addr 40002000 1 Report No. Flash Addr 00010000 Once I
version displays in the window.	56 69 56 4F 74 65 63 68 32 00 07 02 00 00 AA 58 Sent Report type 1 len 64 total len 16 BL Read Boot Version 4B 0A 0D 00 Sent Report type 1 len 64 total len 4	:
	Read Response: ReportLength=64 31 32 30 30 30 0D 0A 4F 4B 0D 0A 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	Download File CANDIDATE.hex Upoad File memory_dump.txt
	BL Read Boot Version 4B 0A 0D 00 Sent Report type 1 len 64 total len 4 Read Response: ReportLength=64 4B 0D 0A 30 0D 0A 36 30 0D 0A 34 33 0D 0A 45 43 39 5F 55 53 42 5F 42 4C 20 31 2E 32 2E 39 36 0D 0A 00 00 00 00 00 00 00 00 00 00 00 00 0	Bytes sent Bytes Received 01 4B 0A 0D 0D 00 00 00 00 00 00 00 00

wivotech Hid USBTool	
Wivotech Hid USBTool Vivotech Hid USBTool Device Identifier Vendor ID: 1D5F Product ID: 0100 Control Transfer Only Exchange Feature Reports Detect HID Device Clear	Kiosk2 USB Tool V2.0 Copyright (C) 2010 Vivotech Vivotech Cmds BL Unlock BL Unlock RunScriptFromFile Ping command ActivateTransaction Autopoll GetConfiguration
□ 12000 □ □ OK □ □ BL Read Boot Version 4B 0A 0D 00 Sent Report type 1 len 64 total len 4 Read Response: ReportLength=64 4B 0D 0A 30 0D 0A 36 30 0D 0A 34 33 0D 0A 45 43 39 5F 55 53 42 5F 42 4C 20 31 2E 32 2E 39 36 0D 0A 00 00 00 00 00 00 00 00 00 00 00 00 0	GetAllAIDs GetAllGroups GetAllGroups GetAllReaderVars NVM Reset Ping (Long) PollOnDemand Goto Bootloader BL Read Part ID BL Echo BL Read Boot Ver BL Unlock BL Go to MainApp BL Write Device BL Copy RAM to Flash BL Erase Sector BL Download Hex File
BL Unlock 55 32 33 31 33 30 0A 0D 00 Sent Report type 1 len 64 total len 9 Read Response: ReportLength=64 4B 0D 0A 30 0D 0A 36 30 0D 0A 34 33 0D 0A 45 43 39 5F 55 53 42 5F 42 4C 20 31 2E 32 2E 39 36 0D 0A 00 00 00 00 00 00 00 00 00 00 00 00 0	BL Read Device 01 01 01 55 48 32 0D 33 0A 31 30 30 0A 0A 36 0D 30 0D 30

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Device Identifier Report Options	Kiosk2 USB Tool V2.0 Copyright (C) 2010 Vivotech Vivotech Cmds The file to	o be
Vendor ID: 1D5F Product ID: 0100 Cexchange Input/Output Reports Control Transfer Only Exchange Feature Reports Detect HID Device Clear	BL Download Hex File Image: Command Params Write Command Params Tes RAM Addr 40002000 1 as the	ded in th ctory
□U23130□□ BL Unlock 55 32 33 31 33 30 0A 0D 00 Sent Report type 1 len 64 total len 9 Read Response: ReportLength=64 55 32 33 31 33 30 0D 0A 00 00 00 00 00 00 00 00 00 00 00 00 00	Flash Addr 00010000 HidApp.ex Data Size 00000004 C Data DEADBEEF I Quiet 0 Debug I Download File EC8_FL_1 w_EC9_BL CANDIDATE.hex Type in the here Image: Memory_dump.txt here	ct file _0_1 x.x.x
BL Unlock 55 32 33 31 33 30 0A 0D 00 Sent Report type 1 len 64 total len 9 Read Response: ReportLength=64 55 32 33 31 33 30 0D 0A 00	Bytes sent Bytes Received 01 55 32 32 33 31 31 31 33 30 0A 0D 0D 0A 00 00	

VVO tech*	Kiosk2 USB Tool V2.0 Copyright (C) 2010 Vivotech
Device Identifier Report Options Vendor ID: 1D5F Product ID: 0100 C Exchange Feature Reports	Write Command Params Test HID Device
Detect HID Device Clear Exit	RAM Addr 40002000 1 Report Flash Addr 00010000 Once Once
14:02:08, March 05, 2012	
Device detected VID=0x1D5F PID=0x0100	Data Size 00000004 Continuous
Usage Page: 0xFF00 Usage: 0x1	Data DEADBEEF
Input Report Byte Length: 64	Quiet 0 Debug
Output Report Byte Length: 64	Interval
Feature Report Byte Length: 0 Number of Link Collection Nodes: 1	Download File
Number of Input Button Caps: 0	CANDIDATE.hex
Number of InputValue Caps: 4 Number of InputData Indices: 4	CANDIDATEMEX
Number of Dutput Button Caps: 0	Upoad File
Number of Output Value Caps: 4	
Number of Output Data Indices: 4	memory_dump.txt
Number of Feature Button Caps: 0 Number of Feature Value Caps: 0	Data and Data Data data
Number of Feature Data Indices: 0	Bytes sent Bytes Received
Number of Input Buffers: 32	
HID Test Report 14:02:30, March 05, 2012	
14:02:30, March 03, 2012	
BL Download Hex File	
File is good	
Unlocking Device	
55 32 33 31 33 30 0A 0D 00 Prepare Sectors 9 20	
Erase Sector 9 20	

The download should begin as shown in the window. This will take several minutes.

V fort	'ivotech Hid USB	Tool					×
		tech*		Kiosk2 USI /2.0 Copyright (C) 20			
	Device Identifier	- G. Fucherson In	t Options put/Output Reports	Vivoted	th Cmds		Then select
	/endor ID: 1D5F	Control Tr		BL Download Hex F	=ile	<u> </u>	"BL Go to Main
P	Product ID: 0100	C Exchange Fe	ature Reports	RunScriptFromFile Ping command		LIII Device	App". Click
1				ActivateTransactio	n	Report No	• •
De	etect HID Device	Clear	Exit	GetConfiguration		Once 1	Once.
	py RAM to Flash 5 epare Sectors 19 1	f000 40002000 4096	<u> </u>	GetAllGroups GetAllReaderVars		lontinuous	
Co		0000 40002000 4096		NVM Reset Ping (Long)			
Co	py RAM to Flash 6	1000 40002000 4096		PollOnDemand Goto Bootloader		000 ms	
Co		2000 40002000 4096		BL Read Part ID		nterval	
Pre	epare Sectors 19 1	9 3000 40002000 4096		BL Echo BL Read Boot Ver			
The wir	ndow	9 4000 40002000 4096		BL Unlock BL Go to MainApp			
should	show	9 5000 40002000 4096		BL Write Device BL Copy RAM to Fl	ash		-
the dow		9 5000 40002000 4096		BL Erase Sector BL Download Hex F	ile		
		9 7000 40002000 4096		BL Read Device	0,0001000		
was com		0 8000 40002000 4096		01	01		
Pre	epare Sectors 20 2				32		
Fin	nishing up epare Sectors 20 2				31		
Co	py RAM to Flash 6	o a000 40002000 4096			33 30		
Pre	riting 1st sector epare Sectors 9 9	0000 4000000 051			0D 0A		
	ex file download co	0000 40002000 256 nplete			30	-	

	Wivotech Hid USBTool	
	VVO tech°	Kiosk2 USB Tool V2.0 Copyright (C) 2010 Vivotech
	Device Identifier Report Options Vendor ID: 1D5F Product ID: 0100 C Exchange Input/Output Reports C Exchange Feature Reports	Vivotech Cmds BL Go to MainApp Write Command Params Test HID Device
	Detect HID Device Clear Exit	RAM Addr 40002000 1 Report No. Flash Addr 00010000 Once
	Number of Feature Button Caps: 0 Number of Feature Value Caps: 0 Number of Feature Data Indices: 0 Number of Input Buffers: 32 ***HID Test Report*** 13:30:24, March 05, 2012 13:30:24, March 05, 2012	Data Size 00000004 Continuous Data DEADBEEF Quiet 0 Debug Interval
You should hear a	DBT_DEVICEARRIVAL USB HID Device has been attached. Device detected VID=0x105F PID=0x0100 Usage Page: 0xFF00	Download File CANDIDATE.hex
long beep.and wait then the reader device	Usage: 0x1 Input Report Byte Length: 64 Output Report Byte Length: 64 Feature Report Byte Length: 0	Upoad File memory_dump.txt
should enumerate, as shown here or	Number of Link Collection Nodes: 1 Number of Input Button Caps: 0 Number of InputValue Caps: 4 Number of InputData Indices: 4	Bytes sent Bytes Received
select "Detect HID Device"	Number of Output Button Caps: 0 Number of Output Value Caps: 4 Number of Output Data Indices: 4 Number of Feature Button Caps: 0 Number of Feature Value Caps: 0	32 31 31 33 0D 31 0A 33 30 30 0D
	Number of Feature Data Indices: 0 Number of Input Buffers: 32 ***HID Test Report*** 13:30:24, March 05, 2012	

			10000		select BL Download
IDT=CH°		Kiosk2	USB Tool		
/alue through Innovation	V2	2.2 Copyright	(C) 2012 IDTech		Hex File Then Select Once
Device Identifier Report Options		······································	/ivotech Cmds		
Vendor 1D5F © Exchange Input/Output Re	ports	BL Download	l Hex File	•	
Product ID: 0100 © Exchange Feature Reports	5	Write Con	mand Params	Test HID Device	
	Ъ	RAM Addr	40002000	1 Report No.	
Detect HID Device Clear Exit		Flash Addr	00010000	Once	
Jsage Page: 0xFF00		Data Size	0000004		050010
Jsage: 0x1 Input Report Byte Length: 64				Continuo	SECOND: er
Dutput Report Byte Length: 64		Data	DEADBEEF	1000	EC8_GR2.0.0_Cxx
Feature Report Byte Length: 0			Debug	1000	
Number of Link Collection Nodes: 1		Quiet 0	Debug	Interval	-rxxxx.hex
Number of Input Button Caps: 0				Turcing	
Number of InputValue Caps: 4		Download Fi	le		
Number of InputData Indices: 4		EC8_GR_2_0_0_C23_CANDIDATE_r20663.hex			
Number of Output Button Caps: 0 Number of Output Value Caps: 4					
Number of Output Data Indices: 4		uses director			
Number of Feature Button Caps: 0		Upoad File			
Number of Feature Value Caps: 0		memory_du	mp.txt		
Number of Feature Data Indices: 0					
Number of Input Buffers: 32	10	Bytes sent	Bytes Rec	eived	
HID Test Report					
15:32:58, May 29, 2015			01		
BL Download Hex File			47	H	
File is good			0D		
Unlocking Device			0A		
55 32 33 31 33 30 0A 0D 00			30		
Prepare Sectors 9 26			0D		
Erase Sector 9 26			0A		
ADDR_19_4=1000	=		00		
Prepare Sectors 9 9			00	-	

) Vivotech Hid USBTool	Sec. Sec.		X
IDT=CH°		Kiosk2 USB Tool	
Value through Innovation		V2.2 Copyright (C) 2012 IDTech	After the file download
Device Identifier Report Options		Vivotech Cmds	complete. Select BL
Vendor 1D5F © Exchange Input/Output Re Control Transfer Only	ports	BL Go to MainApp	GoTo MainApp Then
Product ID: 0100 Exchange Feature Reports	5	Write Command Params Test H	Select Once
	-	RAM Addr 40002000 1 Rep	
Detect HID Device Clear Exit		Flash Addr 00010000 Once	
U23130	*	Data Size 00000004 Continuous	
Transmitting: 55 32 33 31 33 30 0D 0A		Data DEADBEEF	,
Sent Report type 1 len 64 total len 8		1000 n	ns
Read Response: ReportLength=64		Quiet 0 Debug Interval	
55 32 33 31 33 30 0D 0A 30 0D 0A 00 00 00 00 00 00 00 00 00 00 00 00 00		Download File	
00 00 00 00 00 00 00 00 00 00 00 00 00		EC8_GR_2_0_0_C23_CANDIDATE_r20663.hex	
64 (64) Bytes Read report 1 U231300			
		Upoad File memory_dump.txt	
OK: Unlock Device Go MainApp		memory_damp.exc	
G1 Transmitting:		Bytes sent Bytes Received	
47 31 0D 0A		01 01	
Sent Report type 1 len 64 total len 4		55 32 47 31	
Read Response: ReportLength=64 47 31 0D 0A 32 30 0D 0A 00 00 00 00 00 00 00 00		33 0D	
		31 = 0A 33 32	
00 00 00 00 00 00 00 00 00 00 00 00 00		30 30	
00 00 00 00 00 00 00 00 00 00 00 00 00			
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