



## Product Overview

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## Change History

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## **Product Features**

Kiosks, ATMs, ticketing machines and voting terminals usually present Information about available products and services via a visual display or touch screen. The NavBar™ is a highly tactile interface that have been designed to facilitate audio navigation of software applications by those with sensory or mobility impairment. An audio description of available menu options can be transmitted to the user through a plug-in audio headset. When the desired page or menu option is located, it can then be selected by the press of a distinctive tactile button.

An important feature of the module is that it provides compliance as far as is practicable with various country standards for equipment use by disabled people, including the Americans with Disabilities Act (ADA – USA) , the Disabilities Discrimination Act (DDA – EUR) & the Equality Act (UK)

**R N I B**

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**Tried and  
Tested**

Internal colour coded illumination makes location of individual keys much easier for those with partial vision. The keytop's distinctive shape and tactile symbols provide the primary means of identifying a key's specific function. The intensity of keytop illumination can be adjusted or turned off when not in use.

By use of the NavBar™ utility software, default illumination status and 'wake-up' behaviour can be selected. The USB codes can also be changed. Connection to the host is via a single USB cable.

### **NavBar**

- Keypad can be specified with coloured keys or white illuminated keys.
- Illuminated keys can be individually controlled in software
- Reverse printed silver or black colour front label.
- Designed for both top fixing or under panel installation to a 1.2mm - 2mm panel only.
- Mini USB socket for connection to host computer.

### **Audio Module**

- Available for Vertical or Horizontal installation underpanel
- Raised Headphone symbol
- Volume up/down rocker key
- Illuminated 3.5mm audio jack socket (illumination under software control)
- Supplied with a 0.75m ribbon cable to allow easy connection to the NavBar™.

### **USB Interface**

- HID keyboard
- Supports standard modifiers, i.e. Ctrl, Shift, Alt
- HID consumer controlled device
- Advanced audio device
- No special drivers required
- Audio Jack Insert / Removal sends USB code to host

### **Support**

- Windows Utility for changing the USB Code Tables
- API for custom integration
- Remote Firmware update support

Please note: The audio processor is contained within the NavBar™ (not within the Audio Module itself).

**Typical method for audio module volume control using the API****User Action**

- Plug in the headphone jack

**Host**

- Host system detects the connection
- Repeating message generated by the host application software :  
“Welcome to the audio menu. Press the select key to begin”

**User Action**

- Press the select key

**Host**

- Activate the Volume Control function
- Repeating message :  
“Use the up & down keys to change the volume. Press the select key when finished”

**User Action**

- Adjust the volume
- Press the select key

**Host**

- De-activate the volume control function
- “Thank you. Welcome to the (next menu)”

**Alternate method for audio volume control using the API****User Action**

- Plug in the headphone jack

**Host**

- Host system detects the connection
- Sets volume level to initial default
- Repeating message :  
“Press the volume key at any time to increase the volume level”

**User Action**

- Presses the volume key

**Host**

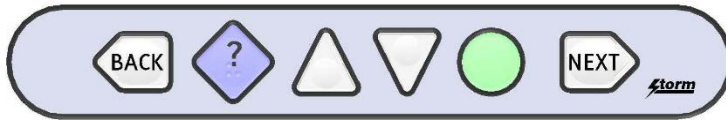
- Host system changes the volume on each key press (up to a max limit, then revert to default)

**Host**

- Message stops if volume key is not pressed inside 2 seconds.

## Product Range

### EZB6-4300



**Storm ATP NavBar™**,  
Silver with White Keys,  
Surface or Under panel Install

### EZB6-5300



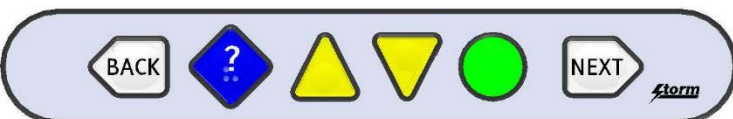
**Storm ATP NavBar™**,  
Black with White Keys,  
Surface or Under panel Install

### EZB6-6300



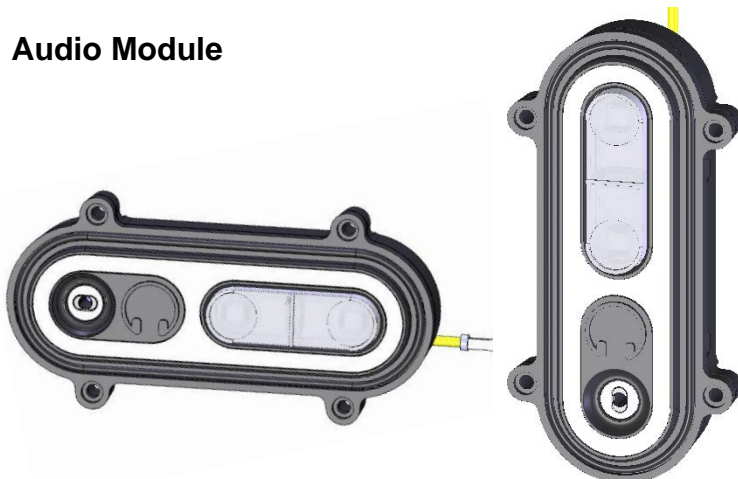
**Storm ATP NavBar™**,  
Black with Coloured Keys,  
Surface or Under panel Install

### EZB6-7300



**Storm ATP NavBar™**,  
Silver with Coloured Keys,  
Surface or Under panel Install

## Audio Module



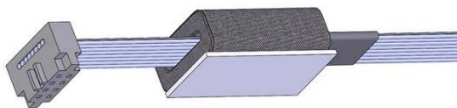
**Audio Module**  
Silver or Black Label,  
Horizontal or Vertical Orientation

**Product Range: Part Numbers**

EZB6-43000	Storm ATP NavBar™, Silver with White Keys, Surface Fix
EZB6-43002	Storm ATP NavBar™, Silver with White Keys, Under panel
EZB6-53000	Storm ATP NavBar™, Black with White Keys, Surface Fix
EZB6-53002	Storm ATP NavBar™, Black with White Keys, Under panel
EZB6-63000	Storm ATP NavBar™, Black with Coloured Keys, Surface Fix
EZB6-63002	Storm ATP NavBar™, Black with Coloured Keys, Under panel
EZB6-73000	Storm ATP NavBar™, Silver with Coloured Keys, Surface Fix
EZB6-73002	Storm ATP NavBar™, Silver with Coloured Keys, Under panel
EZB2-40500	Audio Module (Vertical) Silver, with Interconnect Cable
EZB2-405H0	Audio Module (Horizontal) Silver, with Interconnect Cable
EZB2-50500	Audio Module (Vertical) Black, with Interconnect Cable
EZB2-505H0	Audio Module (Horizontal) Black, with Interconnect Cable

**Accessories / Cables**

Description	Stock Code
SPARE INTERCONNECT CABLE 0.75m	EZB2-01



USB CABLE MINI-B TO TYPE A, 0.9m	4500-01
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## Specifications

Rating	<b>5V ±0.25V (USB 2.0)</b>
Connection	<b>mini USB B socket</b>
Audio	<b>3.5mm audio jack socket (illuminated)</b>
Ground	<b>150mm ESD ground wire fitted to audio module</b>
USB Cable	<b>Not Included</b>
Interconnect cable	<b>0.75m cable (NavBar to Audio Module) included with Audio Module</b>

## Dimensions (mm)

	<b>W</b>	<b>x</b>	<b>H</b>	<b>x</b>	<b>D</b>	<b>Packed</b>	<b>W</b>	<b>x</b>	<b>H</b>	<b>x</b>	<b>D</b>	<b>Kilos</b>
NavBar™ ABOVE PANEL	208		37		16	>	230		50		30	0.16
NavBar™ UNDER PANEL	211.5		53		29	>	230		50		30	0.16
Audio Module	107.5		32.5		26	>	140		70		40	0.16

## Mechanical

Operational Life	<b>4 million cycles (min) per key</b>
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## Performance/Regulatory

Operational Temp	<b>20°C to +70°C</b>
Impact Rating	<b>1K09 (10J)</b>
Vibration & Shock	<b>ETSI 5M3</b>
Water / Dust sealed	<b>IP65</b>
Certification	<b>CE / FCC / UL</b>

## Connectivity

The USB interface comprises an internal USB hub with connected keyboard and audio module. This is a composite USB device and no additional drivers are required.

Wake-up behaviour: NavBar™ keys are illuminated when audio jack inserted.  
(and then dim when jack is removed)

PC based software utility and API are available to set/control: -

- Volume key function
- Illumination level / selectively control for individual keys
- Customise the USB codes

## Installation

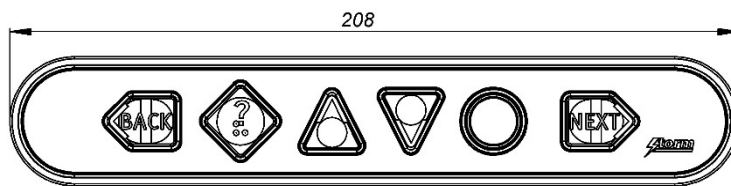
The NavBar™ can be supplied as a surface fix or under panel install product (panel thickness of 1.2mm - 2mm only.) Ensure that you purchase the correct version for your application. Note that the Audio Module is under panel installation only.

### NavBar™ ABOVE PANEL

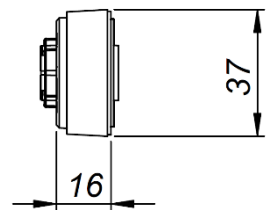
#### DIMENSIONAL DETAILS

OVERALL SIZE 208mm x 37mm x 16mm (ABOVE PANEL)

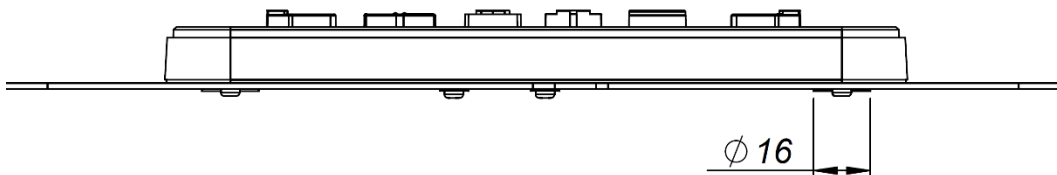
TOP VIEW



END VIEW

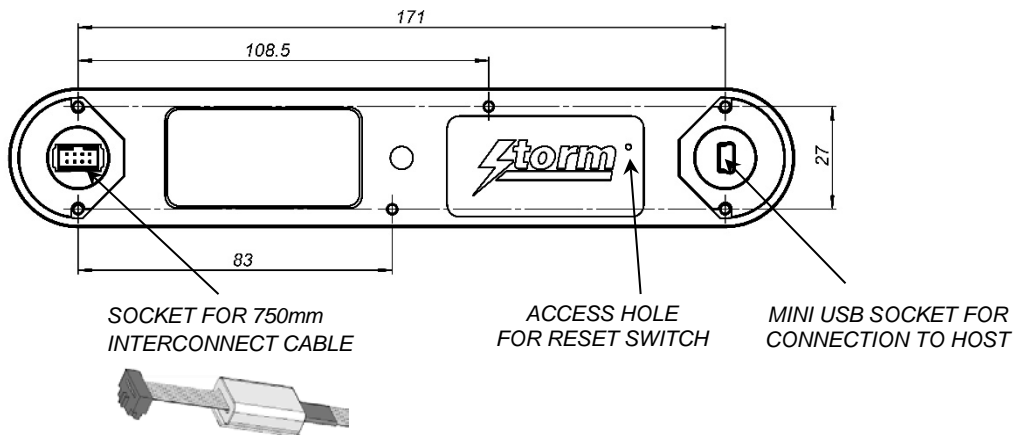


SIDE VIEW (SHOWN WITH 2mm PANEL)



FIX WITH QTY 6, 3mm X 8 PANHEAD SCREWS (PLAS-TECH 30 SCREW IS RECOMMENDED)  
USE NYLON WASHERS ON 2 CENTRE SCREWS.  
Ø 16MM BOSS THROUGH PANEL EACH END

REAR VIEW



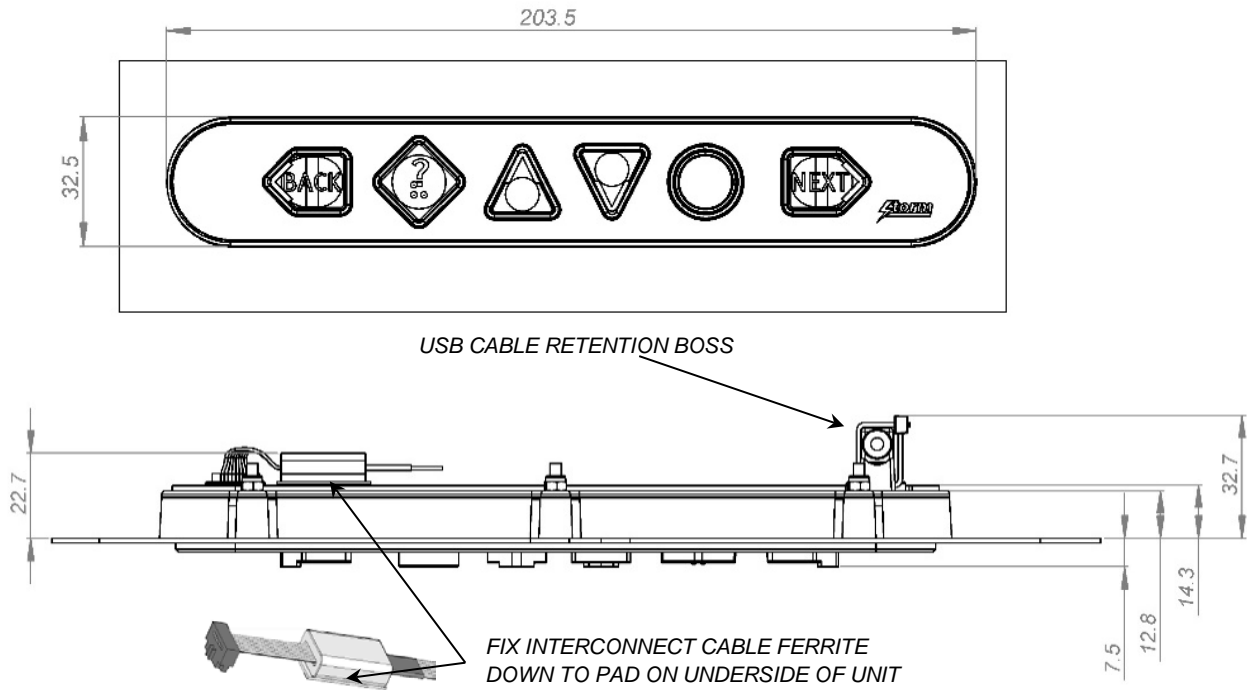
## Installation

### NavBar™ UNDER PANEL

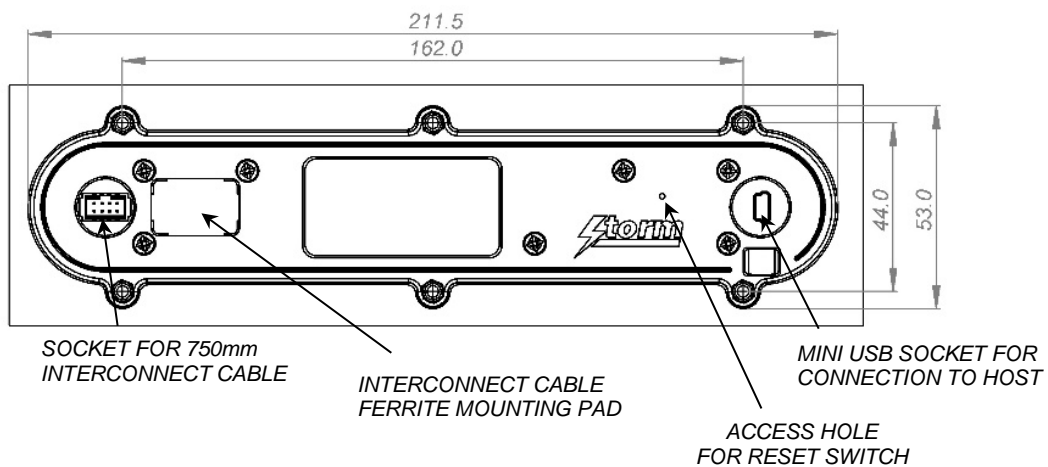
#### DIMENSIONAL DETAILS

OVERALL SIZE 211.5mm x 53mm x 29mm

RECOMMENDED PANEL THICKNESS 1.2mm TO 2mm



FIX WITH M3 x 20mm or equivalent STUDS ON PANEL (X 6 LOCATIONS).  
RECOMMENDED PANEL CUT-OUT SLOT 203.5mm x 32.5mm.

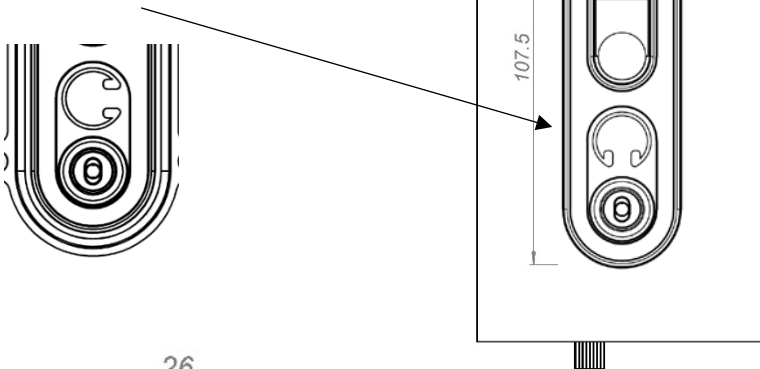




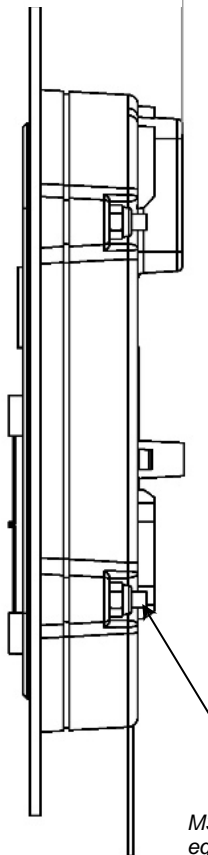
## Installation

### AUDIO MODULE – UNDERPANEL ONLY

NOTE THAT THE  
RAISED HEADPHONE  
SYMBOL WILL BE  
ROTATED 90°  
CLOCKWISE FOR  
HORIZONTAL  
VERSION



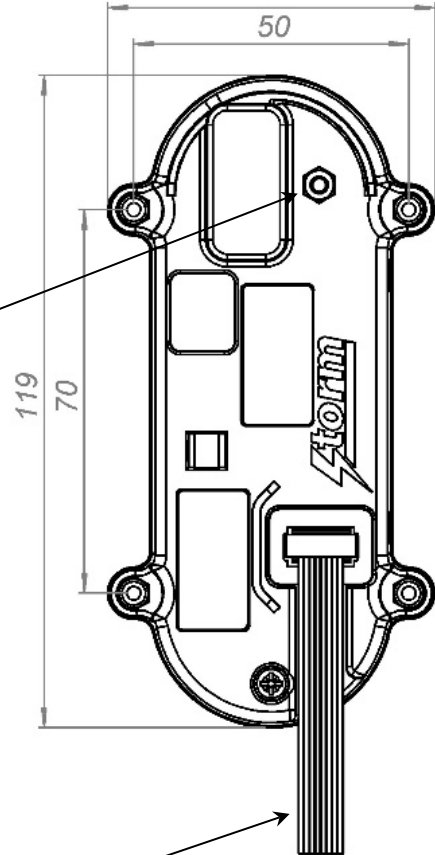
26  
SIDE VIEW



M3 x 20MM or  
equivalent  
WELD STUD ON  
PANEL  
(x 4 POSITIONS).

M3 THREAD  
ESD GROUND  
TO CASE  
(150MM GROUND WIRE  
NOT SHOWN)

REAR VIEW

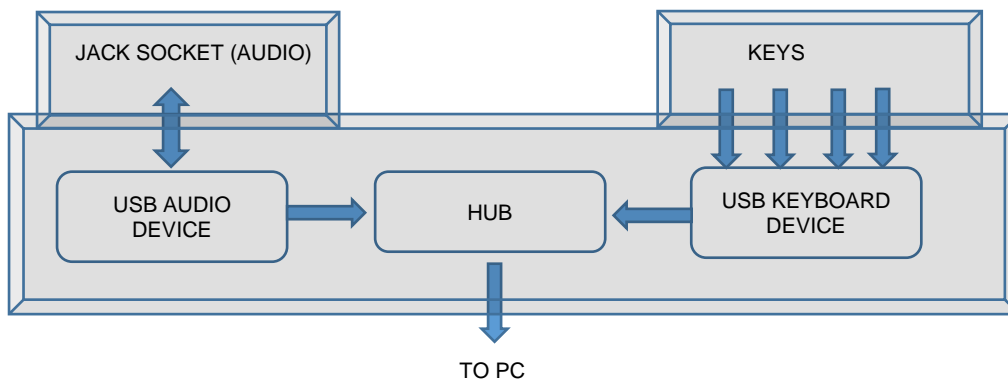


INTERCONNECT CABLE

## USB Device Information

### USB HID

The USB interface comprises a USB HUB with keyboard device and audio device connected.



The following VID/PID combinations are used:

For USB HUB:

- VID – 0x0424
- PID – 0x2512

For Standard Keyboard/Composite HID/  
Consumer Controlled device

- VID – 0x2047
- PID – 0x09D0

For USB Audio device

- VID – 0x0D8C
- PID – 0x0170

This document will concentrate on the Standard Keyboard/Composite HID/Consumer Controlled device. This interface will enumerate as

- Standard HID Keyboard
- Composite HID-datapipe Interface
- HID Consumer Controlled device

One of the advantages of using this implementation is that no drivers are required.

The data-pipe interface is used to provide the host application to facilitate customisation of the product.

### Supported Audio Jack Configurations

The following jack configurations are supported.

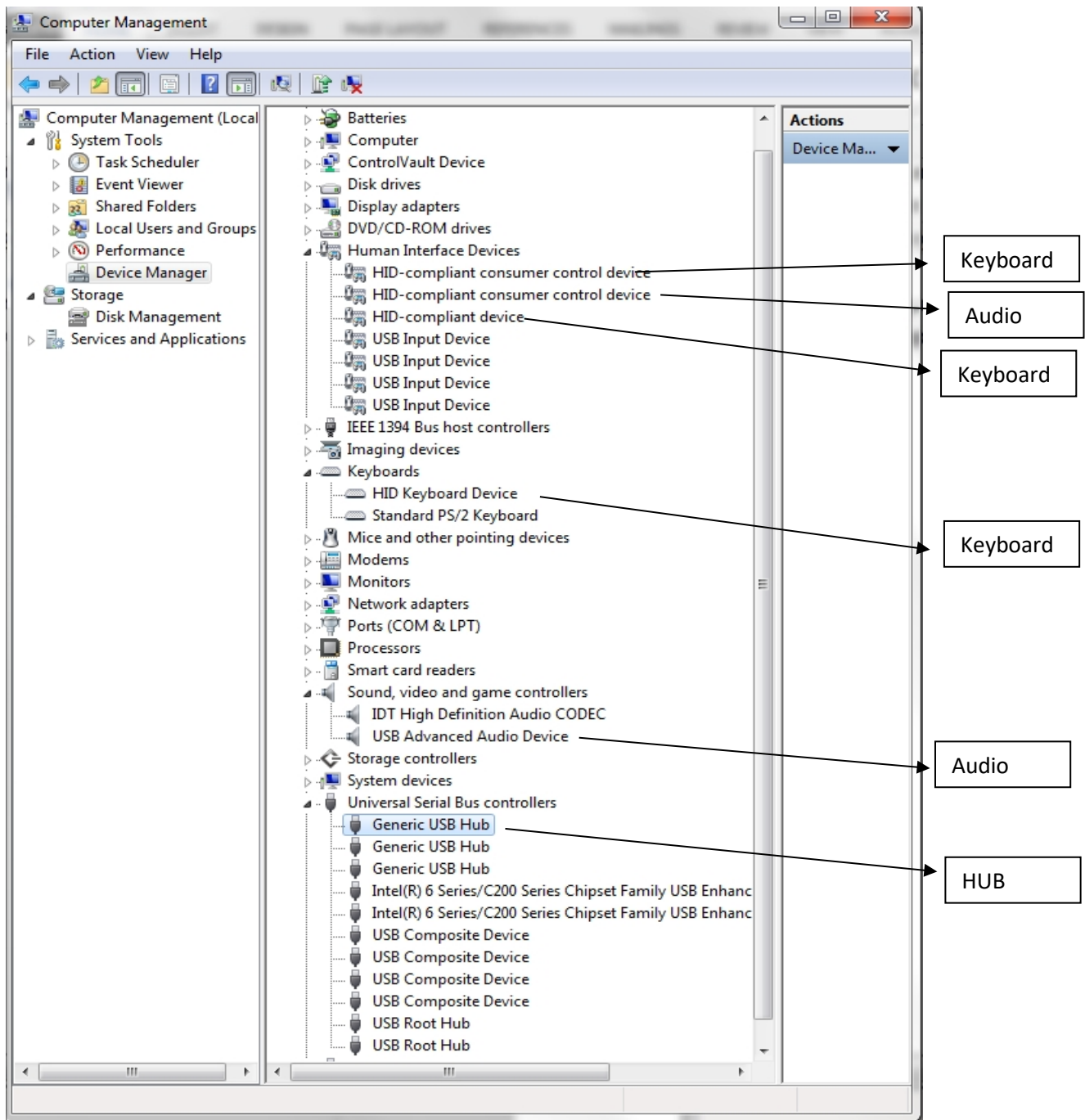


Notes: Application software should always ensure the same audio is present on both Left and Right Channels for correct mono operation. Headsets with microphones can be used but there is no microphone support.

## Device Manager

When connected to a PC, the keypad should be detected by the operating system and enumerated without drivers. Windows shows following devices in the Device Manager:

(Note that other audio devices will need to be disabled in Device Manager otherwise they will take priority).



## Code Tables

The factory defaults are shown below. The customer can use the utility or API to assign any HID USB code and if volume up/down is selected the keys will act as multi-media volume up/down.

### White Keys

NavBar Function	HID USB Codes	Hex	LED Illumination
Back	F21	0x70	White
Help	F17	0x6C	Blue
Up	F18	0x6D	White
Down	F19	0x6E	White
Select	F20	0x6F	Green
Next	F22	0x72	White
<b>Audio Module Function</b>			
Jack IN	F15	0x6A	White
Jack OUT	F16	0x6B	
Volume Up	F13	0x68	White
Volume Down	F14	0x69	

### Coloured Keys

NavBar Function	HID USB Codes	Hex	LED Illumination
Back	F21	0x70	White
Help	F17	0x6C	
Up	F18	0x6D	
Down	F19	0x6E	
Select	F20	0x6F	
Next	F22	0x72	White
<b>Audio Module Function</b>			
Jack IN	F15	0x6A	White
Jack OUT	F16	0x6B	
Volume Up	F13	0x68	White
Volume Down	F14	0x69	

## Change History

Technical Manual	<u>Date</u>	<u>Version</u>	<u>Details</u>
	17 Oct 16	1.0	First Release
	17 Nov 16	2.0	Updated
	03 Mar 17	2.1	Minor change – Config Utility updated (see below) + Firmware update.
	04 Jul 17	2.2	Added new part numbers.
	08 Sep 17	2.3	Added Remote Update Instructions
	25 Jan 18	2.3	Added RNIB logo
	03 Apr 19	2.4	Updated RNIB logo + corrected pic on front page
	10 Feb 20	2.4	WARF info removed page 1 – no issue change
	29 Apr 20	2.5	Product is now NavBar (not Nav-Bar)
	18 Sep 20	2.6	Added note regarding Reset Switch location
	15 Aug 24	2.7	Split out Config / API / Downloader instructions into separate docs.

Product Firmware	<u>Date</u>	<u>Version</u>	<u>Details</u>
	17 Oct 16	3.0	First Production Release
	03 Mar 17	4.0	Improve stability
	07 Nov 17	5.0	Jack In debounce reduced to 200 msec, improved recovery, 8 digit SN support