Windows Utility

API for controlling the Keypad from the Host Computer 16

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System Requirements

The utility requires .NET framework to be installed on the PC and will communicate over the same USB connection but via the HID-HID data pipe channel, no special drivers are required.

Compatibility

Windows 11	✓
Windows 10	✓
Windows 8	✓
Windows 7	✓
Windows Vista	✓
Windows XP	Only if you install .NET framework

The utility can be used to configure the product to

- Select Code Table
- LED brightness (0 to 9)
- Test AudioNav
- Create customised keypad table
- Configure Bluetooth settings
- Reset to factory default
- Load Firmware
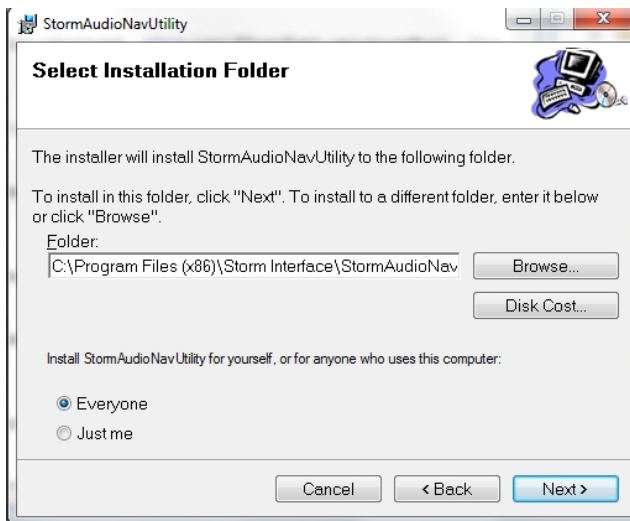
Installing the Configuration Utility

To install the Configuration Utility download from www.storm-interface.com/downloads, double click on the downloaded .exe file and the Setup Wizard will launch
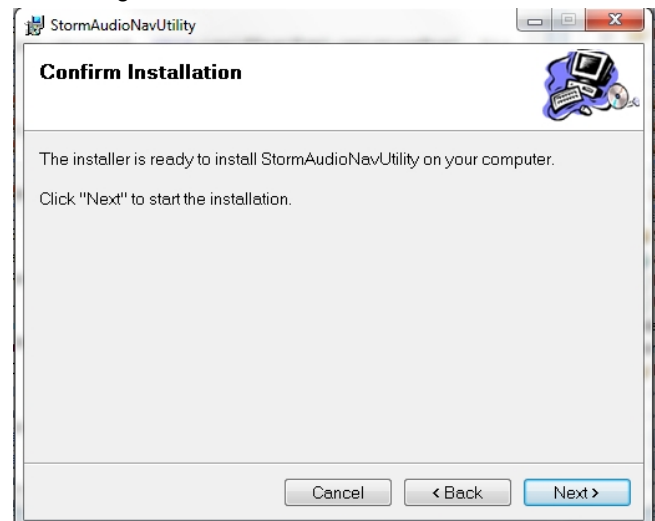

Click on "Next"
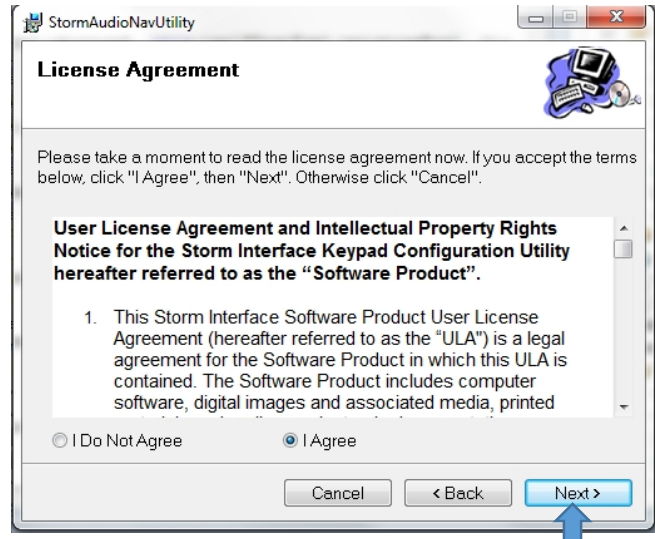
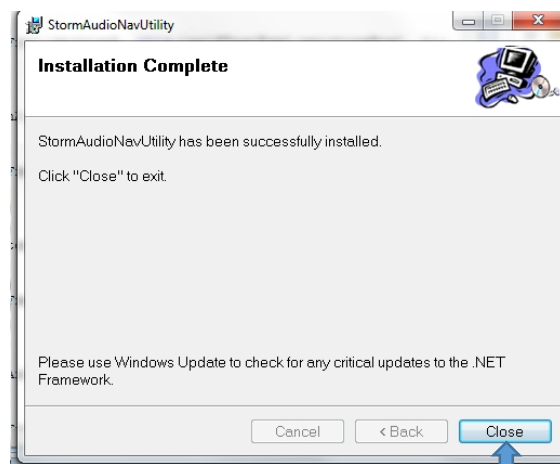Select "I Agree" and Click on "Next"

Select if you would like to install for just you or everyone and select location if you do not want to install at default location. Then click on "Next"

Click on "Next" to confirm.

The "Disk Cost" shows available space at your chosen folder. The program requires 10MB of space.
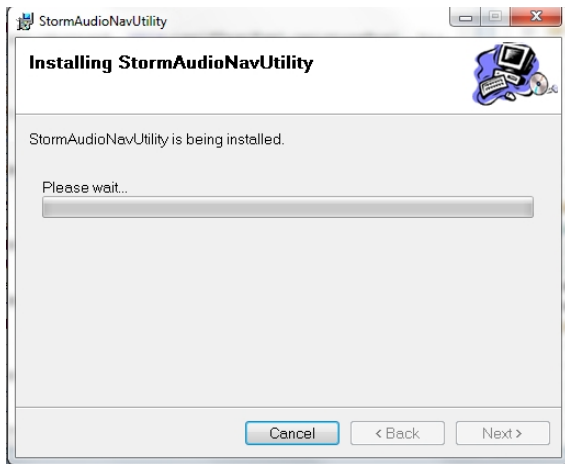
Click on "Close" for successful installation.

A shortcut will be installed on your desktop.

Double-click this to start the Utility and the following screen will appear. If an AudioNav EF device is connected it will be detected automatically and the details displayed in the blue panel at the top
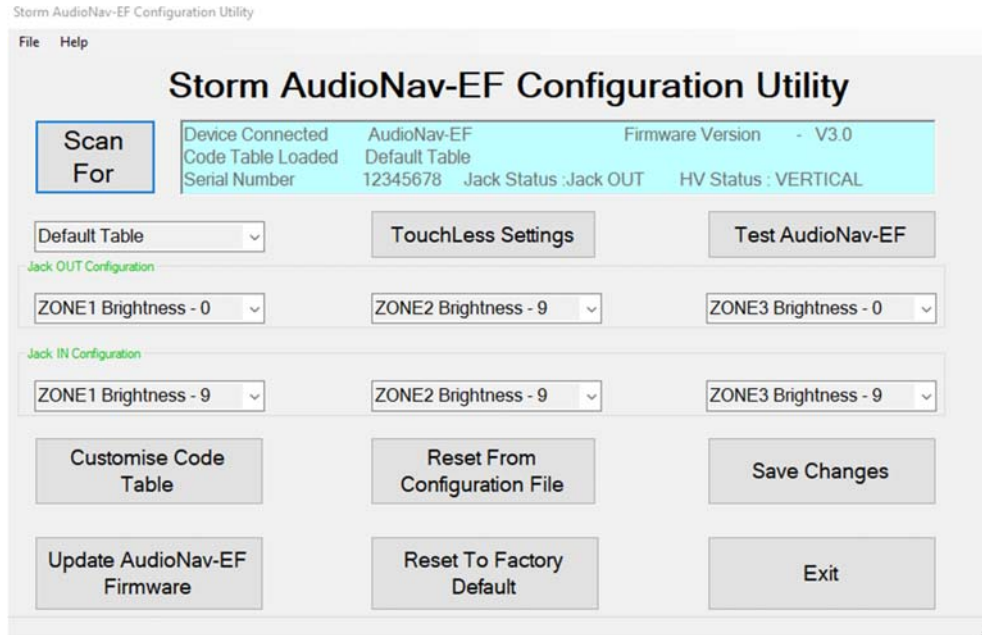
The following functions are available and will be described on the following pages :-

Select a Code table

Create a customised code table

Change the LED brightness

Test the AudioNav EF

Update the Firmware

Reset the AudioNav EF to factory defaults

Configure Bluetooth Touchless settings

Reset the AudioNav EF from a saved configuration

Select a Code Table

The user can select from three tables:

Function	FACTORY DEFAULT CODE TABLE		ALTERNATE CODE TABLE		CUSTOMISED CODE TABLE Set initially to the factory default values
	Hex	USB Description	Hex	USB Description	
Right	0x4F	Right Arrow			
Left	0x50	Left Arrow			
Down	0x51	Down Arrow			
Up	0x52	Up Arrow			
Select	0x28	Enter			
Jack IN	0x6A	F15			
Jack OUT	0x6B	F16			
Increase Volume	01 02	Windows Multimedia Codes			
Decrease Volume	01 04				
Increase Playback Speed	0x72	F23			
Reduce Playback Speed	0x73	F24			

Once a table has been selected then the keypad will hold that configuration unless it is disconnected.

Once the keypad has been disconnected that configuration will be lost unless you save the configuration in memory by clicking on "Save Changes"
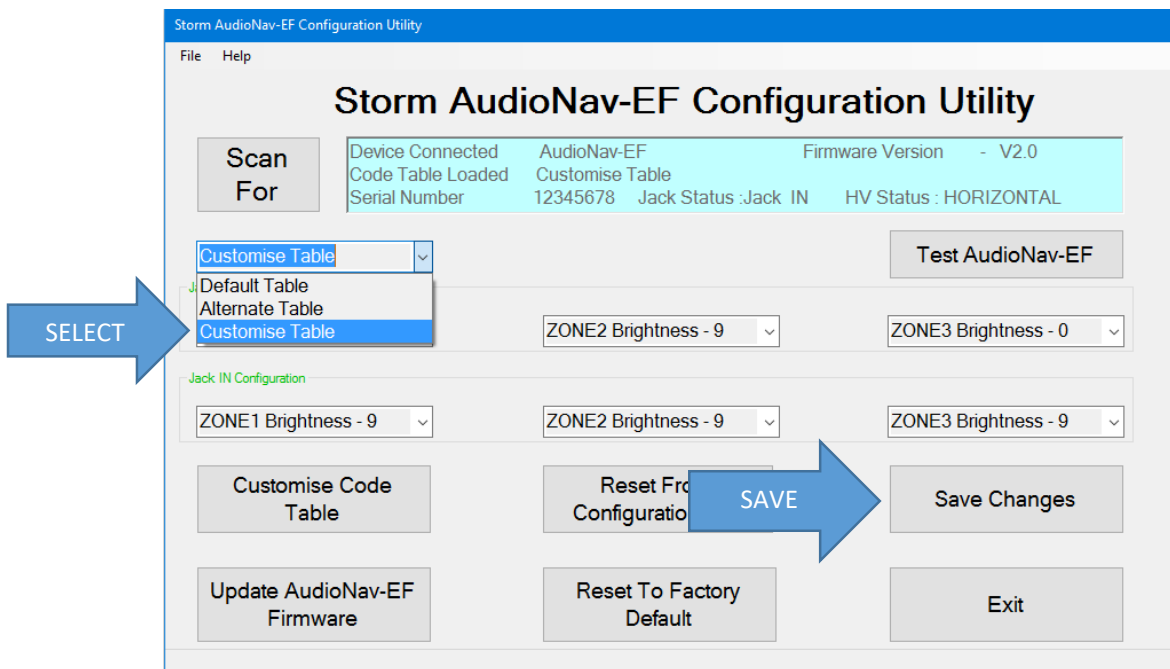
Create a Custom Code Table

First select Customise Table

Note that Multimedia Control Codes (Vol Up / Down) are not available in Customised Table.

Please note: JACK IN/OUT and Horizontal/Vertical codes can also be customised.
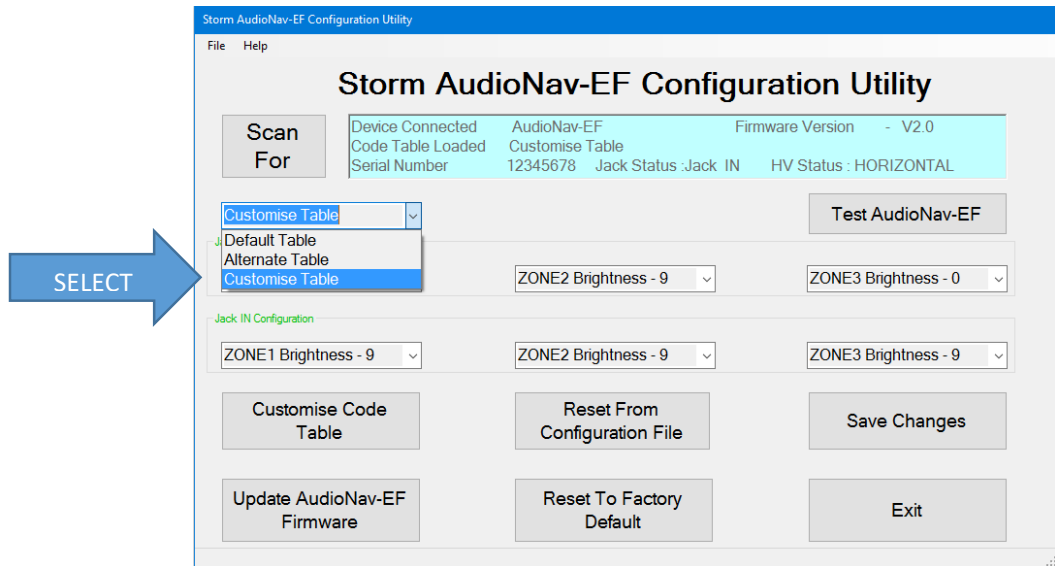
Click on 'Customise Code table. The following will be displayed
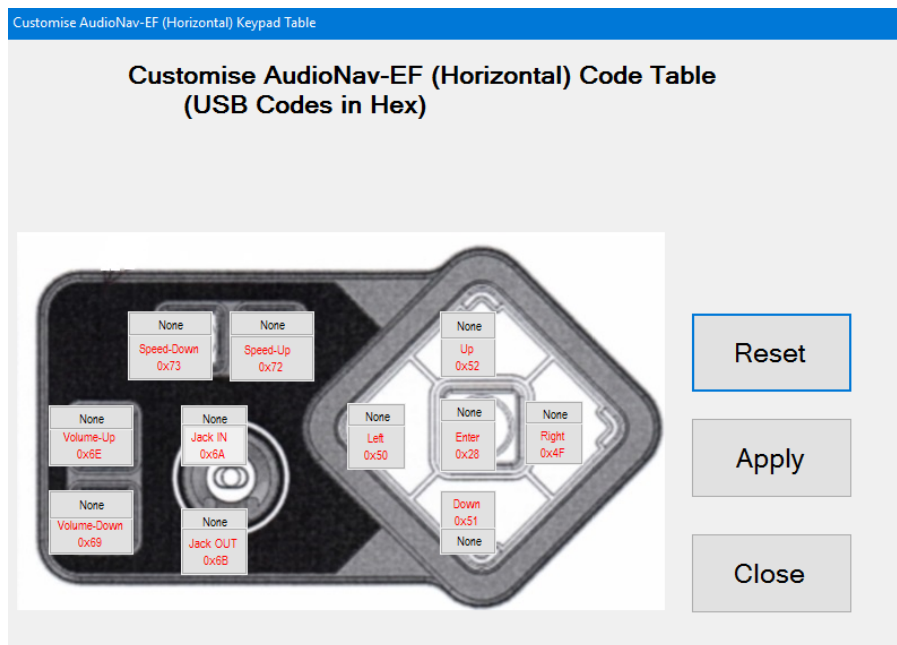
Choosing a USB Code

The current customised code table will be displayed from memory on the keypad.

Attached to each key is another button ("NONE"),

this shows the modifier for each key.

To customize a key, click on the key and
Key Code combo box will appear, with "Select Code"
.
The button colour will change to "Orange"
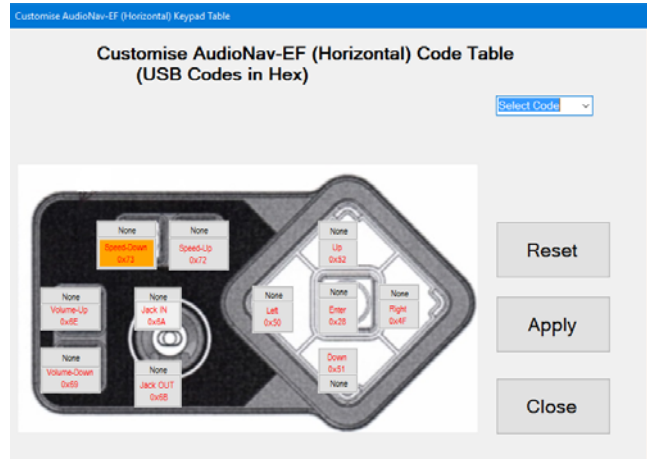
Now press on the down arrow on the combo box:
This will display all the codes that can be selected.

These codes are the ones defined by USB.org.

Once code is selected, the code will be displayed
on the selected button.
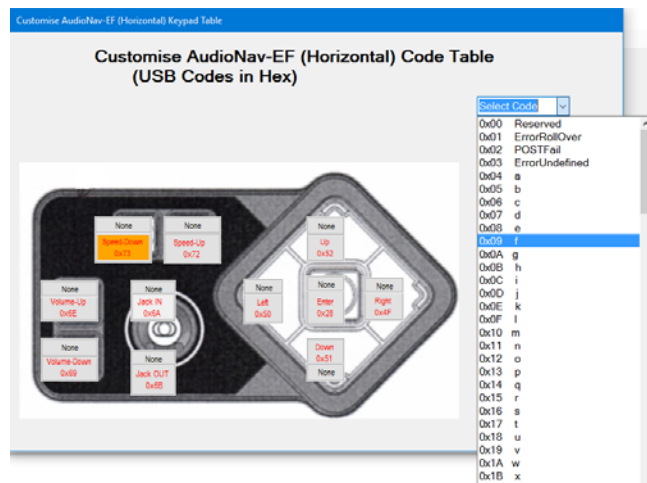
In this example I have selected "e" and code is represented by 0x08 and button colour will change to Aqua.

Press the "Apply" button and the code will be
sent to the AUDIONAV EF.

When you press key "Down" on keypad,
"e" will be sent to the relevant application.
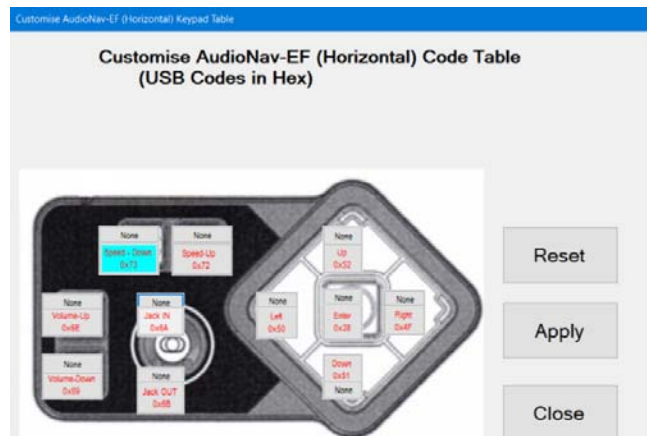
Adding a modifier

Now if you wanted a "E" (uppercase) then you need to add a SHIFT modifier for that key. Click on the modifier button for that key.
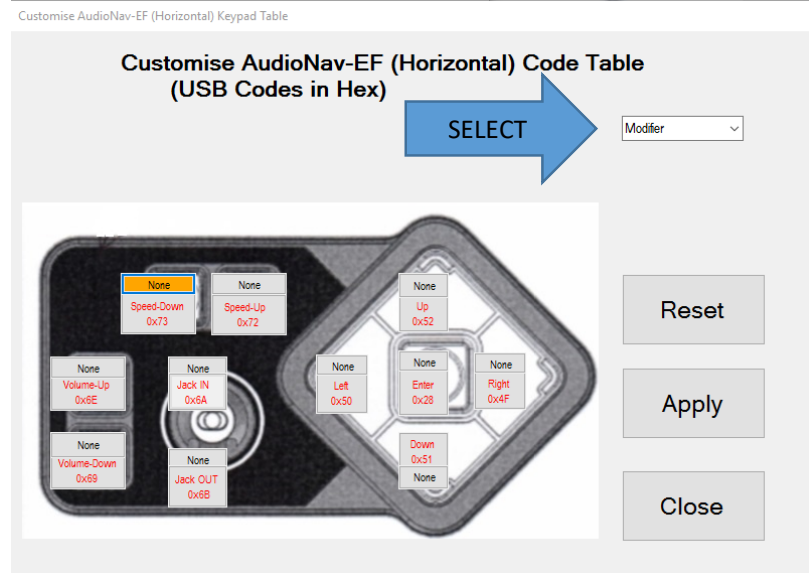
The background colour for modifier button will change to orange and modifier combo box will appear. Select down arrow key on modifier combo box and the following selection will be available:

L SHT – Left Shift

L ALT – Left Alt

L CTL – Left Ctrl

L GUI – Left Gui

R SHT – Right Shift

R ALT – Right Alt

R CTL – Right Ctrl

R GUI – Right Gui
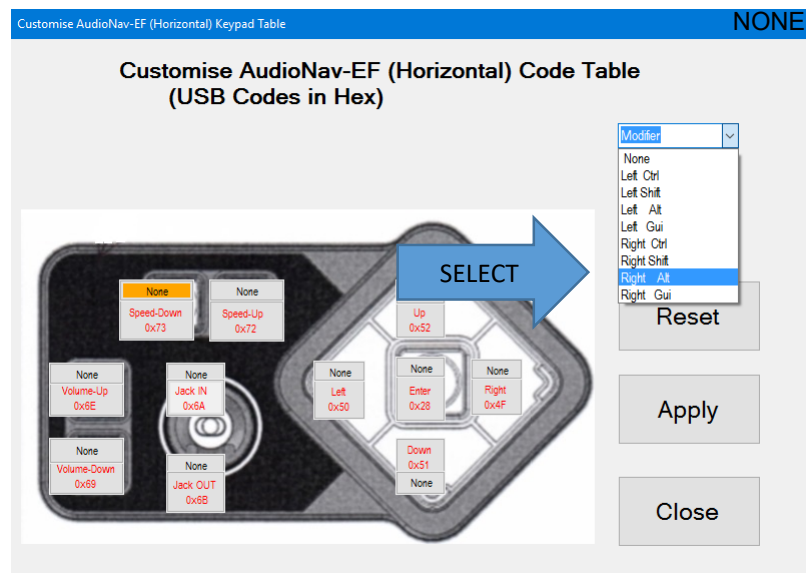
Select either L SHT or R SHT – I have selected R SHT.

The R SHT modifier is now displayed on the button and background colour changed to grey. Now if you click on "Apply" and if successfully transferred then pressing "down" on keypad will display "E" (uppercase).
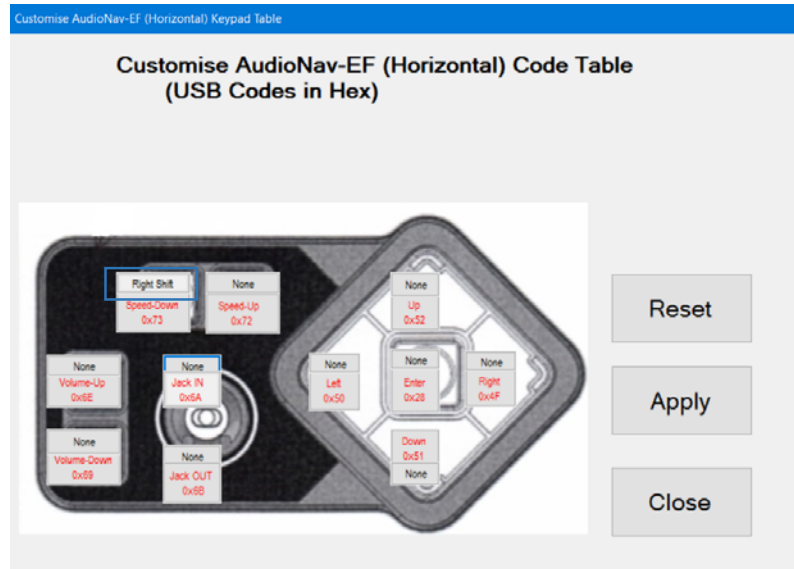
If you did not want the current setting then click on "Reset" then all buttons will revert to original coding and then click on "apply" to send this coding to AudioNav EF keypad.

"Close" will exit the customize form and return back to main screen.

Press "Save Changes"
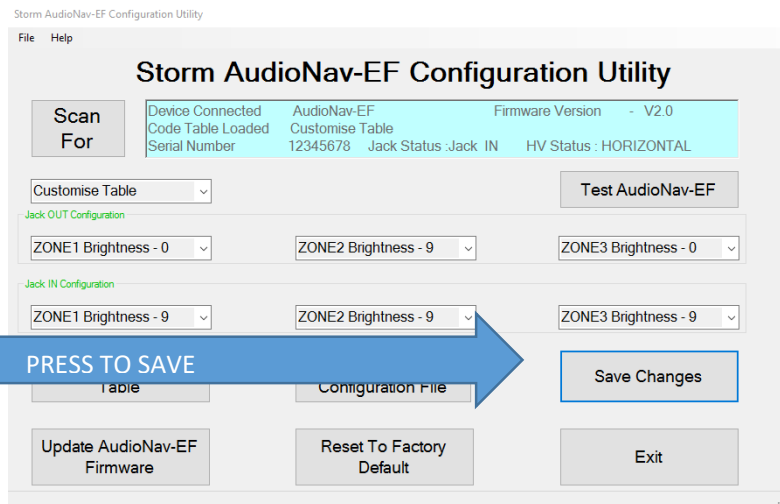
LED Brightness

This will set the brightness of the LEDs. The selection is from 0 to 9.

LEDs in Audio Nav EF can be configured differently when the jack is in or out
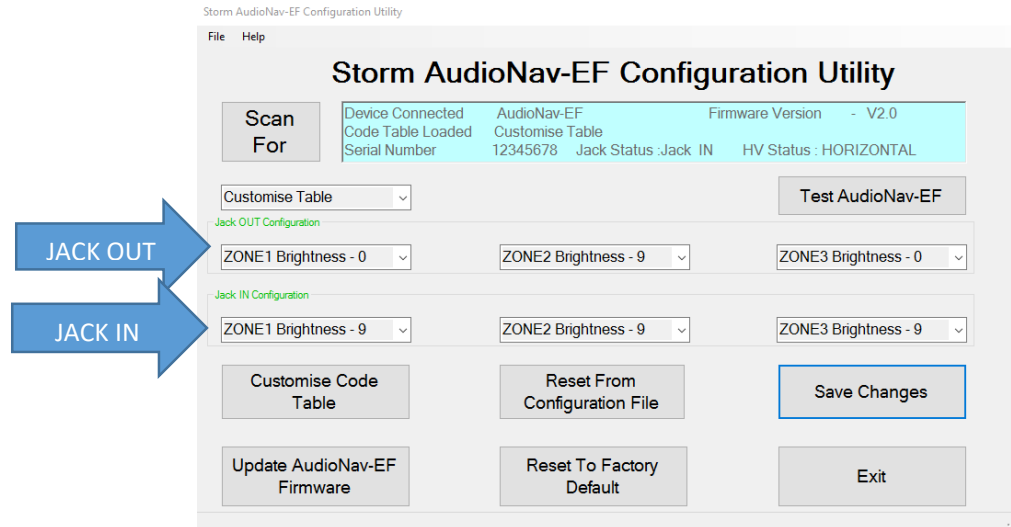
In addition, there are 3 separate lighting zones
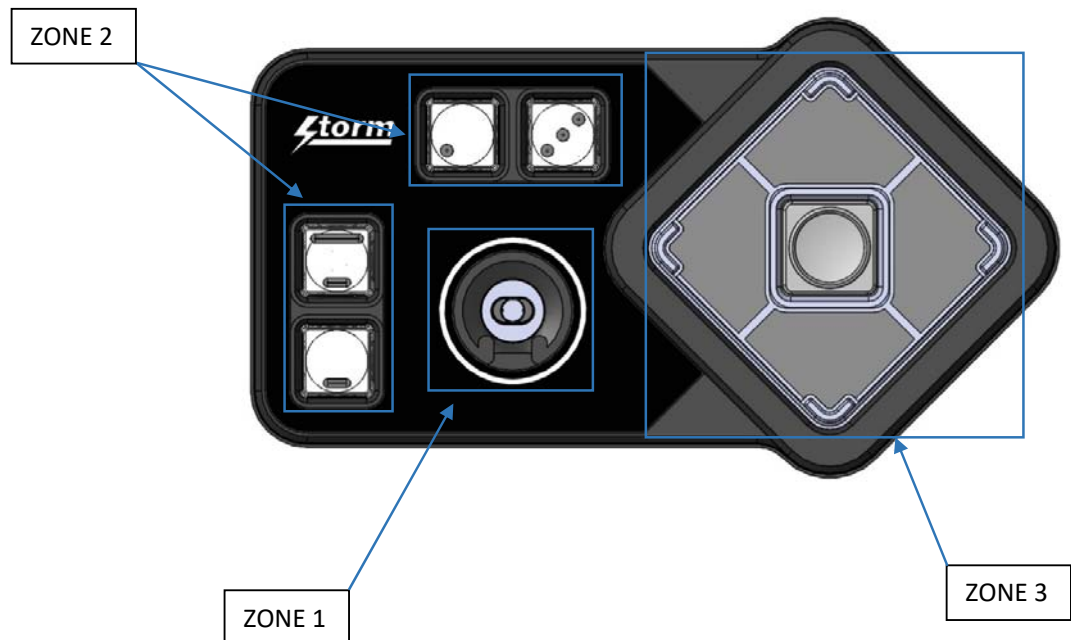
Touchless Settings

If the AudioNav includes Bluetooth then with the utility you can :-.

- Enable / disable bluetooth functionality
- Rename the device – this name appears when connecting.
- Product Type can be set to Landscape / Portrait
- Enable / disable Trackpad in the Touchless-CX app.
- Adjust the Bluetooth operation range

The Bluetooth range is set by a combination of
- Transmit power level (from the AudioNav)
- RSSI level (as seen in the Touchless-CX app)
- Signal strength drop (as seen in the Touchless-CX app).

The signal strength is monitored by the Touchless-CX app :-

- It looks for Storm Bluetooth devices
- If it detects one and the RSSI level is greater than the level set then it will connect
- It records the initial signal strength on connection
- The signal strength will decrease when the user walks away from the kiosk
- When the signal strength drops by the figure set in RSSI Disconnect margin
  and remains low for 10 seconds then the app will automatically disconnect.

The factory default settings give an effective range of 1.5m. They are as follows

RSSI level range (for initial connection)	75 dbm	If you increase this figure (e.g to 85 dbm) the range will increase
Transmit Power level	1.5 dbm	If you increase this figure the range will increase
RSSI Disconnect Margin	5 dbm	If you increase this figure then you will need to move further away from the kiosk to initiate automatic disconnection

If Bluetooth has been disabled then you can re-enable it without using the utility

- Press and hold for 5 sec the 3 buttons shown
   (Press and hold 1, then also 2, then also 3)

- The LEDs will flash to confirm Bluetooth is enabled
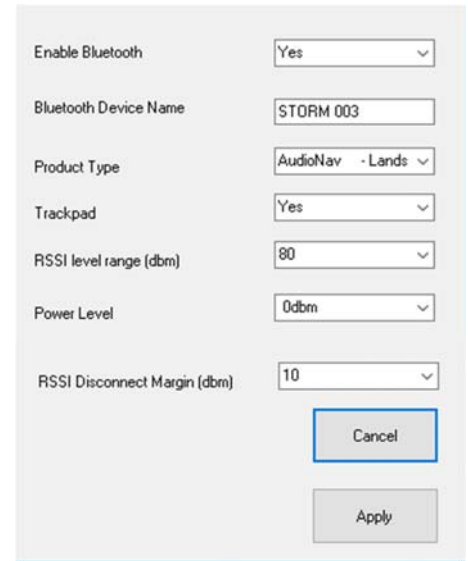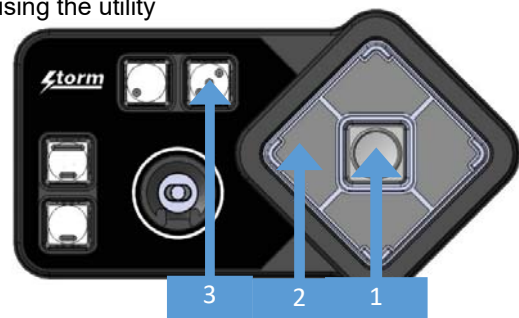
Test the AudioNav

This will test all the functions :-.

- illumination dimming levels
- Key test
- Jack in/out
- H/V Switch
- Audio test
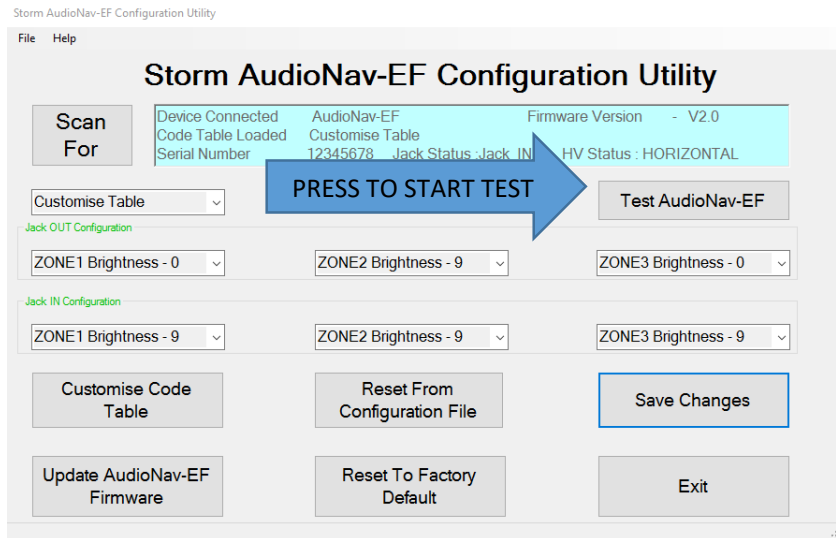
First test the audio (make sure it is set as the default audio device).
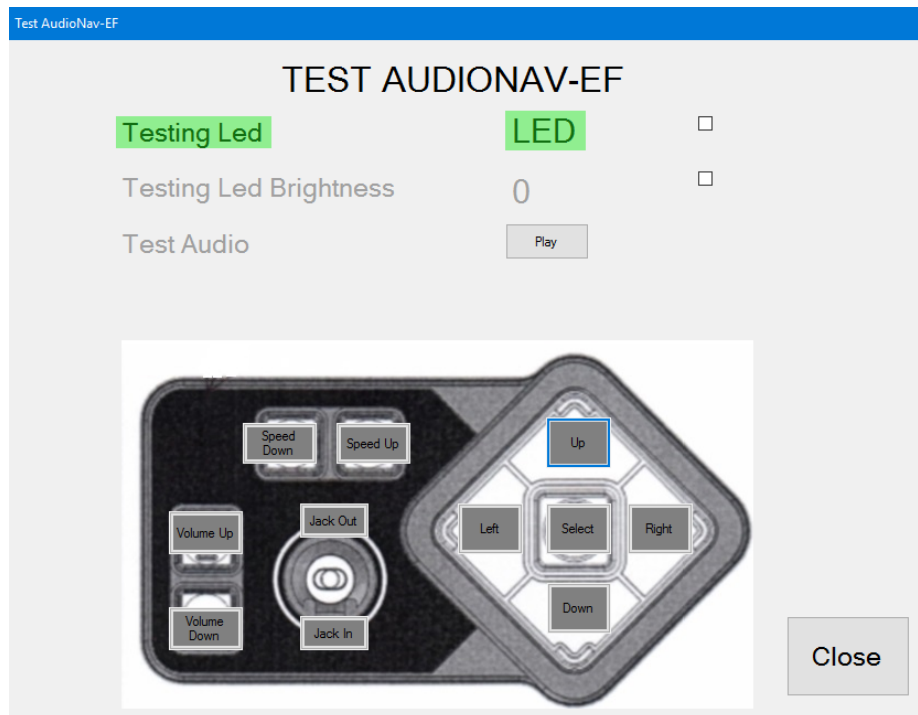
Now press each key on keypad, each key will light up on screen.
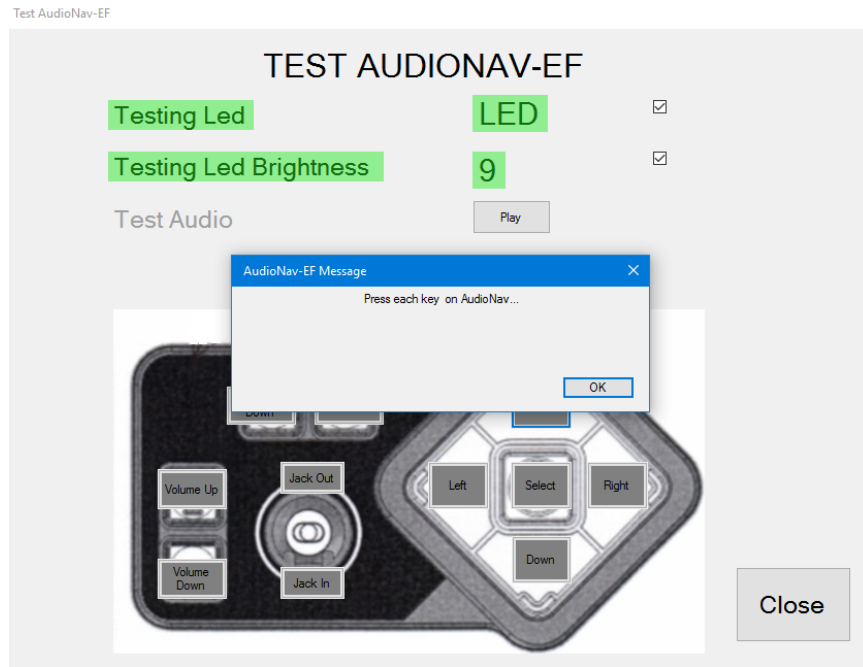
Press close when finished.
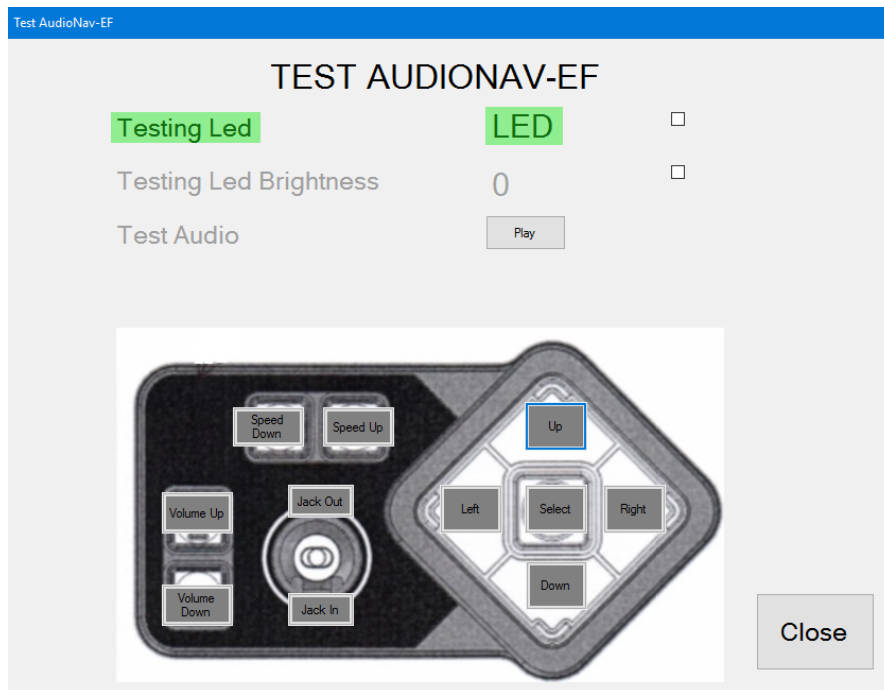
Update the Firmware
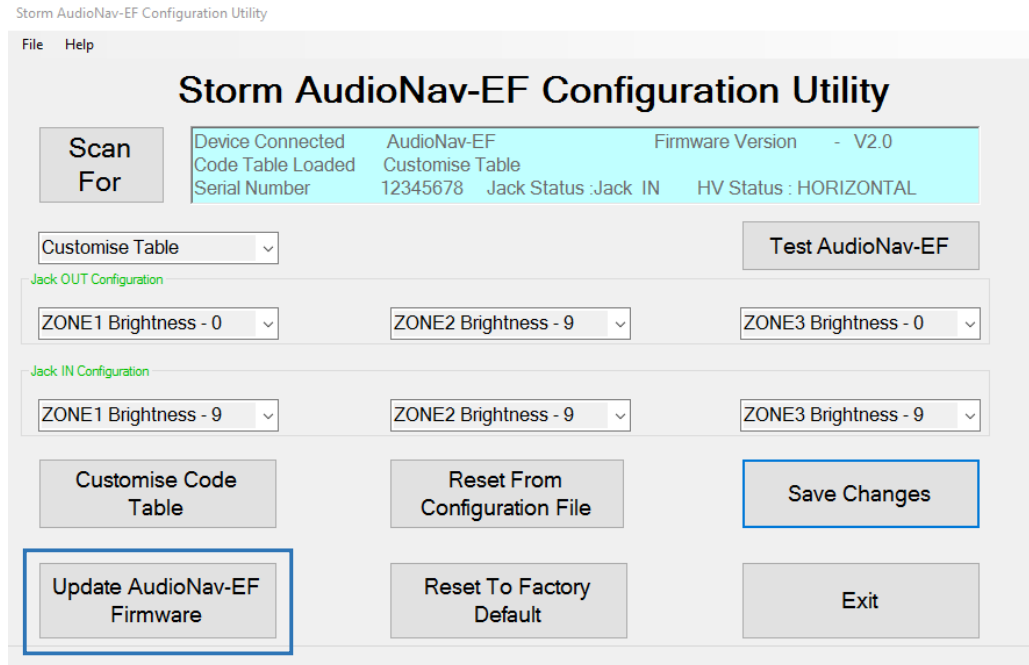
Press YES

BROWSE for the file

press UPGRADE

and CLOSE
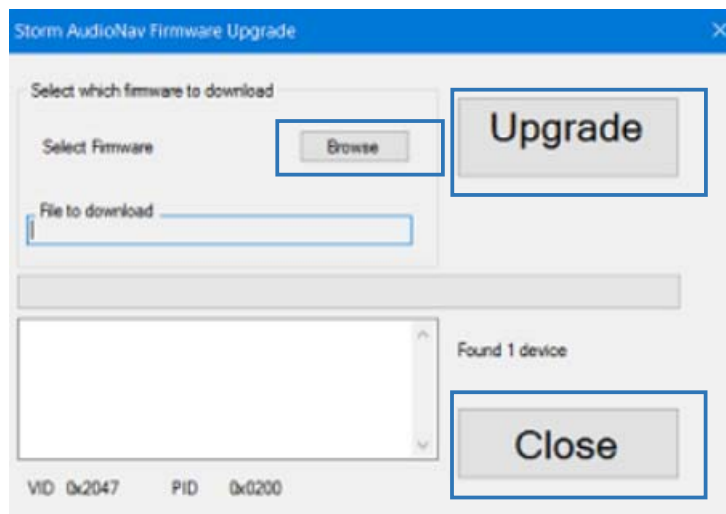
Reset the AudioNav EF to Factory Defaults

Clicking on "Factory Default" will
reset the keypad to factory settings
Code Table – Default
LED brightness – 9
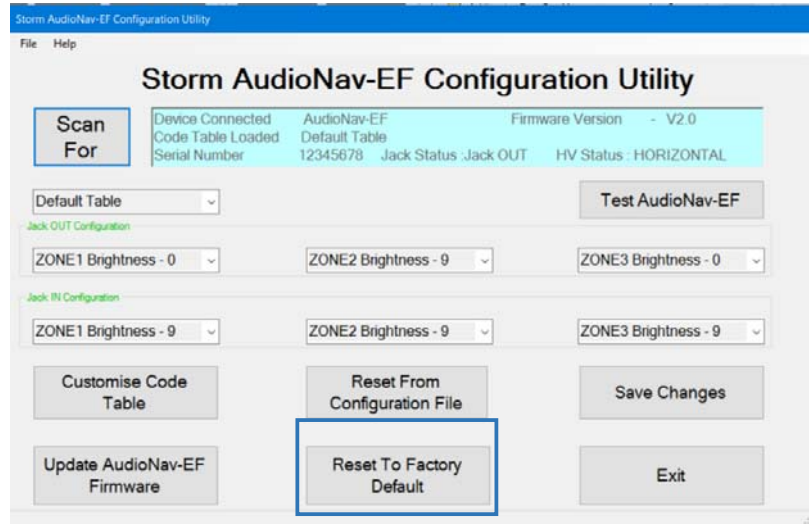
Reset the AudioNav from a saved Configuration

You can load the saved settings
onto another AudioNav.

This is useful (for example) you
have set up a customised table
and you wish to load this table
on a number of devices
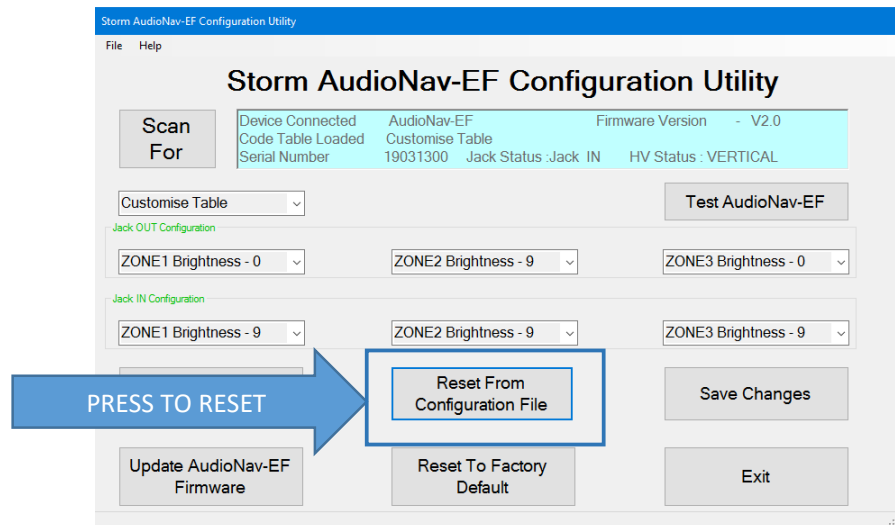
PRESS TO RESET

Press to reset to load the saved
settings from the previous device
onto the device that is
currently connected

API for controlling the AudioNav device from the Host Computer

This section provides details on how the AudioNav can be controlled from a host that has USB capabilities.

List of Messages

(Structure of Messages from Host to AudioNav™ is on the following pages

ID	Name	Description
01	Device Status Request	Output the firmware version & selected parameters
02	LED Brightness	Adjust led brightness.
03	Reserved	Reserved for future use
04	Reserved	Reserved for future use
05	Load New code table	Load new code table
06	Reserved	Reserved for future use
07	Keypad Type	Select layout table
08	Reserved	Reserved
09	Write to default	AudioNav writes configuration data from ram to flash
10	Reset to factory default	Reset device back to factory default
11	Reserved	Reserved for future use
12	Load Firmware	Sets the AudioNav to detect the device loader for firmware loading
13	Reserved	Reserved for future use
14	Set Serial Number	Write 12 digit serial number

Structure of Messages from AudioNav to Host

01 Key Press Code   sends a key scan code back to HOST when a key is pressed on keypad

AudioNav Device Communications

AudioNav keypad uses the ASCII/binary Message format described below. Every message that is sent from a host should be acknowledged with the control byte ACK (0x06). A retransmission should be initiated if an NAK (0x15) is received or if no acknowledge is received at all.

Message Formats

A	Alpha character, 'A'-'Z' and 'a' - 'z'
C	Control character one byte in length.
H	Hexadecimal characters, '0'-'9', 'A'-'F'
N	Numeric character, '0'-'9'
S	Special characters, entire character set 0x00 - 0xFF

ASCII Message Format

	Message Field	Type	Length	Description
1	STX	C	1	Control character Start of Text = 0x02
2	Message Id	H	2	Defines the type of message and format of the data field
3	Data Length	H	2	Hexadecimal value represented in ASCII defines the number of bytes in the data field. '00' to 'FF'. Maximum data field size is 256 bytes.
4	Data Field	S	var	In binary format
5	ETX	C	1	Control character ETX = 0x03
6	LRC	C	1	Longitudinal Redundancy Check Digit, calculated on all previous data including STX

Message ID Definitions

Here is a general table describing the message Ids, more detailed descriptions for each message Id follows. When a message is one way only, the Message Id. is the same for both the message and response.

ID.	Message	Description
01	Device Status Request	Host To AUDIONAV keypad – Output the firmware version and all currently selected parameters
02	LED Brightness	Host To AUDIONAV keypad – adjust led brightness. (default: 0)
03	Reserved	RESERVED
04	Reserved	RESERVED
05	Load New code table	Host To AUDIONAV keypad – Load new code table
06	Reserved	RESERVED
07	Keypad Table	Host To AUDIONAV keypad – Select layout table 0 – Default Table 1 – Alternate Table 2 – Customised
08	Reserved	Reserved
09	Write to default	Host To AUDIONAV – AudioNav writes configuration data from ram to flash.
10	Reset to factory default	Host To AUDIONAV – Reset device back to factory default
11	Reserved	RESERVED
12	Load Firmware	Host To AUDIONAV– Sets the AudioNav to detect the device loader for firmware loading
13	Reserved	RESERVED
14	Set Serial Number	Host to AUDIONAV– to store a serial number (12 digits)

Error Code

Every response message contains one of the following error codes:

00	No error
01	Command not recognized
02	Command not support at this stage
03	Parameter not supported
04	Hardware fault

Device Status (01)

Host sends this message to AudioNav to request the status of the AudioNav keypad

Host Device		AUDIONAV-
[01]	⟹	
	⟸	[01][ec][lb][kt][Js][Hs][20*kc][fw][sn]
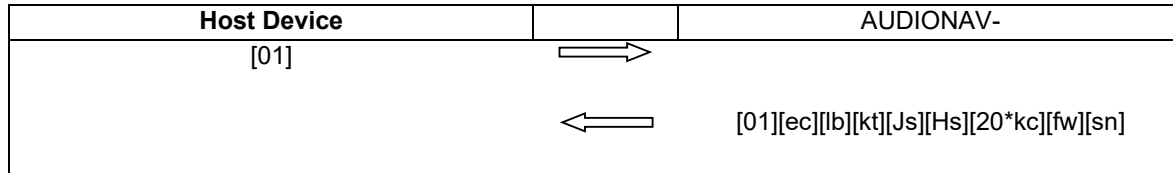
AudioNav **Status Response**

Keypad sends this message to Host in response to the Device Status message.

	Data Field	Type	Length	Description	
ec	Error Code	SH	2		
Lb	LED Brightness	SN	1	Value (0 – 9)	
Kt	Keypad Table	SN	1	0 – Default Table 1 – Alternate Table 2 – Customised Table	
Js	Jack status	SN	1	0 – Jack IN, 1 – Jack Out	
Hs	Horizontal/Verticle	SN	1	0 – Vertical 1 - Horizontal	
Kc	Keycode	SH	20	Customised keycode for each key	
fw	Firmware Version	ANS	20	Left justified, if Firmware Version is less than 20 then just add enough spaces after the Firmware Version until this field is completed, for instance, "123456" becomes: "123456 "	
sn	Serial Number	ANS	12	Returns serial number YYQQXXXXXXXX Where YY – year, QQ – Quarter XXXXXXXX – Sequential number	

LED Brightness Command (02)

Host sends this message to control brightness of LEDs

	Data Field	Type	Length	Description
1	LED brightness	SN	1	0 - 9

LED Brightness Command Response

	Data Field	Type	Length	Description
ec	Error Code	H	2	

Host Device		AudioNav
[02][lb]	⟹	
	⟸	[02][ec]
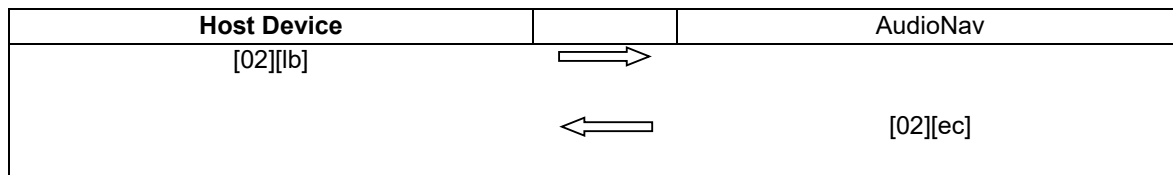
Note: LED brightness of 0 value indicates LEDs are off

      LED brightness of 9 value indicates full brightness

Reserved (03)

Reserved (04)

Load New Key Code Table Command (05)

Host sends this message to Load New Code Table

	Data Field	Type	Length	Description
1	Load New Code Table	SH	20	Key Code Table:

Load New Table Command Response

	Data Field	Type	Length	Description
ec	Error Code	H	2	

Host Device		AudioNav
[05][lt][20 scan codes]	⟹	
	⟸	[05][ec]
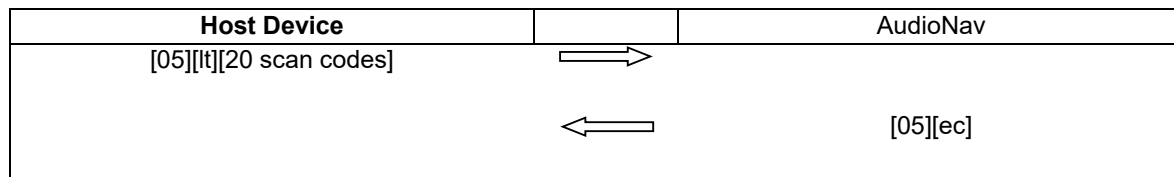
Note: Length is always 20,

Format of table is as follows:

<modifier for key 1><code for Key 1><modifier for key 2><Code for Key 2>..........etc

The code table is specified in the user manual together with the modifier code. For example to program the following for 4 way :

Key 1 – A

Key 2 – a

Key 3 – 9

Key 4 - !

<0xE1><0x04><0x00><0x04><0x00><0x26><0xE5><0x1E>< 0x00><0x00>< 0x00><0x00>< 0x00><0x00>< 0x00><0x00>< 0x00><0x00>< 0x00><0x00>< 0x00><0x00>< 0x00><0x00>< 0x00><0x00>< 0x00><0x00>< 0x00><0x00>< 0x00><0x00>< 0x00><0x00>

Note: 20 bytes must be sent, for unused key code pad the values with 0x00.

Note: For shift modifiers there is a left and right modifiers value defined. So we can use 0xE1 – Left Shift and 0xE5 – Right shift. Similarly there is left and right Alt

Reserved (06)

Keypad Table Command (07)

Host sends this message to set keypad type

	Data Field	Type	Length	Description	
1	Keypad Type	SN	1	0 – Default Table 1 – Alternate Table 2 – Customised Table	

Keypad Command Response

	Data Field	Type	Length	Description
ec	Error Code	H	2	

Host Device		AudioNav
[07][bp]	$\Longrightarrow$	
	$\Longleftarrow$	[07][ec]
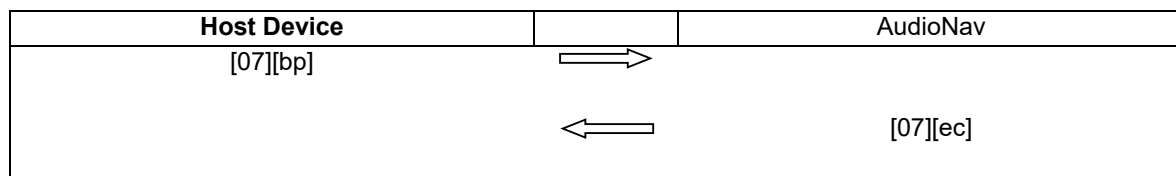
Reserved (08)

Write Config Data To Flash command (09)

Host sends this command to request the AUDIONAV to write the configuration data from RAM to FLASH. This command has no data associated with it.

Host Device		AUDIONAV-
[09]	$\Longrightarrow$	
	$\Longleftarrow$	[09][ec]
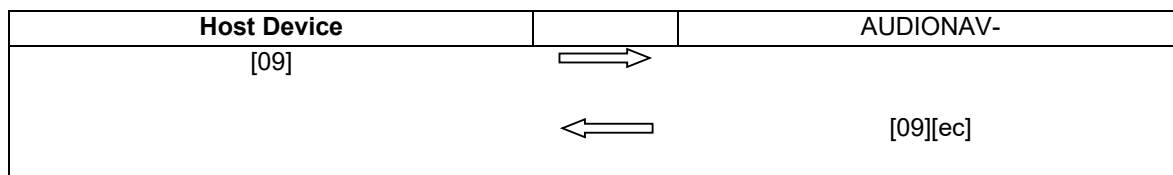
RAM to FLASH command **Response**

	Data Field	Type	Length	Description
ec	Error Code	H	2	

Reset To Factory Default command (10)

Host sends this command to request the AUDIONAV to reset parameters back to factory default. This command has no data associated with it.

Reset To Factory Default **Response**

	Data Field	Type	Length	Description
ec	Error Code	H	2	

Host Device		AUDIONAV-
[10]	⟹	
	⟸	[10][ec]
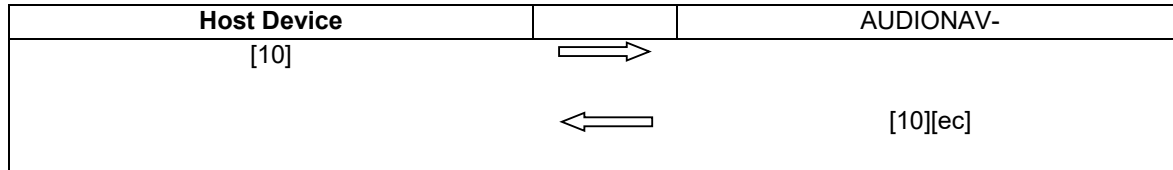
Reserved (11)

Enable BSL Command (12)

Host sends this command to request the AUDIONAV to start downloader

Enable BSL command **Response**
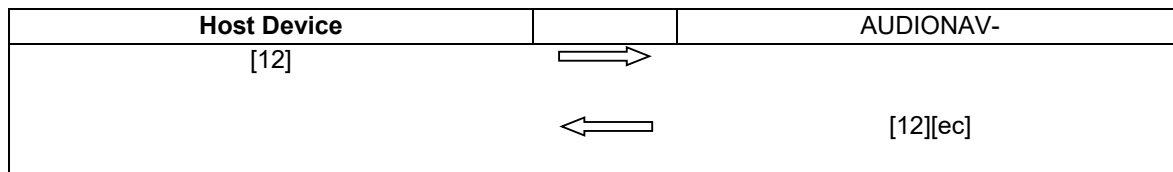
	Data Field	Type	Length	Description
ec	Error Code	H	2	

Host Device		AUDIONAV-
[12]	⟹	
	⟸	[12][ec]

Reserved (13)

Set Serial Number command (14)

Host sends this command to set the serial number of the device in format YYQQXXXXXXXX

	Data Field	Type	Length	Description
1	Serial Number	ANS	12	YYQQXXXXXXXX

Set Serial Number command **Response**

	Data Field	Type	Length	Description
ec	Error Code	H	2	

Host Device		AUDIONAV-
[14][SN]	⟹	
	⟸	[14][ec]
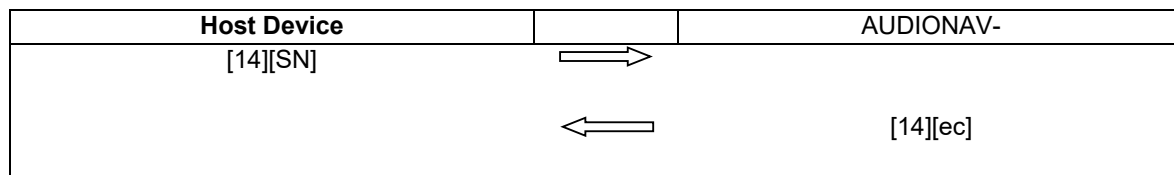
(01) Key Press Code

With the USB stack configured for a standard keyboard interface, the AudioNav   sends appropriate key report to HOST when a key is pressed on keypad.

Keyboard Report

HID Keyboard Report Format

	BIT7	*BIT6*	*BIT5*	*BIT4*	*BIT3*	*BIT2*	*BIT1*	*BIT0*
Byte0	*Right GUI*	*Right Alt*	*Right Sft*	Right Ctrl	Left GUI	Left Alt	Left Shift	Left Ctrl
Byte1	Reserved							
Byte2	Key_array[0]							
Byte3	Key_array[1]							
Byte4	Key_array[2]							
Byte5	Key_array[3]							
Byte6	Key_array[4]							
Byte7	Key_array[5]							

For example if user has configured for Default Table. If the user now presses the top key, which is "<<" and USB code of 72. Then keyboard report sent to host would be:

Byte 0 – 0

Byte 1 – 0

Byte 2 – 72

Byte 3 – 0

Byte 4 – 0

Byte 5 – 0

Byte 6 – 0

Byte 7 – 0

Now if the user customizes the top key to be "R SHIFT" (modifier) and USB code for "a" (04). If the user presses the top key, then the keyboard report sent to host would be:

Byte 0 – 20 This is Right Shift modifier.

Byte 1 – 0

Byte 2 – 04

Byte 3 – 0

Byte 4 – 0

Byte 5 – 0

Byte 6 – 0

Byte 7 – 0

Host API Library - Overview

The Host API Library for the AudioNav is a middleware application between the Host application and Audio Nav device. You can download this together with the HIDAPI library from www.storm-interface.com.

- Audio Nav API – The AudioNavApi library allows for the host application to invoke Audio Nav functions as listed above. The API encapsulates all the communications to USB and provides a simple API for the host application developers.

- HIDAPI - This is a third party library, which allows an application to interface with USB HID-Compliant devices on Windows, Linux, and Mac OS X. While it can be used to communicate with standard HID devices like keyboards, mice, and Joysticks, it is most useful with custom (Vendor-Defined) HID devices. This allows for host software to scan for the device using its VID/PID.

The Audio Nav uses USB for communicating with the host. It includes an HID-compliant device . One of the advantages of using this implementation, which uses only HID interfaces, is that no drivers are required on host system.

The protocol for communicating with host is described fully in the following pages. The basic architecture is shown below.

```
+-------------------------------+
| Audio Nav Functions e.g.      |
| SetLedLevel etc.,             |
+----------------------------------+
|         Audio Nav API            |
+----------------------------------+
|             HIDAPI               |
+----------------------------------+
```
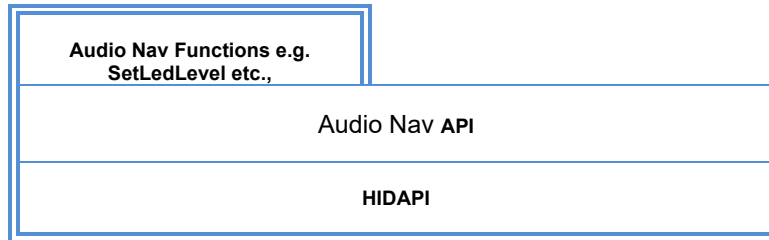
The developer does not need to worry about the communication at low level. You can request source code from us for the library so it can be ported to your specific platform. Currently the library has been tested on Windows and Linux (Ubuntu) platform.

The API makes the following functions available to developers

Page

All Message Types

This is referenced in below functions:

```
enum REQUEST_TYPE{        // message types

DEVICE_STATUS = 1,                  ///Device status message
LED_BRIGHTNESS,                //< set led brightness
RESERVED_1,                          ///MID_RESERVED_6
RESERVED_2,                   // MID_RESERVED_6
LOAD_NEW_TABLE,                        //load new key code table
RESERVED_3,               // MID_RESERVED_6
KEYPAD_TYPE,                     // set keypad type 0 - default table, 1 -
alternate 2- customise
RESERVED_4,                          //MID_RESERVED_6
WRITE_DEFAULT,                       // Write defaults values from ram to flash
RESET_TO_FACTORY_DEFAULT,     // reset the setting to factory default
RESERVED_5,                   //MID_RESERVED_6
ENABLE_BSL,                   //start downloader
RESERVED_6               //MID_RESERVED_6

    }
```

InitialiseStormUSBDevice

This function is used to initialise the Audio Nav. The Audio Nav is identified by the Product PID and Manufacturer VID. This are assigned to Keymat:

- Vendor ID – 0x2047
- Product ID – 0x09D0

On successful finding the Audio Nav the manufacturer_local will be filled with "Storm Interface" and product_local will be filled with "AUDIO NAV". If not successful both of the strings will be filled with "none"

Parameters :

storm_vid	-	Vendor ID
product_pid	-	Product ID
manufacturer	-	vendors name will be stored
product	-	product name will be stored

Return Value:

True for success
False for failure.

```
///\brief InitializeStormUSBDevice is called at the beginning of the
application to

///Setup the PRODUCT ID (PID) and product vid

///\return false on failure, true on success.

///On failure, call GetErrorCode() to retrieve the error

///

bool  InitializeStormUSBDevice( int storm_vid, int product_pid);
```

GetDeviceStatus

This function retrieves status information about the Audio Nav. For example, Jack status, HV switch status, led level status etc. All information is stored in DEVICE_INFO structure.

Parameters :

```
typedef struct
{
        unsigned char          led_brightness;
        unsigned char          keypad_table;
        unsigned char          jack_status;
        unsigned char          HV_status;
        unsigned char          keyCode[20]; //currently keytable in use
        std::string            version;
        std::string            serialNumber;
} DEVICE_INFO;
```

_deviceInfo   -   DEVICE_INFO sturcture, that will be filled by the function
timeToWait   -   maximum time to wait for command to complete

Return Value:

True for success
False for failure.

```
///\brief GetDeviceStatus Retrieves the USB Display's status information including:
jack status, HV switch status, Firmware Name.
///The data are returned in  a DEVICE_INFO structure
///\param _deviceInfo is a pointer to a DEVICE_INFO structure that receives
information retrieved from the Audio Nav.
///\param _timeToWait is the time in milliseconds to wait for the data to be
retrieved.
///\return 0 on success, negative error code on failure
///

Int GetDeviceStatus( DEVICE_INFO *_deviceInfo, int _timeToWait );
```

SetLedLevel

This function sets the brightness of the led. The led level can be set with values 0 to 9.

Parameters :

Int ledLevel
timeToWait   -   maximum time to wait for command to complete

Return Value:

0 for success

```
        ///\brief SetLedLevel This function sets led brightness level from 0 to 9,
where 0 is off
        ///                                and 9 is on.
        ///\param ledLevel    used to set led level
        ///\param _timeToWait is the time in milliseconds to wait for the data to be
retrieved.
        ///\return 0 on success, negative error code on failure
        ///      Possible error codes are:
        ///        DEVICE_INFO_STRUCTURE_NULL        = User app passed in NULL
pointer for DEVICE_INFO structure
        ///        NO_USB_DISPLAY_CONNECTED                = No keypad is
connected so cannot retrieve info
        ///        REQUEST_TIMEOUT                        = Could not retrieve the
info in the time alloted.
        ///
        DLLDEF int                            SetLedLevel( int ledLevel, int
_timeToWait );
```

LoadCodeTable

This function loads the keycode table in customise table.

Parameters :

Int *keyCodePtr – pointer to code table must hold 20 values including modifier. For each key the values must be [modifier, USB key code].

timeToWait   -   maximum time to wait for command to complete

Return Value:

0 for success

```
///\brief LoadCodeTable This function loads a new code table to customise
table in AudioNav
///
///\param KeyCodePtr - Point to new code table
/// param keyCodeLen - length of keycode - Must be 20.
///\param _timeToWait is the time in milliseconds to wait for the data to be
retrieved.
///\return 0 on success, negative error code on failure
///     Possible error codes are:
///          DEVICE_INFO_STRUCTURE_NULL        = User app passed in NULL
pointer for DEVICE_INFO structure
///          NO_USB_DISPLAY_CONNECTED                     = No keypad is
connected so cannot retrieve info
///          REQUEST_TIMEOUT                         = Could not retrieve the
info in the time alloted.
///
DLLDEF int                                LoadCodeTable( char *keyCodePtr, int
keyCodeLen, int _timeToWait );
```

SetKeypadTable

This function sets the current keypad table that will be used. 0 – default, 1 – alternate, 2 - customise

Parameters :

Int KeypadTable 0 – default, 1 – alternate, 2 - customise
timeToWait   -   maximum time to wait for command to complete

Return Value:

0 for success

```
        ///\brief SetKeypadTable This function sets which table is currently
used.
    ///
    ///\param KeyCodeTable - 0 – default, 1 - alternate 2- customise

    ///\param _timeToWait is the time in milliseconds to wait for the data to be
retrieved.
    ///\return 0 on success, negative error code on failure
    ///     Possible error codes are:
    ///         DEVICE_INFO_STRUCTURE_NULL        = User app passed in NULL
pointer for DEVICE_INFO structure
    ///         NO_USB_DISPLAY_CONNECTED                        = No keypad is
connected so cannot retrieve info
    ///         REQUEST_TIMEOUT                            = Could not retrieve the
info in the time alloted.
    ///
    DLLDEF int                                SetKeypadTable(int keyCodeTable, int
_timeToWait );
```

WriteDefaultToFlash

This function commnds the AudioNav to commit current values to flash.

Parameters :

timeToWait   -   maximum time to wait for command to complete

Return Value:

0 for success

```
        ///\brief WriteDefaultToFlash This function writes changed values to
Flash
     ///
     ///\param None

     ///\param _timeToWait is the time in milliseconds to wait for the data to be
retrieved.
     ///\return 0 on success, negative error code on failure
     ///      Possible error codes are:
     ///         DEVICE_INFO_STRUCTURE_NULL          = User app passed in NULL
pointer for DEVICE_INFO structure
     ///         NO_USB_DISPLAY_CONNECTED                       = No keypad is
connected so cannot retrieve info
     ///         REQUEST_TIMEOUT                            = Could not retrieve the
info in the time alloted.
     ///
     DLLDEF int                              WriteDefaultToFlash(int _timeToWait
);
```

ResetToFactoryDefault

This function commnds the AudioNav to reset the Audio Nav to factory default.

Parameters :

timeToWait   -   maximum time to wait for command to complete

Return Value:

0 for success

```
        ///\brief ResetToFactoryDefault This function reset AudioNav to factory
default
     ///
     ///\param None

     ///\param _timeToWait is the time in milliseconds to wait for the data to be
retrieved.
     ///\return 0 on success, negative error code on failure
     ///      Possible error codes are:
     ///         DEVICE_INFO_STRUCTURE_NULL         = User app passed in NULL
pointer for DEVICE_INFO structure
     ///         NO_USB_DISPLAY_CONNECTED                    = No keypad is
connected so cannot retrieve info
     ///         REQUEST_TIMEOUT                          = Could not retrieve the
info in the time alloted.
     ///
     DLLDEF int                              ResetToFactoryDefault(int
_timeToWait );
```

Workspace

Click on AudioNavApi (microsoft visual studio solution) and the workspace will be launched. The workspace has 5 projects:
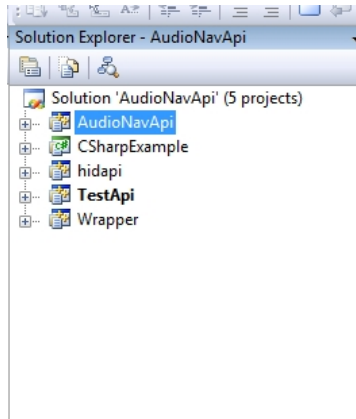
AudioNavApi – This is the API as described above.

Hidapi   -   This is freeware api for low level communication with USB device.

TestApi   -   This shows how the AudioNavApi is used using c++.

Wrapper   -   This wrapper is created to allow to integrate the AudioNavApi to languages such as c sharp

CSharpExample   -   Show how the AudioNavApi + Wrapper is used to communicate with the device.

Change History

Instructions for	Date	Version	Details
Config Utility & API	13 Sep 19	1.0	First release (split out from AudioNav tech manual
	14 Dec 20	1.1	API added
	06 Jan 21	1.2	Utility update
	02 Mar 23	1.3	BLE Settings added

Configuration Utility	Date	Version	Details
	14 Jun 19	1.0	First Release
	06 Jan 21	2.0	Bug fix – added missing dll files & microphone test
	01 Feb 22	2.1	Update user license agreement
	12 Sep 22	4.0	BLE functions added

Host API Library	Date	Version	Details
	11 Dec 20	1.0	First Release