

HA26 USB Programmer's Guide



Application Note 1401

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0 History

| Date | Revision | Author | Comments |
|----------|----------|--------|---------------|
| Dec 2014 | 1.0 | CS | First Release |

Table 1: History

0.1 Related Documents

| Nr. | Name | Remarks |
|-----|--|-----------------------|
| 1 | AN1000 Interfacing pei tel USB Audio Devices | Application Note 1000 |

Table 2: Related Documents

0.2 References

[1] USB specification, USB HID specification, USB HID usages tables, etc.

www.usb.org

[2] MSDN Developer Center/Library

<http://msdn.microsoft.com/en-us/library>

[3] USB Complete, Jan Axelson

<http://janaxelson.com/>

1 General

1.1 Introduction

This guide describes the general interfacing of the pei tel handset HA26 USB as an USB composite device, exemplarily in a Windows® 7 and 8 environment.

1.2 Disclaimer

All information and data contained in this data sheet are without any commitment, are not to be considered as an offer for conclusion of a contract, nor shall they be construed as to create any liability. Any new issue of this Application Note invalidates previous issues. Further, pei tel Communications GmbH reserves the right to revise this publication and to make changes to its content, at any time, without obligation to notify any person or entity of such revisions or changes. No part of this publication may be reproduced, photocopied, stored on a retrieval system, or transmitted without the express written consent of pei tel Communications GmbH.

2 Global Definitions

pei tel USB audio devices will be recognized by Windows® Operating Systems as a **Composite Device** which consists of an **USB Sound Device** and a **USB HID Device** (Human Interface Device).

The HA26 USB uses the following **Vendor ID** and **Product ID**:

- Vendor ID (VID): 0x0483
- Product ID (PID): 0x0400

The product name of all pei tel USB audio devices is "**PTC USB**". The vendor name is "**PTC TEL**".

The structure of the Serial Number String is as follows:

aaa.aaa.bbb.bbb.ccc.xxxxxx

where

| | |
|----------------|--|
| aaa.aaa | equals Hardware Version, 6 digits |
| bbb.bbb | equals Main Firmware Version, 6 digits |
| ccc | equals Type of Product, 3 digits |
| xxxxxx | equals Serial number, 6 digits |

3 Testing the Handset's Functionality

3.1 Speaker and Microphone

When plugging the device into the USB port of a Windows® PC, the device drivers should install automatically. The device shows as "PTC USB" in the **Volume Mixer** and **Sound** panels. These panels can be accessed by right-clicking the speaker icon on the Windows® system tray. On the Playback tab, the USB handset registers as a Speaker "PTC USB" and on the Recording tab it shows up as a Microphone "PTC USB".

Use a simple sound recording tool for testing. The Windows® Sound Recorder for example, available in the Accessories folder of the Windows® Start menu, is perfectly suitable for testing the microphone. For playback, any media player can be used.

3.2 Hook, PTT and Volume Buttons

The handset's volume buttons take over the control over the speaker volume of the PC. This can be tested easily during sound or video playback.

In order to check out the functionality of the PTT button, using a USB sniffer tool is recommended. A useful tool called SimpleHIDWrite for example may be available on the internet. The tool reports all usage of the PTT button (press and release), the hook function (provided the cradle A12 is used with the handset) and the two volume buttons. Additionally, it identifies the handset by its VID, PID and serial number (see also 2 Global Definitions).

4 Appendix

Product: HA26 USB
Type of Product: 400
Layout: Two input bytes; coded as shown below

Vendor Name: "PTC TEL" VID (hex): 0x0483
 Product Name: "PTC USB" PID (hex): 0x0400

Frame Structure

| | |
|----------|--------|
| ReportID | Data |
| 1 byte | 1 byte |

ReportID

| | ReportID | Data (Function) |
|---|----------|-----------------|
| ① | 0x00 | Vol +, Vol - |
| ② | 0xA1 | PTT |
| ③ | 0xA3 | Hook |

Data

① Vol +, Vol -

| | | | | | | | | | |
|-----|---|---|---|---|---|-------|-------|---|------------------------------|
| Bit | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | |
| | - | - | - | - | - | Vol - | Vol + | - | 1 pressed, 0 released |

② PTT

| | | | | | | | | | |
|-----|---|---|---|---|---|---|---|-----|------------------------------|
| Bit | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | |
| | - | - | - | - | - | - | - | PTT | 1 pressed, 0 released |

③ Hook

| | | | | | | | | | |
|-----|---|---|---|---|---|---|---|------|--|
| Bit | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | |
| | - | - | - | - | - | - | - | Hook | 1 OFF hook, 0 ON hook in combination with pei tel cradle A12 |

"-": **Reserved:** These bits are reserved and will be read as "0".

END OF DOCUMENT