

## Technical Information

|             |   |
|-------------|---|
| Subject     | Intel USB 3.0 eXtensible Host Controller Driver - SpeechMike does not respond |
| Hardware    | SpeechMike III / Premium  |
| Published   | 15 November 2016  |
| Last Review | 16 November 2016  |

There are reports from the market related to following observation:

SpeechMike does not respond anymore

Reason:

This issue is related to a bug of the INTEL USB 3.0 extensible Host Controller Driver which has been resolved recently with revision [4.0.6.60](#).



**Closed Issues**

### 3 Closed Issues

| Description  | Resolution                           |
|--|--------------------------------------|
| USB port may not enter into suspend state after the system has transitioned to S3 if a specific USB devices is connected to that USB port. | Resolved in Release<br>Rev: 4.0.6.60 |
| Dropped of frames may occurs on a specific USB3.0 camera when using larger buffer size for data transfer.                                  | Resolved in Release<br>Rev: 4.0.6.60 |
| xHCI controller driver may incorrectly suspend the wrong interface on a USB device.  | Resolved in Release<br>Rev: 4.0.6.60 |
| A USB device connected behind a hub may take long time to get removed from the OS if the hub is unplugged from the USB port.               | Resolved in Release<br>Rev: 4.0.6.60 |
| USB headset may freeze when using a Voice over IP application  | Resolved in Release<br>Rev: 4.0.6.60 |
| BOSD 0x9F may occurs during warm boot stress test  | Resolved in Release<br>Rev: 4.0.6.60 |
| USB network device with non-continuous interface numbering may fails to connect to internet after idle for few minutes                     | Resolved in Release<br>Rev: 4.0.6.60 |

## Internal findings

This issue is related to Windows 7 only. There are no reports on system running on Windows 10.

- The issue is independently of the Audio Input Device, as long as it is connected to USB 2.0 or USB 3.0 (driver is also active on USB 2 ports)
- SPS products are also concerned as issue this is related to the used audio driver e.g. SpeechExec Pro or Enterprise Software as well as SoftwareSDK Integration.
- We have also reports from other manufacturer of audio software, e.g. SpeechMagic.

Known countermeasures which will minimize/ resolved the issue

- Deactivation of various energy saving options in the BIOS or USB Power Management – see [Attachment B](#)
- In case of desktop PC using an extra PCI USB card could solve the issue as well.
- Increase the minimum processor state to  $\geq 50$  – see [Attachment C](#)

New solutions (based on Intel)

- Intel Workaround in the registry – see [Attachment A](#). We got mixed impressions on the proposed workarounds as on some PC's it was successful on others not. Matter of fact is that Intel will not investigate any longer on Windows 7 issues
- Latest Intel Drivers  
For following chipsets we strongly recommended to update the drivers to the latest version [4.0.6.60](#). The driver upgrade did in 100% of all the cases resolve the reported issue

The Intel® USB 3.0 extensible Host Controller Driver contains support for the following Intel Chipsets:

- Intel® 8 Series/C220 Chipset Family
- 4th Generation Intel® Core™ Processors
- Intel® C610 series Chipset Family
- Intel® 9 Series Chipset Family
- Intel® Pentium® Processor or Intel® Celeron® Processor N- & J- Series
- 5th Generation Intel® Core™ Processors
- Intel® Core™ M Processor
- 6th Generation Intel® Core™ Processors
- Intel® 100 Series Chipset Family

The following Operating Systems are supported based on chipset:

Windows\* 7 Operating System (both 32-bit and 64-bit versions).

- Intel® 8 Series Chipset Family
- 4th Generation Intel® Core™ Processors
- Intel® 9 Series Chipset Family
- Intel® Pentium® Processor or Intel® Celeron® Processor N- & J- Series
- 5th Generation Intel® Core™ Processors
- Intel® Core™ M Processor
- 6th Generation Intel® Core™ Processors
- Intel® 100 Series Chipset Family

Windows\* 7 Operating System (both 32-bit and 64-bit versions).

Windows\* Server 2008 R2 Operating System.

Windows\* Small Business Server 2008 Operating System.

- Intel® C220 series chipset family
- Intel® C230 series chipset family
- Intel® C610 series Chipset Family

Note:

The Intel® USB 3.0 eXtensible Host Controller Driver is not supported on Windows\* XP and Windows Vista\*.

For PC's using Chipset C216 there is no driver update available from Intel therefore we recommend the improvements based on known countermeasures as well as to implement Intel workaround in the registry – see [Attachment A](#)

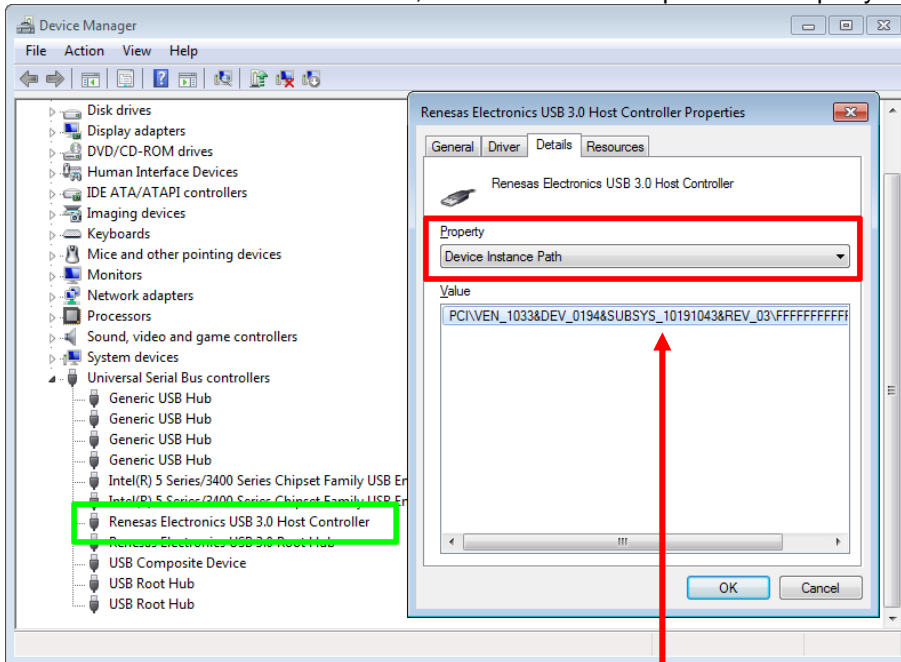
## Attachment A – Workaround registry.

### WARNING:

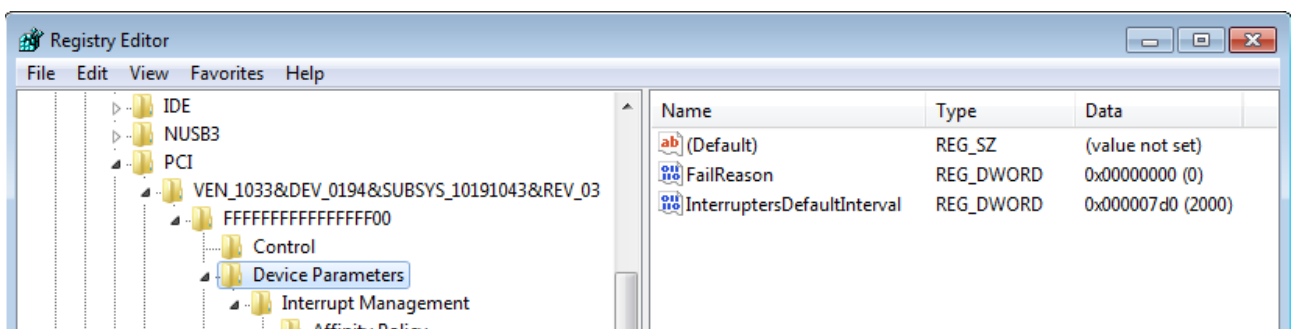
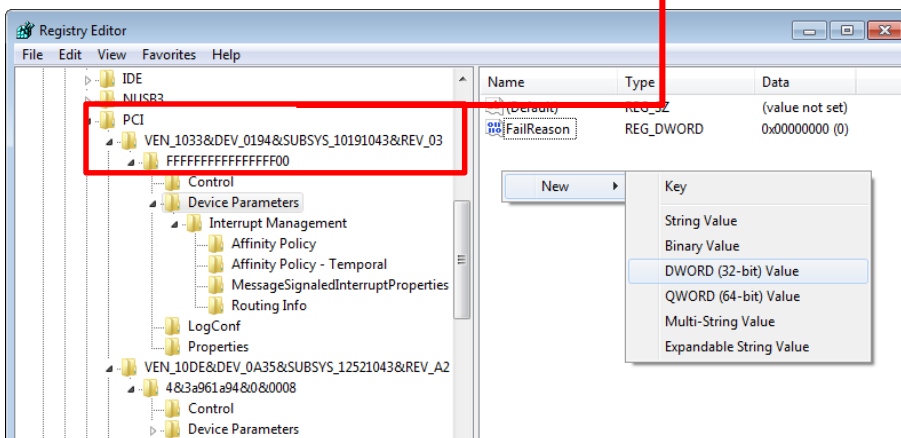
Incorrectly editing the registry may severely damage your system. Before making changes to the registry, you should back up any valued data on your computer and exporting the registry as full backup.

Find DeviceInstancePath for the xHCI (extensible Host Controller Interface)

Select the USB 3.0 Host Controller, select Details and open from Property Device Instance Path.

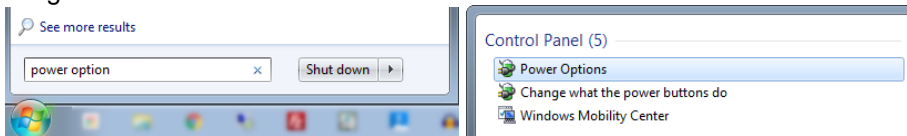


Go to: Computer\HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Enum\PCI\ and search for the Device. Select Device Parameters and add new DWORD with Name InterruptersDefaultInterval and Value 7D0



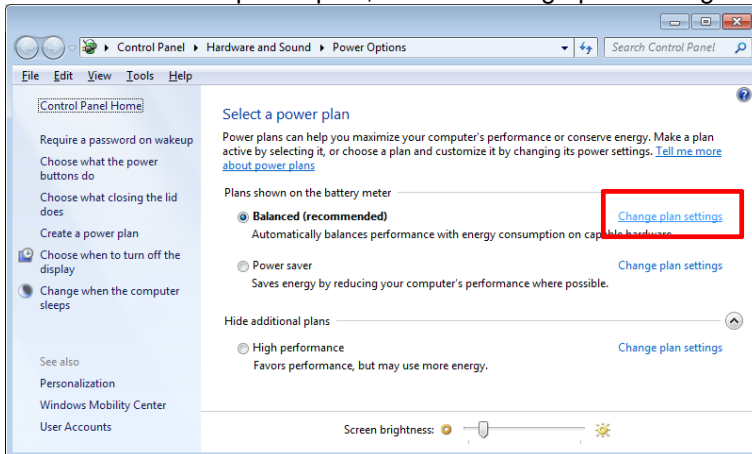
## Attachment B – Deactivate USB Power Management.

Click on Start and type **power options** in the Start Search box and then click Power Options in the Programs list.

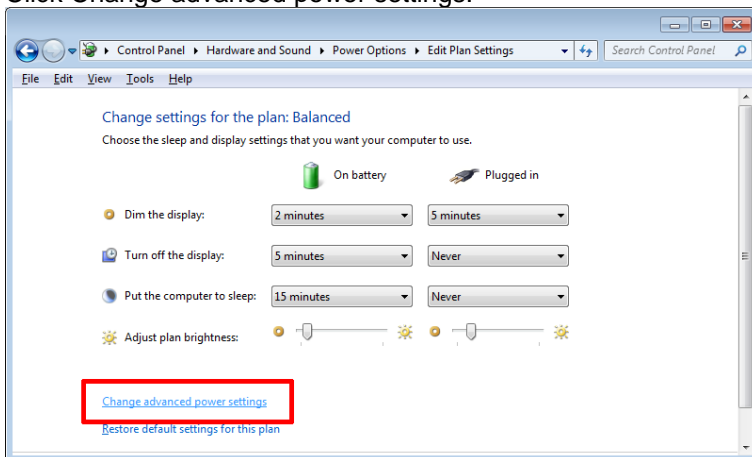


If you are prompted for an administrator password or confirmation, type your password or click on Continue.

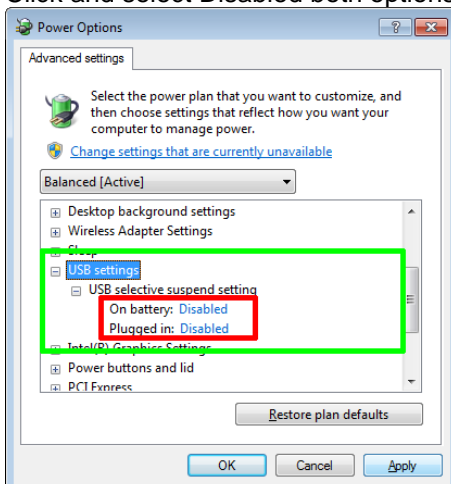
Under the selected power plan, click on Change plan settings.



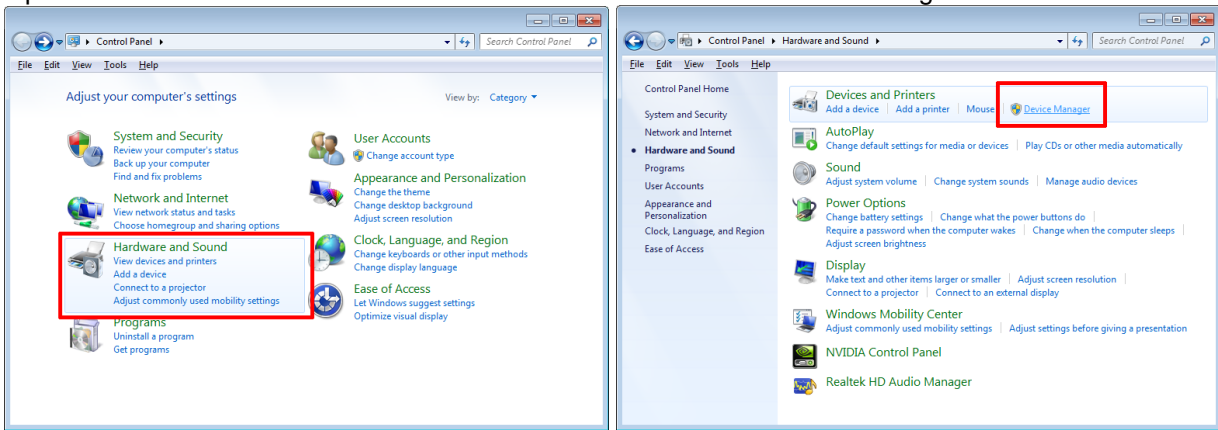
Click Change advanced power settings.



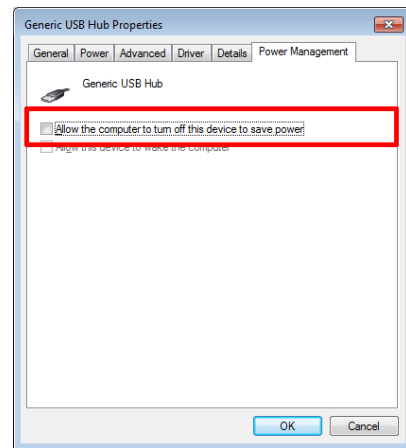
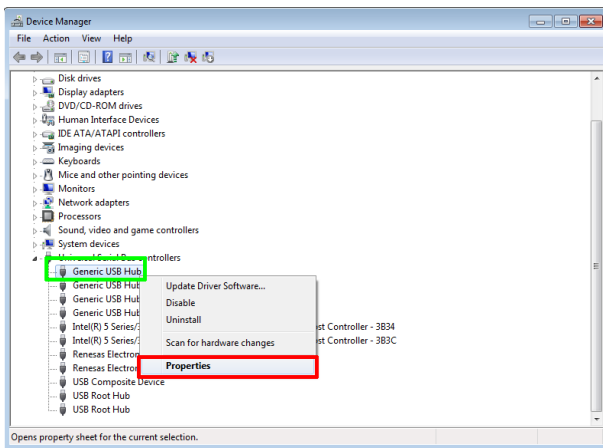
In the Power Options dialog, click on USB settings, and then expand USB selective suspend setting. Click and select Disabled both options.



Open Control Panel and click on Hardware and Sound. Click on Device Manager

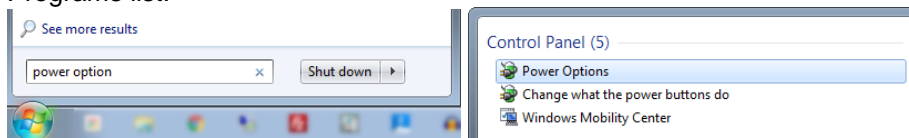


Scroll down to Universal Serial Bus controllers and click with the right Mouse button on USB HUB and select Properties. DEACTIVATE the option Allow the computer to turn off this device to save power and click OK



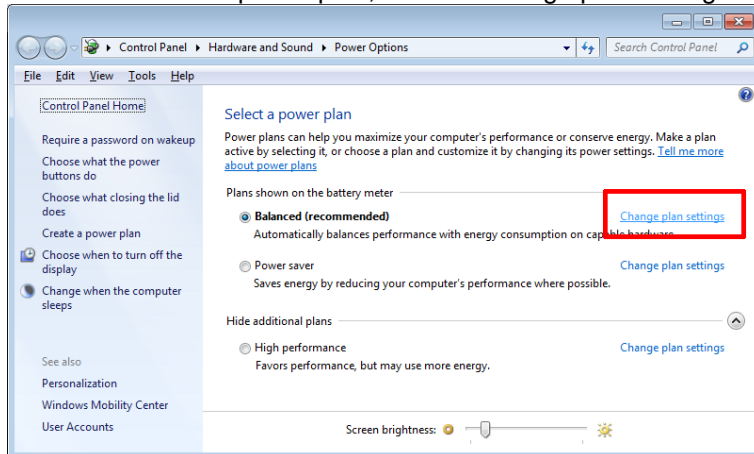
## Attachment C - Minimum Processor State

Click on Start and type **power options** in the Start Search box and then click Power Options in the Programs list.

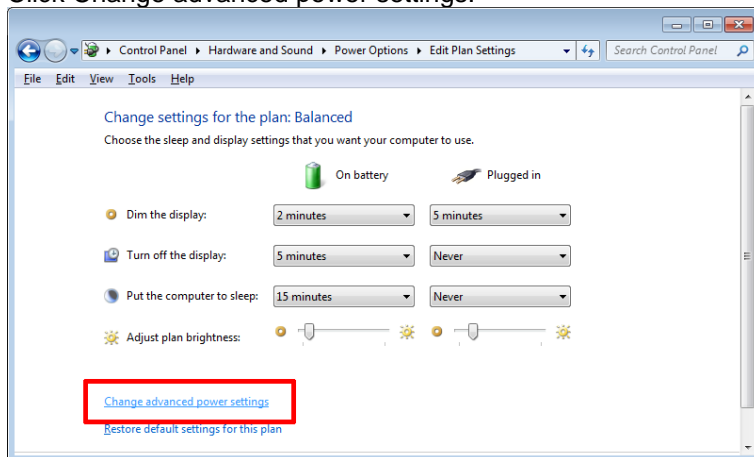


If you are prompted for an administrator password or confirmation, type your password or click on Continue.

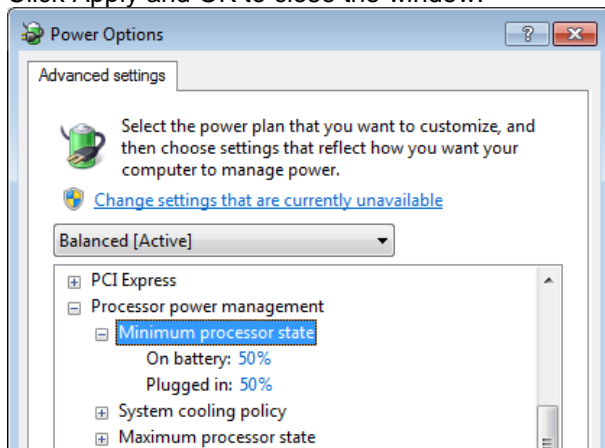
Under the selected power plan, click on Change plan settings.



Click Change advanced power settings.



In the Processor power management dialog, select Minimum processor state, and then set the value to 50%. Click Apply and OK to close the window.



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