## Setting up the E-MU 0404 USB audio interface for ultrasound playback

First install the device driver from the *E-MU Tracker Pre, 0202 USB and 04040 USB Software/Manual* Installation CD-ROM

Select the sample rate of 192.0 kHz from the E-MU 0404|USB [Control Panel], which can be accessed from Start>All Programs>Creative Professional>E-MU USB Audio>E-MU USB Audio Application:

Unfortunately, the most recent firmware update of the E-MU 0404 does not save this setting, which means that you need to do this each time after powering on the unit.

😑 E-MU 0404   USB [Control Panel] 🛛 🔲 🔀				
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E-MU'				
-				
<u>D</u> evice:	E-MU 0404   USB	•		
Sample <u>R</u> ate:	192.0 kHz	•		
Sync Source :		- Lock		
<u>sync source</u> .	Internal	- COCK		
Digital Input Status :				
S/PDIF <u>O</u> utput Format:	S/PDIF			
USB Speed : 2.0	Soft Limit	ToolTips		
Digital Input Status Changed	Contraction of the second s	<u>- T</u> oomps		

Make sure that the E-MU interface is connected via

an USB 2.0 interface. If connected through USB 1.1, the sample rate settings of 96 and 192 kHz will not be available.

On Windows Vista and Windows 7 it is additionally required to select the playback sample rate from the Windows Control Panel (Start>Control Panel>Hardware and Sound>Sound>Playback>Digital Output E-MU 0404>Properties>Advanced):

Sound	Digital Output Properties
Playback Recording Sounds	General Supported Formats Levels Advanced
Select a playback device below to modify its settings:	Default Format
Digital Output 2- E-MU 0404   USB Working	Select the sample rate and bit depth to be used when running in shared mode.           2 channel, 16 bit, 192000 Hz (Studio Quality)
Speakers High Definition Audio Device Working	2 channel, 16 bit, 192000 Hz (Studio Quality) V Iest
Headphones High Definition Audio Device Not plugged in	<ul> <li>Allow applications to take exclusive control of this device</li> <li>Give exclusive mode applications priority</li> </ul>
Digital Output Device (SPDIF) High Definition Audio Device Working	
<u>⊆</u> onfigure <u>S</u> et Default <u>Properties</u>	Restore <u>D</u> efaults
OK Cancel Apply	OK Cancel Apply

The selected sample rate (192 kHz) must match the sample rate setting made on the E-MU 0404 USB control panel.

Note that the maximum sample rate supported by the E-MU 0404 audio interface is 192 kHz. This means that sound files having a higher sample rate (for instance 250 kHz) must be down-sampled to 192 kHz. This could be done from the Avisoft-SASLab Pro command

*'Edit'/'Format'/'Sampling Frequency Conversion...'* Otherwise, the Windows audio playback engine might internally resample the high sample rate sound files to 44.1 kHz, which would limit the analog bandwidth to 22 kHz.

The *LINE IN* cinch input socket of the Avisoft portable ultrasonic power amplifier can be connected to the output of the E-MU 0404 by using an appropriate <sup>1</sup>/<sub>4</sub>" mono phone plug (TS plug) to cinch plug adapter cable. Alternatively, a 3.5 mm stereo TRS plug to cinch plug can be used.

The playback sound level is determined both by the *Main Output* level knob of the E-MU 0404 and the *VOLUME* knob on the Avisoft power amplifier.

## Setting up the E-MU 04040 USB / E-MU Tracker Pre audio interface for ultrasound recording

First install the device driver from the *E-MU Tracker Pre, 0202 USB and 04040 USB Software/Manual* Installation CD-ROM

Select the sample rate of 192.0 kHz from the E-MU 0404|USB [Control Panel], which can be accessed from Start>All Programs>Creative Professional>E-MU USB Audio>E-MU USB Audio Application:

Unfortunately, the most recent firmware update of the E-MU 0404 / Tracker Pre does not save this setting, which means that you need to do this each time after powering on the unit.

😑 E-MU 0404   USB [Control Panel] 🛛 🔲 🔀		
S <u>k</u> in ⊻iew <u>H</u> elp		
	E-MU'	
-		
<u>D</u> evice:	E-MU 0404   USB	
Sample <u>R</u> ate:	192.0 kHz	•
Sync Source :	Internal	- Lock
_	Internal	
Digital Input Status :		
S/PDIF <u>O</u> utput Format:	S/PDIF	
USB Speed : 2.0	Soft Limit	• <u>T</u> oolTips
Digital Input Status Changed	III	2000 - AA

Make sure that the E-MU interface is connected via

an USB 2.0 interface. If connected through USB 1.1, the sample rate settings of 96 and 192 kHz will not be available.

On Windows Vista and Windows 7 it is additionally required to select the recording sample rate from the Windows Control Panel (Start>Control Panel>Hardware and Sound>Sound>Recording>Microphone E-MU 0404>Properties>Advanced):

Sound     Sound     Playback Recording Sounds     Select a recording device below to modify its settings:	General Levels Advanced
Microphone 2- E-MU 0404   USB Working	Select the sample rate and bit depth to be used when running in shared mode. 2 channel, 16 bit, 192000 Hz (Studio Quality)
Microphone High Definition Audio Device Not plugged in Microphone High Definition Audio Device Working	Exclusive Mode Allow applications to take exclusive control of this device Give exclusive mode applications priority
Line In High Definition Audio Device Working Digital Input Device (SPDIF) High Definition Audio Device Working	
<u>Configure</u> <u>Set Default</u> Properties	Restore Defaults
OK Cancel Apply	OK Cancel Apply

The selected sample rate (192 kHz) must match the sample rate setting made on the E-MU 0404 USB control panel.