
Reference 2.1 DSP

2 KANAL LEISTUNGSVERSTÄRKER

SOFTWARE and INSTALLATION

MAC
AUDIO

6. SOFTWARE AND INSTALLATION

6.1 INSTALLING THE USB DRIVER

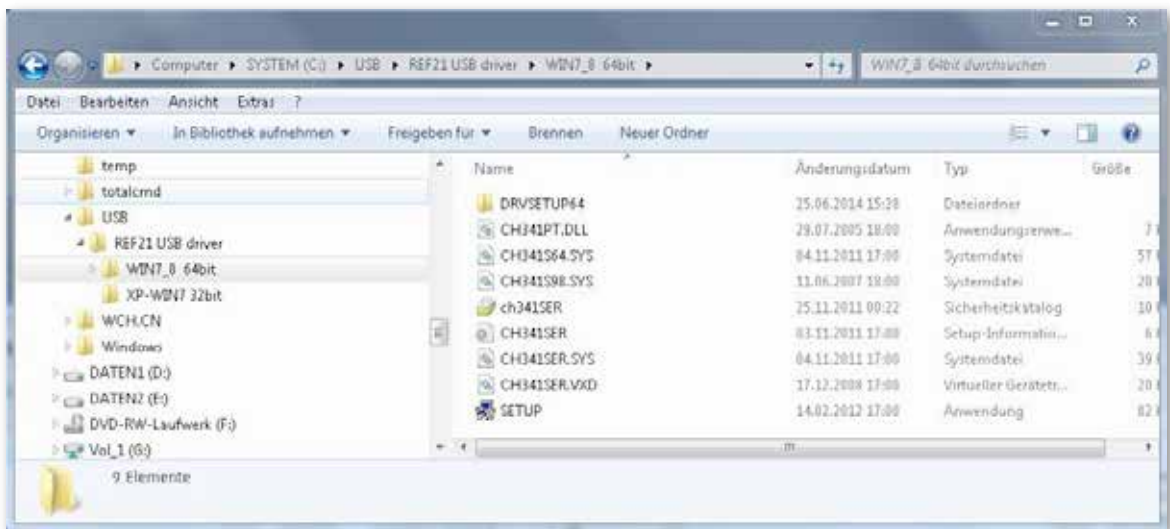
6.1.1 Create a directory on your PC to save the USB driver and the software, e.g. C:\ MacAudio.

6.1.2 Visit the website www.mac-audio.de, click “Amplifier” and then select the model Reference 2.1 DSP. Click the “Downloads” tab. Download the file **Ref21DSP.rar** to the directory C:\ MacAudio . Unpack the file **Ref21DSP.rar** in the directory.

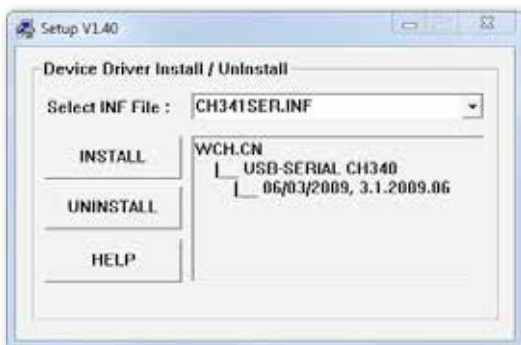
6.1.3 Depending on your operating system, select the subdirectory WIN7_8 64bit or XP-WIN7 32bit.



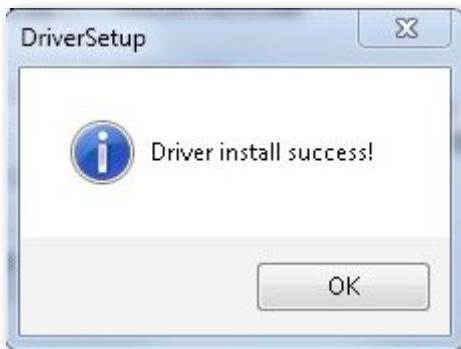
6.1.4 Use Windows Explorer to locate the file **SETUP.exe** and double-click it.



6.1.5 Start the installation process by clicking **INSTALL**.



6.1.6 Confirm the installation by pressing **OK**.



6.2 DSP SOFTWARE INSTALLATION

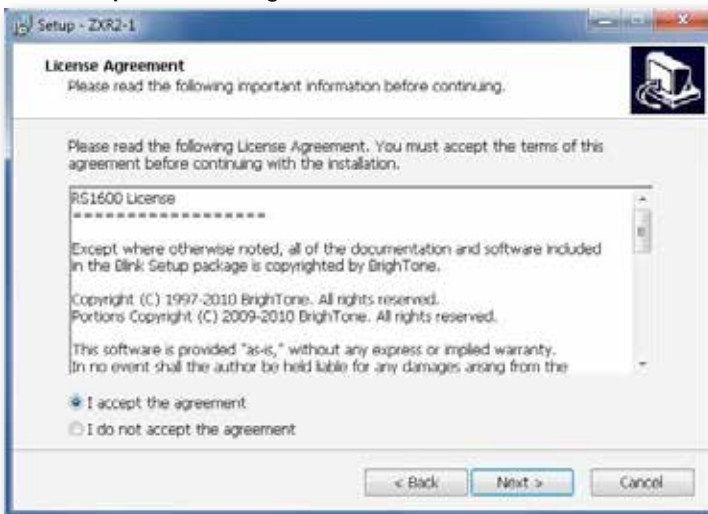
6.2.1 Start the installation process by double clicking the file "**Reference21DSP.exe**".



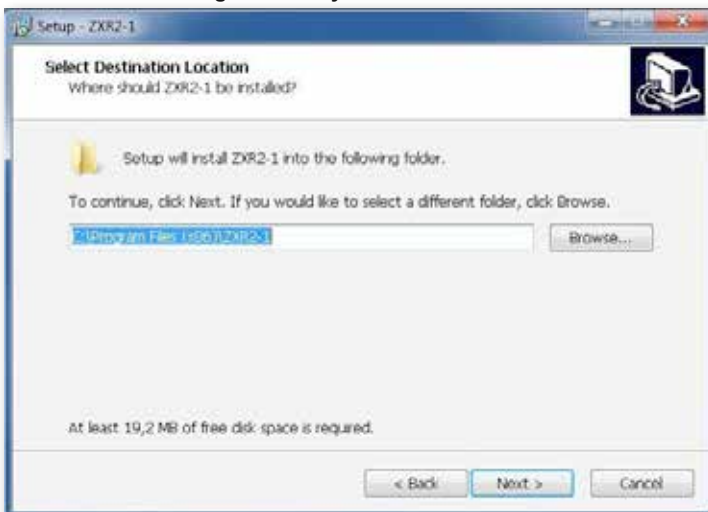
6.2.2 Click "**Next**" to continue the installation



6.2.3 Accept the license agreement

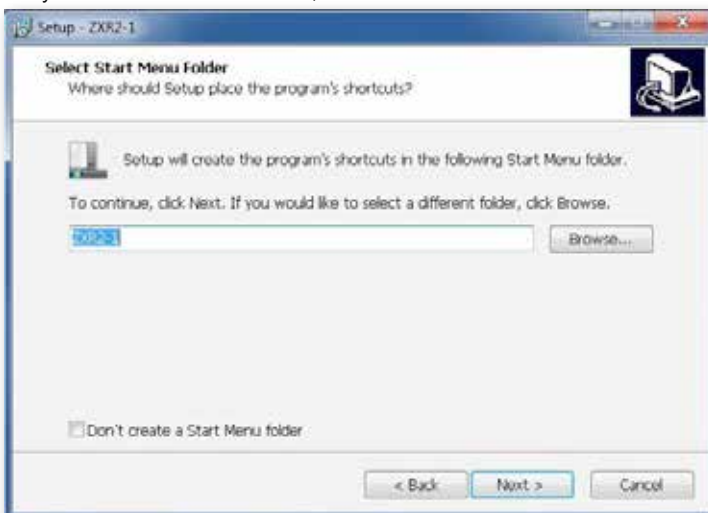


6.2.4 Confirm the target directory for the installation



6.2.5. Entry in the Windows Start Menu.

If you want to create an entry in the Windows Start Menu, confirm this installation step by clicking **"Next"**. If you do not want to create an entry in the Windows Start Menu, select **"Don't create a Start Menu folder"** and then click **"Next"**.



6.2.6 Creating a desktop icon / Quick Launch icon

Confirm the installation of an icon on your desktop and an icon in the Quick Launch menu. Both symbols can be used at a later date to start the programme.



6.2.7 Click "Install" to continue the installation



Wait until installation is complete and the following screen appears.

6.2.8 Complete the installation process by selecting "Yes, restart the computer now" and then press the "Finish" button. Your computer will now reboot. You will be able to use the software as soon as the booting process is complete.



7. INSTRUCTION MANUAL FOR THE DSP PROGRAM

7.1 Start the software by double-clicking the desktop icon or by selecting the icon in the Quick Launch menu.



7.2 Select the operating mode.

The “**Online-Mode**” should be selected if your PC is connected to the “PC Control” input on the amplifier.

In the “**Offline-Mode**” settings can be adjusted and saved without an amplifier. Step 7.6 (Selecting the interface) is not applicable in the Offline-Mode.



7.3 Select how you would like to combine the DSP channels (Channel Mode Setting)

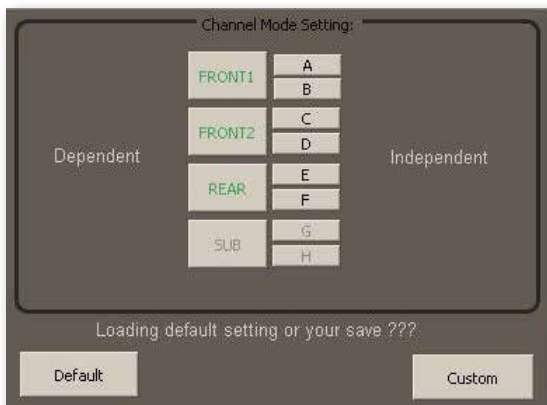
Examples:

If you want to select the **same** settings for channels **A/B**, press “**FRONT1**”. The letters **FRONT1** will then be highlighted in green.

If you want to select **different** settings for channels **A/B**, press “**A**” or “**B**”. The letters **A** or **B** will then be highlighted in green.

Select the settings for channels C/D/E/F as well.

In the screenshot below, channel A and B, channel C and D and channel E and F have been combined.



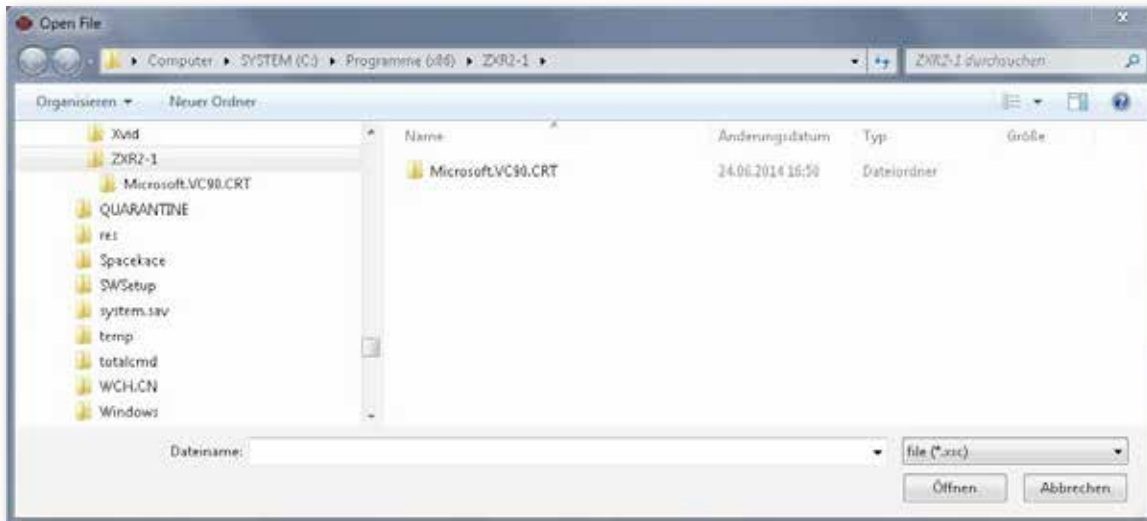
7.4 Starting the DSP programme directly

Press “**Default**” if you want to start the DSP programme without any previously saved settings.

Point 7.5 is then skipped.

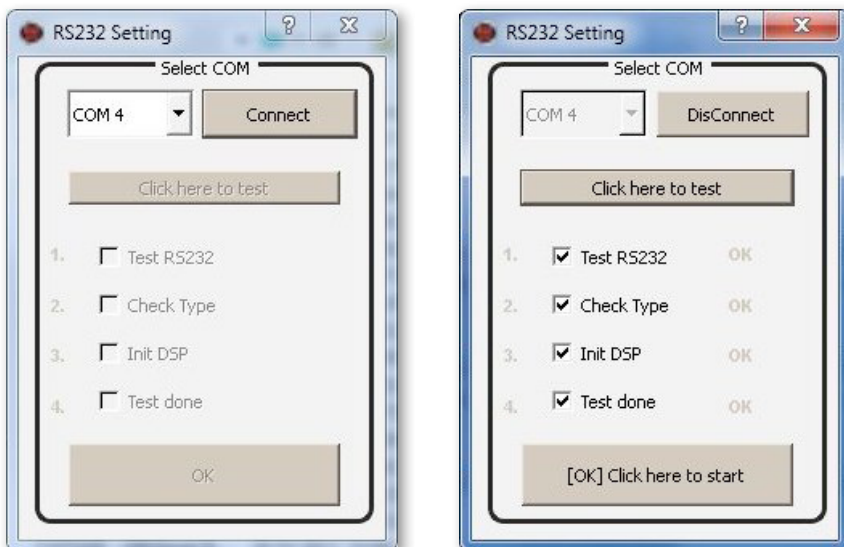
7.5 Starting the DSP programme with a saved setting

Click **"Custom"** if you want to load a previously saved setting. After selecting the interface (see section 7.6), the following window will appear in which you can select files with an **"XSC"** extension.



7.6 Selecting the interface

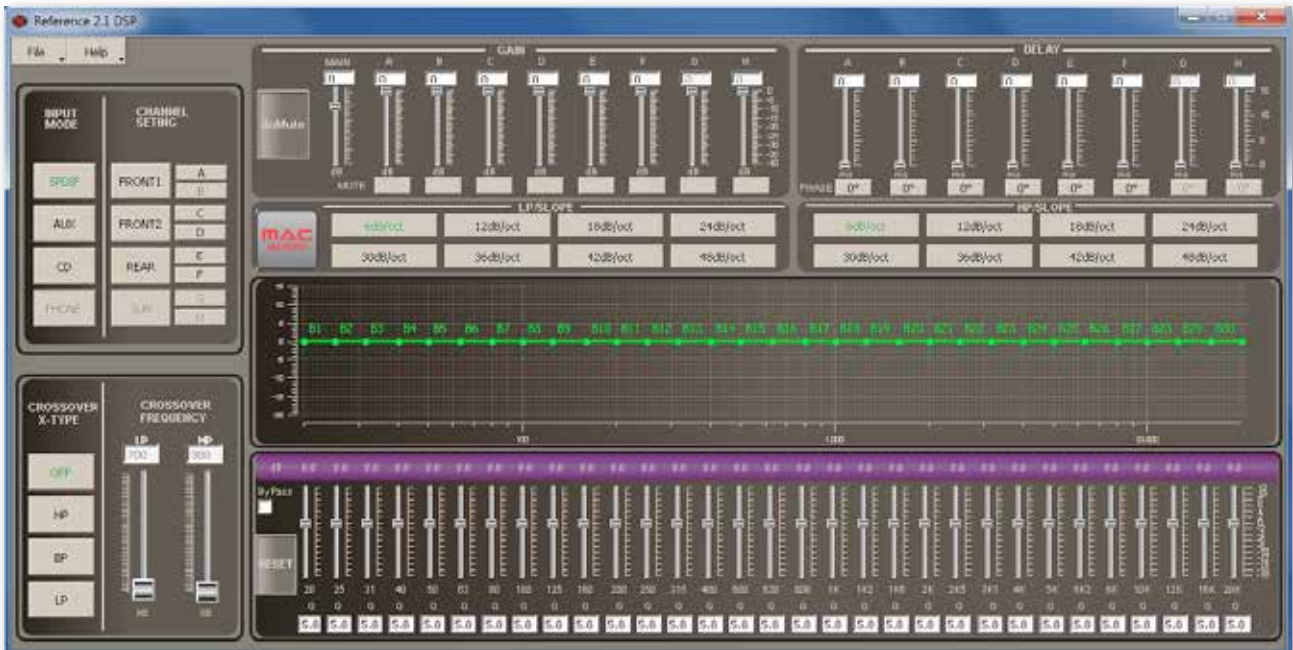
Test the interfaces in sequence by first pressing **"COM1"** followed by **"Connect"**, then continue the test with **"COM2, COM3"**, etc., until you have found a working interface. If the interface is adopted, the text **"DisConnect"** appears, see screenshot, below right. Then press **"Click here to test"**. Only when all of the checkmarks are set in the fields **"Test RS232, Check Type, Init DSP, Test done"** will the interface work correctly, see screenshot, below right.



Confirm the settings by pressing **"[OK] Click here to start"**

7.7 DSP programme menu

You will now see the DSP programme menu. You can now precisely adjust the audio settings to reproduce the perfect sound in your vehicle.



7.8 CROSSOVER X – TYPE / CROSSOVER FREQUENCY

Menu for selecting various filter types. First select the channel pair or the channel you want to adjust and then select the filter and the crossover frequency.



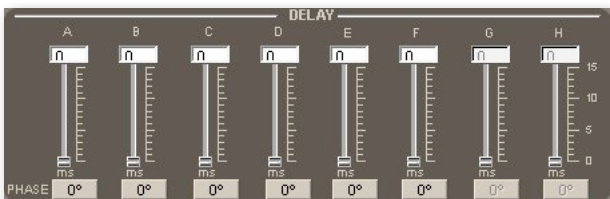
HP: High-pass
LP: Low-pass
BP: Band-pass

7.9 GAIN



By using the GAIN controls you can individually adjust the level of gain between 0 and 40 dB for channels A to F.

7.10 DELAY



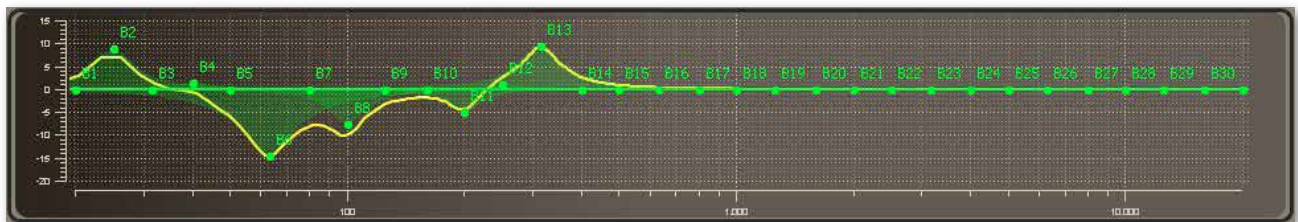
By using these controls you can individually adjust the run-time delay for channels A to F between 0 and 15 msec in 0.1 msec increments.

7.11 LP/SLOPE and HP/SLOPE



Low-pass and high-pass filters are available with slopes of 6dB/12dB/18dB/24dB/30dB/36dB/48 dB per octave.

7.12 GRAPHIC FREQUENCY RESPONSE DISPLAY



The system features a parametric 31-band equalizer for channels A/B and a parametric 11-band equalizer for channels C,D,E,F. The set frequency response is shown as a yellow line.

7.13 MUTE



Channels A to F can be individually muted.

7.14 PHASE



The phasing of channels A to F can be set individually. Press the 0 button to switch the phase 180 degrees.

7.15 "FILE" MAIN MENU FUNCTIONS

PC Contrl	PC Control:	Display for the connection to the PC, see section 7.6 "Selecting the interface". Note: The DSP software will only work when a connection is established to the PC.
Open	Open:	Load the settings saved on your PC (configuration files with an XSC extension) into the DSP software.
Save	Save:	Use this to save the settings to your PC. When a previously created configuration file has been opened, you can use this function to overwrite the file.
SaveAs	SaveAs:	Save a new setting under a specified file name.
Factory Setting	Factory setting:	This restores the factory settings.
Download	Download:	This loads the configuration onto the DSP processor in the Reference 2.1 DSP.
Exit	Exit:	Use this to quit the DSP menu.

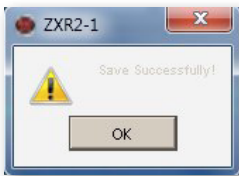
7.16 Loading configurations onto the Reference 2.1 DSP ("Download" menu item)

IMPORTANT NOTE:

Please save your configurations in sequence, i.e. save the first configuration at memory location 1, then memory location 2, 3, etc.



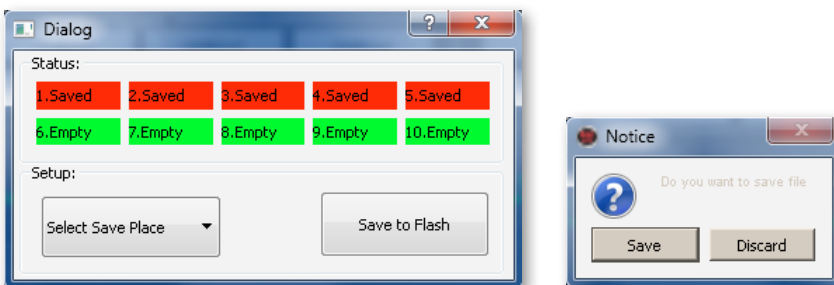
Select the memory location by clicking the **"Setup:"** window and then select the relevant location (**Pos1**, **Pos2**, etc.). Confirm your selection by clicking **"Save to Flash"**. A window then appears with the confirmation message **"Save Successfully"**.



IMPORTANT NOTE:

Only the configurations that are stored in memory locations 1 to 5 can be accessed via the remote control.

Memory locations 1 to 5 are occupied in the screenshot below. The occupied memory locations are highlighted in red.

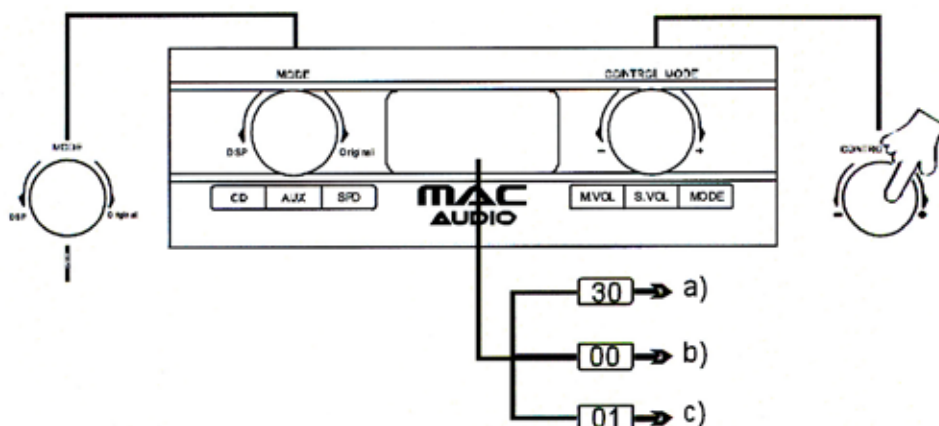


Press the **Exit** button. A window then appears asking if you would like to save the file (**Save**) or exit (**Discard**).

If you have not yet backed up your configuration, press **Save** to save it.

If you do not want to do this, exit the DSP menu by pressing **Discard**.

8. REMOTE CONTROL



MODE knob (left)

The system is factory-preset to the CD (high level) input. Press the knob once to select the AUX (RCA jacks, left/right) input, press the knob again to select the SPD optical digital input, etc. Turn the knob anti-clockwise to switch on the DSP, turn it clockwise to switch off the DSP.

CONTROL MODE knob (right)

Press the knob repeatedly to access the various setting options

a) to adjust the volume (**Master Volume / M. VOL**)

The factory setting is 30; the volume can be adjusted between 0 – 40 by turning the knob.

b) to adjust the **volume of the subwoofer (Slave Volume / S.VOL**, channel E and F).

The factory setting is 00; this can be adjusted between +12 and -12 by turning the knob.

c) to select the **DSP configurations (MODE)**

Turn the knob clockwise or anti-clockwise to select the DSP setting. the exact number of settings you have created will appear on the display. A maximum of 5 settings are possible. Confirm your selection by pressing the knob.

Also refer to the section “File” **Main Menu Functions**, “Download”

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