Upgrade Manual 31900 Series

DSP and Software Update







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This Upgrade Manual is part of the SurroundControl 31900 series upgrade kit (31900UPG) including a new DSP board and an USB memory stick with the software update files for the upgrade to version 04.00.00. It describes in a first step how to exchange the DSP board and in a second one how to update the software of SurroundControl 31900 series from version 03.00.nn to version 04.00.00.



Before starting with the upgrade sequence please read and understand these instructions and observe the recommendations of the Safety Information described in the operating manual. In order to ensure not to affect the EMI-CE conformity and not to cause any safety hazards please follow all these instructions very carefully!



Proper ESD procedures shall be followed to prevent ESD damage to the instruments before changing the DSP board!

New Features

- Loudness measurement acc. to EBU R128, ATSC, ITU, and ARIB standards
- EBU mode
- Loudness Custom mode
- Loudness Range Descriptor (LRA)
- Momentary, Shortterm, and Integrated Loudness measurement
- Enhancement of Peakmeter functionality with TruePeak detection acc. to ITU-R BS1770/1771 ver. 2

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DSP Exchange

This chapter describes how to exchange the DSP board of SurroundControl 31900 series (version 03.00.nn). The DSP board is delivered with the upgrade kit.

Before starting with the DSP exchange the recommendations of the Safety Information described in the operating manual shall be observed.
In order to ensure not to affect the EMI-CE conformity and not to cause any safety hazards please follow all these instructions very carefully!

Precautions



Proper ESD procedures shall be followed to prevent ESD damage to the instruments.

Required Parts

- New DSP board (delivered)
- Philips screwdriver

DSP Exchange (continued)

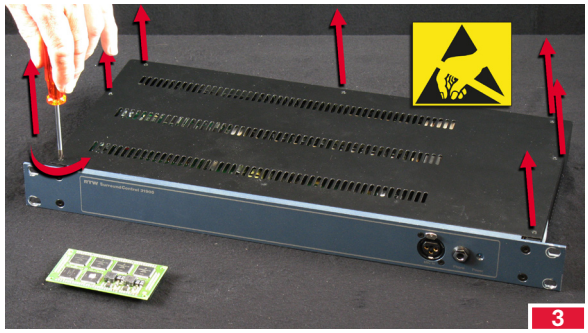
1. Switch off the power, disconnect the mains supply cable and then all other cables from the instrument.

2. **Place the instrument in an ESD safe working area!**

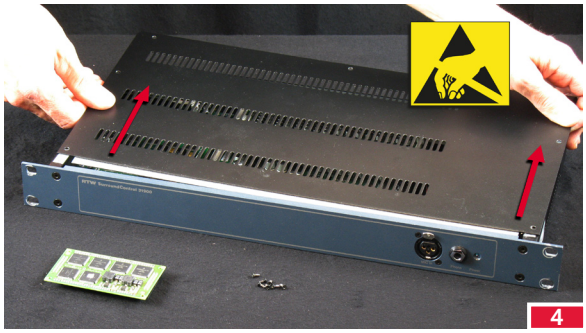


3. Carefully remove the seven screws from the top.

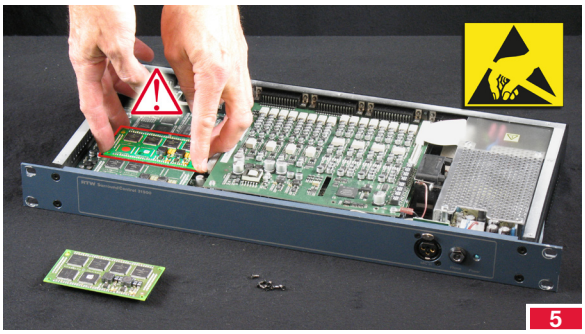
Note: Take care not to scratch the surface of the front panel and the cover plate!



4. Carefully pull the cover plate out from the front panel. Remove and store it.

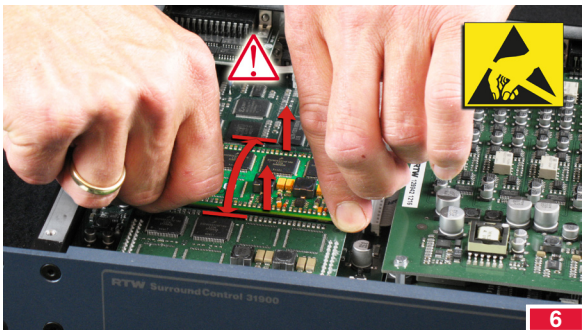


5. Locate the DSP board to be changed and remember its orientation! As necessary, compare the new board with the position of the old one and clearly mark it! The edge with the four DSP chips in line is orientated to the rear side of the case!

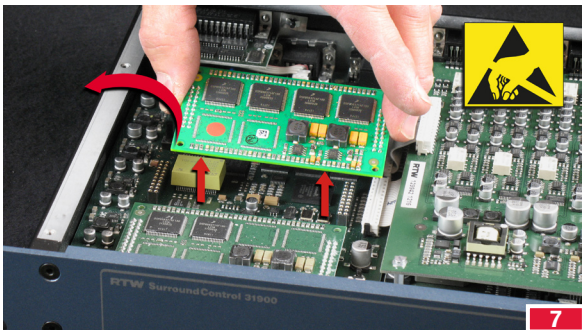


6. To loosen the DSP board carefully move it a little bit back and forth in the direction of the connector blocks while lifting it smoothly up. When the movement is getting easier, remove the DSP board from its connector sockets.

Note: Avoid damage of the connected pins because of distorting or breaking off!

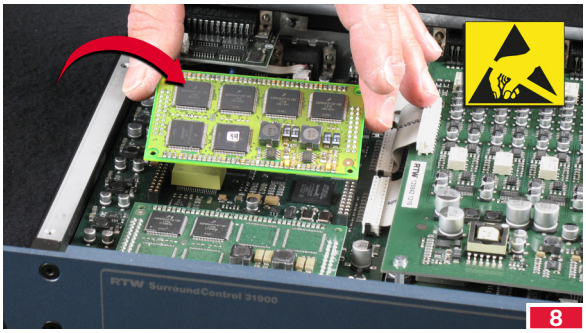


7. Remove the old DSP board. Dispose the DSP board according to the regulations in your country or district or return it to RTW.



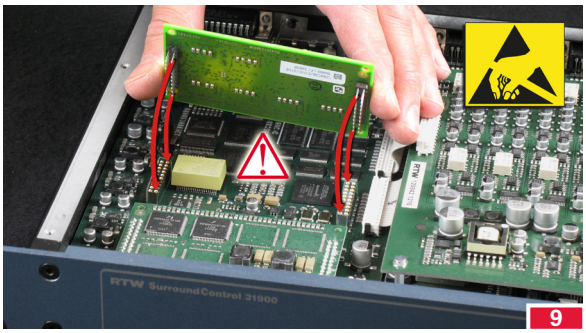
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8. Take the new DSP board and remember the right orientation (The edge with the four DSP chips in line is orientated to the rear side of the case).



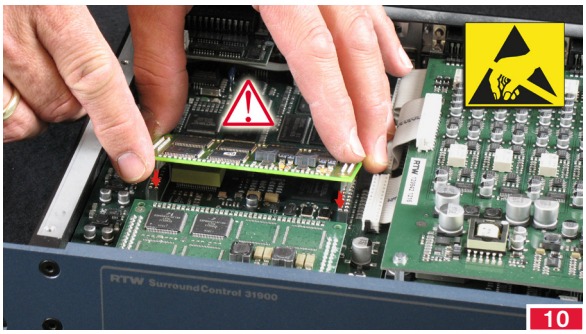
9. Carefully place the pins of the DSP board exactly to its corresponding socket holes.

Note: Avoid damage of the connected pins because of distorting or breaking off!



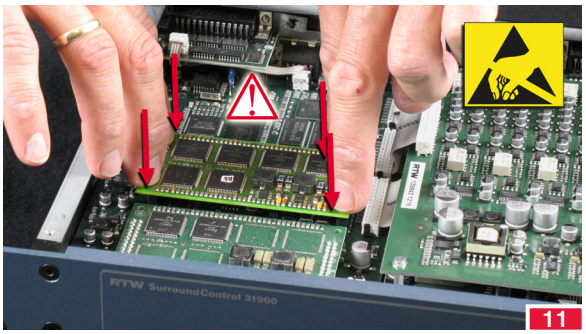
10. Check the correct position of the board.

Note: Avoid damage of the connected pins because of distorting or breaking off!

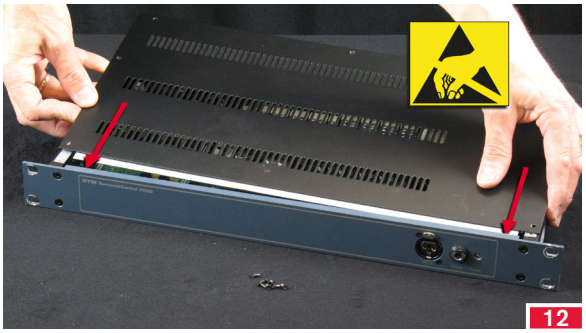


11. Finally, carefully push down the edges with the connector blocks until all pins have locked.

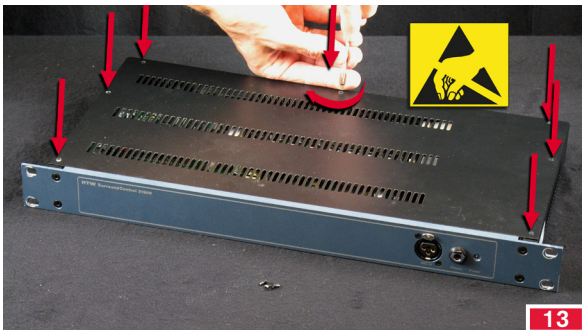
Note: Avoid damage of the connected pins because of distorting or breaking off!



12. Carefully move the beveled edge of the cover plate beneath the angled rail of the front panel. Then bring it back into its correct position.



13. Fasten the cover plate with the seven screws.



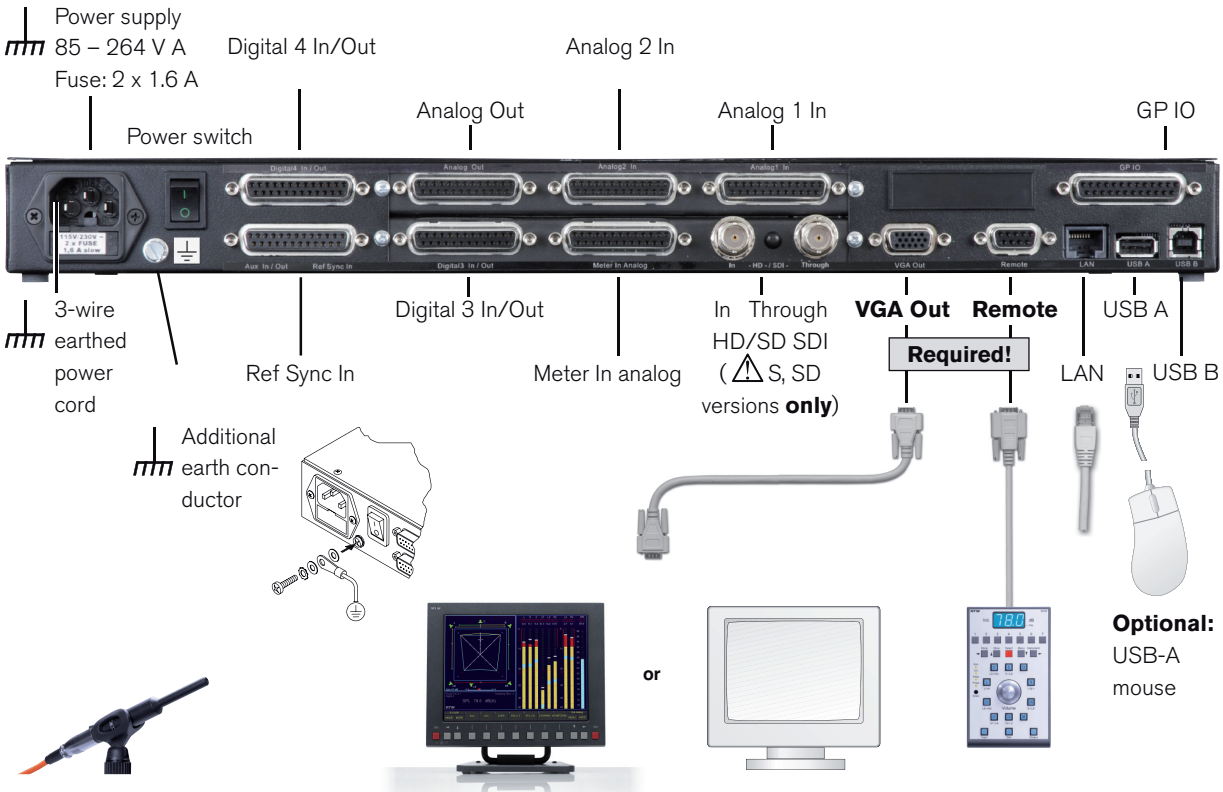
DSP Exchange (continued)

14. Make sure, that the power switch is off. Reconnect the Remote Control, your VGA display, all signal cables, mouse, and network. Reconnect the additional earth conductor.

15. Not till then connect the mains supply cable.

16. Switch on the power. SurroundControl will initiate its system startup sequence. After it is ready for operation, please check its functions.

17. If SurroundControl is operating properly, please proceed the software update as described in the next chapter.



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Software Update

This chapter describes how to update the software of SurroundControl 31900 series from version 03.00.nn to version 04.00.00. The software update files are delivered with the upgrade kit (stored on the USB memory stick).

Before starting with the software update sequence the recommendations of the Safety Information described in the operating manual shall be observed.
In order to ensure a successful software update please follow all these instructions step by step and especially use the required update files in the specified order!
A software update without the exchange of the DSP board is impossible!

Preparations

- The DSP board has been changed as described in the previous chapter.
- The SurroundControl unit operates with software version 03.00.nn.

Required Parts

- Delivered update files version 04.00.00 stored on your computer
- Web browser
- Network connection as desribed below
- IP address of the SurroundControl to be updated

Software Update (continued)

General

After the DSP board has been changed SurroundControl 31900 series units with software version 03.00.nn can be updated to version 04.00.00 by the use of a standard web-browser. After you have prepared the update as described below, it is recommended to export user preset data before starting an update.

Note: Basically any software update will delete and replace the user and factory presets by the initial presets predefined from RTW.

Prepare for the software update

1. Copy all files that you have received into a folder (e. g. C:\31900_update) on your computer that is assigned to be used for the update sequence.

2. Connect the SurroundControl unit by the use of a standard cat-5 LAN network cable with RJ-45 connectors to your network environment.

3. If you decide to update the software not through the network but by the use of a directly connected computer to the SurroundControl unit, a cat-5 crossover cable with RJ-45 connectors must be used. Internet browser software must also be installed and ready to use on the computer.

4. Run the internet browser software and make sure that all settings required for your networking setup are made.

5. If you decided to update the software not through the network but by the use of a directly connected computer to the SurroundControl unit, it is necessary to define the connection settings of your internet browser for not using a proxy server and not using scripts.

6. Look up and note the IP address of the SurroundControl unit you like to update. This information can be found on the **Communications and Time** menu page and is needed for the update sequence.

7. Close the menu mode of the SurroundControl unit by the use of the **Abort** function.

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Software Update (continued)

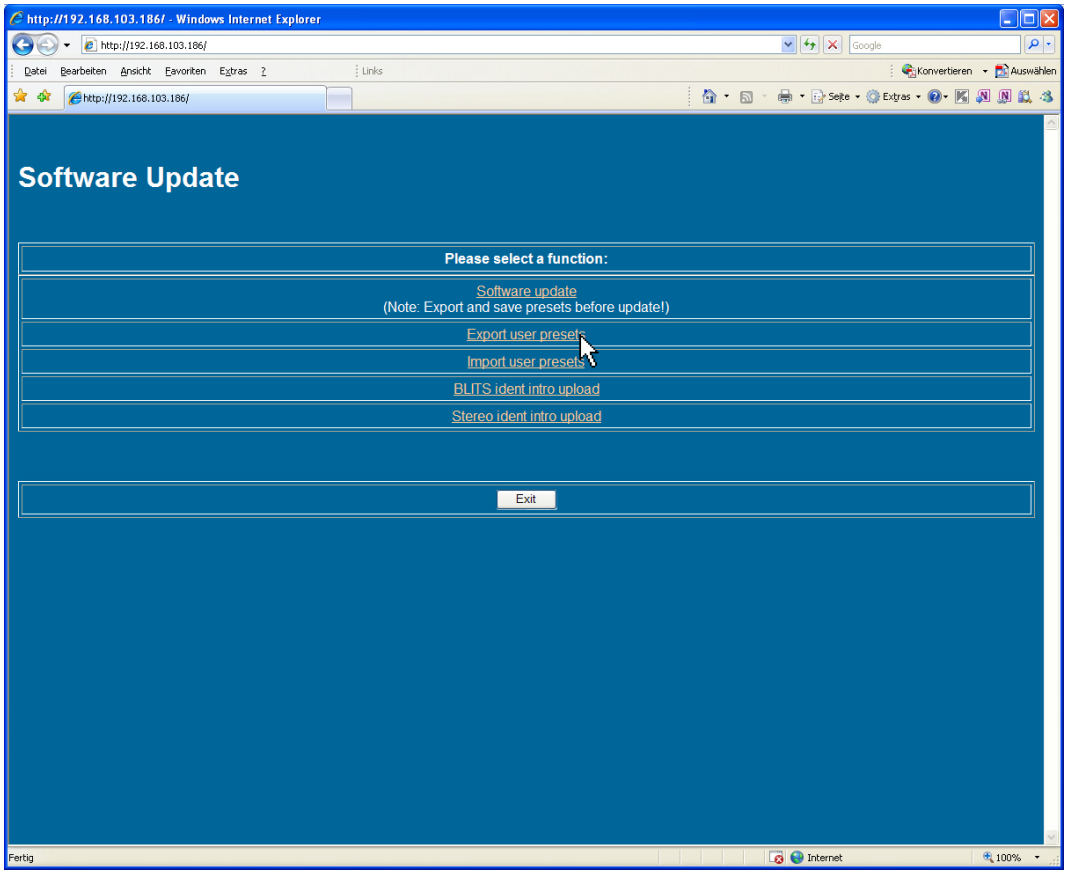
Proceed the export of the User Presets

At first start the export sequence to keep your personal settings and user presets.

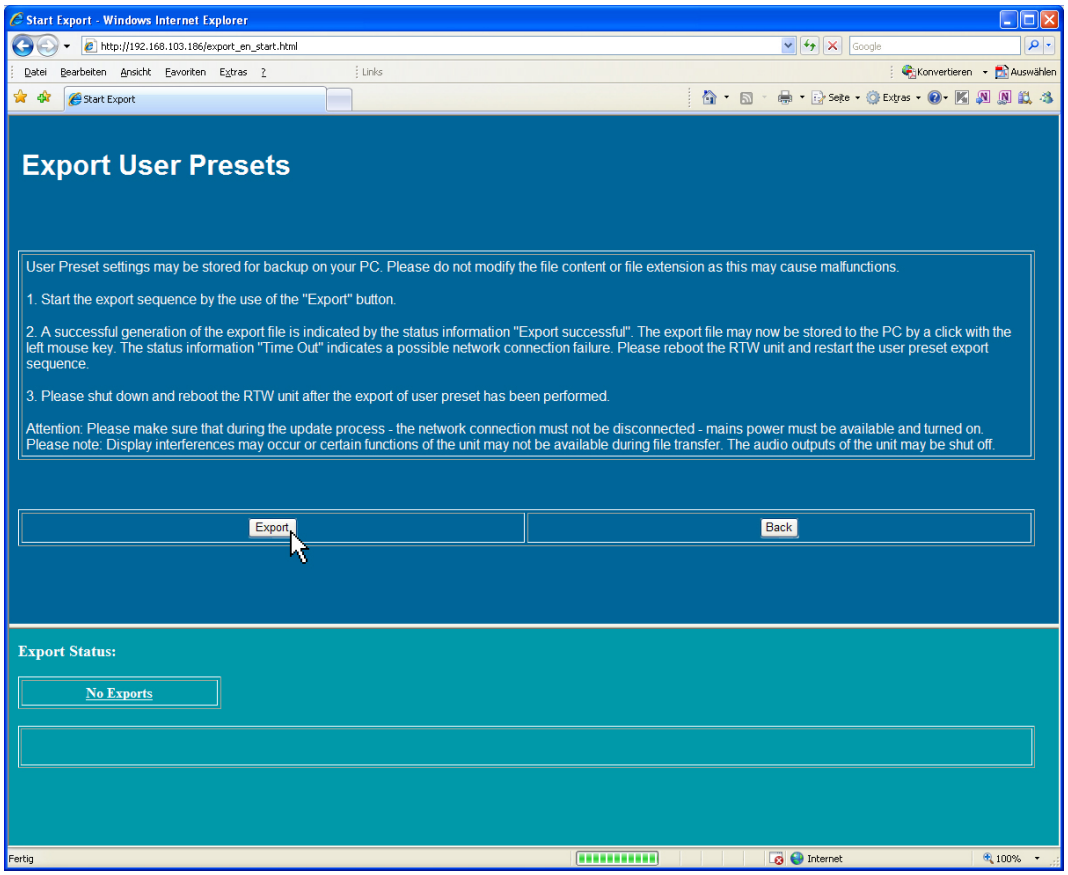
Please have the IP address of your SurroundControl at hand.

1. Start your internet browser and enter the IP address of your SurroundControl into the address field followed by the hit of the return (Enter) key (“http://192.168.103.186” in our example).

2. The SurroundControl unit will respond with the Software Update home page. Choose **Export user presets**.



Software Update (continued)



3. The Export User Presets sub menu opens. Please note the instructions on this menu page.

4. Please click the **Export** button.

5. The export of the user setting data starts. “Generating Export File” is displayed in the **Export Status** field, a starline is showing the progress of the export.

6. When the **Export Status** field turns to the blue labelled “Export succesful”, the export file can be saved. Please click **Export succesful**.

7. The file download dialog box appears. Please click **Save**.

8. The Save file as dialog box is shown. Choose the folder (e. g. C:\31900_Update) for saving the export file **config.tar.gz**.

9. When file saving was successful please click the **Back** button to get back to the Software Update home page.

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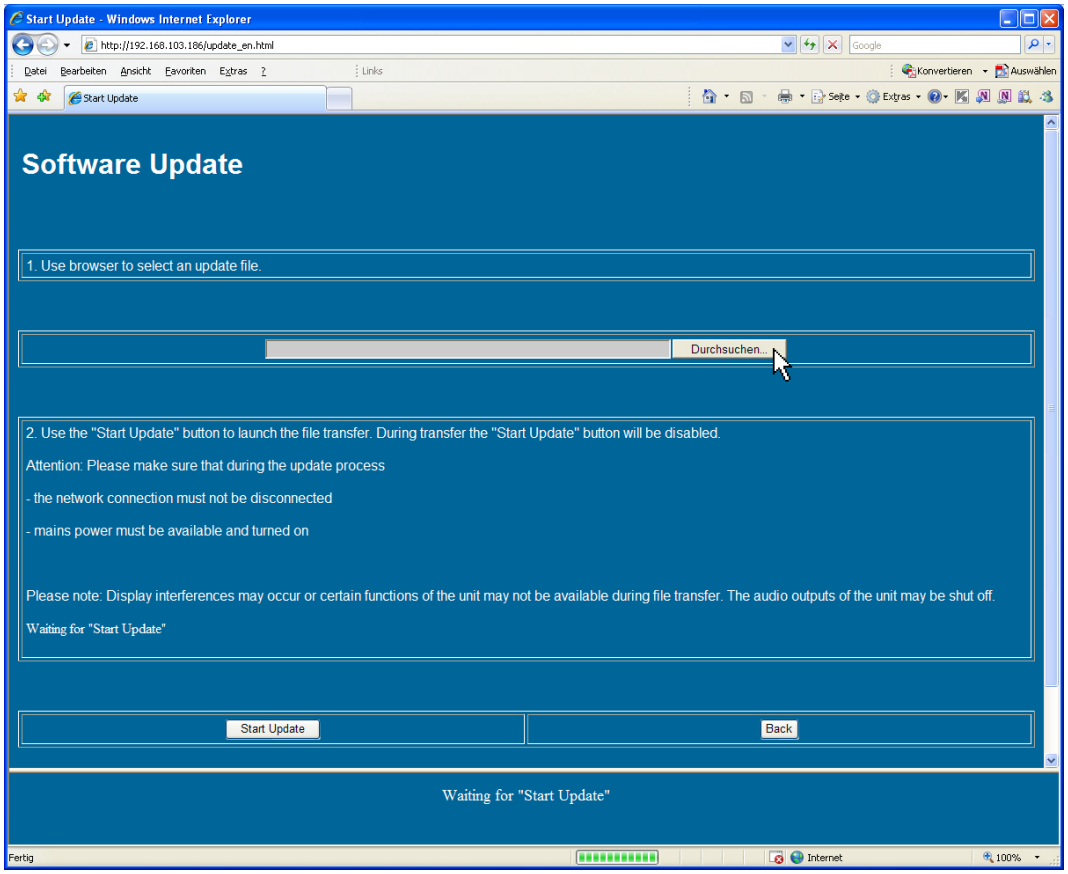
Proceed the software update

A complete software update requires four files to be replaced in the SurroundControl unit:

- “p31900_nnnnnn_BSYS”
- “p31900_nnnnnn_FSYS”
- “p31900_nnnnnn_RDIS”
- “p31900_nnnnnn_CONF”

All four files shall only be used in the listed order! nnnnnn represents the current software version code. After you have updated the four files in the order described below, SurroundControl must be restarted.

1. Choose **Software update** on the Software Update home page. The Software Update sub menu opens. Please note the instructions on this menu page.



Software Update (continued)

2. Select **Browse ...** (“Durchsuchen” in our example).

3. Use the displayed dialog to select the directory path where you have stored the four update files. First, select file **p31900_nnnnnn_BSYS** (nnnnnn represents the current software version code).

   Note: The use of mixed version codes is not permitted. Malfunctioning of the Surround-Control units may result.

4. Click **Start update** to start the update process. If the **Start update** button is not visible, move the menu page upward by moving downward the grey scrollbar on the right.

   Note: Please make sure that no interruption of the network access or supply power occurs during the download sequence.

5. A yellow bar on the lower end of the update window reads the data transfer progress.

6. The transfer is finished when the message “Please make power off after all nessecary files have been transmitted. You can transfer multiple files before power off” is displayed. Please do not switch off the SurroundControl unit at this point. Proceed with the next steps until all four files are transfered.

7. Use the displayed dialog to select (“Durchsuchen”) the second of the four update files.
   Select file **p31900_nnnnnn_FSYS**. Repeat steps 4 to 6.

8. Use the displayed dialog again to select (“Durchsuchen”) the third of the four update files. Select the file **p31900_nnnnnn_RDIS**. Repeat steps 4 to 6.

9. Use the displayed dialog to select (“Durchsuchen”) the fourth of the four update files. Select the file **p31900_nnnnnn_CONF**. Repeat steps 4 to 6.

10. When the transfer of the p31900_nnnnnn_CONF file is completed, please click the **Back** button to get back to the Software Update home page.

11. Now restart the SurroundControl unit by switching it off and waiting approx. 5 sec. after shut down before you power it up again.

12. After the SurroundControl unit has rebooted its ready to use with the new software version. You will find the current used version code of the application in the **About-Info** frame of the **General Settings** menu.

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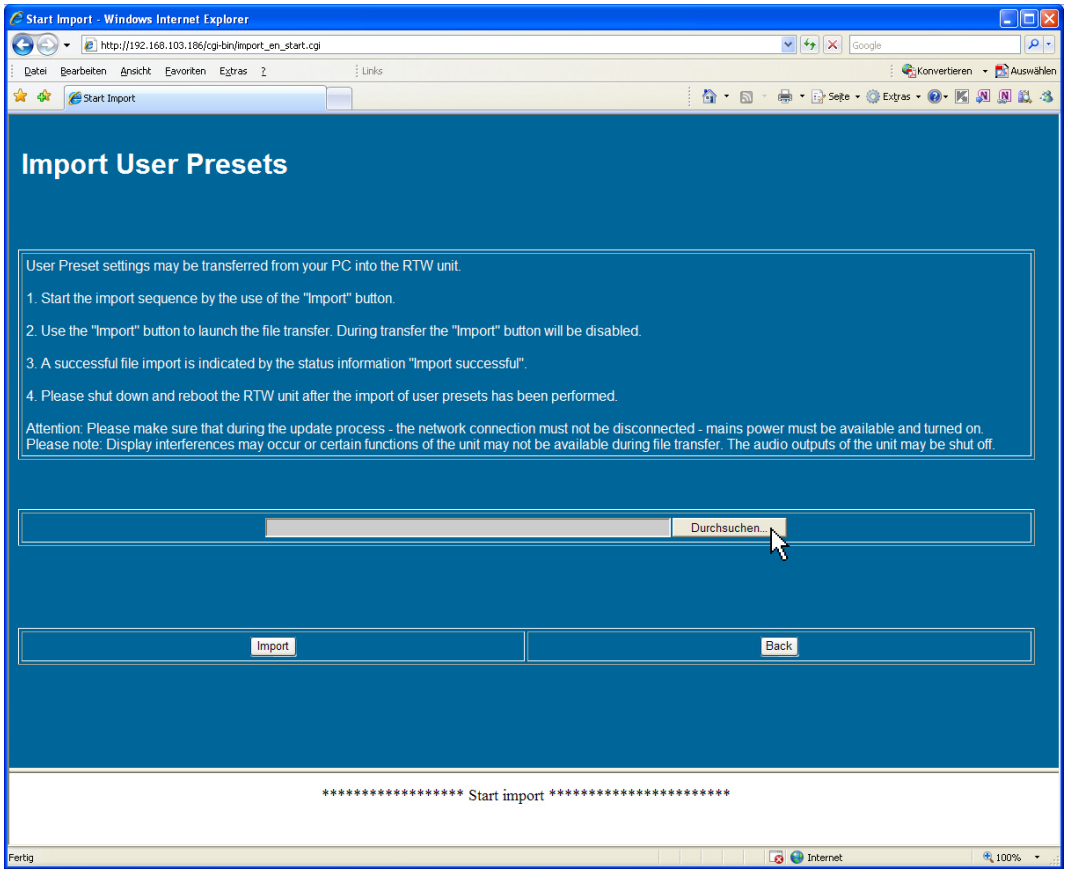
Software Update (continued)

Proceed the import of the User Presets

With the **Import user presets** sequence you can reload your stored user settings. Please proceed in the order described!

When the import sequence is finished, SurroundControl has to be restarted to configure and activate your user settings.

1. Refresh the Software Update home page and choose **Import user presets**. The Import User Presets sub menu opens. Please note the instructions on this menu page.



Software Update (continued)

2. Select **Browse ...** (“Durchsuchen” in our example) to browse for the user settings data file.

3. Choose the folder (e. g.: C:\31900_update) with the user settings data file and double-click file **config.tar.gz**.

4. Click the **Import** button to start the data transfer to the SurroundControl unit. If the **Import** button is not visible move the menu page upward by using the scrollbar on the right.

   Note: Please make sure that no interruption of the network access or supply power occurs during the download sequence.

5. “Create config file” is displayed while the file transfer is running.

6. When “Import successful - PLEASE MAKE POWER OFF” is displayed the file transfer is finished. Click the **Back** button to get back to the Software Update home page.

7. On the Software Update home page please click **Exit** to leave the software update program.

8. Now restart the SurroundControl unit by switching it off and waiting approx. 5 sec. after shut down before you power it up again.

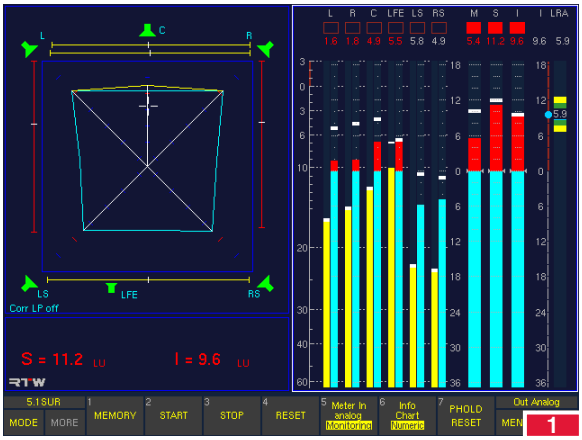
9. While the SurroundControl unit reboots, the imported user settings will be configured and activated. When this procedure is finished, the import procedure is also finished. SurroundControl is ready for operation with your individual settings.

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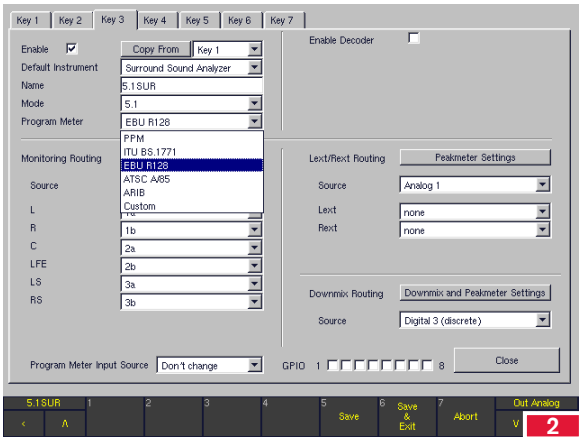
Screenshots

Below you will find some screenshots of new features as they may be displayed on the screen.

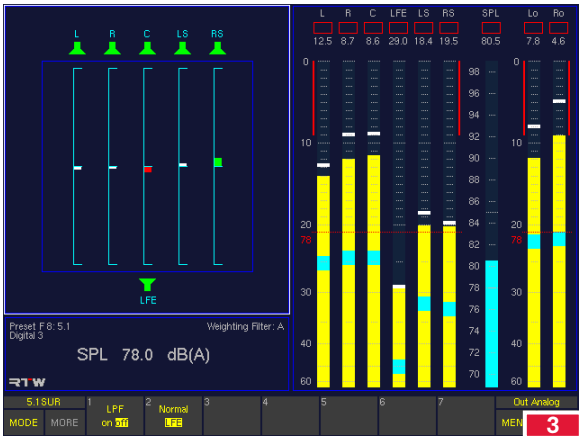
1. Focused: PPM with True Peak, EBU R128 Loudness Meter and the LRA instrument in “MagicLRA” mode.



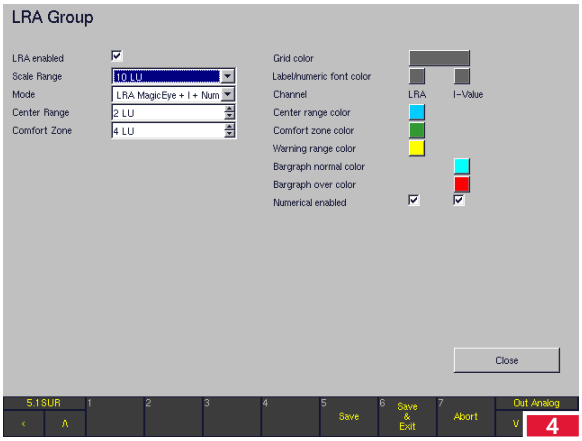
2. Sub preset settings for the **Program Meter**: beside the PPM all relevant loudness standards are available.



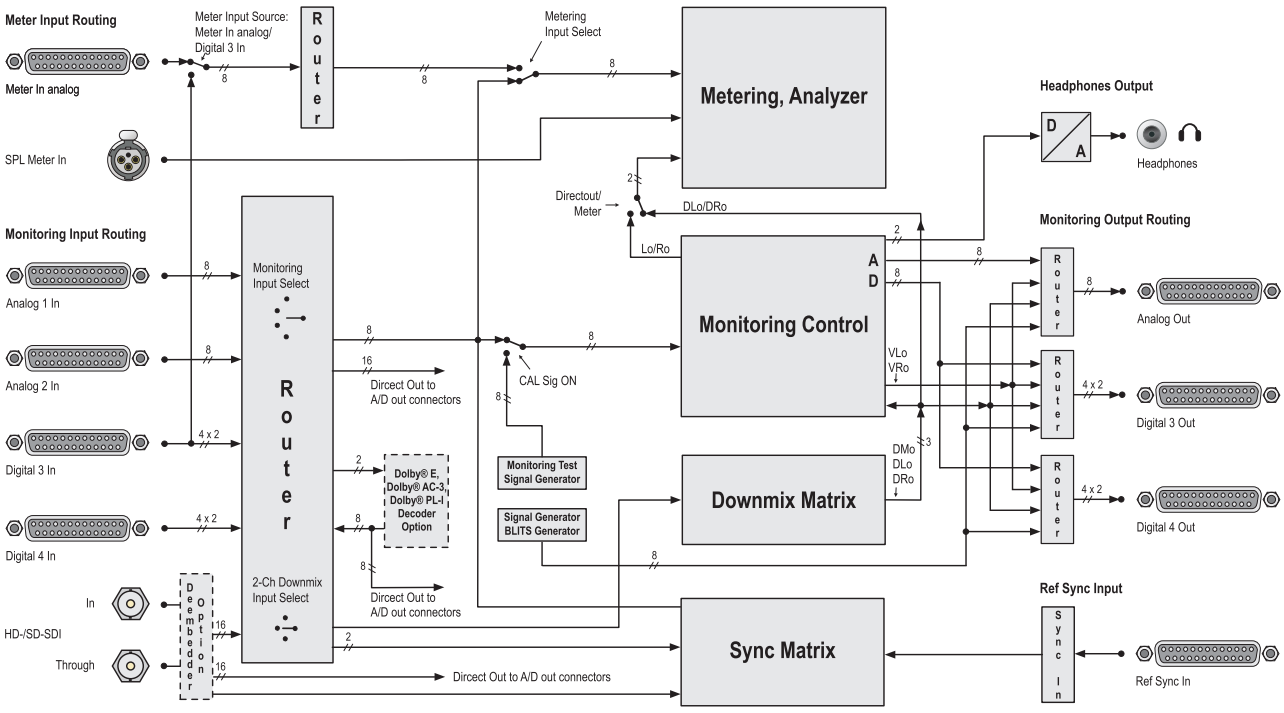
3. The LFE mode of the Multi-Correlator instrument.



4. The **LRA Group** sub menu for the settings of the Loudness Range instrument (LRA).



Block diagram



RTW GmbH & Co. KG
Elbeallee 19 | 50765 Köln | Germany
Phone: +49 221. 70 913-0 | Fax: +49 221. 70 913-32
Internet: www.rtw.de | E-Mail: rtw@rtw.de