

# **User Manual**

**K.M.E.**

# **Remote Control**



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# 1. Interface Structure

Using the K.M.E. Remote Control Module does not require additional firmware installation. The module works as a embedded webserver. This means that the Remote Module provides webpages, which will be used for loading and sending the settings. Therefore, only a webbrowser is needed for the operation with the advantage that different devices (like PC, Tablet or Smartphone) can be used for the communication with the amplifiers. Your Browser must support the following technologies: Javascript (must be activated), Ajax, SVG.

Basically, all of the latest browser releases supporting these technologies. But if your browser is deprecated, the Remote Module displays some error notes. For successful communication with the module you have to type the configured IP-Address or the Device Name (if using DHCP) into your browsers command line. Then, the Remote Module loads the device configuration (Device Config I).

The following status codes may occur at operation with the Remote Module:

*Loading Settings / Sending Settings / Load / Send*

Network communication in progress

**OK! Done. / OK**

The data transfer was successful.

**Modified! - Use "Send Settings" to set the new values on device.**

Some settings were modified by user input. You need to send them for updating the settings on your device.

**Connection Error! / C. Err.**

A network connection error occurred. The module could not set or receive the requested information. Please check your network connection.

**Communication Error!**

An internal error occurred. The module could not set or receive the requested information. Try to set the command again. If the problem remains contact the K.M.E. Support.

**Command failed: - Invalid value(s) at marked position(s)**

This error occurs if you set invalid parameters. The wrong input is marked in red color until you have tried to set a new value.

## **2. Device Settings**

### **2.1 Device Config I**

Under “Global Configuration” its possible to reconfigure your network settings. If you are using static configuration, you have to enter the IP-Address, Subnetmask and Default Gateway. The other approach is to use DHCP for automatic configuration. In that case the “Device Name” could be used as DHCP hostname to address the Remote Module.

Please keep in mind that the connection will be lost with erroneous configurations. In such a case you need to reconfigure the network configuration on device under “Options” => “Ethernet/NC”.

With “LED Configuration” you are able to set the threshold values for the device LEDs. Signal LED Threshold means that values above will trigger the green LED. User LED Threshold means that values above will trigger the blue LED.

### **2.2 Device Config II**

In this menu item you can pre-set the operating status of the device: If you choose „Always On“, the device is always on. That means after apply power supply connection the unit is automatically on and ready to play (the “lock function” can be active!). If you choose „Last State“- mode, the device will always start in the last state of operating after power cycle the unit. To reduce the power consumption e.g. in installations you can choose the „Audio Trigger“- mode. In this mode you can set a threshold value and a time value where the system automatically switched off when the threshold is not exceeded with an audio signal. After the pre-set time the unit is switched off. If the pre-set threshold value is exceeded during the unit is still on, the time value counts again - that means this function is a posttrigger-function. You can switch on the unit again by pressing the OK-button or playing an audio signal which has a higher input level as the pre-set threshold value. Trigger source for the pre-set time value is every channel.

With “Channel Configuration” you could set input mode and link mode.

The “Link Matrix” illustrates the different link routing in dependence off the current link and input mode as well as the resulting signal (analog or digital) at the appropriate link output.

## **2.3 Device Control**

At “Device Control” you could see the current input and output levels. The browser refreshes the level meters every two seconds. A faster refresh cycle is not possible because of the underlying network technologies.

If you select “Use LED Thresholds”, the level visualization considers the configured LED-Thresholds and the Limiter-Threshold with the following priority:

1. Value above Limiter-Threshold           => yellow level visualization
2. Value above User LED Threshold       => blue level visualization
3. Value above Signal LED Threshold     => green level visualization

In addition to the level meters you can see the global status. There you could get an information if the device enters the protect mode (e.g. as result of an overtemperature condition).

With “Send Ping” you could trigger the device LEDs to blink in magenta. This feature could be very useful if you need to identify a device in a rack. With “Set Power Mode” you could switch the device power to standby.

## **3. Preset Settings**

### **3.1 Preset Config**

The “Preset Config” offers an overview of the current preset list. In addition, there is some information for each preset like preset type (User or Factory Preset) and lock state (which preset settings are locked on device). The lock state can be modified by setting different “Lock” parameters at the different preset pages.

The active preset is marked orange and could be changed by selecting another preset from the list.

**All preset settings which could be adjusted with the Remote Module are always related to the selected (active) preset!**

## **3.2 Routing**

Here you can set the routing for each input channel. The Overview illustrates the current selection in dependence of the selected input mode.

## **3.3 Channel Settings**

With “Channel Settings” you can set different channel related settings:

<b>Channel Name:</b>	Name for each channel, max. 9 digits
<b>Mute:</b>	Mute setting after loading the preset
<b>Gain:</b>	Gain setting after loading the preset
<b>Phase:</b>	0° / 180°
<b>System Delay:</b>	system related delay (e.g. between bass and top)
<b>Delay:</b>	application related delay (e.g. delay line)

**Mute Groups:** independent / Group 1 (strong / weak) / Group 2 (strong / weak)

Here you can mute all single channels separately (independent) or in dependence of one or more channels. For example you can select channel A as master (=Group1 strong) and channel B as slave (=Group1 weak). After this settings you can mute channel A and channel B is muted automatically, too. If you want to mute only channel B you can do it, because it is independently switchable.

**Level Groups:** independent / Group 1 / Group 2

With this function you are able to set the channel gain separately (independent) or in dependence of one or more channels. For example you can set the channel A and B as group 1 (using a mono signal for the subs) and the channel C and D as group 2 (using a stereo signal for the top units). While using this settings you can change the volume for the subwoofer or for the top units by using only one encoder of each group. For using this function you have to link the single channels to the group 1 or group 2. If there is a volume difference in the pre-setting between the single channels (at the time of the linking), the difference still exists in the group. Both groups are identically functional.

### **3.4 Crossover**

These digital filters (crossover) limit the frequency range. The high pass filter can not be deactivated. When you need a full-range audio signal on the output you have to set the frequency to 35 Hz and choose a type of the high pass filter.

### **3.5 Parametric EQ**

With this digital filter you can affect the frequency range by making adjustments of filter frequency (center frequency), the gain (boost resp. cut) and the Q-factor (bandwidth). For each channel there are Low Shelf, High Shelf and 8 parametric EQs available.

### **3.6 Limiter**

This dynamic processor is working when the audio signal exceeds the entered threshold-value. The two time constants attack and release time draw the speed of the gain regulation mechanism. With the post gain you can adjust your audio signal level. The Settings are dependent to the program material and the PA-System.

To make the adjustment easier, the Remote Module offers a tool for calculating the output power. The first step is to set the impedance of the connected speakers. Then you can set "Threshold" and "Gain" to affect the desired output.

Another approach is to select the option "Generate Threshold". After that, set the impedance and the maximum speaker output (AES) of your speakers. Then, the Remote Module calculates the appropriate Limiter Threshold. Please take into account that the result may be rounded to a valid value for the preset (in that case, there is a recalculation of the desired output).

## **4. Tools**

### **4.1 Channel Tools**

With “Channel Tools” the Remote Module offers channel copy and reset functionality. Its freely selectable which channel should be copied to another (or to all others). In addition the user could select the settings which should be affected by the copy or reset process. The Overview illustrates the current copy selection (blue settings will be copied to the orange settings).

### **4.2 Fast Configurator**

The Fast Configuration is the easiest way to speed up the preset creation. First you could choose one of the "Routing Setups". Routing Setups are predefined Setups, suited for the most common applications. Basically, the Routing Setup will set an appropriate input routing and the Mute & Level groups. In addition, you could import channel settings from the K.M.E. speaker library with the Fast Configurator.

Before generating the preset, choose a preset from the preset list which should be overwritten and enter the desired preset name. By clicking “Send Preset” the Fast Configurator generates a User Preset for the configured Routing Setup and imported channels. The new preset will be set active after generation.

Additionally, this feature can be used to do fast changes to an existing user preset.

For example: if you want to change the top unit of a SAT-Preset (DA428)(leaving the subs unchanged)

1. Set Routing Setup (User)
2. Select the User-Preset (with “Send to”), that you want to change
3. Import the new top units for channel 3 and 4  
(select “import” for channel 3 and 4 and choose your speakers, leave channel 1 and 2 deselected)
4. Send Preset



## **5. Preset Library**

The preset library includes all the K.M.E. Factory Presets sorted by applications. After choosing an application and an appropriate preset, you could send the preset (before sending choose a preset from the preset list which should be overwritten). The new preset will be set active after sending.

For Versio presets there is an option “Create as Factory Preset”. This means, that you can send this preset as User Preset, too. So its possible to edit the entire preset after sending.

## **6. Vital Status**

“Vital Status” shows a summary of the most important status parameters. There are level information, monitoring for voltage and temperature and other necessary information like operation time or firmware version numbers.

## 7. Update Manual

### 7.1 Preparations

Before updating the K.M.E. Remote-Control-Module please check the version number of your module. This number can be found at the top of the web pages (see the red mark shown in figure 1).

The screenshot displays the web interface for the K.M.E. Remote Control for DA428. At the top, the title "K.M.E. Remote Control for DA428" is shown, with the version number "V1.00 r6 2012-11-08 14:24:32" highlighted in red. Below the title, there is a navigation menu on the left with categories like "Device Settings", "Preset Settings", and "Vital Status". The main content area is titled "Device Configuration I" and contains two main sections: "Global Configuration" and "LED Configuration".

**Global Configuration**

Device Name:	DA428			
IP Address:	192	168	0	200
Subnetmask:	255	255	255	0
Default Gateway:	192	168	0	5
MAC Address:	00-1B-C5-05-FF-FD			

**LED Configuration**

	Channel 1	Channel 2	Channel 3	Channel 4
SIG LED Thresh.:	-50 dB	-50 dB	-50 dB	-50 dB
USR LED Thresh.:	0 dB	0 dB	0 dB	0 dB

Send Settings Status: **OK! Done.**

SIG LED Thresh. range: -60dB - -10dB USR LED Thresh. range: -50dB - 0dB

Figure 1.: Website with version number indication

Please compare this number (for example V1.00 in Figure 1) to the version number found in the filename of the update file. If these numbers are equal, the firmware is up to date and you do not need to process the update.

Hint: Version numbers in file names uses an underscore instead of a dot. (for example V1\_00 instead of V1.00)

If you can't find this number at the top of the web pages, a version prior to V1.00 is running on your module. For updating such a pre-release please contact the K.M.E.-Support.

If you find this number, please continue with the update process as described in 7.2.

**If the current version is a version prior to V2.00 r15, you must process the update (as described in 7.2) with the file PreRCMv2.tar first and next with the actual update file.**

## 7.2 Update process

To start the update process please load a web page of the Remote-Control-Module. Next, click the update link at the top right corner (see the red mark shown in figure 2).

**K.M.E. Remote Control for DA428**  
V1.00 r6 2012-11-08 14:24:32

**UPDATE** **HELP**

**Device Settings**

- » Device Config I
- » Device Config II
- » Device Control

**Preset Settings**

- » Preset Config
- » Routing
- » Channel Settings
- » Crossover Settings
- » PEQ Settings
- » Limiter Settings

**Vital Status**

*Device Configuration I*

**Global Configuration**  Lock Device

Device Name: DA428

Use DHCP  Use static IP

IP Address: 192 . 168 . 0 . 200

Subnetmask: 255 . 255 . 255 . 0

Default Gateway: 192 . 168 . 0 . 5

MAC Address: 00-1B-C5-05-FF-FD

**LED Configuration**

	Channel 1	Channel 2	Channel 3	Channel 4
SIG LED Thresh.:	-50 dB	-50 dB	-50 dB	-50 dB
USR LED Thresh.:	0 dB	0 dB	0 dB	0 dB

**Send Settings** Status: **OK! Done.**

SIG LED Thresh. range: -60dB - -10dB USR LED Thresh. range: -50dB - 0dB

K.M.E.

Figure 2: Website with update link

Now the module will load a new website (see figure 3). To start the update click the button located to the right of the label "Select Update File:" and choose the appropriate update file. The current file is available on request by E-Mail or can be downloaded at [www.kme-speaker.de](http://www.kme-speaker.de).

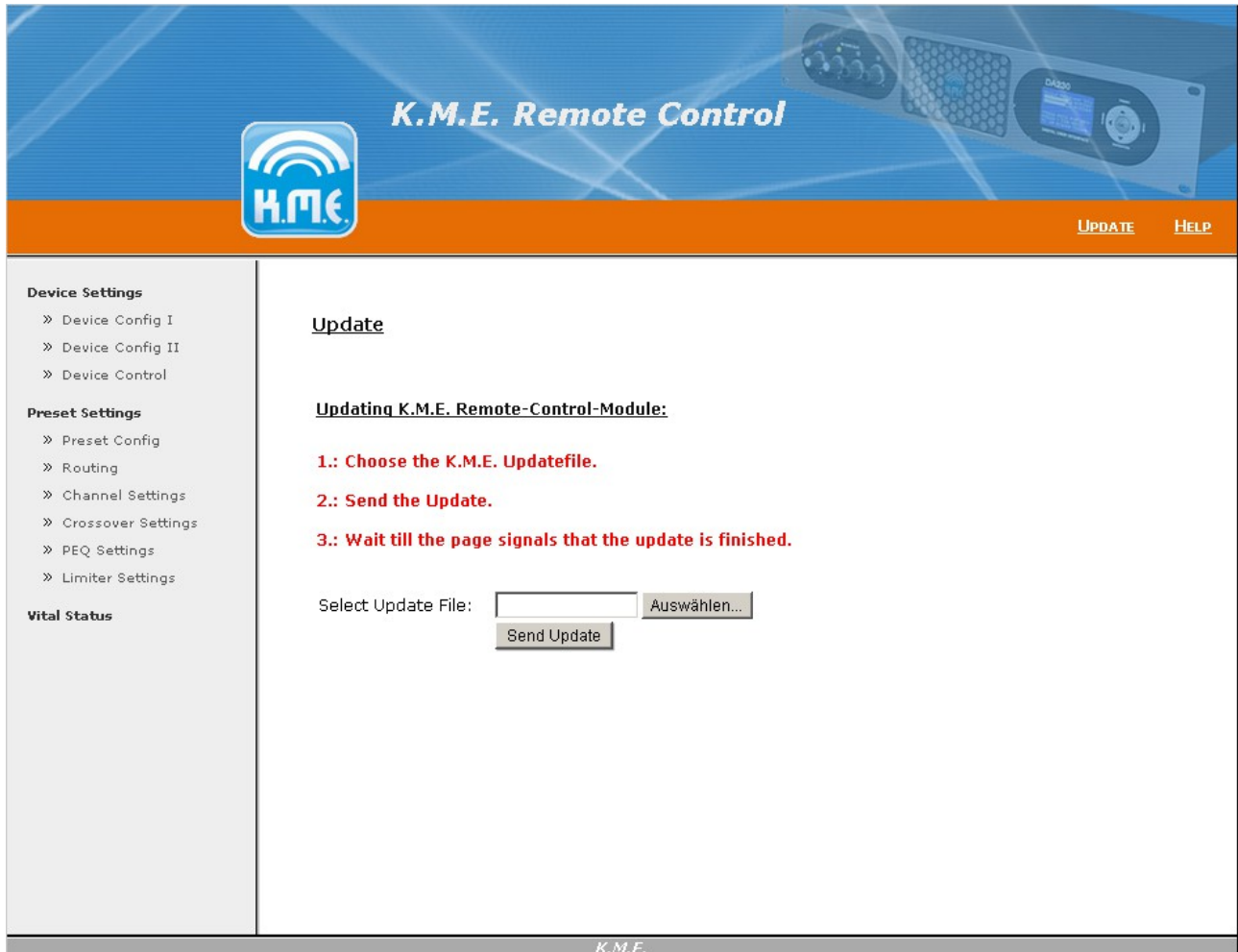


Figure 3: Starting the update

After choosing the file you may continue by clicking the "Send Update" button. Subsequently, the browser will transmit the update to the Remote-Control-Module. During this task the module informs you as soon as the transfer is completed and the actual update-process has started (see figure 4).

**Please wait until the module has finished the entire update (see figure 5).**

**Depending on the size of the update the update process can take a few minutes.**

In case a problem has occurred during the update please power off the device for some seconds before trying to update again. If another attempt doesn't succeed, please contact the K.M.E. Support for assistance.

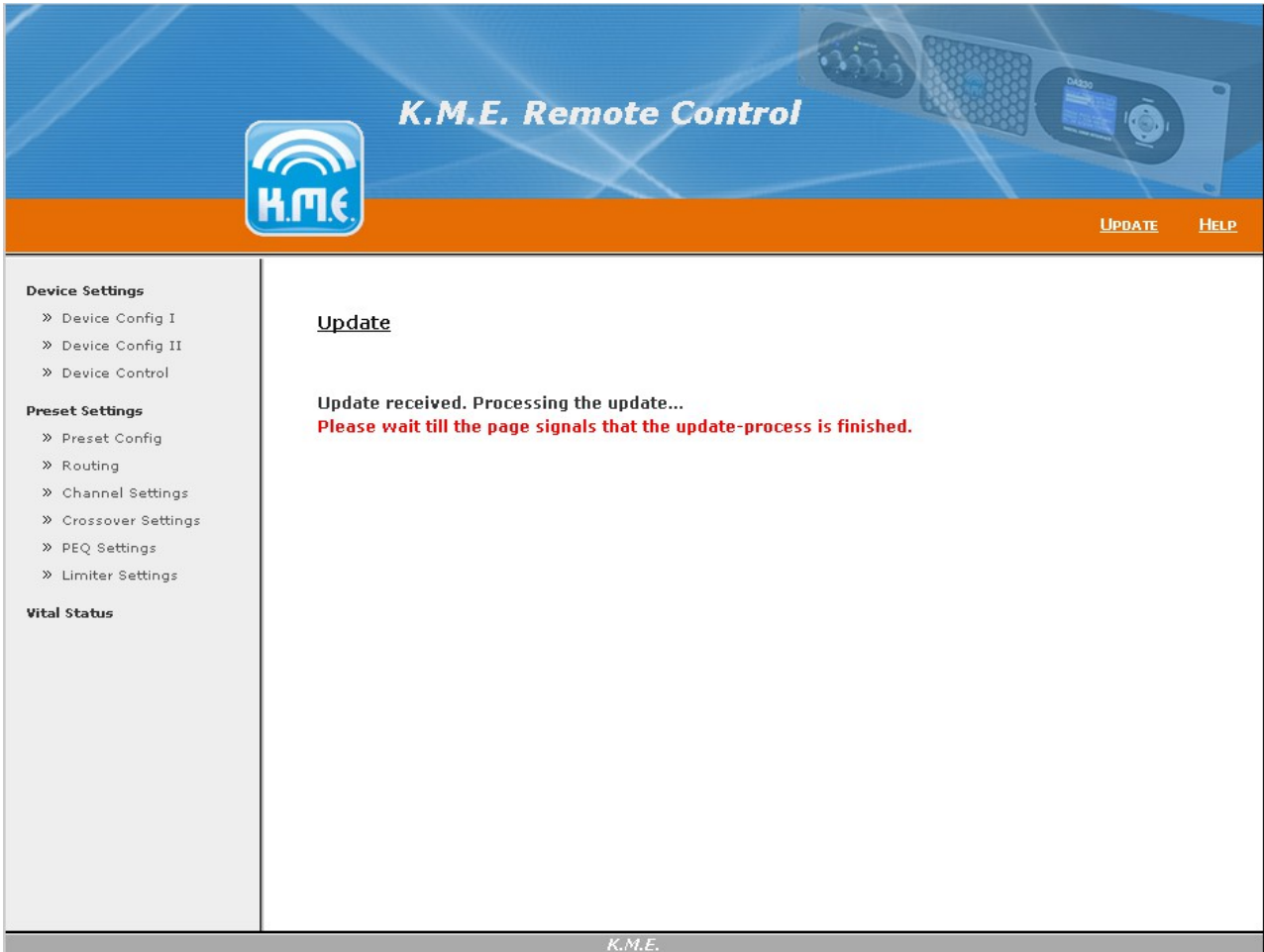


Figure 4: The update is transmitted, please wait until the update has finished.

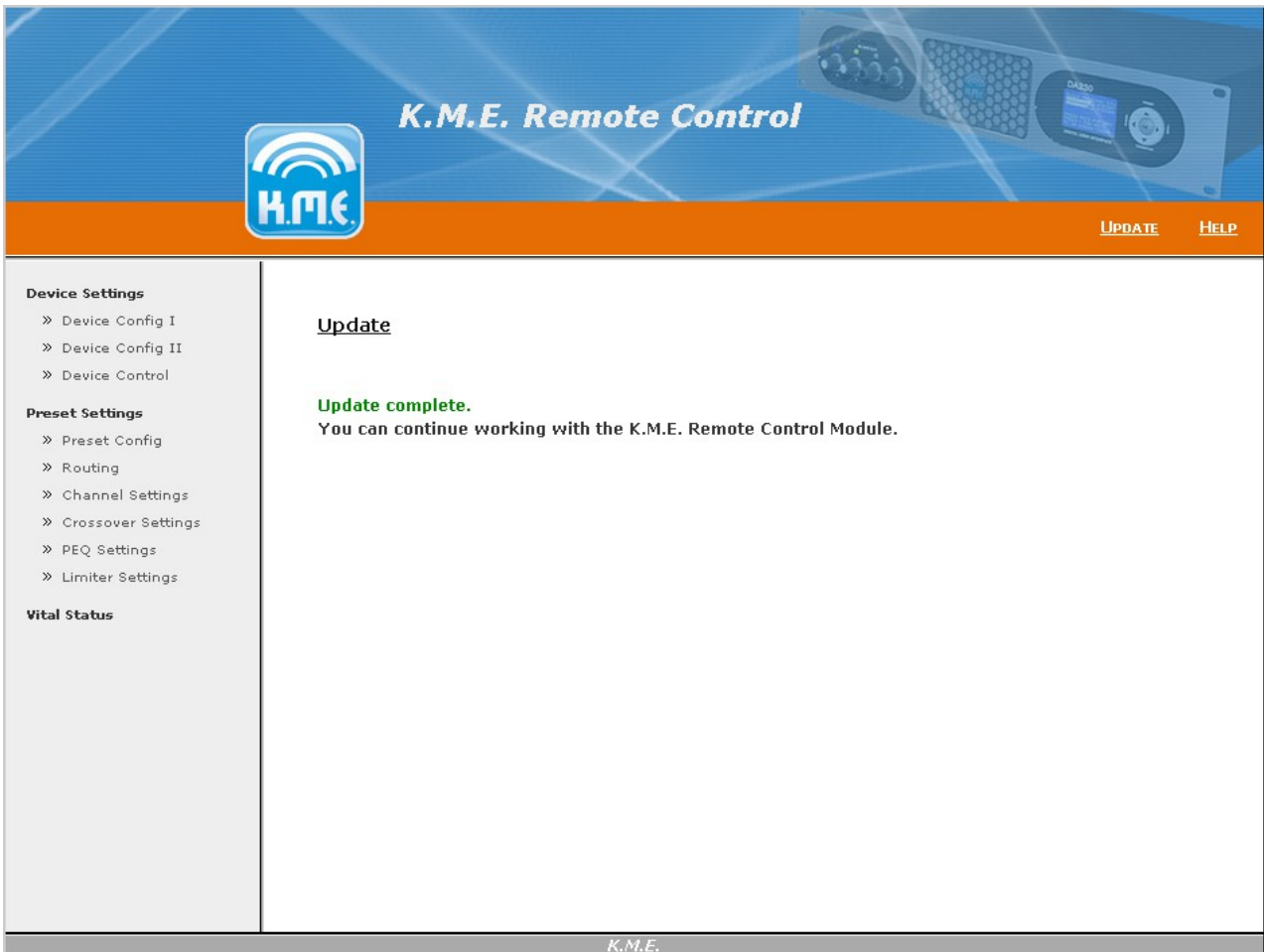


Figure. 5: The Update was successfully completed

## **2. Assembly Instruction**

Disconnect the amplifier from mains power. Firstly, allow the amplifier stay disconnected for approximately 15 minutes. Flip over the unit in order to gain access to the bottom cover. Loosen the two screws on the left and right side part of the amplifier and also unscrew the six screws on the top and bottom side of the housing.

Caution: Be aware that a grounding cable (green-yellow colored) connects the housing part. This cable must be unplugged carefully.

**Bare in mind that the power electronics inside the unit may still incorporate live voltages and therefore must not be touched! Only ply in areas described below!**

Loosen the four screws fixating the standard RSNC-Module on its back-plane. Carefully remove the module. Retain the screws for the succeeding assembly.

**Hint:** Technical restrictions required a short flat ribbon cable. Handle this cable with care to avoid damage.

Carefully squeeze the connector by hand to loosen up its locking mechanism and pull it in parallel to the board. Place the module on a metallic surface i.e. on the bottom plate of the amplifier. You may later repack it into the cardboard box supplied with the Remote Control Module.

By applying only little force plug the flat ribbon cable to the Remote Control Module. Caution! Rough handling will easily damage the connector. Should you encounter difficulties plugging the cable to the Module the connector may be situated incorrectly by mistake and needs to be turned. There is only one preferential direction the plug can be connected.

Insert the Remote Control Module to the panel cut-out. It should be located similar to the way the RSNC-Module had been mounted. Place the supplied toothed lock washers inbetween the Remote Control Module and the amplifiers back-plate and then insert the screws.

**Pay attention not to leave behind any screws or washers in the amplifier since this can cause short circuits and therefore a potential malfunction and damage of your amplifier.**

Tighten the screws with moderate force. Place the bottom panel into mounting position and replug the grounding cable to this panel. Reposition the bottom panel on to the amplifier and mount all previously removed screws.

Now that the Remote Control Module is installed you may use the amplifier's new functionalities after executing a few configuration steps only.

To be able to use the Remote Control Module in combination with the amplifier a firmware version above 2.10 is required. Check the version number by selecting the entry

Menu → Software → Firmware Versions.

The display's third row will show the firmware number.

If necessary, you'll find the update at

[www.kme-speaker.de](http://www.kme-speaker.de) → Support → Downloads → Firmware Updates

All files of this downloaded “.zip” file must be extracted into the root directory of a SD Memory Card.

Hint: an Update Manual containing further instructions is available on the same Website.

The following menu options need to be edited to set up the Remote Control Module:

Via

*Menu → System → Device Name*

you may set a distinctive name using the rotary encoders.

This name will be used to identify the amplifier in the network area using DHCP for IP address assignment.

Configure the network parameters (enable / disable DHCP and – if applicable – desired IP-address and its corresponding Subnet Mask, and possibly Gateway) by selecting the following menu item:



Menu → Options → Ethernet/NC

Now you're done! Set the network's parameters in correspondence to your other network equipment. If necessary contact your network administrator for assistance.

When using DHCP the amplifier can be accessed by loading

*http:\\DEVICENAME*

in any up to date web browser. Here "DEVICENAME" represents the name you have set in the system options.

For manual name addressing you'll have to establish connection to the amplifier by accessing its distinct IP address (that is, the address you have configured in system options), for example

<http://192.168.1.101/>

By setting a bookmark for this address you may easily establish a connection the next time.