

WLANmaus Firmware Restoration Guidance

The **WLANmaus** comes with two keyboard shortcuts for firmware restoration, where in both cases a so-called rescue version is loaded from the SPI flash. These rescue versions are generally older than the delivery firmware and serve only one purpose, to recover both the **WLANmaus** and the radio module from every imaginable error situation, so that it is updatable again via WLAN. Without this updatability, the **WLANmaus** has become a case for the service, because a firmware import is only possible via the JTAG adapter. The rescue version of the **WLANmaus** firmware and the radio module firmware is located in the persistent flash memory area, which cannot be modified without corresponding software (service version of the **WLANmaus** Update Tool) and thus in the normal case remains unchanged for the entire life of the **WLANmaus**.

The following procedures describe the firmware restoration of the **WLANmaus**-inherent “origin” firmware using the two previously mentioned shortcut keys as well as the “startup” of the **WLANmaus** in two special cases.

1. Restoration of the WLANmaus Rescue Firmware

In case the **WLANmaus** update was unsuccessful or was interrupted and it is not possible anymore to connect the **WLANmaus** to the router, then perform the following steps: While the **WLANmaus** is turned off, press and hold the **left-arrow-key**, “**6**”-key, and “**7**”-key simultaneously and confirm with the **OK**-key, in order to start a restoration of the original **WLANmaus** firmware. After successful restoration, the **WLANmaus** starts autonomously and on the display appears for approximately 2 seconds “**Rx.xx**”, where “**x.xx**” represents the version number of the rescue firmware. Repeat the **WLANmaus** update procedure.

2. Restoration of the Radio Module Rescue Firmware

In case the upload indicator (first fastly from 0 to 100 %, then slowly from 0 to 100 %) does not begin to run after turning on, make the **WLANmaus** currentless (shortly remove one of the batteries) and turn it on again. In case the upload indicator still does not begin to run, the radio module update was unsuccessful or was interrupted, then perform the following steps: While the **WLANmaus** is turned off, press and hold the **STOP**-key, “**7**”-key, and “**9**”-key simultaneously and confirm with the **OK**-key, in order to start a restoration of the original radio module firmware. After successful restoration, the **WLANmaus** starts autonomously. Repeat the radio module update procedure.

3. Procedure with Display of “NO RESOURCES”

The **WLANmaus** cannot access its resources, either because they are not or only partially present (e.g., abort during a firmware update) or corrupted for some reason. If this error occurs during a firmware update and the **WLANmaus** automatically connects to the router after turning-on (permanent display of antenna symbol and signal strength), simply restart the update process in the **WLANmaus** Update Tool. The **WLANmaus** resources are rewritten in the last step of **every** firmware update. If the **WLANmaus** does not automatically connect to the router after turning-on, then perform the recovery of the **WLANmaus** rescue firmware as described under **Point 1** above. Afterwards you can bring the **WLANmaus** up to date with the **WLANmaus** Update Tool.

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4. Procedure with Display of Error Code “535”

This error occurs when upgrading to the **WLANmaus** firmware **V1.08**, if the radio module firmware is updated **before** and not **after** the **WLANmaus** firmware. In the course of the extensive menu extension of this firmware version, an increase in the memory area used for the resources was necessary, which subsequently changed the resource addressing area. If the update order described in the **WLANmaus** Firmware Update Guidance is not followed and the radio module firmware is loaded first, the not yet updated **WLANmaus** firmware will use a wrong resource address when transferring the radio module firmware from the SPI flash to the radio module, because the correct address is known only after updating the **WLANmaus** firmware. The **WLANmaus** then tries to load the not yet updated radio module firmware into the radio module after each turning-on, fails when trying to load it from the SPI flash and displays this with the error code “535”. In the present case, the **WLANmaus** is in a state that is called “endless loop” and which cannot be remedied with the conventional, previously described firmware restoration methods. To put the **WLANmaus** back in a “serviceable” state, repeat the following two procedures until any firmware could be successfully restored:

(a) Make the **WLANmaus** currentless (shortly remove one of the batteries) and turn it on again. Note: The **WLANmaus** features a shutdown monitoring to prevent undefined startup behavior if the supplied power is too low. If the **WLANmaus** is made currentless more than twice, e.g., by removing a battery, and not properly turned off, then this monitoring causes the battery symbol to blink for about 3 seconds, followed by a stand-alone shutdown when it is next turned on. If the battery symbol flashes while turning on, then **do not immediately** turn off the **WLANmaus**, instead **wait** until the flashing battery symbol disappears.

(b) Try **alternately** one of the two firmware recovery procedures described under **Point 1** and **Point 2**. In each of these two recovery methods, the control block in the SPI flash, which contains the wrong resource address information, is rewritten, which usually corrects the error.

If either the **WLANmaus** rescue firmware or the radio module rescue firmware could be successfully restored, you can then bring the **WLANmaus** to the current state again by using the **WLANmaus** Update Tool (following the update order described in the **WLANmaus** Firmware Update Guidance).

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