

 FALCOM	<h1>Release Notes</h1>	FALCOM AVL Products
		Release date: 09.11.2018
	Firmware version: avl_3.1.0_rc33	Document revision: 3.1.0.2

FALCOM AVL FIRMWARE RELEASE

VERSION: [avl_3.1.0_rc33](#)
 BIOS version: [2.2.1](#)
 Official release date: 12.11.2018
 Affecting deliveries from: **03.12.2018**
 List of firmware files:
[avl_3.1.0_rc33.frp](#)
[avl_3.1.0_rc33-Z4f0f709f.zip](#)
[avl_3.1.0_rc33.bin](#)

Hardware compatibility: This firmware applies to the following FALCOM products with Cortex processor:

Devices	Hardware Revisions	Supported firmware versions	Notes
FOX3-2G Series	13,15,17	avl_3.x.x (only)	1) Use the PFAL command \$PFAL,MSG.Version.HardwareRev to get shown the hardware revision of your AVL device. The device responses with (second line shows the hardware version): \$<MSG.Version.HardwareRev> \$11-NUCHB \$SUCCESS 2) The hardware revision is also printed on the product label, located on the back panel of the device. In the Serial Number (S/N) field there are 3 digits in parenthesis, for example, 60148(9XX)50600014, and the number “XX” is the hardware revision of the device. If the number is “11”, it means that the hardware revision is 11.
FOX3-3G Series	06,11,13,15,17	avl_3.x.x (only)	
FOX3-3G-BID*			
FOX3-4G Series	all	avl_3.x.x (only)	
BOLERO40 Series*	all	avl_3.x.x (only)	

* Product release planed in Q-4-2018

NOTE: This firmware version is **ONLY** for the FALCOM products explicitly mentioned above! Do not try to update other FALCOM products with this firmware, otherwise you will not be able to operate your device anymore.

DOCUMENTATION:

The following document(s) is (are) provided as part of the AVL firmware release "[avl_3.1.0_rc33](#)". In order to download them you will have to log-in first (please use the provided **Username** and **Password**). Click here to log-in: <http://www.falcom.de/>.

Filename	Description
AVL_PFAL_Commands_Set.pdf	Lists and describes all PFAL commands supported by this firmware release.

SUMMARY OF CHANGES:

Version	Description	Created by	Date
3.1.0.2	Firmware release "avl_3.1.0_rc33"	FALCOM	09/11/2018
3.1.0.1	Firmware release "avl_3.1.0_rc20"	FALCOM	15/05/2018

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3.0.0.1	Firmware release "avl_3.0.0"	FALCOM	04/07/2017
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1) Preface

This release note describes the new functionalities of the firmware release "**avl_3.1.0_rc33**" and is intended for use as a reference when updating an AVL device to version "**avl_3.1.0_rc33**".

2) Important Notes

The firmware file with extension "***.frp**" is for the update through the **Workbench**. The firmware file with extension "***.bin**" is for the update remotely OTA (RUpdate) by a server or/and for the update through **terminal emulators** (e.g.: Hyperterminal, PComm Pro). The firmware file with extension "***.zip**" is for the new **WebUpdate**.

To update the firmware with the extension "***.frp**", please use the **Workbench** version **2.6.2_RC7** or higher. To update the firmware with the extension "***.bin**" you can use the old **Workbench** version **2.4.1_rc9** or any **terminal emulator** (example: Hyper terminal, Pcomm Pro).

DON'T switch off the AVL device while it reboots after the firmware update. The duration of the reboot after the firmware update may take approx. 45 seconds.

Before upgrading the firmware on the device, it is strongly recommended to upload and backup all history data on your server and finally delete this data on the device.

NOTE: If FOX3-3G-BLE devices with older firmware versions (e.g. 3.0.0_xx) are upgraded to this new firmware version (3.1.0_xx), please contact FALCOM to receive the BLE activation codes and continue to use this feature without additional costs.

3) Firmware Installation Notes

The installation package consists of firmware in three different formats *.bin, *.frp and *.zip. You can choose whether you want to update the firmware via following interfaces:

Interfaces	File	Description	References
RS-232 PORT	*.frp	This is primarily intended for updating one device first, to ensure the process completes properly before rolling the update to a group of other devices. Use " Falcom_Workbench_xx-2.7.2-RC1.exe " and update the "*.frp"-file via the serial port.	Chapter 5)
	.bin	This is also primarily intended for updating one device first, to ensure the process completes properly before rolling the update to a group of other devices. Use Terminal emulators (e.g. Hyperterminal, PComm Pro) or the old version " Falcom_Workbench_2.4.1-RC9.exe " and update the ".bin"-file via the serial sort.	References
WEB-SERVER	*.zip	This is a perfect solution when multiple deployed AVL devices need updating. The firmware file is located in your web-server and you send to the AVL device the URL of a web server you have set up for downloading over-the-air the firmware file.	References
TCP-SERVER	*.bin	This is an advanced solution for fleet management services when multiple AVL devices need updating. This solution presupposes that this functionality is already or should be implemented on your TCP-Server. During the update process, the AVL devices can still be used for other tasks (i.e. executing alarms, sending messages etc.)	References
Remote with Workbench	*.frp	This solution lets you update the firmware remotely on several AVL devices. More details can be found in the online help in the Workbench software.	References

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4) Prerequisites concerning the PC

A 32/64-bit-WINDOWS operating system (Windows XP, Vista, 7) or Linux is running on your PC and about 50 MByte free space on your hard disk is required. The RS-232 interface must be configured with the following parameters:

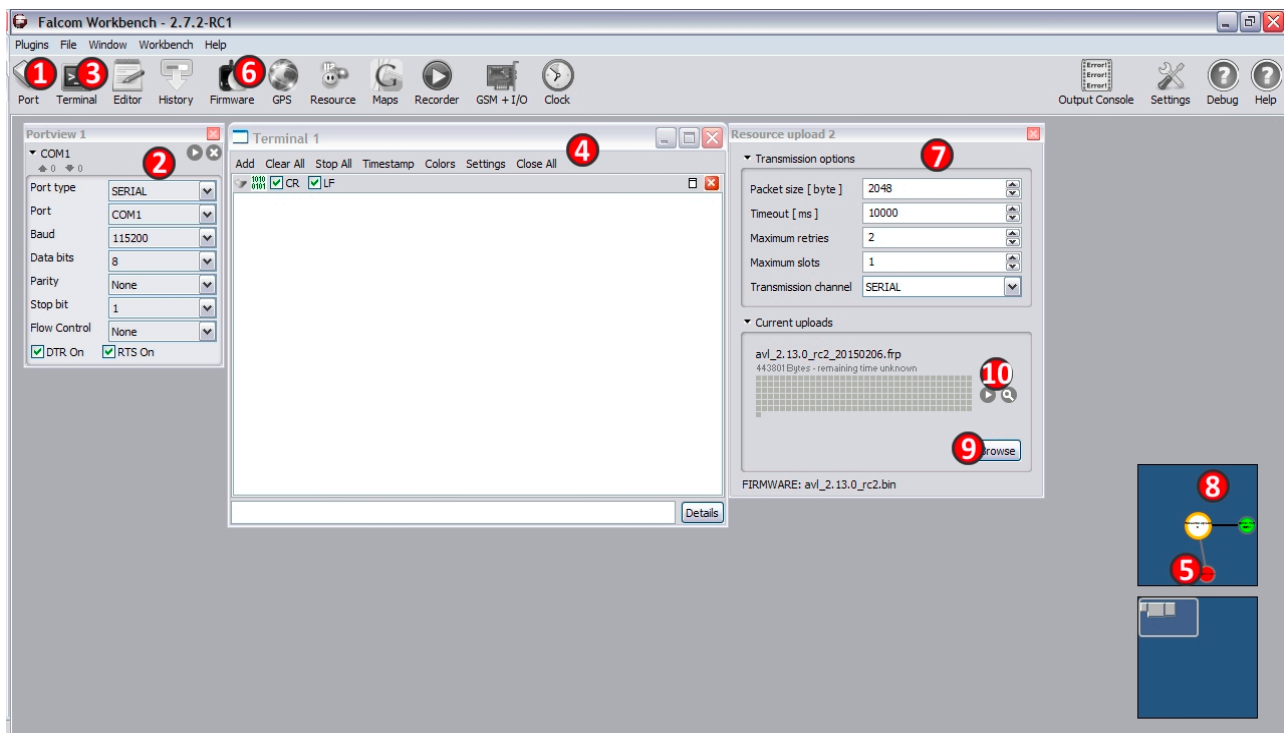
- Baud rate: 115200
- Data Bits: 8
- Parity: None
- Stopbits: 1
- Flow Control: None

5) Firmware Update Process

These instructions are specific to updating your FALCOM AVL device via COM interface (Serial Port).

(a) Download the firmware file and Workbench software needed from the following hyperlinks.

1. Open your installed browser and enter "<https://www.falcom.de/distributor-login/?origin=4>"
2. Sign-in using the login data (Username & Password) received by e-mail from FALCOM.
3. Select: **Support -> Drivers & Firmware -> Drivers & Firmware > AVL (FOX3.....)**
4. Download "**avl_3.1.0_rc33.zip**" and extract the file you downloaded into a temporary folder on your PC.
5. Run the "**workbench-x32.exe**" software. If this software is still not installed on your PC, download it first (References 7) and start the installation.



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(b) Begin the firmware update process (refer to the fig. above).

1. Connect the AVL device to your PC either directly using the programming cable or the corresponding evaluation board.
2. Do **NOT** update the firmware version 3.x.x on FOX3-2G/3G/4G devices with an older processor. The firmware version 3.x.x is **ONLY** for FOX3-2G/3G/4G and BOLERO40 devices with the **CORTEX (CT)** processor. Please verify the hardware revision from the table **"Hardware compatibility"** above and make sure you are upgrading a FOX3-2G/3G/4G device with CORTEX processor. FALCOM takes no liability and no responsibility for any cases, firmware versions have been flashed wrongly nor will FALCOM cover any costs associated with this happening.
3. Click **Port** (1) icon, select the COM port settings from the **PortView1** (2) and click the **Play** button next to the text "COM.." to open the selected COM port.
4. Click **Terminal** (3) icon, select the **TerminalView 1** (4) and go to the **ConnectionView** (5) and connect it to the **Serial Port COM1**.
5. Click **Firmware** (6) icon, select "SERIAL" from the **Transmission Options** (7), go to **ConnectionView** (8) and connect it to the **Serial Port COM1**.
6. Click **Browse** (9) button and select the firmware file as "*.frp" from the temporary folder where the firmware was expanded.
7. Click **Play** (10) button to start the firmware update. This button appears only if the firmware file has already been selected.
8. Wait until the update process completes. While the update is running, do not send any command to the device and do not manually reboot it until the device restarts itself.
9. After the update process successfully completes, a success message will appear. Click "OK" button to restart the AVL device.
10. After device restarts and configuring the unit, you can execute the command **\$PFAL,Cnf.Backup** to save the user configuration as factory settings. If the AVL device was already configured, you can execute the same command after the firmware update to save the user configuration as factory settings.
11. FALCOM recommends that you update one device first, to ensure the process completes properly before rolling the update to a group of other devices.
12. Click **Help** (11) button for more details about the workbench software.

6) New and Modified Functions

NEW FEATURES:

This is a list of new features in the current firmware release.

- ✓ None

NEW FEATURES FOR FOX3-3G-BLE:

This section presents what is new in the firmware release regarding the FOX3-3G-BLE.

- ✓ Added new dynamic variables for BLE tags/sensors:

Configuration parameters	
BLE.SCANDURATION=<ScanDuration>	It specifies the BLE scan duration in seconds. <ScanDuration> ranges from 5 to 60 seconds.
Dynamic entries	
&(BLE.relName)	It is used to report the name of the last released beacon.
&(BLE.relMAC)	It is used to report the MAC address of the last released beacon.
&(BLE.relUUID)	It is used to report the UUID of the last released beacon.
&(BLE.relMajor)	It is used to report the major value of the last released beacon.
&(BLE.relMinor)	It is used to report the minor value of the last released beacon.

NEW FEATURES FOR FOX3-3G-BID:

This section presents what is new in the firmware release regarding the product FOX3-3G-BID.

- ✓ None

NEW FEATURES FOR IOBOX-MINI:

This section presents what is new in the firmware release regarding the IOBOX-MINI.

- ✓ None

NEW FEATURES FOR NFC Reader:

This section presents what is new in the firmware release regarding the Near Field Communication (NFC) reader.

- ✓ None

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NEW FEATURES FOR BOLERO40 Series:

This section presents what is new in the firmware release regarding the BOLERO40.

- ✓ None

NEW FEATURES FOR IOBOX-CAN:

This section presents what is new in the firmware release regarding the IOBOX-CAN.

- ✓ None

NEW FEATURES FOR IOBOX-WLAN:

This section presents what is new in the firmware release regarding the IOBOX-WLAN.

- ✓ None

NEW PREMIUM-FEATURES

This is a list of new PREMIUM-FEATURES in this firmware release.

- ✓ None

REMOVED/NOT SUPPORTED:

This section presents what has been removed/not supported in this firmware release.

- ✓ None

CHANGES:

This section presents what has been changed in this firmware release.

- ✓ None

IMPROVEMENTS:

This section presents what has been improved in this firmware release.

- ✓ Improved the startup of the device after executing the command PFAL,SYS.device.Factoryreset
- ✓ The position from lastvalid/default is used if the storage GNSS position is invalid
- ✓ Allowed multiple reset actions. Example: now you can execute PFAL,Sys.Device.Reset during CFG.Update
- ✓ Improved the initialization and reset for NFC readers
- ✓ Optimized BIOS EEPROM
- ✓ Optimized the startup of the GSM engine
- ✓ Removed WLAN settings from the default
- ✓ Delay the occurrence of the event SYS.Device.eStart if no GPS fix available

- ✓ Improved the PFAL,Cnf.Set,GSM.MODEPREF=<network_access>
- ✓ Fixed bugs in the device configuration and functions as well improved the configuration backup restore during the device start-up.
- ✓ Save the incoming SMS on the SIM card instead of the GSM module.
- ✓ Improved checking for the network operator.

BUGS FIXED:

This is a list of internal problems that were fixed in the current firmware release.

- ✓ Fixed a bug in the ecodrive function (example: idle-time in the &(EcoTripResult)
- ✓ Fixed the condition check for the GSM operator validity
- ✓ Fixed the GPS position setting and query
- ✓ Fixed the setting \$PFAL,CNF.Set,DEVICE.SERIAL0.FORCEON=<on|off>
- ✓ Fixed a bug with CNF.Set,USER[1..9]=text
- ✓ Fixed the recognition of the IOBOX-CAN after a firmware update. Previously, you needed to reset the FOX3 once more after the firmware update to recognize the IOBOX-CAN.
- ✓ Fixed the valid state in the protocol 200 used with TCP.Client.Send

KNOWN ISSUES:

This is a list of known issues in the current firmware release.

Mantis ID	Priority	Status	Bug Summary
-	-	-	RFID-A-B-EXT & AVL device. When the AVL device goes into the doze low power mode, a Tag should be double passed within the reader magnetic field to detect the ID of that Tag on the AVL serial port. The first swipe is to wake up the AVL device from the doze mode and the second swipe is to detect the Tag and generate the corresponding event.
-	-	-	By default the IO1 (Pin 4) works as an analog input. If you need it as digital input then use the command \$PFAL,IO0.Config=DI,0.5,2.5 to change its function to digital input using your low and high level values.

7) References

This is a list of references used for updating this firmware release into one of the FALCOM AVL devices. The current version of the documents/software can be directly downloaded from the FALCOM download site (<http://www.falcom.de>). To download the documents/software, just click on any of these hyperlinks below.

- [1] [FALCOM Workbench software](#)
- [2] [AppNote_WebUpdate_Howto.pdf](#)
- [3] [AppNote_Firmware_Remote_Update.pdf](#)
- [4] [AppNotes_Remote_Update_With_Workbench.pdf](#)