Lantronix AVL FIRMWARE RELEASE

VERSION: avl_3.8.0_rc3

BIOS version: 3.0.4

Official release date: 06/03/2020 (M/D/Y)

List of firmware files: avl_3.8.0_rc3_20200526.frp

avl_3.8.0_rc3-Z57f3dad9.zip

avl_3.8.0_rc3_20200526.txt

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

Devices	Hardware Revisions	Supported firmware versions	Notes
FOX3-2G Series	13,15,17,19,20,21	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	06,11,13,15,17,19,20,21	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)	

* On request

IMPORTANT

➢ This firmware version is ONLY for the LANTRONIX products explicitly Mentioned above! Do not try to update other LANTRONIX products with this firmware, otherwise, you will not be able to operate your device anymore.

➢ Before updating the new firmware on your FOX3 or Bolero series, it is strongly recommended to back up the configuration with the command **$PFAL,CNF.Backup**

➢ Before upgrading the firmware on your FOX3 or Bolero series, it is recommended to upload and back up all history data on your server (if needed) 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 (3.3.0_xx), please contact LANTRONIX to receive the BLE activation codes and continue to use this feature without additional costs.

➢ The latest FW 3.8.0_rc3 is for FOX3-2G/3G/4G with the CORTEX CPU as well as BOLERO40 series.

➢ Sleep=Ring on BOLERO40 series works only by using SIM-SLOT2 (the upper SLOT) on BOLERO40 series

DOCUMENTATION:

The following document(s) is (are) provided on https://www.lantronix.com// as part of the AVL firmware release "avl_3.8.0_rc8".

Filename	Description
PFAL Command Reference	Lists and describes all PFAL commands supported by this firmware release.

Version	Description	Created by	Date (M/D/Y)
3.8.0.0	Firmware release "avl_3.8.0_rc3"	Lantronix	06/03/2020
3.7.0.0	Firmware release "avl_3.7.0_rc2"	Lantronix	04/21/2020
3.6.0.0	Firmware release "avl_3.6.0_rc2"	Lantronix	03/10/2020
3.5.0.0	Firmware release "avl_3.5.0_rc8"	Lantronix	02/05/2020
3.4.0.0	Firmware release "avl_3.4.0_rc8"	Lantronix	12/03/2019
3.3.0.0	Firmware release "avl_3.3.0_rc15"	Lantronix	10/02/2019
3.2.0.3	Firmware release "avl_3.2.0_rc39"	FALCOM	07/04/2019
3.1.0.2	Firmware release "avl_3.1.0_rc33"	FALCOM	11/09/2018
3.1.0.1	Firmware release "avl_3.1.0_rc20"	FALCOM	05/15/2018

1)   Preface

This release note describes the new functionalities of the firmware release "*avl_3.8.0_rc3*" and is intended for use as a reference when updating an AVL device to version "*avl_3.8.0_rc3*".

2)   Important Notes

The firmware file with extension "***.frp**" is for the update through the **Workbench** and for the update remotely OTA (RUpdate). The firmware file with extension "***.txt**" is for the update through **terminal emulators** (e.g.: Hyperterminal, PComm Pro). The firmware file with extension "***.zip**" is for the 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 "***.txt**" you can use any **terminal emulator** (example: Hyper terminal, Pcomm Pro). To initiate a WebUpdate use the command **$PFAL,SYS.WebUpdate.Start,"u rl",80** on the device. DON'T switch off the AVL device while it reboots after the firmwa re update. The duration of the reboot after the firmware update may take approx. 45

seconds.

3)   Firmware Installation Notes

The installation package consists of firmware in three different formats *.frp and *.zip. and *.txt. 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 " **Workbench** " and update the "*.frp"-file via the serial port.	
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.	
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.	
TCP-SERVER	*.frp	This solution lets you update the firmware remotely on several AVL devices.	
Terminal SW	*.txt	You can upload the firmware with the extension *.txt serially over a terminal SW such as PComm Lite, Tera Term, etc.	

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
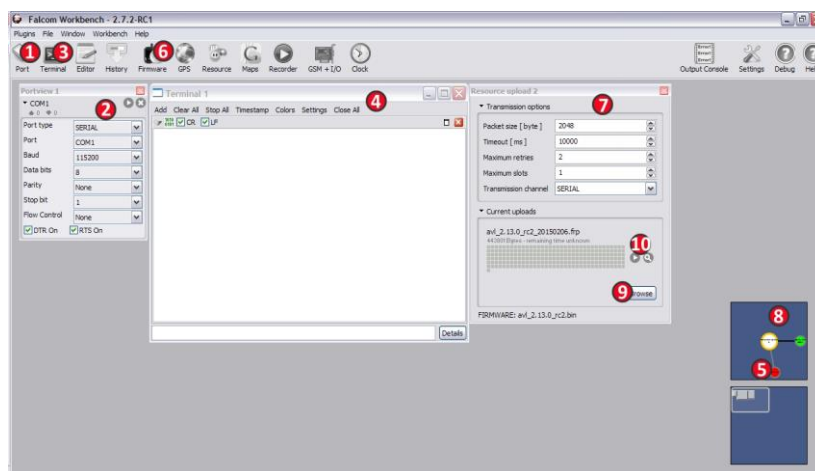
5)   Firmware Update Process

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

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

1. https://www.lantronix.com/products/workbench/#tab-docs-downloads
2. https://www.lantronix.com/products/fox3-series/#tab-docs-downloads
3. Download "**avl_3.8.0_rc3.zip**" and extract the file you downloaded into a temporary folder on your PC.
4. Run the "**workbench**" software. If this software is still not installed on your PC, download it first

and start the installation.

(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. LANTRONIX takes no liability and no responsibility for any cases, firmware versions have been flashed wrongly nor will LANTRONIX 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. LANTRONIX recommends that you update one device first, to ensure the process completes properly before rolling the update to a group of other devices.

6) New and Modified Functions

IMPROVEMENTS and BUGS FIXED:

- Improved BLE communication (using flow control) to prevent BLE data loss during the transmission to a tablet or any other BLE host.

- Improved internet connection using the **R**adio **A**ccess **T**echnology (RAT) 4G with the FOX3-4G C4 (TOBY GSM module). Check the type of the GSM module by executing the command:
  $PFAL,msg.version.complete.ext

NEW FEATURES FOR IOBOX-WLAN:

This section presents what is new since the latest released firmware regarding the IOBOX-WLAN.

- New command and dynamic entry for MAC address to retrieve the WLAN MAC address of the IOBOX-WLAN
    PFAL example: $PFAL,WLAN.MAC
    PFAL dynamic variable: &(WLAN.MAC)

KNOWN ISSUES:

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

- The firmware 3.8.0_rc3 does not establish internet connection using the RAT 4G with the FOX3-4G-M1 (CAT-M1 which based on SARA-R4xx). Currently, the FOX3-4G-M1 (CAT-M1 which based on SARA-R2xx) establish the internet connection using RAT[1] 2G

- Some SIM cards especially support static IP address do not establish internet connection over the RAT[1] 4G with the FOX3-4G-C1 (CAT 1 based on the GSM module LARA-R2xx

1 RAT: Radio Access Technology

	Release Notes	Lantronix AVL Products
LANTRONIX		Release date: June 4, 2020
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You can check the type of the GSM module (version) on the FOX3 by executing the command $PFAL,msg.version.complete.ext

Example:

    $<MSG.Version.Complete.Ext>
    $Hardware: xxxxx
    $HardwareRev: xxxxx
    $HardwareOptions: xxxxx
    $Software: xxxxx
    $SoftwareID: xxxxx
    $Production ID: xxxxx
    $ProductionCode: xxxxx
    $BIOS: 3.0.4
    $GSM: SW:SARA-R412M-02B M0.10.00,A.02.14
    $GPS: xxxxx
    $SUCCESS
    $<end>