

### AiM Firmware Documentation

July, 7th 2017

### **MXS** Release history

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Version	Date	Change/additions
V CI SIOII	Dute	Change, additions

**01.26.14** Jul 7th 2017 Improved CAN management: more reliability in firmup and configuration transmission

#### **External modules**

**01.26.14** Memory Module

**35.58** GPS Module

**25.46** Lambda

**40.60** Channel Expansion/TC Hub: minor bugs fixed

**70.03** Remote buttons interface







Version	Date	Change/additions
01.26.08	Jun 20th 2017	■ Memory Module support
		External modules
		■ 01.26.08 Memory Module
		■ <b>35.58</b> GPS Module
		<b>25.46</b> Lambda
		■ 40.60 Channel Expansion/TC Hub: minor bugs fixed
		■ <b>70.01</b> Remote buttons interface
01.24.54	May 19th 2017	■ Includes firmware GPS v 35.58.00 that fixes data synchronization with SmartyCam HD
		External modules
		■ 35.58 GPS Module
		■ 25.46 Lambda
		40.60 Channel Expansion/TC Hub: minor bugs fixed
		■ <b>70.01</b> Remote buttons interface
01.24.52	May 18th 2017	■ Added support for new display configuration (RaceStudio3 v 3.15.00 required)
		External modules
		<b>35.56</b> GPS Module
		<b>25.46</b> Lambda
		■ 40.60 Channel Expansion/TC Hub: minor bugs fixed
		■ <b>70.01</b> Remote buttons interface
01.24.14	Mar 24th 2017	Fixed bug that caused no data from channels with hysteresis
01.24.14	Wai 24th 2017	
		External modules
		35.56 GPS Module
		<ul><li>25.46 Lambda</li><li>40.56 Channel Expansion/TC Hub</li></ul>
		■ 70.01 Remote buttons interface
		70.01 Remote battons menace
01.24.13	Mar 24th 2017	■ Improved accelerometer support: better filtering and uniform sign convention on various devices
		■ Fixed occasional spikes on accelerometer channels
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Version	Date	Change/additions
VCISIOII	Date	Change, additions
		External modules
		<b>35.56</b> GPS Module
		■ <b>25.46</b> Lambda
		<b>40.56</b> Channel Expansion/TC Hub
		■ 70.01 Remote buttons interface
01.24.00	Jan 26th 2017	Fixed issue that caused CAN network malfunction when remote button device is in the network
		External modules
		<b>35.56</b> GPS Module
		<b>25.46</b> Lambda
		■ 40.56 Channel Expansion/TC Hub
		■ 70.01 Remote buttons interface
01.22.99	Jan 19th 2017	Added management of GPS position accuracy measure for display and CAN output
		Fixed bug in "Backlight" menu voice (icon missed)
		External modules
		<b>35.56</b> GPS Module
		<b>25.46</b> Lambda
		■ 40.56 Channel Expansion/TC Hub
		■ 70.01 Remote buttons interface
01.22.94	Dec 5th 2016	No changes
		External modules
		<b>35.56</b> GPS Module
		25.46 Lambda: fixed bug that caused shifted lambda samples
		■ 40.56 Channel Expansion/TC Hub
		■ 70.01 Remote buttons interface
01 22 02	Nov 29th 2016	Finally works have a state of the state of t
01.22.92	NOV 29(11 2016	Fixed bug which prevented editing of Wi-Fi and User parameters from RS3
		<ul> <li>Minor improvements</li> </ul>
		External modules
		<b>35.56</b> GPS Module: improvements in GPS measurements available to SmartyCam overlay
		<b>25.44</b> Lambda
		■ 40.56 Channel Expansion/TC Hub
		■ 70.01 Remote buttons interface





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Version	Date	Change/additions
01.22.86	Nov 15th 2016	Added IRM CAN LAP support
		Warning: this firmware release requires Race Studio 3 ver. 3.10.10 or higher.
		External modules
		35.54 GPS Module: improved satellites fix
		= 25.44 Lambda: added keep alive support
		40.56 Channel Expansion/TC Hub
		■ <b>70.01</b> Remote buttons interface
01.22.82	Oct 11th 2016	<ul><li>Speed up USB transfer</li></ul>
		Speed up display pages loading at the startup
		Fixed bug in GPS lap management that in some cases caused loss of laps detected
		Warning: this firmware release requires Race Studio 3 ver. 3.10.10 or higher.
		External modules
		<b>35.50</b> GPS Module
		<b>25.42</b> Lambda
		■ 40.56 Channel Expansion/TC Hub: improved analogic channels acquisition
		<b>70.01</b> Remote buttons interface
01.22.74	Sep 15th 2016	Fixed alarms functionality based on acquisition channels under encryption
		Fixed message alarms that sometimes were partially or totally erased
		Warning: this firmware release requires Race Studio 3 ver. 3.10.10 or higher.
		External modules
		<b>35.50</b> GPS Module
		<b>25.42</b> Lambda
		<b>40.55</b> Channel Expansion/TC Hub
		■ <b>70.01</b> Remote buttons interface
01.22.60	Jul 25th 2016	■ Fixed: clear alarm by remote buttons
01122.00	Jul 23th 2010	Fixed: Wi-Fi troubles with TP-link routers  Fixed: Wi-Fi troubles with TP-link routers
		Fixed: Alarm hysteresis condition
		Minor bugfixes and improvements
		Warning: this firmware release requires Race Studio 3 ver. 3.10.10 or higher.







Version	Date	Change/additions
		External modules
		■ 35.50 GPS Module
		<b>25.42</b> Lambda
		<b>40.55</b> Channel Expansion/TC Hub
		■ <b>70.01</b> Remote buttons interface
01.22.16	Jun 17th 2016	■ Fixed display issue when 8 pages are configured
01.22.10	Juli 17til 2010	Minor improvements
		Warning: this firmware release requires Race Studio 3 ver. 3.10.10 or higher.
		External modules
		<b>35.50</b> GPS Module
		■ 25.42 Lambda (fixed issues with channels configured at 5Hz)
		■ 40.55 Channel Expansion/TC Hub: improvement in measurements accuracy
		■ <b>70.01</b> Remote buttons interface
01.22.14	Jun 10th 2016	<ul> <li>New track management, compatible with the MyChron5 one</li> </ul>
01122111	3411 10111 2010	■ Test data recall
		Warning: this firmware release requires Race Studio 3 ver. 3.10.10 or higher.
		External modules
		<b>35.50</b> GPS Module
		<b>25.42</b> Lambda (fixed issues with channels configured at 5Hz)
		■ 40.55 Channel Expansion/TC Hub: improvement in measurements accuracy
		■ <b>70.01</b> Remote buttons interface
01.18.21	Apr 19th 2016	CAN output support
		External modules
		<b>35.50</b> GPS Module
		<b>25.42</b> Lambda (fixed issues with channels configured at 5Hz)
		■ 40.55 Channel Expansion/TC Hub: improvement in measurements accuracy
		■ <b>70.01</b> Remote buttons interface
	M. deil oess	Fined housin Contain Desition Conser (the conservation of the conservation)
01.18.18	Mar 11th 2016	■ Fixed bug in Custom Position Sensor (the measure was multiplied by 1000)
		Fixed bug in negative measures displayed by SmartyCam







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version	Date	Change/additions

- Wi-Fi robustness improvements
- New menu option for manually adjustable display brightness

#### **External modules**

- **35.50** GPS Module
- **25.42** Lambda (fixed issues with channels configured at 5Hz)
- **40.54** Channel Expansion/TC Hub
- **70.01** Remote buttons interface

#### **01.18.12** Feb 17th 2016

- Increased numbers of CAN2 channels to 80
- Fixed gear calibration issue
- Fixed +12 Time Zone that was missing from menu

#### **External modules**

- **35.50** GPS Module
- **25.40** Lambda
- **40.54** Channel Expansion/TC Hub
- **70.01** Remote buttons interface

#### **01.18.07** Dec 23

Dec 23rd 2015

Missing default AiM logo added

#### **External modules**

- **35.50** GPS Module
- **25.40** Lambda
- **40.54** Channel Expansion/TC Hub
- **70.01** Remote buttons interface

#### 01.18.06

Dec 4th 2015

- New WiFi support
- Customizable logo
- Revised menu system:
- Track display via menu
- WiFi status
- System parameters editable via RS3 and menu
- Improved and faster test list handling
- Autorecording (standard conditions) will not be triggered by GPS speed alone, RPM or another speed required (avoid false positives)







Version	Date	Change/additions
		External modules
		<b>35.50</b> GPS Module
		<b>25.40</b> Lambda
		<b>40.54</b> Channel Expansion/TC Hub
		<b>70.01</b> Remote buttons interface
01.14.59	Nov 10th 2015	Support for new board revisions which allow powering off the WiFi module (MXG rev C , MXL2 rev E)
		External modules
		<b>35.50</b> GPS Module
		<b>25.40</b> Lambda
		<b>40.52</b> Channel Expansion/TC Hub
		■ <b>70.01</b> Remote buttons interface
01.14.58	Sep 9th 2015	■ Fixed bug: minor fix affecting SEAT_SPORT Leon MK3 protocols
	•	External modules
		<b>35.50</b> GPS Module
		<b>25.40</b> Lambda
		■ 40.52 Channel Expansion/TC Hub
		■ <b>70.01</b> Remote buttons interface
01.14.57	Aug 6th 2015	Fixed bug: the measures from CAN Expansions were not displayed on SmartyCam
01.14.57	Aug our 2015	External modules
		= 35.50 GPS Module
		= 25.40 Lambda
		<b>40.52</b> Channel Expansion/TC Hub
		■ <b>70.01</b> Remote buttons interface
01.14.56	Jun 23rd 2015	Same as 1.14.55 (this version contains MXL2-only changes)
		External modules
		<b>35.50</b> GPS Module
		<b>= 25.40</b> Lambda
		<b>40.52</b> Channel Expansion/TC Hub
		■ <b>70.01</b> Remote buttons interface







Version	Date	Change/additions
01.14.55	Jun 23rd 2015	<ul><li>Implemented display luminosity management (Night Vision setting in Display menu: OFF/ON/AUTO)</li></ul>
		Remote buttons interface handling added
		CAN 2G max frame frequency up to 200 Hz
		Minor bugfixes
		External modules
		<b>35.50</b> GPS Module
		<b>25.40</b> Lambda
		<b>40.52</b> Channel Expansion/TC Hub
		■ <b>70.01</b> Remote buttons interface
01.14.44	Jun 4th 2015	<ul> <li>Expansion communication problems: some systems produced with V1.14.42 did not contain expansions firmwares. Upgrading to this version fixes the issue.</li> </ul>
		<ul><li>Fixed bug: sometimes the change of color of colored measures was delayed w.r.t. the triggering event</li><li>Minor bugfixes</li></ul>
		External modules
		<b>35.50</b> GPS Module
		<b>25.40</b> Lambda
		■ 40.52 Channel Expansion/TC Hub
01.14.42	May 21st 2015	Fixed bug on gear calculation when the used speed is GPS speed
		External modules
		<b>35.50</b> GPS Module
		<b>25.40</b> Lambda
		<b>40.52</b> Channel Expansion/TC Hub
01.14.41	May 19th 2015	Fixed bug: after firmup in some conditions the CAN peripheral configuration may be corrupted (missing channels)
		Other minor bugfixes
		External modules
		<b>35.50</b> GPS Module
		<b>25.40</b> Lambda
		■ 40.52 Channel Expansion/TC Hub



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Version	Date	Change/additions
01.14.38	May 11th 2015	<ul> <li>Date/Time automatic synchronization to GPS time in addition to PC, preserving time zone setting</li> <li>Odometers and lap times can be used as generic display measures</li> <li>Implemented exit timeout from Messages and Popups according to configuration</li> <li>New menu system: Date time (Time zone, DST, time format), Odometers, System Info</li> <li>CAN 1/2 encrypted format management</li> <li>Alarms/event management improvement</li> </ul>
		External modules
		<b>35.50</b> GPS Module
		<b>25.40</b> Lambda
		<b>40.52</b> Channel Expansion/TC Hub
01.12.55	Apr 30th 2015	Added compatibility with RS232 ECU line at 55750 baud
01.12.54	Apr 8th 2015	<ul><li>Fixed bug missing track selected in download file</li><li>Added save last display page</li></ul>
		External modules
		<b>35.50</b> GPS Module
		<b>25.39</b> Lambda
		■ 40.52 Channel Expansion/TC Hub
01.12.50	Mar 26th 2015	<ul> <li>Fixed the time displayed in AM and PM format, that was sometimes wrong</li> <li>The number of possible total events (used by alarms, popups, messages, etc) has been raised to 48</li> <li>Fixed some problems in deleting existing recordings</li> <li>Fixed misbehavior in event handlings (e.g. disabling did not always work)</li> <li>Improved crank management</li> <li>Improved firmware upgrade robustness</li> </ul>
		External modules
		<b>35.50</b> GPS Module
		<b>25.38</b> Lambda
		<b>40.51</b> Channel Expansion
01.12.44	Mar 13th 2015	■ First official release