



CUSTOMER DOCUMENTATION	April 1st 2011	FIRMWARE	MXL Release history
Firmware Release history: MXL Strada - Pista - Pro - Pro05 - MXL Master for Slaves - PnP			

April 1st 2011

Firmup_110401.exe

Firmup

Fixed bug on firmup utility

March 25th 2011

Firmup_110325.exe

Logger

Version Changes – Additions

MXL Strada – Pista – PRO - PRO 05

14.86.52

- Fixed conflict MXL / MemoryKey / SmartyCam on the CAN NET
- Strengthened and sped up CAN NET
- CAN NET adjustment for more than 8 slaves

Slaves

Version Changes – Additions

TC and Ch. Expansion

40.13

CAN NET adjustment for more than 8 slaves

LCU-ONE (Lambda Controller)

25.11

No changes

GPS

35.28

CAN NET adjustment for more than 8 slaves

MemoryKey

37.05.06

CAN NET adjustment for more than 8 slaves

July 27th 2010

Firmup_MXL_ProPista_100727.exe

Logger

Version Changes – Additions

MXL Strada – Pista – PRO - PRO 05

14.86.50

- Fixed bugs on circular memory management
- Added management of digital channels for Channel Expansion

Slaves

Version Changes – Additions

TC and Ch. Expansion

40.12

Added management of the digital channels as speed

LCU-ONE (Lambda Controller)

25.11

No changes

GPS

35.25

- Management of more than one GPS on CAN Net
- Added Info sent to SmartyCam (SpeedUp, Heading)

March 11th 2010

Firmup_MXL_ProPista_100311.exe

Logger

Version Changes – Additions



MXL Strada – Pista – PRO - PRO 05 14.86.46 Improved transmission of configuration versus MemoryKey

Slaves	Version	Changes – Additions
LCU-ONE (Lambda Controller)	25.11	No changes
TC and Ch. Expansion	40.08	No changes
GPS 03	35.20	Introduced direct connection to SmartyCam (fw Smarty vers.47.05.05)
GPS 04	55.20	Introduced direct connection to SmartyCam (fw Smarty vers.47.05.05)

September 18th 2009

Firmup_MXL_ProPista_090918.exe

Logger	Version	Changes – Additions
MXL Strada – Pista – PRO - PRO 05	14.86.45	Revision of " LAP Time Forecast"

Slaves	Version	Changes – Additions
LCU-ONE (Lambda Controller)	25.11	No changes
TC and Ch. Expansion	40.08	No changes
GPS	35.18	No changes

July 8th 2009

Firmup_MXL_ProPista_090708.exe

Logger	Version	Changes – Additions
MXL Strada – Pista – PRO - PRO 05	14.86.44	Fixed Bug "Bad Configuration" on MXL Pro05 (only for MXL15/A board)

Slaves	Version	Changes – Additions
LCU-ONE (Lambda Controller)	25.11	No changes
TC and Ch. Expansion	40.08	No changes
GPS	35.18	No changes

June 30th 2009**Firmup_MXL_ProPista_090630.exe**

Logger	Version	Changes – Additions
MXL Strada – Pista – PRO - PRO 05	14.86.43	<ul style="list-style-type: none">• Version for Channels Expansion of SmartyCam Management• Fixed Bug Memory Key

Slaves	Version	Changes – Additions
LCU-ONE (Lambda Controller)	25.11	No changes
TC and Ch. Expansion	40.08	No changes
GPS	35.18	Improved GPS Lap Timing

July 25th 2008**Firmup_MXL_ProPista_080725.exe**

Logger	Version	Changes – Additions
MXL Strada – Pista – PRO - PRO 05	14.86.33	No changes

Slaves	Version	Changes – Additions
DaVid Slave Expansion	22.03	No changes
LCU-ONE (Lambda Controller)	25.11	No changes
GPS	35.17	Fixed bug on Lap Timing functionality

July 9th 2008**Firmup_MXL_ProPista_080709.exe**

Logger	Version	Changes – Additions
MXL Strada - Pista - Pro - Pro05	14.86.33	<ul style="list-style-type: none">▪ New filter for H2O temp sensor (cost = 3 sec.) and Fuel Level sensor (cost = 30 sec.)▪ Added alarms independently conditioned by a condition on another channel▪ Added functionality that manages MEM button in the same way as >> button when the memorization is on

April 17th 2008**Firmup_MXL_ProPista_080417.exe**

Logger	Version	Changes – Additions
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MXL Strada - Pista - Pro - Pro05 14.86.30 Fixed bug that sporadically creates problem in lap time calculation

March 26th 2008

Firmup_MXL_ProPista_080326.exe

Logger

Version Changes – Additions

MXL Strada - Pista - Pro - Pro05 14.86.28 Created a separated FIRMUP for MXL Pista/Pro and MXL QM

February 14th 2008

Firmup_MXLDAVIDGPS_080214.exe

Logger

Version Changes – Additions

MXL Strada - Pista - Pro - Pro05 14.86.28 Fixed TC measure

December 19th 2007

Firmup_MXLDAVIDGPS_071219.exe

Logger

Version Changes – Additions

MXL Strada – Pista – PRO – PRO 05 14.86.23

- Added Online Vref value transmission
- Added GPS Laptimer management with pre-defined, keyboard input for lap and split times. This function requires GPS 35.13 firmup (included in this package).
- Added Memory Key support (Min. 44 Max 80 different configurations). The memory key can be hot plugged/unplugged even with running engine. Memory key firmup version: 37.05

MXL QM 29.03.04

- Minor changes

Slaves

Version Changes – Additions

DaVid Slave Expansion 22.03

- Minor changes

LCU-ONE (Lambda Controller) 25.09

- No changes

GPS 35.13

- First official GPS Laptimer supporting firmup

October 8th 2007

Firmup_MXLDAVIDGPS_071008.exe

Logger	Version	Changes – Additions
MXL Strada – Pista – PRO – PRO 05	14.86.08	<ul style="list-style-type: none">• CAN line initialization procedure has been improved in order to avoid system lock• Improved "Gear calibration" management• Neutral signal threshold has been set to 2000 counts (about 2.5V)• It is now possible to download data even while acquiring• Speed (GPS speed or Wheel speed) is automatically selected, even for Gear Calculation purpose.• Fixed bug: while using Race Studio 2, it is now possible to use correctly a Revolution Speed sensor on every single speed channel.
MXL QM	29.02.A	<ul style="list-style-type: none">• Minor changes

Slaves	Version	Changes – Additions
DaVid Slave Expansion	22.02	<ul style="list-style-type: none">• No changes
LCU-ONE (Lambda Controller)	25.09	<ul style="list-style-type: none">• Improved Lambda heater management
GPS	35.08	<ul style="list-style-type: none">• Minor changes

May 25th 2007

Firmup_MXLDAVIDGPS_070521.exe

Logger	Version	Changes – Additions
MXL Strada – Pista – PRO – PRO 05	14.83	<ul style="list-style-type: none">• From now on, it is possible to select the number of decimal digit to visualize, even with custom sensors• Fixed custom compute with small negative input value
MXL QM	29.01	<ul style="list-style-type: none">• No changes

Slaves	Version	Changes – Additions
DaVid Slave Expansion	22.02	<ul style="list-style-type: none">• No changes
LCU-ONE (Lambda Controller)	25.07	<ul style="list-style-type: none">• No changes
GPS	35.07	<ul style="list-style-type: none">• No changes

April 27th 2007

Firmup_MXLDAVIDGPS_070427.exe

Logger

	Version	Changes – Additions
MXL Strada – Pista – PRO – PRO 05	14.82	<ul style="list-style-type: none">• Download with motor ON works correctly• Particular configuration (8 chann. with Potentiometers + Lambda) works correctly• MAX RPM marker on the display is resetted every new run David-Slave operates correctly from MXL at the restart

MXL QM

29.01 No changes

Slaves

	Version	Changes – Additions
DaVid Slave Expansion	22.02	No changes

LCU-ONE (Lambda Controller)	25.07	No changes
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GPS	35.07	The informations about the quality of GPS receiver are more clear , true and reliable. The quality levels are: Good -Weak (acceptable) -Search (for solutions)
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January 22nd 2007**Firmup_MXLDAVID_070122.exe**

Logger	Version	Changes – Additions
MXL Strada – Pista – PRO – PRO 05 – Master for DaVid Slave Expansion version	14.63	<ul style="list-style-type: none">• Fixed bug: external shift light management

Slaves	Version	Changes – Additions
DaVid Slave Expansion	22.02	
LCU-ONE (Lambda Controller)	25.04	

January 12th 2007**Firmup_MXLDAVID_070112.exe**

Logger	Version	Changes – Additions
MXL Strada – Pista – PRO – PRO 05 – Master for DaVid Slave Expansion version	14.62	<ul style="list-style-type: none">• Fixed bug: analog channels acquisition frequency• Fixed bug: input for revolution sensor on speeds (1-4) can now accept a max value of 30.000 rpm with a max of 1-4 pulse/rot.

Slaves	Version	Changes – Additions
DaVid Slave Expansion	22.02	
LCU-ONE (Lambda Controller)	25.04	

August 31st 2006**Firmup_MXLDAVID_060831.exe**

Logger	Version	Changes – Additions
MXL Strada – Pista – PRO – PRO 05 – Master for DaVid Slave Expansion version	14.61	<ul style="list-style-type: none">• Fixed bug: RPM does not work properly with DaVid Slave

Slaves	Version	Changes – Additions
DaVid Slave Expansion	22.02	
LCU-ONE (Lambda Controller)	25.04	<ul style="list-style-type: none">• First release as Slave application.

July 21st 2006**Firmup_MXLDAVID_060721.exe**

Logger	Version	Changes – Additions
MXL Strada – Pista – PRO – PRO 05 – Master for DaVid Slave Expansion version	14.60	<ul style="list-style-type: none">• Fixed g-force direction in DaVid display• Fixed negative values with automatic decimals for DaVid Slave• Reorganized the memory of the measures in a circular buffer• Improved DaVid Lambda recognition• Fixed bug causing loss of ECU channels after error gear cal.

Slaves	Version	Changes – Additions
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DaVid Slave Expansion	22.02	
LCU-ONE (Lambda Controller)	25.04	<ul style="list-style-type: none">• First release as Slave application.

June 16th^h 2006 **Firmup_MX LDAVID_060616.exe**

Logger	Version	Changes – Additions
MXL Strada – Pista – PRO – PRO 05 – Master for DaVid Slave Expansion version	14.58	<ul style="list-style-type: none">• Fixed bug that can cause missing ECU-channels in .DRK file

Slaves	Version	Changes – Additions
DaVid Slave Expansion	22.02	
LCU-ONE (Lambda Controller)	25.04	<ul style="list-style-type: none">• First release as Slave application.

June 13th^h 2006 **Firmup_MX LDAVID_060613.exe**

Logger	Version	Changes – Additions
MXL Strada – Pista – PRO – PRO 05 – Master for DaVid Slave Expansion version	14.57	<ul style="list-style-type: none">• Added Slaves management (DaVid, Lambda, GPS) on AIM CAN net.

Slaves	Version	Changes – Additions
DaVid Slave Expansion	22.02	
LCU-ONE (Lambda Controller)	25.04	<ul style="list-style-type: none">• First release as Slave application.

May 26th^h 2006 **Firmup_MX LDAVID_060526.exe**

Logger	Version	Changes – Additions
MXL Strada – Pista – PRO – PRO 05 – Master for DaVid Slave Expansion version	14.55	<ul style="list-style-type: none">• Fixed bug causing problems on the filters.

Slaves	Version	Changes – Additions
DaVid Slave Expansion	22.02	

April 11th^h 2006 **Firmup_MX LDAVID_060405.exe**

Logger	Version	Changes – Additions
MXL Strada – Pista – PRO – PRO 05 – Master for DaVid Slave Expansion version	14.54	<ul style="list-style-type: none">• Changed direction of visualization on display of DaVid Salve accelerometers.

Slaves	Version	Changes – Additions
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DaVid Slave Expansion	22.02	
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March 30th 2006	Firmup_MXLDAVID_060330.exe
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Logger	Version	Changes – Additions
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MXL Strada – Pista – PRO – PRO 05 – Master for DaVid Slave Expansion version	14.53	<ul style="list-style-type: none">• Added management of 4.00 and 6.000 RPM scale.
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Slaves	Version	Changes – Additions
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DaVid Slave Expansion	22.02	
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March 20th 2006	Firmup_MXLDAVID_060320.exe
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Logger	Version	Changes – Additions
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MXL Strada – Pista – PRO – PRO 05 – Master for DaVid Slave Expansion version	14.52	<ul style="list-style-type: none">• Fixed visualization on display of gear coming from ECU.• Added management of ECU Yamaha Codes 314 and 316.
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Slaves	Version	Changes – Additions
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DaVid Slave Expansion	22.02	
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November 15th 2005	Firmup_MXLDAVID_051115.exe
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Logger	Version	Changes – Additions
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MXL Strada – Pista – PRO – PRO 05 – Master for DaVid Slave Expansion version	14.47	<ul style="list-style-type: none">• Fixed conflict between “Gear compute” and CAN handler.• Fixed bug concerning speed configuration for MXL PRO 05 systems. It is now possible to configure the four speed following Race Studio 2 management; to say speed 1 and speed 2 together (both ABS speed sensor or both Normal) and Speed 3 and speed 4 separately.
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Slaves	Version	Changes – Additions
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DaVid Slave Expansion	22.02	
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November 11th 2005	Firmup_MXLDAVID_051111.exe
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Logger	Version	Changes – Additions
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MXL Strada – Pista – PRO – PRO 05 – Master for DaVid Slave Expansion version	14.46	<ul style="list-style-type: none">• Fixed bug concerning gear calculation: after a first NON positive trial gear re-compute does not work unless all stored data are cleared. It is now possible to repeat the trial without being obliged to make data download. At the end of the calculation the display shows on the static string if calculation is ended (OK) or not (NON OK).• Corrected compute of temperature values in °F.• At restart ECU CAN does no more disturb the net.• Neutral gear works also if Neutral potentiometer output is negative.• Race Studio 2 can send a custom welcome message at re-start.
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Slaves	Version	Changes – Additions
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DaVid Slave Expansion	22.02	
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August 23rd 2005**Firmup_MXLDAVID_050823.exe**

Logger	Version	Changes – Additions
MXL Strada – Pista – PRO – PRO 05 – Master for DaVid Slave Expansion version	14.45	<ul style="list-style-type: none">Fixed bug: recorded data recall screen did not exit back properly to the normal screen. Data acquisition did not re-start automatically.
Slaves	Version	Changes – Additions
DaVid Slave Expansion	22.02	

July 11th 2005**Firmup_MXLDAVID_050711.exe**

Logger	Version	Changes – Additions
MXL Strada – Pista – PRO – PRO 05 – Master for DaVid Slave Expansion version	14.44	<ul style="list-style-type: none">Added support for Video Configuration reading for DaVid Slave included in Race Studio 2.20.13Fixed bug: shift lights and alarm leds did not work properly in demo mode.
Slaves	Version	Changes – Additions
DaVid Slave Expansion	22.02	<ul style="list-style-type: none">Added support for Video Configuration reading for DaVid Slave included in Race Studio 2.20.13Modified management of "Video Numeric Objects"Modified Free Time management in lap graphic object: Last lap time is shown for 5 seconds.

June 21st 2005**Firmup_MXL_050621.exe**

Logger	Version	Changes – Additions
MXL Strada – Pista – PRO – PRO 05 – Master for DaVid Slave Expansion version	14.43	<ul style="list-style-type: none">Improved gear compute:<ol style="list-style-type: none">compute needed time is 1/10 than before.Corrected compute in some particular cases like when recording lap and recognition of a gear less than declared (like, for instance when starting engaging second gear for compute lap).Added 1/5 RPM multiply factor: this feature will be available from Race Studio 2.20.13 (coming next week)Added Forecast Lap time management:<ol style="list-style-type: none">First page on display is called "RTSPL" that stays for Real Time Split and shows each 100 m gap between current lap and best lap time.Second page on display is called "FORE" that stays for forecast and is forecast lap time.Forecast and Real Time Split computed using previous lap as reference have been removed.If "Odometer instead of Lap time" checkbox is enabled Real Time Split and Forecast are not shown.

May 24th 2005**Firmup_MXL_050524.exe**

Logger	Version	Changes – Additions
Strada – Pista – PRO – PRO 05	14.33	<ul style="list-style-type: none">Corrected calculated gear number Speed/RPM from ECU.Improved "None" ECU Driver management to save compatibility with very first version.



May 5th 2005

Firmup_MXL_050505.exe

Logger	Version	Changes – Additions
Strada – Pista – PRO – PRO 05	14.32	<ul style="list-style-type: none">• Improved cold juncture management.• Starting from this version onward it is no more necessary analog channels calibration.• Added Lap Time Forecast.• Exceeding of Analog Channels end of scale is no more indicated with “_ _” or with “FS”, but with its real value.

April 7th 2005

Firmup_MXL_050407.exe

Logger	PCB(*)	Version	Changes – Additions
Strada – Pista - PRO	MXL 10	14.23	<ul style="list-style-type: none">• No changes since last firmware version.
PRO 05	MXL 15	14.25	<ul style="list-style-type: none">• Fixed gear visualization.

(*) Printed Circuit Board

March 25th 2005

Firmup4_MXL_050325.exe

Logger	Version	Changes – Additions
Strada – Pista - PRO	14.23	<ul style="list-style-type: none">• Added Prophetic Lap time function.• Battery is visible on one of the analog channels.• Channel on alarm warning message disappears after 5 seconds.

February 17th 2005

Firmup4_MXL_050217.exe

Logger	Version	Changes - Additions
Strada – Pista - PRO	14.22	<ul style="list-style-type: none">• Fixed bug: a filter were applied also when none was provided for.

December 17th 2004

Firmup4_MXL_041217.exe

Logger	Version	Changes - Additions
Strada – Pista - PRO	14.21	<ul style="list-style-type: none">• In addition to firmware updating, FirmUp behaves as follows depending on the kind of installed USB driver:<ol style="list-style-type: none">1. Version 5.22 (up to Race Studio 2.17.18): updates firmware (and possibly booter too), but makes no changes to the driver.2. Version 5.22 [VID = 0471] – Version 10.01 [VID = 0471] (From Race Studio 2.20.01 onward): updates to driver 10.01 (if not already installed and for Windows XP Service Pack 2 only), then updates firmware (and/or booter) to communicate with USB using VID 11 CC• Starting form now it can work properly with VID = 11cc.

December 6th 2004

Firmup4_MXL_041206.exe

Logger	Version	Changes - Additions
Strada – Pista - PRO	14.20	<ul style="list-style-type: none">• Fixed bug: improved gain calibration.

November 16th 2004 **Firmup4_MXL_041104.exe**

Logger	Version	Changes - Additions
Strada – Pista - PRO	14.18	<ul style="list-style-type: none">• No firmware changes since last release.• Support for new USB drivers (10.01) made official; still supports old USB drivers (up to Race Studio 2.17.xx).

November 4th 2004 **Firmup_MXL_041104.exe**

Logger	Version	Changes - Additions
Strada – Pista - PRO	14.18	<ul style="list-style-type: none">• Fixed bug: in some cases the odometer was imprecise.• First lap could be erroneously be considered as BEST LAP.

August 24th 2004 **Firmup_MXL_040824.exe**

Logger	Version	Changes - Additions
Strada – Pista - PRO	14.17	<ul style="list-style-type: none">• Fixed bug: in some cases the thermocouples didn't work.

August 4th 2004 **Firmup_MXL_040804.exe**

Logger	Version	Changes - Additions
Strada – Pista - PRO	14.16	<ul style="list-style-type: none">• Fixed minor bugs concerning "checksum" and data recording.

July 13th 2004 **Firmup_MXL_040713.exe**

Logger	Version	Changes - Additions
Strada – Pista - PRO	14.15	<ul style="list-style-type: none">• Added support for MXL Strada.• When shows odometer instead of lap time is possible to see partial odometer too.• Bug Fixed: pt100 on channel 1 was not converted to °F.

July 2nd 2004 **Firmup_MXL_040702.exe**

Logger	Version	Changes - Additions
Strada – Pista - PRO	14.14	<ul style="list-style-type: none">• Added ODOMETER visualization instead of Lap time.• Added new RPM scales: 14,000 and 18,000 RPM.• Fixed bug concerning filters to sample up to 500 Hz.• Fixed minor visualization bugs.

May 6th 2004 **Firmup_MXL_040506.exe**

Logger	Version	Changes - Additions
Strada – Pista - PRO	14.13	<ul style="list-style-type: none">• Added support for "GEAR channel with NEUTRAL signal".• Fixed bug: CH_1 Alarm did not work if RPM alarm was disabled.• Fixed bug: when the gauge triggered a lap, lap time was displayed but the gauge did not step back to the previously displayed measurements. Now lap time is displayed for 10 seconds.

May 3rd 2004

Firmup_MXL_040503.exe

Logger	Version	Changes - Additions
Strada – Pista - PRO	14.12	<ul style="list-style-type: none">• Fixed bug: RPM bargraph was locked at 20,000 RPM.• Fixed minor bugs concerning gear channel sampled from “on-board” gear sensor (very rare).

April 29th 2004

Firmup_MXL_040429.exe

Logger	Version	Changes - Additions
Strada – Pista - PRO	14.11	<ul style="list-style-type: none">• Improved ECU interface.• Added feature: managing of LAP / SPLIT beacon transmitters.• The RPM alarm led is always switched on when you reach an RPM value greater than the threshold value.• During download, the display shows “DOWNLOADING DATA”.• Fixed minor visualization bug in DEMO mode.• Fixed bug: the static string overwrote the alarm warning inside the text bar.

April 19th 2004

Firmup_MXL_040419.exe

Logger	Version	Changes - Additions
Strada – Pista - PRO	14.10	<ul style="list-style-type: none">• Fixed memory management bug: sometimes data were not stored inside the gauge’s memory.• Added feature: when an alarm led switches on, the channel name is displayed inside the gauge’s text bar.• Added feature: the gauge is able to display also potentiometers and lambda sond.• Fixed split times management.

March 26th 2004

Firmup_MXL_040326.exe

Logger	Version	Changes - Additions
Strada – Pista - PRO	14.08	<ul style="list-style-type: none">• Added maximum RPM alarm.• Added management up to 8 custom sensors.

March 22nd. 2004

Firmup_MXL_040322.exe

Logger	Version	Changes - Additions
Strada – Pista - PRO	14.07	<ul style="list-style-type: none">• Improved gear calculation algorithm.

March 19th. 2004

Firmup_MXL_040319.exe

Logger	Version	Changes - Additions
Strada – Pista - PRO	14.06	<ul style="list-style-type: none">• Speed value is shown in the upper right corner of the display.• Fixed minor visualization bugs.



March 18th. 2004 **Firmup_MXL_040318.exe**

Logger	Version	Changes - Additions
Strada – Pista - PRO	14.05	<ul style="list-style-type: none">• Fixed bug concerning speed calculation.

March 17th. 2004 **Firmup_MXL_040317.exe**

Logger	Version	Changes - Additions
Strada – Pista - PRO	14.04	<ul style="list-style-type: none">• First official version. All previous versions have to be considered as “prototypes”.