



ADR Firmware Update

ADR Plus Version 5.40 Firmware

Peek Traffic is pleased to announce the release of the Version 5.40 firmware for the ADR Plus Product Line. This update includes new data logging functions, support for the StopWatch Plus add-in module, improvements to the battery voltage/system current display, and addresses issues discovered in previous firmware releases.

Product **Firmware for the ADR Plus Product Line**
Version.....**Version 5.40**
Release Date **August 30th, 2004**

Product Compatibility

This firmware upgrade is compatible with all **ADR-1000 Plus**, **ADR-2000 Plus**, and **ADR-3000 Plus** automatic data recorders. This firmware will *not* work with the older ADR-1000, ADR-2000, and ADR-3000 units (or, in other words, non-“Plus” units.) This update is not typically performed as a field upgrade. Normally, it is installed during manufacture or during factory repair work. Version 5.40 of the firmware can be installed with one of the following language files installed: American, American/Spanish, American/Canadian French, or International English.

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This product is compatible with **TOPS™**, Peek Traffic’s Windows-based ADR data retrieval software. The update requires version 3.0.0 or higher of the TOPS software. ADR Version 5.40 firmware is also compatible with version 1.0 and higher of Peek’s **Z-Link** ADR data retrieval software for the Palm™ OS.



Important If the ADR Plus device is being used with a WIM card, performing the Version 5.40 upgrade will also require an update to the WIM card firmware. The card can work without this update, but the full WIM features of the 5.40 ADR firmware will not be available. The WIM firmware update can only be performed at a Peek manufacturing facility. In order to return the WIM card for this update, contact your local Peek Traffic distributor. For the nearest Quixote Traffic distributor in your area, call 1-800-245-7660.

Information furnished by Peek is believed to be accurate and reliable, however Peek does not warranty the accuracy, completeness, or fitness for use of any of the information furnished. No license is granted by implication or otherwise under any intellectual property. Peek reserves the right to alter any of the Company's products or published technical data relating thereto at any time without notice.

Protocol Support

This version of the firmware supports the standard Peek ADR protocol. It can be used with any software package that is compatible with this protocol.



Note The Version 5.40 firmware for ADR Plus devices may no longer be fully compatible with TDP.

Support for the StopWatch+ Add-on Module

Another new feature in the Version 5.40 firmware is support for Peek Traffic's StopWatch+ add-on module for the ADR 3000 Plus. StopWatch+ expands the functionality of an ADR-3000 Plus; retaining the full historical data collection features of the standard ADR-3000 Plus, but also adding simultaneous real-time data gathering capabilities. These new functions can be used to assess the performance of roadway systems during emergency and disaster situations. For more information about StopWatch+, including how to purchase the package, contact your nearest Quixote Traffic distributor. For the nearest distributor in your area, call 1-800-245-7660.

Upgrading the Firmware

To upgrade an ADR Plus unit in the field via a direct connection, you will need the following items:

- Notebook or portable PC with Peek's **ADR Firmware Upload Utility** installed
- DB-9 to CPC-8 direct-connect serial cable (p/n 81-321) (**ADR-1000 Plus and ADR-2000 Plus**)
or
DB-9 to DB-9 direct-connect serial cable (p/n 81-296A) (**ADR-3000 Plus**)
- the ADR Version 5.40 firmware update file:

Table 1 — Additional documentation available for TOPS and related hardware

Firmware version	Filename
v5.4 firmware - American	V540-A_97-508-D.bin
v5.4 firmware - American / Spanish	V540-AS_97-508-A.bin
v5.4 firmware - American / Canadian French	V540-AC_97-508-E.bin
v5.4 firmware - International English	V540-E_97-508-B.bin



Note Some ADR-1000 units may not be upgradeable in the field due to the lack of a motherboard. This was an optional configuration on some units. Please contact Customer Support for additional guidance on updating these units.

If you need additional assistance to perform an ADR Plus firmware update, contact the Peek Traffic Customer Service Center using the contact information provided on page 5 of this bulletin.

Enhancements

Several new features and functions have been added to the ADR in firmware version 5.40. Some of these are core functions while others require additional hardware (such as the WIM functions.)

Table 2 – New features included in Version 5.40 of the ADR Plus firmware

Feature	Description	ECR#
Improvements to the ADR user interface over Comms	When interacting with the ADR firmware over a modem connection, the interface could previously enter states where Vehicle Monitoring would not turn on, or where the hardware interface would not activate. The methods used during remote interface manipulation were enhanced to prevent these states from occurring. This improves the operation of ADR Plus units with TOPS.	297
StopWatch+ firmware support	Added support within the ADR Plus firmware for the StopWatch add-on module. For additional information about purchasing StopWatch, contact your local Quixote Traffic distributor.	1112
Multiple enhancements for the Weigh-in-Motion module	The new firmware allows an ADR Plus to perform these functions for a WIM card: <ul style="list-style-type: none"> • Modify offsets through the user interface • Modify offsets through the user interface • Modify algorithms through the user interface 	1115
Generation of signature files from SW58-P loop inputs	This feature allows a user to balance the sensors inputs in any given array, but particularly for the ADR WIM module. Once a signature file has been recorded from a vehicle passing over the array, it can be used to adjust the sensitivity and offset in order to more closely balance the signals from one sensor to another.	982
Default ON for Daylight Savings Time	All U.S. based ADR units now default to have the Daylight Savings Time feature turned ON.	547

Issues Addressed in this Release

The following are known issues that existed in previous releases of the ADR Plus Firmware which have been rectified in Version 5.40:

Table 3 – Issues fixed in this release

Issue	Resolution	ECR #
In congested traffic, Version 4.6 firmware began reporting excessively long vehicles moving at very slow speeds using the loop-loop and loop-axle-loop sensor arrays.	This was caused by a bug in the firmware which showed up when multiple vehicles entered the same arrays, and the data from the second vehicle was being used in the calculation for the first vehicle's length and speed. This has been corrected in the v5.40 firmware.	169
Loop boards getting reset ON after an hour	When SL58-P and SL74-P boards were installed, but not being used, they were configured to be OFF. However, after every hour, the boards were being reset ON as part of the ADR's normal hourly status test. The hourly test now checks to see if a board is intended to be OFF before resending configuration to it and triggering it to turn ON.	1111
When multiple studies have been configured for an ADR Plus device, and a study with 3 headings is followed by another study, heading 3 of the first study was overwritten by the bin parameters of the following study.	This is a memory management problem that has been fixed in the v5.4 firmware.	528
ADR2000 and ADR-3000 units were displaying an incorrect current reading in the Hardware Monitor screen.	The analog to digital conversions in the firmware were modified to give a more consistent and accurate result. Also note that when using an external meter to measure current and voltage, the ADR should not be in the main screen (flashing 'Peek Traffic') or in the Check Hardware screen, as these both cause the voltage and current readings to fluctuate.	826
Vehicle monitor, Event monitor, and Count monitor not turning off via UI over Comms	When users were connected to the ADR UI remotely via the modem and attempted to turn off either the Vehicle monitor, Event monitor, or Count monitor, they would not deactivate. This issue has been corrected.	1120

Additional Guidance

These are some other sources of information on the ADR Plus series of Automatic Data Recorders.

Documentation

These documents are available for the ADR Plus products and other related products available from Peek Traffic.

Table 4 — Additional documentation available for ADR Plus products and related hardware

Document	Part Number
ADR Plus User's Manual	99-133
StopWatch+ Release Notes	99-348
TOPS Installation Manual*	81-896
TOPS Operating Manual*	81-897
TOPS v3.6 Release Notes*	99-291
ADR-1000/ADR-2000 Getting Started Guide	119c/507
ADR-750 Getting Started Guide	99-221

Technical Support

In order to receive customer support on your ADR unit, you must register it with Peek Traffic. This contact information will connect you with the technical support staff of Peek Traffic Corporation, should you require additional help concerning the ADR Plus Product Line.

Peek Traffic Corporation - Customer Service Center

2511 Corporate Way
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* The TOPS Installation CD also includes copies of these documents in PDF format.