



## Firmware Release Notes

## Survey/GIS

Date: September 10, 2007  
Product: Z-Max.Net  
Subject: Firmware Release Maintenance Version MD05  
Number: ZMax2007\_04 revA

### Introduction:

The Z-Max.Net maintenance version MD05 is a no-cost firmware update for the Z-Max receiver.

It fixes some firmware defects that have been reported by users, dealers and Magellan Navigation Technical Support staff.

Z-Max.Net firmware version MD05 requires the use of FAST Survey version 2.0.2 (see appropriate Release Note) to access full RTK network environment functionality.

### Upgrade procedure

The upgrade procedure is as follows:

1. copy ZA00MD05.BIN file from your hard disk on an empty SD-card (preferably 32 or 64 MB). ZA00MD05.BIN file can downloaded from \Land Survey\Z-Max\Firmware\MD05\ folder of [ftp.magellangps.com](http://ftp.magellangps.com)
2. Verify the Z-Max receiver is powered off
3. Insert the SD-card into the Z-Max receiver
4. We recommend attaching the Z-Max receiver to an external power source for uploading firmware.
5. Plug-in your communication module: MD05 includes a communication module firmware upgrade
6. Press the up-arrow button for a few seconds while switching the Z-Max receiver on
7. Firmware upgrade is divided in 5 stages corresponding to the different parts of the Z-Max receiver. The upgrade process takes about 1 minute.
8. At the end of the upgrade process, the Z-Max.Net receiver reboots automatically and ends in SYSINFO menu. Verify the version reference "VER:MD05" using the embedded keyboard/display. Alternatively, send the commands \$PASHQ,GETVER and \$PASHQ,VERSION. Communication module F/W version must be CV12.
9. If you have several communication modules, redo all the previous stages with every communication module plugged in.
10. Turn off the Z-Max receiver, depress the green power button until the word "re-init" appears on the front panel and let go of the power button.

Note:

- some stages may be skipped if no battery module (stage 1) or no communication module (stage 2) is plugged-in.

- During upload process, step#2 is sometimes skipped. To bypass the problem, send via Fast Survey , the following Command: \$PASHS , UPLOAD , COMM
- Re-initialization process clears all internal and data card memory and prepares the SD card for logging data. Preparing the card for logging takes approximately 3 minutes during which the data card cannot be accessed. Depending on the stage of data card preparation and which buttons you might press, the receiver will display alert messages such as “No data card found” or “Data card error: Access” to remind you that you must wait 3 minutes before logging data. These messages indicate that re-initialization is proceeding normally. You may at any time press the red Cancel button on the front panel to remove these alert messages, but you should wait until the alert messages are no longer displayed (approximately 3 minutes) before logging data to the card.

## New features

None

## Resolved Problems

From MD00 / MD02

1. RTCM2.3 takes full advantage of RTCM2.3-specific messages (Message 23 and 24)
2. SBAS status is now systematically OFF by default in RTK and Post-processing modes. This restores 2 channels to track GPS satellites and improve RK performance.
3. 12-digit IP address are now supported in Direct-IP or NTRIP mode
4. PacificCrest radio Channel tables are not erased anymore when uploading MD02. This version can be used when operating with a UHF PacificCrest.

From MD00

1. Operation in FKP networks using GNSMART Caster from Geo++, in NTRIP protocol with internal G18/G20 modem, now provides a stable correction age
2. Source table uploading from some NTRIP caster is corrected
3. Rate error rate in CMR+ message format is now at a standard error rate
4. All numbers and letters in NTRIP password are now accepted

From MC00

1. Automatic restart of Magellan radio after power cycling
2. PDL radio port baud rate saving for 19,200 bps
3. Several TRAP 700 issues resolved
4. Front panel harmonization and localization
5. Alert messages now tell the user when the data card is still being prepared for data logging

From MB00

6. Antenna parameters are now saved under THA-Z-MAX
7. FKP correction (\$PASHS,CPD,NET) is now fully operational

## Known Issues

1. With previous Z-Max firmware versions there were some complaints that the user could start recording a session before the data card was mounted (i.e., “prepared”) for recording. Firmware version MD05 displays alert messages such as "No data card detected" and "Data card error: Access" until the data card is fully prepared for logging. As long as the user waits for these messages to clear (approximately 3 minutes), they may be ignored or removed from display by pressing the red Cancel button on the front of the receiver.
2. When a USB cable is connected to USB port and active, for example when downloading through USB port, external serial port A is inactive.
3. Receiver TRAP 700 or resets. In rare occasion, receiver will display TRAP700 message scroll on front panel or power cycle without reason. This is a result of illegal instruction within firmware. While there has been many attempts to eliminate this problem, this problem may still pop up occasionally.
4. If a session is programmed to start before day roll over and finish after day roll over, and if there is a power cycle after the day roll over but before the session is completed, the session does not restart automatically after the power cycle.
5. Power supply through power A or port B: If using internal battery, no power will be available on port A or port B. Power is only available if an external power greater than 9V is applied.
6. During upload process, step#2 is sometimes skipped. To bypass the problem, send via Fast Survey , the following Command: \$PASHS , UPLOAD , COMM
7. When used as a rover against a RTCM3.1 base, Z-Max.Net may present operational anomalies.
8. When controlling / monitoring a Magellan UHF base with MobileMapper CE in BlueTooth, and switching back and forth from rover to base, the base may not be monitored anymore. A re-initialization of the base might be necessary.
9. Configuration of a PacificCrest 35W Transmitter from FAST Survey may not be always successful. This anomaly does not exist with 2W transmitters.

## Recommendations

1. Operate the Z-Max.Net receiver in “FST,ON” mode (default value of the receiver) when operating in Rover Configuration using CMR/CMR+ corrections.
2. Clear receiver memory once a week, either through front panel power button or \$PASHS,INI command. i.e., by turning off the receiver and then depressing the ON button until “re-init” appears on the LED display. As indicated by data card status messages flashing on the LED display, you must wait approximately 3 minutes for the data card to be properly prepared for session logging.
3. Never take the SD Card out of the receiver while recording data.
4. Reformat every 2 weeks the SD-card through the initialization process.