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# NADSBox

## Firmware Version 1.05 Release Notes



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## Introduction

This document describes the bug fixes and feature enhancements and changes implemented in the NADSBox firmware version 1.05, filename “nads105.nfu” released 12/29/08. To upgrade the NADSBox using this firmware, use the command line ‘flash’ command as described in the “Upgrading the Firmware” section of the NADSBox User’s Guide.

## Summary

Below is a quick summary of the bug fixes and feature modifications in this release.

NADSBox Firmware v1.05 Change List
1. Fixed timing race condition with TPDD protocol “Read” request.
2. Fixed ‘boot’ command so it can accept a “0Dh 0Ah” termination sequence.
3. Added ability to issue CTRL-E at the end of a command to disable echo.
4. Added a debug option to the ‘config’ command to enable debug printing.
5. Added SD Protocol error reporting via the ‘config’ debug option.
6. Fixed a bug with the TPDD protocol ‘GetNextDir’ request.
7. Modified the ‘trace’ command default to save the last 1K of trace data.
8. Added ‘trace’ options o select saving the first or the last 1K of data.
9. Fixed the ‘copy conb’ command.
10. Modified the ‘flash’ command to show version numbers as “1.05” vs. “1.5”.

Table 1. NADSBox Firmware v1.05 Change List

## Detailed Descriptions

### **1. Fixed TPDD Protocol “Read” request**

There was a bug in the processing of the TPDD “Read” request that would sometimes cause the first two bytes of the NADSBox’s response packet to be transposed. This situation was purely random based on internal timer events vs. the timing of transmission of the response packet, but usually occurred when transferring large files or when tagging and transferring multiple files from TS-DOS.

The result of this bug was that TS-DOS and other clients would receive a response packet with the result code and the length byte swapped, causing random behavior. The typical behavior from TS-DOS was frequent “Communication Error” messages.

## **2. Fixed 'boot' Command**

The 'boot' command had a bug where it would not allow the command syntax to be terminated with a 0Ah character. This is different behavior from the other commands and forced the 'bootst.ba' program to invoke the 'boot' command by terminating the PRINT #1 statement with "CHR\$(13)". The command now accepts termination with or without a 0Ah character.

## **3. Added CTRL-E at end of command**

When performing a clear text capture on the Model T using the NADSBox 'type' command, it is desirable to suppress unwanted carriage returns and ">" prompt messages. Version 1.0 of the firmware allows disabling the echo for an entire command line sequence, however this means the user received no feedback as the command was being typed. This release adds the ability to issue a CTRL-E as the last byte before typing "Enter", allowing the command to be echoed for user feedback.

A CTRL-E can still be sent before issuing the command as before. The CTRL-E character *must* be either the first character of the command or the last character prior to sending "enter" or it will be interpreted as part of the command and cause a syntax error.

## **4. Added 'config' debug option**

A 'debug' option was added to the 'config' command to allow enabling of debug message printing. As with all 'config' options, the setting will be saved to the NADSBox's internal data EEPROM and restored when the unit is powered on. This option should only be turned on for debug purposes as the asynchronous debug messages can interfere with normal operation. The syntax for the command is:

config debug=on      or      config debug=off

## **5. Added SD Protocol Error Reporting**

There was one SDHC card that was reported to be inoperable with the NADSBox (a PNY 4GB Ultra HIGH SPEED HIGH CAPACITY, part P-SDHC4G4-SF. To help try to resolve this incompatibility, this release adds debug printing of SD protocol errors encountered when initializing the SD/SDHC card. When the config debug option is enabled, the firmware will asynchronously print any SD protocol error encountered when the card is inserted.

When a card is inserted, the firmware will sometimes display one or two messages while the card's power is stabilizing. This is not indicative of a problem. If there is a real issue, the firmware will repeatedly send error messages every 4 seconds or so.

**6. Fixed “GetNextDir” request**

When performing a directory listing, the client sends repeated “GetNextDir” requests to obtain the names of each file in the directory. When the end of the list is encountered, the NADSBox sends a response with an empty filename. In version 1.0, if the end of the list was encountered and the client sent a subsequent “GetNextDir” request, the NADSBox would improperly start sending responses containing filenames again. With this release, the NADSBox will now properly continue to send a response with an empty filename.

This issue did not manifest itself in any of the existing clients (TS-DOS, etc.) because they did not continue sending “GetNextDir” requests once the NADSBox had send the empty response packet.

**7. Modified ‘trace’ command default behavior**

The ‘trace’ command now defaults to a mode that causes it to continuously overwrite data in the trace buffer, thus saving the last or “most recent” 1K of trace data. While debugging several of the issues fixed by this release, it was found that access to the “most recent” trace data was more valuable than access to the first 1K of data.

**8. Added ‘trace’ options to control data saved**

Two options have been added to the ‘trace’ command to select between saving the first 1K of data received or saving the “most recent” 1K of data. Setting the trace mode to “single” will cause the trace command to capture a single buffer of data and then stop when it is full. Setting the “cont” mode will cause it to perform continuous capture or “most recent” mode. The mode setting will remain in effect until modified or until cycling the NADSBox power. The default mode is continuous. The command syntax is:

```
trace single
trace cont
```

**9. Fixed the ‘copy conb’ command**

In version 1.0, the ‘copy conb’ command did not properly write all data to the destination file. This was caused by a bug that was introduced and undetected while modifying the CRLF expansion logic for the ‘copy con’ version of the command. The ‘copy conb’ command now properly writes all data to the file, unmodified.

**10. Modified version reporting from ‘flash**

This release modifies the version reporting text of the ‘flash’ command to show minor version numbers that are less than 10 as a two digit number. While performing an upgrade to this version, the ‘flash’ command will report the version as “1.5”. Subsequent upgrades will be reported as “1.05”, “1.06”, etc.