



It may be a requirement (with a population of installed units) to remotely change the firmware that is installed on the NavPad. To facilitate this process Storm has created a batch file that can be integrated within your Terminal Management System. This comes in a .zip file together with other files that you will need.

The batch file is : **IBM_DOWNGRADE.BAT**

You will also need the relevant firmware file included in the .zip file
In this case the firmware file is called 000-IC-169-EZKV06-DWG.txt

When you run the batch file (on the local machine) it then launches NavPadDowngrade.bat, which then

- Extracts a copy of the current configuration i.e. version number, serial number etc.
- Updates the NavPad with the specified firmware.
- Reloads the serial number / configuration
- If for any reason the process fails then the script will try to re-load firmware & reconfigure from backup file.

Procedure

1. Extract the zip file contents to a local file.
2. Run **IBM_DOWNGRADE.BAT** within its folder to downgrade the NavPad to 000-IC-169-EZKV06-DWG.txt
3. Wait for the script to complete.

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NavpadDownloaderUtility

The NavpadDownloaderUtility is used to retrieve the current configuration of the device and to download the firmware to the device.

1. To retrieve current configuration use following parameters:

```
NavpadDownloaderUtility -p <PRODUCT NAME> -v
```

-p <PRODUCT NAME> where PRODUCT NAME is always NAVPAD
-v Retrieves current configuration of unit

If successful the output will be :

```
C:\>NavpadDownloaderUtility.exe -p NAVPAD -v  
Navpad Downloader Console Utility Version V1.0
```

```
Vendor Id:2047  
Product Id:9bf  
Device manager: found device with VID: 2047 PID: 9bf  
called constructor 1  
vid 8263 pid 2495  
vid 2047 pid 9bf  
manufacture Storm-Interface.com  
Connected  
Connected to NAVPAD - VID 2047 PID 9bf
```

Device Information before firmware upgrade:

```
Buzzer 1  
Buzzer Period 1  
Led Brightness 6  
Navpad has 8 keys  
Keypad Table 0  
Keypcode values :  
0 72 0 6c 0 73 0 70 0 71 0 6d 0 6e 0 6f 0 6a 0 6b  
Version Number V6.0  
Serial Number 12345678
```

2. To download firmware to device:

```
NavpadDownloaderUtility -p <PRODUCT NAME> -f <filename> -r <NUMBER>
```

-p <PRODUCT NAME> where PRODUCT NAME is always NAVPAD
-f <Filename> Where filename is firmware file.
-r <NUMBER> Where NUMBER is how many retries to attempt before failure.

NavpadUtility

The NavpadUtility is used to set number of configuration parameters and also to compare settings of device before upgrade and after upgrade. It uses the files `ibm_before_downgrade.txt` and `ibm_after_downgrade.txt`.

1. To set main configuration parameters, number of keys and serial number:

```
NavpadUtility -k <KEYS> -n <SERIAL NO>
```

-k < KEYS > Sets number of keys for Navpad (it can have 5, 6 or 8)
-n <SERIAL NO> Sets the serial number of Navpad.

2. To compare before and after upgrade files.

```
NavpadUtility -c <AFTER UPGRADE FILENAME> <BEFORE UPGRADE FILENAME>
```

Note: Files should be in format as generated by NavpadDownloaderUtility.

Script Usage

Instruction on how to use the script:

NavpadDowngrade filename firmwareFile

Where filename: This filename will be used to store all configuration data. The script will create following text (.txt) files.

Filename_before_downgrade.txt
Filename_after_downgrade.txt
Filename_backup.txt

Filename_before_upgrade.txt – This hold configuration data before upgrade.

Filename_backup.txt – This is copy of above and it is used when the upgrade process fails, to recover the serial number and number of keys.

Filename_after_upgrade.txt – This holds configuration data after upgrade.

Where firmwareFile – This file is the firmware file that will be used to upgrade the NavPad.

When the script is executed each step will be highlighted in Yellow e.g.

```
=====  
== STEP 3 Retrieve configuration data after upgrade ==  
=====
```

and if NavPad has been upgraded successfully then a message in Green will displayed.

```
=====  
== PASSED - KEYPAD HAS BEEN SUCCESSFULLY UPGRADED ==  
=====
```

If upgrade process is unsuccessful then the final message will be displayed in Red:

```
=====  
== FAILED TO UPGRADE FIRMWARE ==  
=====
```



Examples:

1. Successfully downgraded Navpad

C:\NavpadDowngrade.bat navpadConf 000-IC-169-EZKV06-DWG.txt

```

=====
== STEP 1 Retrieve configuration data before downgrade ==
==          KIOSKNAME K100050          ==
=====

```

1 file(s) copied.

Serial Number 170312345678

170312345678

```

=====
== STEP 2 Upgrading keypad using 000-IC-169-EZKV06-DWG.txt ==
=====

```

Navpad Downloader Console Utility Version V1.0

Vendor Id:2047
 Product Id:9bf
 Device manager: found device with VID: 2047 PID: 9bf
 called constructor 1
 vid 8263 pid 2495
 vid 2047 pid 9bf
 manufacture Storm-Interface.com
 Connected
 Connected to NAVPAD - VID 2047 PID 9bf

Device Information before firmware downgrade:

Buzzer 1
 Buzzer Period 1
 Led Brightness 9
 Navpad has 6 keys
 Keypad Table 0
 Keycode values :
 0 72 0 6c 0 73 0 70 0 71 0 6d 0 6e 0 6f 0 6a 0 6b
 Version Number V6.0
 Serial Number 170312345678

Please wait, starting BSL
 Successfully started BSL
 Dispose



Dispose 1
Dispose 2
Dispose 3
Dispose 4

BSL Scripting application 1.06
The local time is: 12:20 on 06.10.2017

Password Sent Successfully
Sending RAM BSL
Sending 000-IC-169-EZKV06-DWG.txt
Firmware Sent
Verifying memory
Memory successfully verified
Resetting Device...
Starting application
called constructor 1
called constructor 1
vid 8263 pid 2495
vid 2047 pid 9bf
manufacture Storm-Interface.com
Connected

=====

Device Information after firmware downgrade:

Buzzer 1
Buzzer Period 1
Led Brightness 9
Navpad has 5 keys
Keypad Table 0
Keycode values :
0 72 0 6c 0 73 0 70 0 71 0 6d 0 6e 0 6f 0 6a 0 6b
Version Number V6.0
Serial Number

=====

Restore all the values back
Successful in setting number of keys 6
Successful in setting serial number of keys 170312345678
vid 8263 pid 2495
vid 2047 pid 9bf
manufacture Storm-Interface.com
Connected
Successful in SetLedLevel 9
Successful in SetBuzzer 1
Successful in SetBuzzerPeriod 1



Successful in SetKeypadTable 0
Successful in LoadCodeTable
Successful in write to flash
Read device info after restoring the values

=====

Device Information after values restored:

Buzzer 1
Buzzer Period 1
Led Brightness 9
Navpad has 8 keys
Keypad Table 0
Keypcode values :
0 72 0 6c 0 73 0 70 0 71 0 6d 0 6e 0 6f 0 6a 0 6b
Version Number V6.0
Serial Number 170312345678

=====

Dispose
Dispose 1
Dispose 2
Dispose 3
Dispose 4
Dispose
Dispose 1
Dispose 2
Dispose 3
Dispose 4

=====

== STEP 3 Retrieve configuration data after downgrade ==

=====

=====

== STEP 4 Compare result of before downgrade and after downgrade ==

=====

Matched Buzzer 1
Matched Buzzer Period 1
Matched Led Brightness 9
Matched Navpad has 8 keys
Matched Keypad Table 0
Matched 0 72 0 6c 0 73 0 70 0 71 0 6d 0 6e 0 6f 0 6a 0 6b
Keypad has been successfully upgraded to Version Number V6.0
Matched Serial Number 170312345678

=====

== PASSED - KEYPAD HAS BEEN SUCCESSFULLY UPGRADED ==

=====

2. Unsuccessful upgrade process

```
=====  
== FAILED TO UPGRADE FIRMWARE ==  
=====
```

Change History

Instructions for	<u>Date</u>	<u>Version</u>	<u>Details</u>
Downloader Utility	15 Aug 24	1.0	First Release (split out from Technical Manual)

Remote Firmware Update	<u>Date</u>	<u>Version</u>	<u>Details</u>
NavpadDownloaderUtility	08 Sep 17	5.0	New Release