



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
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 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 KI00050 ==
=====
```

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  
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

=====

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