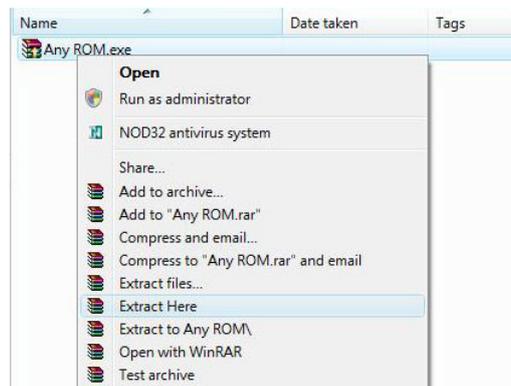


ROM Donalds

Before starting XP users run “[CmdHerePowertoySetup - XP.exe](#)” this is found in the “*ROMDonalds*” folder, **PLEASE ALSO PRINT THIS MANUAL AND FOLLOW IS SLOWLY AND CAREFULLY!!!**

A) Extracting & Dumping a ROM

A.1) Use WinRAR to extract any ROM, right click the ROM exe and select “*Extract Here*”



When the extraction has completed you will find 2 new files:

Name	Date taken	Tags	Size
Any ROM.exe			44,975 KB
RUU_signed.nbh			61,481 KB
RUUWrapper.exe			992 KB

A.2) Copy “*RUU_signed.nbh*” to “*01-NBHextract*” folder.

Name	Date modified	Type	Size
Drag to Here.bat			
NBHextract.exe			
RUU_signed.nbh			

A.3) In “*01-NBHextract*” click and drag “*RUU_signed.nbh*” to “*Drag to Here.bat*”



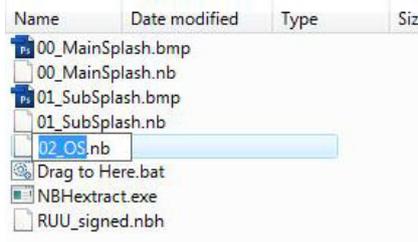
Wait for process to finish and press a key when prompted.

Name	Date modified	Type	Size
00_MainSplash.bmp			
00_MainSplash.nb			
01_SubSplash.bmp			
01_SubSplash.nb			
02_OS.nb			
Drag to Here.bat			
NBHextract.exe			
RUU_signed.nbh			

Please note that from now on when drag and drop is mentioned, this is what has to be done, screenshots for every time it is performed will not help more.

ROM Donalds

A.4) When finished rename “**_OS.nb” to just “OS.nb” (This doesn’t have to be 02_OS.nd can be any name)



A.5) **COPY** “OS.nb” to “02-Dump” folder.

A.6) In “02-Dump” click and drag “OS.nb” to “Dump.bat” and press a key when prompted wait for process to finish.

You have now successfully dumped your ROM.

B) Editing the Dump Folder

(For adding OEM’s & CAB’s read through to Section D, make sure understanding everything)

You will now have 2 new items in the “02-Dump” folder, “dump_MemoryMap.txt” and a folder called “dump”

There are two things to note here:-

- The folder called “dump” = All **Files** + **Modules** in the ROM
- “dump_MemoryMap.txt” is where each **Module** is found in the ROM

You can now edit the dump folder as you wish, if you want to replace or add files, that’s easy, if you want to put in something that is already there as a module you have to delete the module and put it in as a file, re-creating modules is not possible i.e. you cannot put your OEM package into a folder of your choice.

NOTE: - MODULES ARE FOLDERS, FILES ARE JUST NORMAL FILES (JUST SO THE DISTINCTION BETWEEN THE TWO HAS BEEN MADE)

The “dump_MemoryMap.txt” can’t be changed, not easily so don’t bother modules can only be deleted and files can be added/deleted/changed etc

For example, if you find that a ROM has a file explorer that you don’t like and you want to change the file explorer to one you prefer from another ROM, follow part A and dump the ROM, take the files you need, delete the one you don’t want from the “dump” folder and add your new one. Personally that is probably the only thing I will ever want to edit in the “dump” folder.

If you want to edit this more, no-one can really tell you how to do this, that’s the part of cooking you can’t learn the methods etc are easy it’s the knowing what to do and having the patience to tweak that makes a cooker and the same for the Registry, unless you are adding CAB’s or OEM Software, this is covered in the next section.

ROM Donalds

C) Extracting and Recompiling the Registry

PLEASE READ AND UNDERSTAND THIS AND THE NEXT SECTION BEFORE TRYING THIS!!

Firstly it is best to understand the method of how to convert the registry hives from “*default.hv*” and “*user.hv*” to “*boot.rgu*”, the conditions needed for editing (NOT how to edit), and how to convert the “*boot.rgu*” file back into the “*default.hv*” and “*user.hv*” files.

Editing the boot.rgu can tweak certain values in windows you DONT want to mess with it unless u know what you’re doing (Unless you are adding a CAB or OEM package).

You will need to switch between the “*dump*” folder in “*02-Dump*” and “*03-Registry*” folder for this section.

In the “*dump*” folder there are two files, “*default.hv*” and “*user.hv*” these are the two registry hives.

What to do for “*default.hv*” will be discussed as it is the main and most used, but it’s the same method for “*user.hv*” also.

C.1) Copy “*default.hv*” file from the “*dump*” folder to the “*For default.hv*” folder

(NOTE: - FOR “*user.hv*” COPY TO THE “*user.hv*” FILE FROM THE “*dump*” FOLDER TO THE “*user.hv*” FOLDER IN “*03-Registry*”)

C.2) In the “*For default.hv*” folder in “*03-Registry*” click and drag “*default.hv*” to “*default_hv__boot_rgu.bat*” this will read the hive and convert it to text format.

C.3) There will now be a new file “*boot.rgu*” Open the notepad and drag “*boot.rgu*” into the window and “*boot.rgu*” will open; this is where you will edit the values that need changed, this will be discussed in the next section.

C.4) **SAVE AS - THIS IS VERY IMPORTANT!!** You must do “*Save As*” and select the type as “*Unicode*” The reason for saving as “*Unicode*” is because “*rgucomp*” (the tool used by the bat files) can only read “*Unicode*” not “*ASCII*” (the standard text file format)

C.5) When you have it saved as “*Unicode*” with the above additions + all your changes you can delete “*default.hv*” file from the “*For default.hv*” folder

C.6) Click and drag the “*boot.rgu*” file to “*boot_rgu__default_hv.bat*” this will then create a new “*default.hv*” file. Copy the new “*default.hv*” and paste it into the “*dump*” folder in “*02-Dump*” this will replace the old “*default.hv*” file.

In the next section I will discuss what was mentioned in (C.3): -

“...this is where you will edit the values that need changed, this will be discussed in the next section”

ROM Donalds

D) Editing the Registry (For CAB's and OEM Additions)

When you are at “**STEP 3**” of Section “**C**” and you have the “**boot.rgu**” file open in notepad, these are the steps for adding in a new OEM's or CAB's. OEM's will be covered first.

Add “**REGEDIT4**” to the beginning of the file, keeping a blank line between it and the registry entries. Before:

```
boot.rgu - Notepad
File Edit Format View Help

[HKEY_CLASSES_ROOT\CLSID\{71D2DA40-5BE7-411D-976E-746238451234}]
@="Cyberon SAPI"

[HKEY_CLASSES_ROOT\CLSID\{71D2DA40-5BE7-411D-976E-746238451234}\InprocServe
@="VsrSD_COM.d11"

[HKEY_CLASSES_ROOT\CLSID\{2C0E9904-F32D-4F53-875F-479F5CA81E18}]
@="Cyberon Contact SD Menu"

[HKEY_CLASSES_ROOT\CLSID\{2C0E9904-F32D-4F53-875F-479F5CA81E18}\InprocServe
@="ContactSDMenu.d11"
"ThreadingModel"="Free"
```

After:

```
boot.rgu - Notepad
File Edit Format View Help

REGEDIT4

[HKEY_CLASSES_ROOT\CLSID\{71D2DA40-5BE7-411D-976E-746238451234}]
@="Cyberon SAPI"

[HKEY_CLASSES_ROOT\CLSID\{71D2DA40-5BE7-411D-976E-746238451234}\InprocSe
@="VsrSD_COM.d11"

[HKEY_CLASSES_ROOT\CLSID\{2C0E9904-F32D-4F53-875F-479F5CA81E18}]
@="Cyberon Contact SD Menu"

[HKEY_CLASSES_ROOT\CLSID\{2C0E9904-F32D-4F53-875F-479F5CA81E18}\InprocSe
@="ContactSDMenu.d11"
"ThreadingModel"="Free"
```

Also add a blank line at the end of the file, and now make any changes you want.

Please note the “**Square Brackets-[HKEY_...]**” you will need to know of them for later.

Editing For OEM's

D.1) Get Your OEM Package, select everything in the OEM package except the “**** .rgu**”, “**** .dsm**” and “**option.xml**” and copy them into the dump dir, now ignore the “**** .dsm**” and “**option.xml**” they are not needed in this method.

D.2) Open up the “**** .rgu**” from the OEM in notepad, also open the “**boot.rgu**” for both “**user.hv**” and “**default.hv**”. Now you have 3 things open in notepad, you need to see all 3 at the same time.

D.3) What you are trying to do is to split the “**** .rgu**” from the OEM package in two, one section for “**default.hv**”, and one for “**user.hv**”. Small Tip: - open 2 blank txt files and copy the parts for “**default.hv**” into one and the parts for “**user.hv**” (if there are any!!) into the other.

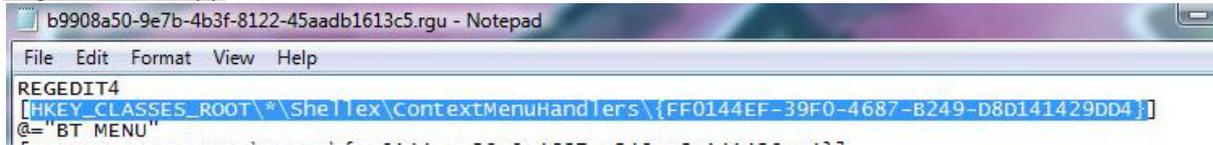
BUT.... How do you know what goes where? Simple... [HKEY_CURRENT_USER] entries go in the “**user-boot.rgu**”. All others go in the “**default - boot.rgu**”.

In OEM packages it is probable that NONE go in the “**user-boot.rgu**”, and they ALL go in the “**default - boot.rgu**”.

D.4) Once you have decided what from the OEM “**** .rgu**” is to go into the other “**user or default - boot.rgu**” files DON'T just copy and paste them in, you need to check if there is already a matching entry, to do this, go to the OEM “**** .rgu**”, highlight and **COPY** the part **INSIDE** the “**Square Brackets-[HKEY_...]**”. See over for picture!!

ROM Donalds

*.rgu for OEM App



Then go to the relevant “*user or default - boot.rgu*” opened in notepad, this one happens to be the “*default - boot.rgu*”, press “**Ctrl + f**” to bring up the find box, paste in what you copied and press find.

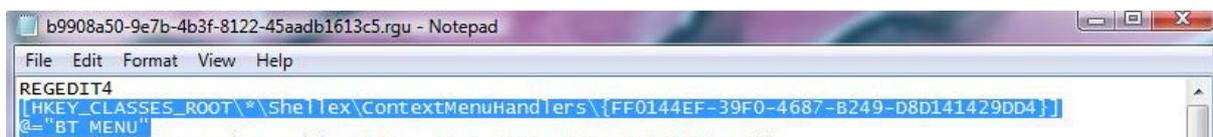
boot.rgu for Registry



Ctrl + f
Gives the “Find” box

A) If the entry is found, in this example it is, compare and add/change/leave values, underneath the bit in the “*Square Brackets*” there is @=“BT MENU”, this is the registry entry belonging to the “*Square Brackets*” as you can see in this case they are the same and do not need editing.

B) If the entry is not found then add that key at the end of the file keeping the blank line at the end



If I needed to copy the key to add it at the end of the “*user or default - boot.rgu*” the highlighted part above is what I would copy **REMEMBERING TO LEAVE A BLANK LINE AT THE END OF THE FILE**

Once you have finished editing the “*user and default - boot.rgu*” files go back to “*C.4*” and follow to “*C.6*”. Once this has been completed continue to the next section.

I Hope Your Enjoying This!!!

ROM Donalds

E) Editing the "[initflashfiles.dat](#)"

Time for some more background info, so you know what's going on:

After flashing a ROM there is a "Hard Reset", everything is in \Windows on the PPC, Windows Mobile on Re-Boot then parses/queries a text file that tells it what directories to create, where to create them and where to copy files from and too.

The practical use for you is that this is what you use to make shortcuts in the Start Menu, Programs etc.

This file is called "[initflashfiles.dat](#)" it is found in the "[dump](#)" folder in "[02-Dump](#)", again this must be "[Unicode](#)", but it already is so if you leave it as it is (i.e. a bat file). Check that the file is NOT "[Read Only](#)", to check this, right click "[initflashfiles.dat](#)" and select "[Properties](#)" and ensure "[Read Only](#)" DOES NOT have a tick next to it, then drag it into notepad it will open.

Syntax:

NOTE: - I will use colours to show the different commands, and where they are placed in the string

E.1) Any line beginning with ";" is a comment and ignored, these are put there to help humans interpret what it mean (like annotations)

E.2) Any command always starts with: `Directory(""):-`

This tells the PPC what directory to run the proceeding command in:

<code>Directory("My Documents"):-</code>	that example is in "My Documents"
<code>Directory("\Windows\AppButtons"):-</code>	this one is in "\Windows\AppButtons"

E.3) After telling the PPC where to start, there are two commands you can issue, these tell the PPC it if it will be making a new folder or copying a file. Simply use "Directory" to create a new folder and "File" to copy a file.

The [Directory\(""\)](#) and [PermDir\(""\)](#) Command

For creating a directory use this: `Directory("")` or `PermDir("")`

This tells the PPC what directory to run the proceeding command in and the name of the directory to be created:

<code>Directory("My Documents"):-Directory("Test")</code>	this creates a new folder called "Test" in the "My Documents"
<code>Directory("\Windows\Start Menu"):-PermDir("Programs")</code>	this creates a Permanent directory called "Programs" in the "\Windows\Start Menu"

ROM Donalds

The File(" ", " ") Command

This may look complicated but it's not, in the first set of " " is the name of the file you want copied including the extension and in the second set of " " is the file path including the file name and extension. Put simply:

`File(" ", " ") = File("filename", "filepath")`

For the filepath, the path that the file is currently in is almost always begins with \Windows (as this is where all the files from the rom go) then close brackets, see below:

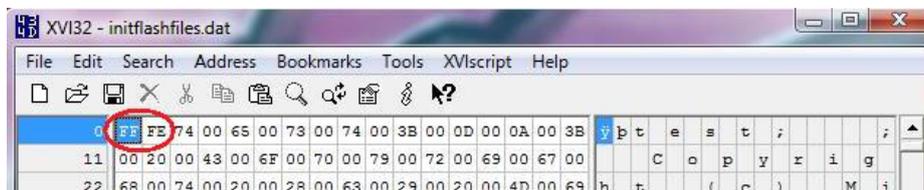
Directory("\Windows\Start Menu\Programs"):-File("Bluetooth Explorer.Ink", "\Windows\Bluetooth Explorer.Ink")

This shows that the working directory, is "\Windows\Start Menu\Programs" and the file to be copied is "Bluetooth Explorer.Ink" and the location is "\Windows\Bluetooth Explorer.Ink"

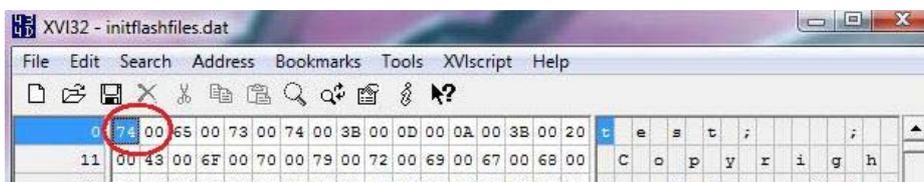
E.4) When you are done editing the "*initflashfiles.dat*", save it ensuring the file is saved as "*Unicode*" and copy it to the "*04 - xvi32 (Hex Editor)*" folder.

E.5) In the "*04 - xvi32 (Hex Editor)*" folder, click and drag "*initflashfiles.dat*" to "*XVI32.exe*" and remove the 1st two bytes "FF" and "FE"

Before:



After:



Notepad adds them and if you leave them there the script won't run on hard reset and this will screwed up PPC!!

CABS need to be extracted with the "*CAB Manager*", using this tool extract the cab to a folder, then click on "XML", then select "*Registry Keys*" copy the contents. You have to delete any spaces between entries, for example "Group" = dword : 00000000 should read "Group"=dword:00000000

Once the CAB has been extracted you will have the OEM version, so you just follow the steps above.

I have included a selection of OEM Apps, these are contained in "*Selection Of OEM APPS*"

ROM Donalds

F) Recompiling OS.nb

Once you have finished adding, removing and editing the various files and registry entries you need to recompile the OS.nb.

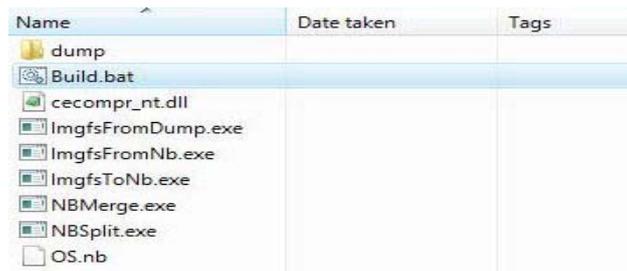
There is one little thing to do before you recompile, if you want to change the Windows Mobile Splash Screen, the third splash screen you see, you need to use an image editor to change your chosen image into following format:

<u>Name of Image</u>	<u>Size</u>	<u>Type</u>	<u>Description</u>
welcomehead.96.png	320x320	.png	Windows Mobile Splash Screen

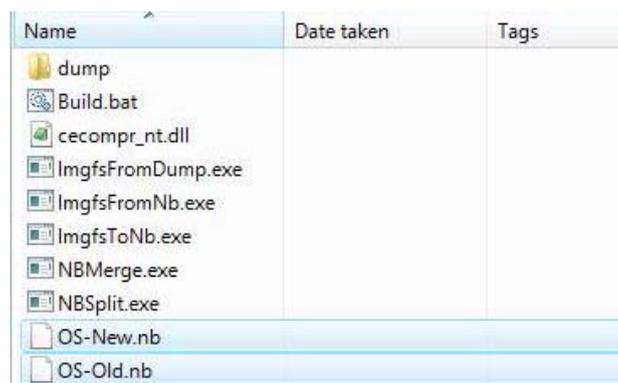
Once this is done copy your new image called "**welcomehead.96.png**" and paste it into the "**dump**" folder, when prompted you will be asked if you would like to replace the existing "**welcomehead.96.png**" select "**YES**"

Now the "**dump**" folder is fully prepared:

F.1) Copy the edited "**dump**" folder and the "**OS.nb**" from Step (A.4) into the "**OS - Build**" folder



F.2) Double click "**Build.bat**" and wait for the process to finish, once it is finished you will have some new files in the "**OS - Build**" folder, "**OS-New.nb**" and "**OS-Old.nb**"



"**OS-New.nb**" as the name suggests is your new OS.nb, and "**OS-Old.nb**" is the "**OS.nb**" from Step (A.4)

You have now successfully recompiled the OS.nb, and this completes the hard part of cooking.

ROM Donalds

G) Splash Screens

THIS CAN ONLY BE DONE ON XP (NB IMAGE CONVERTER.EXE DOES NOT LIKE VISTA!!)

G.A) Prepare the Splash Screens You Want

Create your splash screens using your favourite picture editor (PSP, Photoshop etc...), both these files MUST be 240x320 and saved as 24bit bitmaps, all the images must be named as they are below, and in the format stated below:

	<u>Name of Image</u>	<u>Size</u>	<u>Type</u>	<u>Description</u>
*	MainSplash.bmp	240x320	.bmp	First splash screen you see
*	SubSplash.bmp	240x320	.bmp	Second splash screen you see

Save "**MainSplash.bmp**" & "**SubSplash.bmp**" into the "**Custom Splash**" folder, inside "**06 - Custom Splash Screens**"

G.B) Convert Images For Flashing

G.B.1) Copy "**nb_image_converter.exe**" & "**padding.nb**" into "**Custom Splash**" folder

G.B.2) Run "**nb_image_converter.exe**" load both images, save them as "**Main.nb**" & "**Sub.nb**"

G.B.3) Open a command window, and place "**Custom Splash**" folder into Root of C:
(Select "**Start**" > "**Run**" > Type "**cmd**")

In the command window type the following (NOTE: (enter) - This is being used to show when "ENTER" is being pressed, DO NOT TYPE " (enter) "):

```
cd c:\custom_splash (enter)
copy /b Main.nb+padding.nb MainSplash.nb (enter)
copy /b Sub.nb+padding.nb SubSplash.nb (enter)
```

```
dir (enter)
```

The final command (dir) will list the contents of the directory, the file size of "**MainSplash.nb**" and "**SubSplash.nb**" MUST be exactly **262144** bytes or you should NOT continue (would produce possibly FATAL results for the device)

ROM Donalds

H) Repackaging Everything into a Single NBH For Flashing

We now need to repackage “*OS-New.nb*”, “*MainSplash.nb*” and “*SubSplash.nb*” into a single NBH image so you can flash them.

H.1) Copy “*OS-New.nb*” from “*05 - Build*” and “*MainSplash.nb*” and “*SubSplash.nb*” from “*Custom Splash*” folder into Root of C to “*07 - Final Compilation*”

H.2) Start “*nbhtool.exe*”

H.3) Click the “NB to NBH”

H.4) Click the First Splash and select the “*MainSplash.nb*”

H.5) Click the Second Splash and select the “*SubSplash.nb*”

H.6) Click OS and select “*OS-New.nb*”

H.7) MAKE SURE that Device = HERM200, CID Type = SuperCID and Signature Size = 128

H.8) Now click the “Generate NBH File” button, save it in “*08 - Flashing*”

I) Flashing

NOTE: MAKE SURE YOUR DEVICE IS CONNECTED TO PC AND IS READY FOR FLASHING

The next stage is to flash to the device using CustomRUU, simply go into “*08 - Flashing*” and double click “*RUUWrapper.exe*” and flash as normal.

DISCLAIMER

I accept no responsibility for devices getting screwed!!

bennec83