LightNzip™ 2.1
User Documentation

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1.   Introduction

LightNzip™ is a PalmOS® system compression and decompression utility. LightNzip™ can create self-extract applications. LightNzip™ offers the best compression rate. On a PalmOS® OS 5.0 Palm using Zlib ARMlet LightNzip™ is rated the best for compression speed and size. LightNzip™ can compress any files in RAM and on the external card. You can also delete and beam databases in RAM or on the external card using IR or Bluetooth®. LightNzip™ can unzip Winzip® and winRAR® archives created on a Windows® desktop computer and will maintain the original folder structure. LightNzip™ can also create WinZip® compatible files that can be opened on the desktop computer. Multiple files can be zipped into one single zip file on the external card.

If SnapperMail® email client is installed you can send files directly to SnapperMail® for delivery from LightNzip™   LightNzip™ can receive zip attachments from SnapperMail® and will open the zip file in native format.

LightNzip™ uses the latest Zlib® compression technology. LightNzip™ is compatible with PalmOS® version 3.5 and higher. On PalmOS® 5.0 and higher LightNzip™ use the new ARMlet Zlib library for improved performance.

LightNzip™ is the only compression application that takes advantage of the new Palm® Tungsten T3 and Sony® UX50 high resolution screens.

Note: Screen shots from this manual are based on the PalmOS® 5.0 and higher. Graphics may vary from device to device.

2.   System Requirement

- PalmOS® 3.5 and higher.
- External card is recommended.
- 200K of memory.
- For optimal use 2 Meg of free RAM and 4 Meg of free external RAM (Optional).

2.1   Compatibility

- Palm® Tungsten T/T2/T3/C/E,/W, Palm® M125, Palm® M130, Palm® M500, Palm® M505, Palm® M515, Palm® IIIc, Palm® 105, Palm® Zire/Zire 71/21 and Palm® i705
- Handspring® Visor, Prism and Treo series with external card
- Sony Clie® series

- HandEra®
- Kyocera®
- Samsung®
- Legend®
- Acer®
- Garmin®
- Tapwave Zodiac

3.   Installation

To install LightNzip double click on the files LightNzip.prc and zBooter.prc. The zBooter.prc is needed for creating self-extract applications.

For PalmOS® OS 5.0 users please use the ARMlet version of the Zlib library found in the **OS5** folder. All other users please use the version in the **Others** folder.
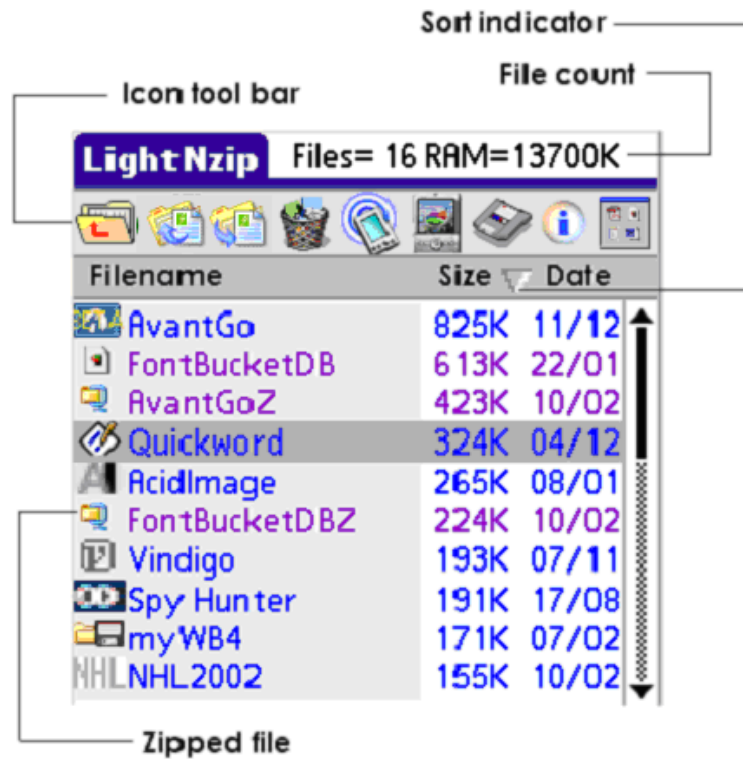
 Press the HotSync® button on the cradle. The HotSync® manager will install the files on to your Palm.

4.   Launching LightNzip™

Look for the LightNzip™ icon LightNzip in the Launcher. If you cannot find it, scroll down using the down arrow.

5. User Interface
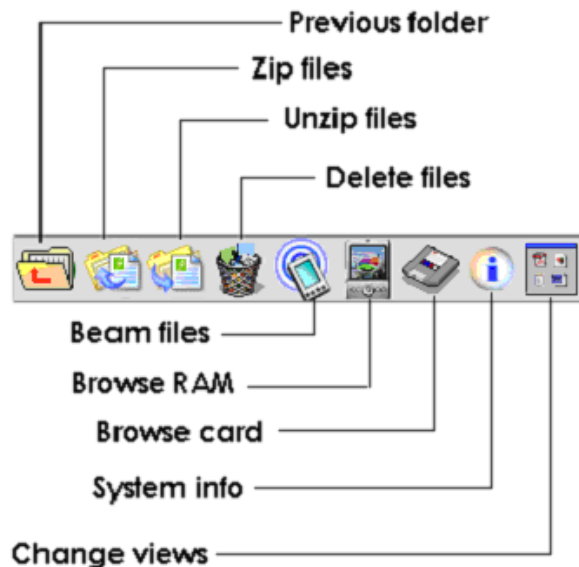
5.1   Icon Tool bar

Diagram 2: Icon tool bar.

Previous Folder – Open the previous folder. This only works if you are browsing files on the card.

Zip Files – Zip all the selected files. You cannot zip folders. If you want to keep the original files after zip then check the option in the Preference. ROM, .gif and .jpg files cannot be zipped.

Unzip Files – Unzip all the selected files. If you want to keep the original files after unzip then check the option in the Preference

Delete Files – Delete all the selected files. When deleting a folder on the card all subfolders will be deleted. Be careful when deleting folders on the card.

Beam Files – Beam all the selected files. By default LightNzip™ will use IR for beaming. If you have a PalmOS® 5.0 device you can select to use Bluetooth® in the Preference setting. You can also beam any files on the card regardless of the file type. Beaming to non Palm devices using Bluetooth may not work 100%.

Browse RAM – Browse all the files in RAM. You can set the type of files to browse in the Preference. Eg: All, applications only or database only. ROM files are shown in black and cannot be compressed.

Browse Card – Browse all the files on the card. You can set the type of files to browse in the Preference. Eg: All, applications only or database only. If the card is not inserted nothing will happen.

System Info – Get information about your Palm device such as RAM left and card memory.

View Types – To switch to different view types. You can also sort by type and creator id. Its useful to sort all zipped files by type.
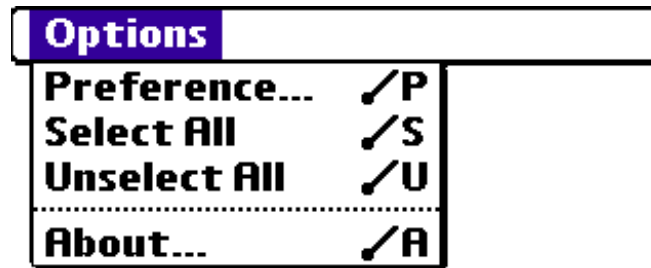
5.2   LightNzip™ Menus

Diagram 3: Menus
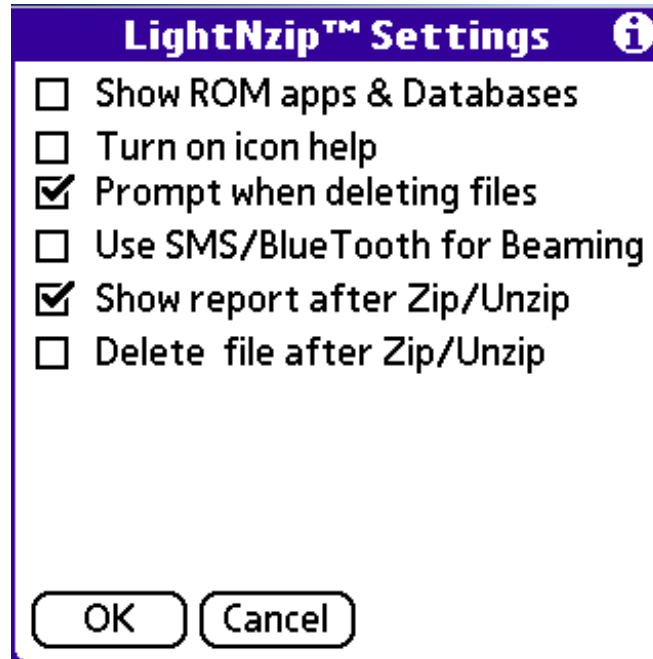
5.2.1 Preference

Diagram 4: Preference

☐ Show ROM apps & Databases

If checked all ROM applications and databases from RAM are shown in the browser.

☐ Turn on icon help

If checked whenever you tap on a icon a help text will be shown.

☑ Prompt when deleting files

If checked you will be prompted before files are deleted.

☐ Use SMS/BlueTooth for Beaming

If checked LightNzip™ will ask you to use SMS or Bluetooth when you beam a file. This item is only visible if you have PalmOS® 5.0 device.

☑ Show report after Zip/Unzip

If checked a report will be shown after all the files are zipped or unzipped. No report will be shown when unzipping files from the card.

☐ **Delete file after Zip/Unzip**

If checked the original files will be deleted after they are zipped or unzipped. If you want to keep the originals uncheck it.

6.   Reports

If you have selected to show a report in the Preference after each zip or unzip operation, the following window will appear.
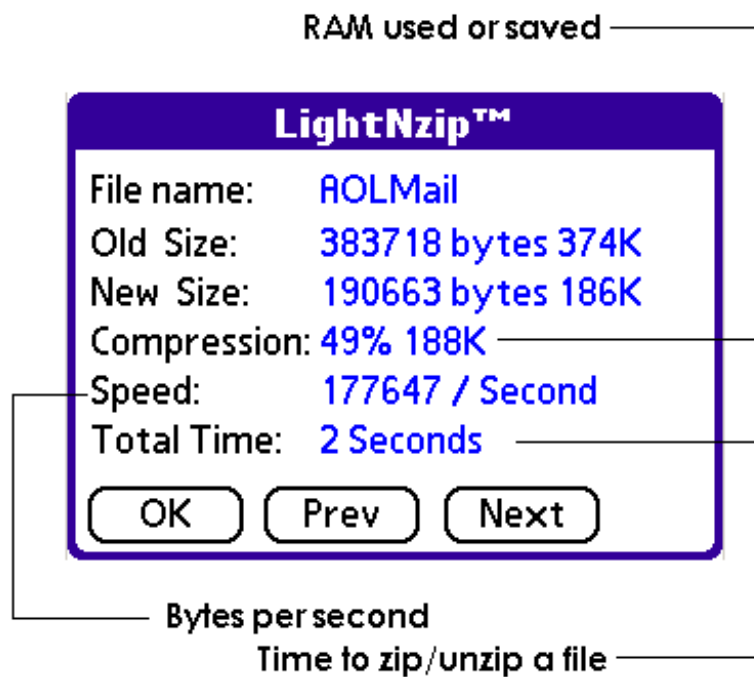

Diagram 5: Report

When the Compression percent shows a negative value in the size, this indicates the amount of RAM it used when the file is unzipped in additional to the Old Size.

7. Winzip® and winRARcompatibility

LightNzip™ can unzip Winzip® and winRAR® files created on the Windows® desktop. The Winzip® file must reside on the card. The file will unzip in the current folder. LightNzip™ will recreate the original Winzip® folder structure if the file contains sub folders.

7.1 Opening a Winzip® file

To open any zip file just double tap on the filename and LightNzip® will open the archive. If you have installed plugin applications that support the Palm's Exchange Manager than you can double tap on the file name to launch it. Eg: tapping on a .jpg file will launch the Photo application on the Zire71 or Tungsten T3 to receive the jpg file. *You can also install our JPG Viewer for PalmOS® 5.0. Contact us for details.*
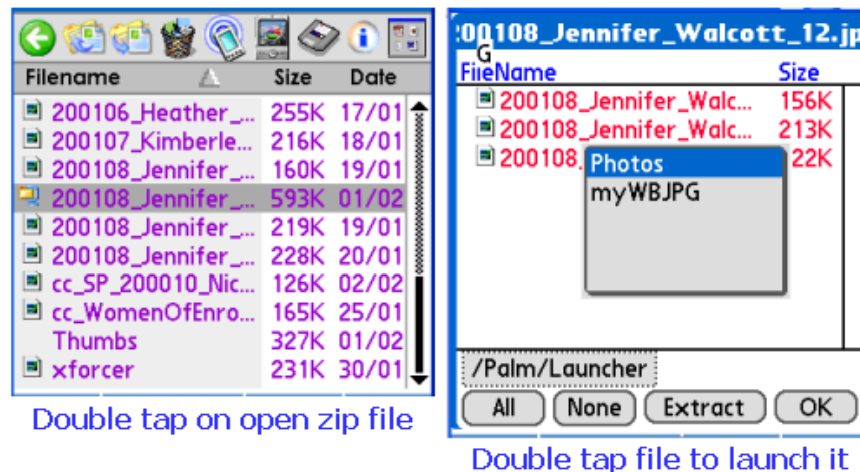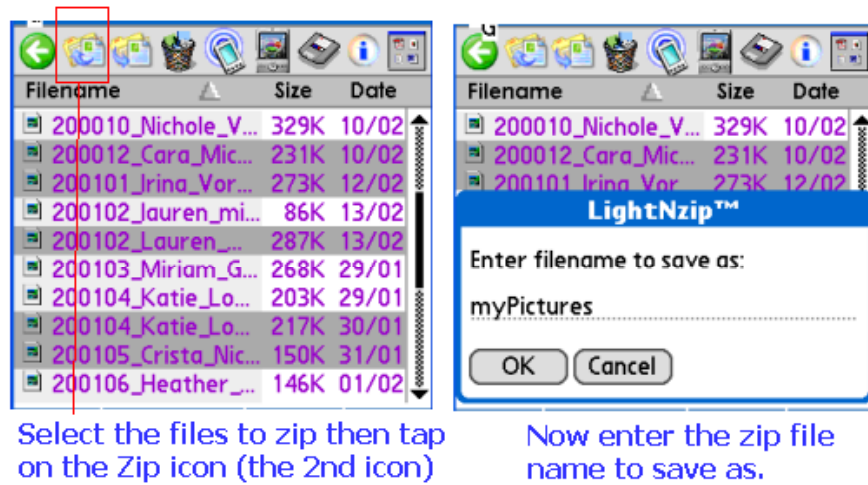

See section: 12.*1 Unzipping Files* for more details on opening a Winzip® files.

7.2 Creating Winzip® Compatible Files

With version 2.1 of LightNzip™ you can zip multiple files into a single zip file on the external card. The zipped file is compatible with Winzip® and WinRAR® on the desktop.

You can also include zip files that already been zipped.

Select the files to zip then tap on the Zip icon (the 2nd icon)

Now enter the zip file name to save as.

8. LightNzip™ Comparison

The speed and performance will vary from device to device. The faster the CPU, the better the performance.

The following table shows deflate and inflate speeds on a device with a 68K processor (m515) and on a device with an ARM processor (Tungsten T). Results were obtained by running Deflater on the Asian_24x24.PDB Anki font database.

Device Name	Deflate Speed (bytes per second)	Inflate Speed (bytes per second)
Palm m515 Zlib	5,300	21,700
Palm Tungsten T 68K version of ZLib	7,200	28,600
Palm Tungsten T ZLib ARMlet version	152,000	169,000

Table 1: Speed comparison courtesy of Cooperative Computers™. From the table you can clearly see the speed improvement running on a ARM CPU.

8.1   LightNzip™ vs FlyZip® 2.1 XR

Program	Orignal PalmOS® File	Compressed Size	Zip Time (seconds)	Unzip Time (seconds)
LightNzip™ v1.0	**Asian 24x24 1217K** http://www.coopcomp.com/anki/fonts/ Asian_24x24.zip	**764K**	**9**	**3**
FlyZip® v2.1 XR	**Asian 24x24 1217K** http://www.coopcomp.com/anki/fonts/ Asian_24x24.zip	1052K	20	13
LightNzip™ v1.0	**AcidImage.prc 2.4 267K** **www.red-mercury.com**	**219K**	**3**	**1**
FlyZip® v2.1 XR	AcidImage.prc 2.4 267K www.red-mercury.com	239K	5	2

Table 2: The results from the above were obtained running each program on the PalmOS® 5.0 Tungsten T.

Note: On the Palm® Tungsten Zlib ARMlet was used. If the test were done using the 68K version of the Zlib the speed would be better on FlyZip® XR.
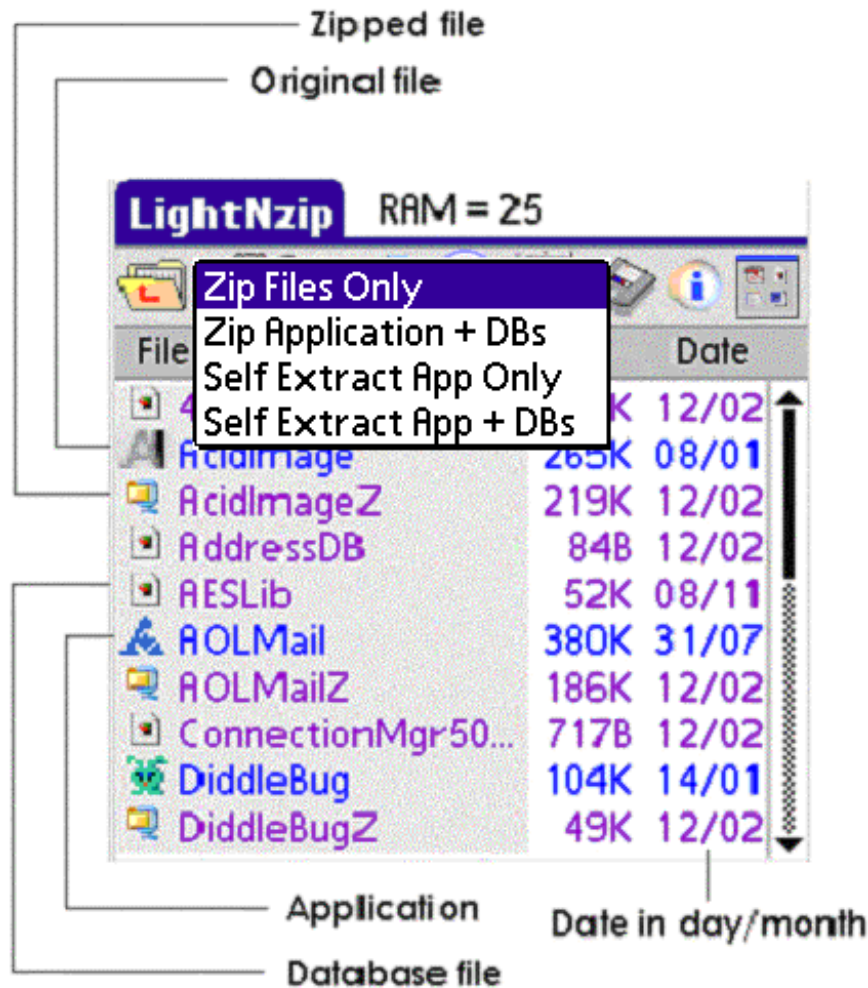
9. LightNzip™ Browser

Diagram 6: Browser

When you select files to zip a popup will be displayed. Here are the following choices:

Zip Files Only – Zip all the selected files and/or folders.

Zip Application + DBs - Zip all the selected files. If the selected file is an application then all of its databases are zipped. (Only in RAM)

Self Extract App Only – Create a self extracting for the application only. The application's databases are not zipped. (Only in RAM)

Self Extract App + DBs – Create a self extracting application and zip all the application's databases. (Only in RAM)

When a file is zipped LightNzip™ appends the letter **Z** DiddleBugZ to the filename. This indicates the file is zipped. Also the icon will be changed to the zipped icon.

When a file is zipped on the card the file extension .zip will be added to the original file. Eg: DiddleBug.prc will become DiddleBug.prc.zip. Also the icon will be changed to the zipped icon.

9.1 Sorting

By default the browser is sorted by Name. You can sort by Name, File size, Date, Creator Type and Creator ID. To sort the browser list, tap on the column title **Filename**. The arrow indicates sort is in ascending. To sort in descending order tap on the sort column title again. To sort by Creator Type or Creator ID select the View icon.

9.2 Compressing Folders

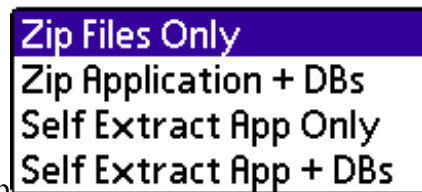If a folder is selected for compression then its content and sub-folders will be compressed also.

9.3 Reading Text Files

Read a text file you can double tap on the file name and LightNzip will open the file. You can open any text file, html and source code files.

10. Self Extract

You can create a self extracting archive with LightNzip™. A self extracting application will show up in the Launcher. When you tap on the self extracting application it will decompress itself and launched. When you exit the application it will compress itself again. This is all done without any user interaction.
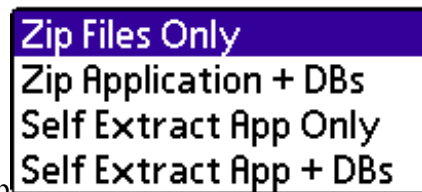
When you zip an application you will be prompted with this popup. If you want to make a self extract select **Self Extract App Only** or **Self Exract App + DBs** item. Two files will be created for a self extract. The first one will be a booter application. This file will be typically around 7K to 10K in size. The actual application and databases will be compressed and renamed. The

letter **Z** will be appended to the compressed file. On the Launcher the application name will be appended with a small **z**. Eg: if the application is myWorkbench then the Launcher will show **myWorkbenchz** and the filename will be **myWorkbenchZ.**

Note: Once you have created a self-extract application you do not need LightNzip™. The self-extract booter will compress and decompress the application on the fly. You can send the self-extract application to other users. Just remember to send both the booter and the compressed application.

10.1   HotSync®

When you create a self-extract application you will be prompted with this message.
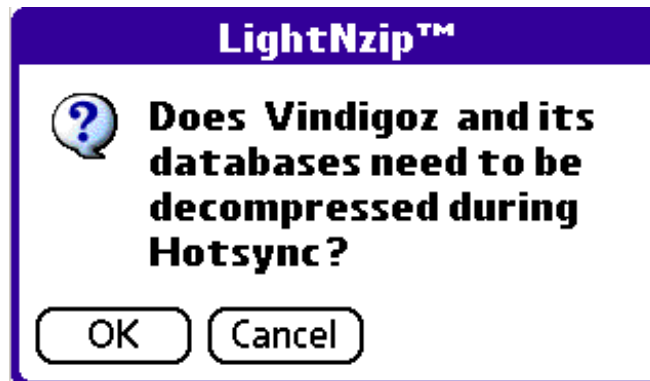
If the application and its databases need to be synchronized during HotSync® then select the OK button. During HotSyc® the application and databases are decompressed and then recompressed after HotSync® is completed. A good example is AvantGo® and Vindigo®. Select the Cancel button if the application and databases doesn't need to be synchronized. Eg: games

Note: the more self-extracting applications you have with HotSync® feature, the longer it will take to start and end the HotSync® process.

10.2   Deleting Self Extract Application

To delete a self extract application you need to delete both files. If you want the original application back then use LightNzip™ to unzip it and then delete the booter application.

11. LightNzip™ limitations

- PalmOS® 3.5 and higher only.
- No passphrase protection
- Only files greater than 3K are compressed.
- Self Extracting application may not work for all applications such as security applications, startup hacks etc…

12. SnapperMail® Plugin Support

12.1 Unzipping Files

LightNzip will automatically register the file type ZIP extension. When you open the attachment you can select LightNzip as the application to open. LightNzip will list the files in the zipped file. You can select any files to extract or select the file to launch.

When you tap on zip file attachment in SnapperMail® the popup window will be opened. Select LightNzip as target application. The following window will be opened in LightNzip.
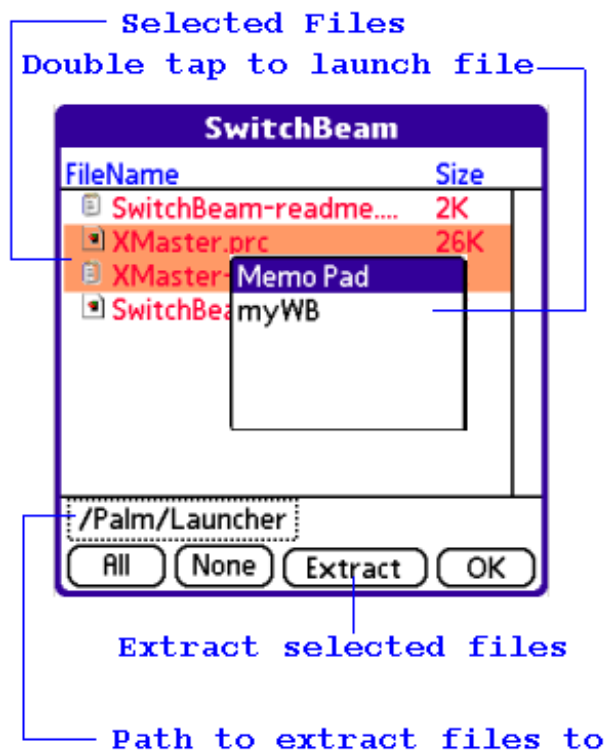
Extracting Files

A list of files will be displayed. The files are not extracted yet. You can select any file to extract or select the **All** button to select all the files. The files will be extracted to the path specified in the Toggle button. If you want to change the default path then tap on the toggle button and select the target path.

Launching Files

To launch the selected file, double tap on the file. LightNzip will try to search for the target application. If the target application is not found then you will get an error message. If more than one application is found lightNzip will prompt you to select the target application. LightNzip uses the Exchange Manager to send the file to the target application.

When you exit LightNzip, you will automatically be returned to SnapperMail®.

12.2   Sending Files to SnapperMail®

You can send any file or files to SnapperMail®. Select the files you want to send from the browser and then select from the menu **Options->SendTo SnapperMail…**

You can send files in RAM or anywhere on the card. There is no restriction in size.

Sending RAM Files

When sending zipped files in RAM to SnapperMail® lightNzip will create a gzip formatted file. The zipped file will be in lightNzip format. When the receiving application receives the lightNzip zipped file it will not be able to open it. If the receiving device has lightNzip installed then lightNzip can open the zipped file.

Sending Card Files

Files that are zipped on the card will always to be in gzip format. Applications that support the gzip format such as winRAR® or Winzip® will be able to open it.

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19. Zlib compression library

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