

# File Transfer Verification in NBEMS with fldigi and flwrap

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You can send or receive a file and verify that it was copied 100% using fldigi and flwrap.

## Our guidelines and tips

- Send text only. We do not have the bandwidth to send large binary files. Remember a 2 kb file takes 2 minutes to transmit using MT63-2000. This is a typical repeater timeout period.
- Work with your Served Agency ahead of time to set their expectations for our capabilities. You do not want them to be surprised during a drill or an actual disaster.
- If handed a Word file, try to export to "Plain Text" or copy-and-paste the contents of the document into Notepad.
- Export Excel spreadsheets as "CSV (comma delimited)" before wrapping.
- To make life a little simpler, place a shortcut to flwrap in your WRAP\recv folder.
- To more easily find the most recent incoming wrap file, change the view of your WRAP\recv folder to Detailed with **View->Details**.

## How it works

flwrap embeds the name of the original file and a checksum into a new file that is transmitted. The receiving station runs flwrap to extract the original file and the embedded checksum. A checksum calculation is then run against the incoming data. If this checksum is identical to the embedded checksum, we can be 100% certain that the file was received without error.

### Original file:

This is a CSV file of a shelter roster that was exported from an Excel spreadsheet.

```
Wrist Band ID,Last Name,# of family @ shelter,# of family unaccounted for
02-004,Duncan,1,1
01-002,Duncan,1,1
01-001,Boston,3,0
02-003,Clarkin,3,0
06-001,Charnock,1,0
```

### Wrapped file:

This is the same shelter roster CSV file after being processed by flwrap.

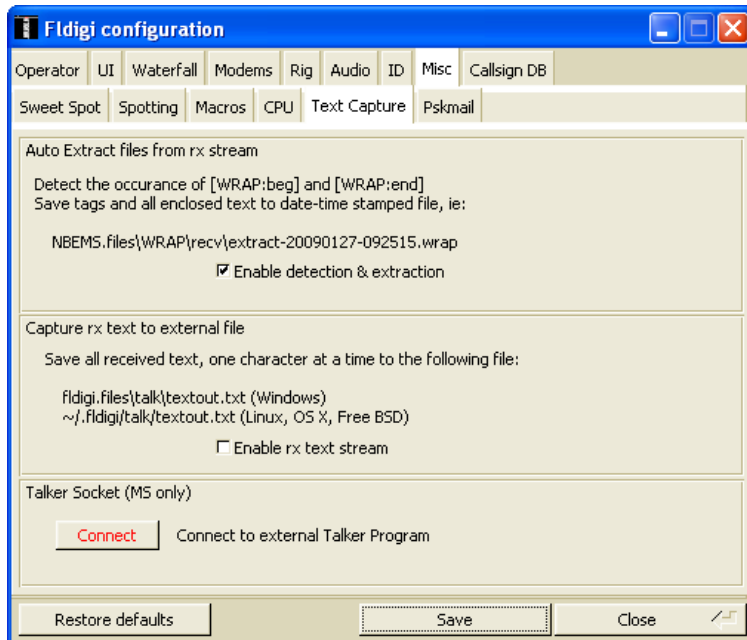
```
[WRAP:begin][WRAP:crlf][WRAP:fn Shelter Data.csv]Wrist Band ID,Last Name,# of family @ shelter,# of
family unaccounted for
02-004,Duncan,1,1
01-002,Duncan,1,1
01-001,Boston,3,0
02-003,Clarkin,3,0
06-001,Charnock,1,0
[WRAP:checksum 4162][WRAP:end]
```

## Configure fldigi and install flwrap

- 1) Configure fldigi to capture incoming wrap files:

**Configure->Misc->Text Capture**

Check the top checkbox for “**Enable detection & extraction**”.



- 2) Install flwrap:

Download flwrap from <http://www.w1hkj.com>.

Double click on the installer and go through the install process.

When finished, you will have an flwrap icon on your desktop.

## To send a file using fldigi and flwrap

- 1) Create your file using either a text editor or exporting a spreadsheet in CSV format
- 2) Drag and release this file over the flwrap icon on your desktop. A file with a flwrap checksum embedded in it will be created in the same directory as your original file. You will see a pop-up window indicating that the file was wrapped.
- 3) Drag this “wrapped” file into your fldigi transmit window pane. By default this is the lower large pane and is blue.
- 4) Hit the TX macro key followed by the RX key.

## To receive a file using fldigi and flwrap

- 1) Watch the incoming data for the [WRAP:end] designator. You’ll also see an indication at the bottom of your fldigi screen that a file is being extracted.
- 2) Go to the folder that contains incoming wrap files:  
In fldigi:  
**File->Folders->NBEMS files...**  
Double click on the **WRAP** folder.  
Double click on the **recv** folder.
- 3) fldigi saves extracted wrap files using the naming convention “extract-yyyymmdd-hhmmss”.  
Find the most recent extract file.  
Drag and drop it over the flwrap icon you created previously.  
You will see a message indicating success or failure of checksum verification. If the checksum was verified, the original file that was transmitted will appear in the recv folder.