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# Integration Manual

## Digital Software AppleScripts


The ham radio Mac OSX community uses two primary pieces of digital modes software: FLDIGI and WSJT-X. The operation of FLDIGI software is enhanced by the addition of FLRIG to control the ham transceiver for FLDIGI and the addition of a logging program such as MacLoggerDX. WSJT-X is enhanced by the addition of JT-Bridge software for passing contact information between both WSJT-X and MacLoggerDX. FLDIGI and WSJT-X each require a total of three pieces of software to operate well. Applescript, is a built-in scripting language that allows the direct control of both Mac applications and the Mac operating system itself. This presentation will provide a system of integrated Applescripts that allow the ham operator to fluidly move between the FLDIGI and the WSJT-X software sets, control the operation of the sets, and offers enhancements that reduce operator time and increase operator efficiency.

This manual makes the assumptions that (1) the software is loaded into your computer; (2) you can work both FT8 and PSK31; (3) AppleScript is up and working on your computer; and (4) you use Apple Mail as your e-mail program.

Don't worry, if you haven't accomplished the above yet, there are hundreds of tutorials on YouTube and elsewhere to help you!

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## Enable the AppleScript Menu

If you cannot see the AppleScript Menu icon  in the menu bar, you need to enable the AppleScript Menu as detailed here.

### Enable Manually

1. Open Script Editor
2. Open Preferences
3. Select the General tab
4. Put check marks next to "Show Script menu in menu bar" and "Show Computer scripts"
5. Click on the new Scripts Menu icon in the menu bar and you will see Computer scripts plus your own scripts (if there are any)

### Enable Via AppleScript

```
tell application "AppleScript Utility"
  if not Script menu enabled then
    set Script menu enabled to true
    set application scripts position to top
    set show Computer scripts to true
  else
    set application scripts position to top
    set show Computer scripts to true
  end if
end tell
```

Open in Script Editor

## Working With The User Library

A Mac OSX computer that does not display the Library Folder in the Home Folder requires that the Library Folder be unhidden as indicated here.

### Set the Library Folder to Visible

1. Press Command-Shift-h to open your home folder.
2. Press Command-j to show the view options.
3. Check the box to show Library folder.

### AppleScript to Open the User Library

```
set folderPath to (path to library folder) as text
tell application "Finder" to open folderPath
```

Open in Script Editor


## Loading a Pre-Made Logging AppleScript that Works

1. Open the most recent MacLoggerDX.dmg file that is probably located in your downloads folder.
2. Then, identify the file "MacLoggerDX:Extras:AppleScripts:Fldigi:\_Log2MLDX.scpt".
3. Open your Home Folder and identify the folder .fldigi. This folder is normally hidden, see above for how to unhide,
4. Locate the folder Scripts.
5. Drag the \_Log2MLDX.scpt file into the ".fldigi:Scripts" folder.

## Create a FLDIGI Button to Run the \_Log2MLDX.scpt

1. Run FLDIGI.
2. In a FLDIGI macro bar unused button, control-click (right-click). This will display the button's macro editor.
3. In the Macro Text field enter "<EXEC>osascript /Users/edwardasmus/.fldigi/scripts/\_Log2MLDX.scpt</EXEC>".
4. In the Macro Button Label enter "MacLogger".
5. Click the Apply button.
6. To save the button created permanently, you must select "Save Config" from under the FLDIGI Configure menu.

## Using the MacLogger Button


1. Once a contact is made in FLDIGI, click on the contacts call sign. This will place it automatically in the Call field.
2. Then click the QRZ button.  This will go out to QRZ and populate the FLDIGI fields with the contact's information.
3. When the QSO is complete, push the MacLogger button. This will cause the contact's information to be copied into MacLoggerDX which then logs the contact.

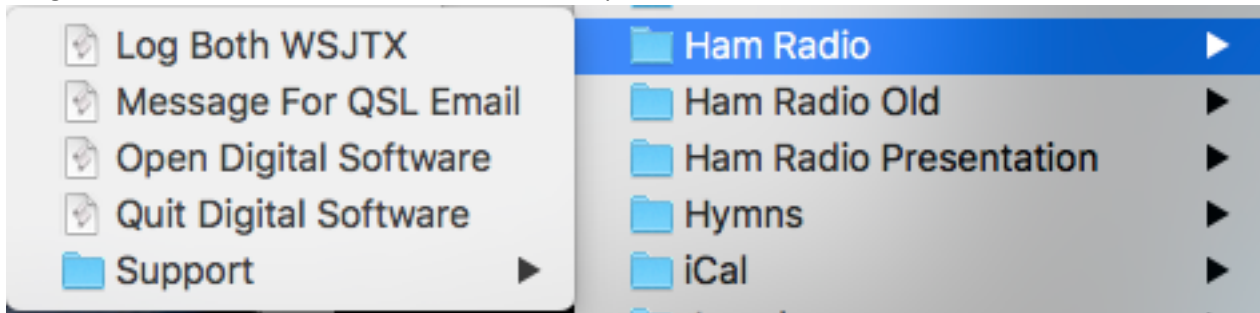
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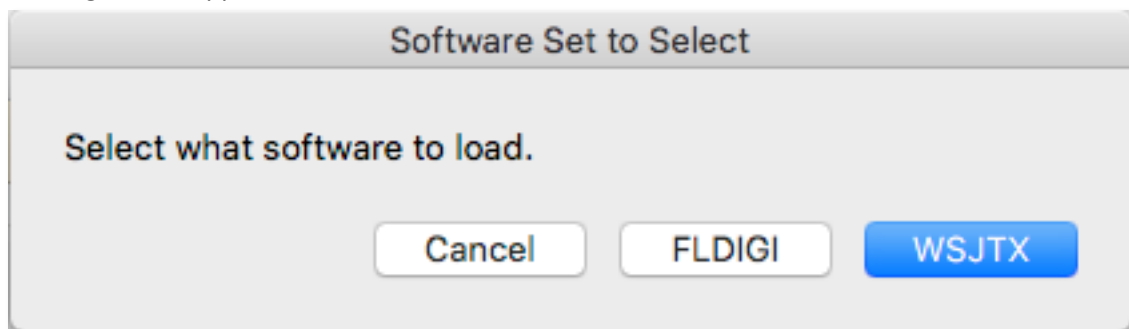
# Integration AppleScripts

## Downloading Ready to Run AppleScripts

1. In your browser go to <https://tasmus.com/ham/applescript-integration/> and click on the download option.
2. Find the downloaded file in your Downloads. It is a .zip file. Double click on it to unzip it.
3. Open a new Finder Window to your Home Library folder scroll down and locate the Scripts folder.
4. Drag the Ham Radio folder from the unzipped material in your Downloads folder and drag it into the Scripts folder of your library folder "Macintosh HD:Users:homeFolder:Library:Scripts:".
5. Test Access to the Integration AppleScripts by:
  - a. Click on the AppleScript Menu icon . You should be able to see the menu option Ham Radio.
  - b. Drag down and hover over the Ham Radio menu option. You should see this:



6. Try one routine by selecting the menu option Open Digital Software.
  - a. A dialog should appear like this:



- b. Click Cancel. The dialog should disappear indicating the AppleScripts involved are running correctly.

## Modifying AppleScripts to Work for You

One of the primary scripts, Message For QSL Email, requires a modification so that the email comes from you. That is, you will need to insert your first name and your call sign to replace the existing information.

1. Open the Script Editor. The Script Editor is located in the Utilities Folder following the path "Macintosh HD:Applications:Utilities:Script Editor.app".
2. Once the Script Editor is running, open the file Message For QSL Email that is located at "Macintosh HD:Users:homeFolder:Library:Scripts:Ham Radio:Message For QSL Email.scpt". The following AppleScript will do both these actions:

--Get Home Folder Location As Text and Alias

**set** homeFolder **to** (**path to** home folder **as** text)

**set** homeFolderAlias **to** (**path to** home folder **as** alias)

--Get Scripts Folder Location As Text and Alias

**set** scriptsFolder **to** homeFolder & "Library:Scripts:" **as** text

**set** scriptsFolderAlias **to** homeFolder & "Library:Scripts:" **as** alias

--Get Ham Radio Software Folder Location As Text and Alias

**set** hamFolder **to** scriptsFolder & "Ham Radio:" **as** text

**set** hamFolderAlias **to** scriptsFolder & "Ham Radio:" **as** alias

**tell** application "Script Editor"

**activate** -- opens the Script Editor

**open** hamFolder & "Message For QSL Email.scpt" **as** alias

**end tell**

3. The top two lines of the "Message For QSL Email.scpt" need to be changed. Here are the first two lines:

**property** myFirstName : "Ted" **as** text

**property** myCallSign : "K8UKE" **as** text

- a. Change the first name in the myFirstName property to your name. It must be within the quotes.
- b. Change the callsign in the myCallSign property to your callsign. It must be within the quotes.
- c. Save the "Message For QSL Email.scpt". That is all that needs to be done to these AppleScripts.

## Primary AppleScripts and What They Do

### Open Digital Software.scpt

1. Identifies the status of FLDIGI and WSJTX
2. If neither are running, a dialog appears where the desired software can be selected.
3. If one is running, its associated software is quit, and the other software set is run.

### Quit Digital Software.scpt

1. Identifies which software set is running FLDIGI or WSJTX
2. The set that is running is quit

### Log Both WSJTX.scpt

1. If WSJTX is running, the QSO will be logged in both WSJTX and MacLoggerDX.
2. For this script to work,
  - a. it is important that the contacts entire call sign is selected in MacLoggerDX and
  - b. a cursor is in the Name field of the WSJTX Logging dialog.

### Message For QSL Email.scpt

1. Prior to running this script, click on the Email button on the QSO panel of MacLoggerDX. This will cause the QSO card to be created in Apple Mail.
2. Run the Message For QSL Email script.
3. This will create a few custom lines in the email to personalize it.
4. It then signs your email with
  - a. 73,
  - b. Your first name, and

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## Interesting Code

### Folder and File Paths

Provides a way to locate all files on any Mac OSX computer.

--Get Home Folder Location As Text and Alias

**set** homeFolder **to** (**path to** home folder **as** text)

**set** homeFolderAlias **to** (**path to** home folder **as** alias)

--Get Scripts Folder Location As Text and Alias

**set** scriptsFolder **to** homeFolder & "Library:Scripts:" **as** text

**set** scriptsFolderAlias **to** homeFolder & "Library:Scripts:" **as** alias

--Get Ham Radio Software Folder Location As Text and Alias

**set** hamFolder **to** scriptsFolder & "Ham Radio:" **as** text

**set** hamFolderAlias **to** scriptsFolder & "Ham Radio:" **as** alias

--Get Support Software Folder Location As Text and Alias

**set** supportFolder **to** hamFolder & "Support:" **as** text

**set** supportFolderAlias **to** hamFolder & "Support:" **as** alias

### What digital software is running?

Determine what, if any, digital software set (FLDIGI, WSJTX) is running

**tell** application "wsjtx"

**if** application "wsjtx" **is** running **then**

**set** wsjtx **to** true

**else**

**set** wsjtx **to** false

**end if**

**end tell**

**tell** application "fldigi-4.2.06"

**if** application "fldigi-4.2.06" **is** running **then**

**set** fldigi **to** true

**else**

**set** fldigi **to** false

**end if**

**end tell**

**if** wsjtx = false **and** fldigi = false **then**

**display dialog** "Select what software to load." **with title** "Software Set to Select"

**buttons** {"Cancel", "FLDIGI", "WSJTX"} **default button** "WSJTX" **cancel button** "Cancel"

```

if button returned of result = "FLDIGI" then
    run script FLDIGIalias
else if button returned of result = "WSJTX" then
    run script WSJTXalias
end if
else
    swapSoftware(wsjtx, fldigi, WSJTXalias, FLDIGIalias, supportFolder)
end if

```

## Customize QSO Email

Sends your contact a customized email containing the QSO card created by MacLoggerDX

```

property myFirstName : "Ted" as text
property myCallSign : "K8UKE" as text
property firstNameList : {"Edward", "Douglas", "Matthew", "Robert", "Walter", "William"}
property nickNameList : {"Ed", "Doug", "Matt", "Bob", "Walt", "Bill"}

```

-- Applescript Lines To Get File Locations

--Get Home Folder Location As Text and Alias

```

set homeFolder to (path to home folder as text)
set homeFolderAlias to (path to home folder as alias)

```

--Get Scripts Folder Location As Text and Alias

```

set scriptsFolder to homeFolder & "Library:Scripts:" as text
set scriptsFolderAlias to homeFolder & "Library:Scripts:" as alias

```

--Get Ham Radio Software Folder Location As Text and Alias

```

set hamFolder to scriptsFolder & "Ham Radio:" as text
set hamFolderAlias to scriptsFolder & "Ham Radio:" as alias

```

--Get Support Software Folder Location As Text and Alias

```

set supportFolder to hamFolder & "Support:" as text
set supportFolderAlias to hamFolder & "Support:" as alias

```

--Set Alias To Reorder Routine

```

set reorderAlias to supportFolder & "ReOrder Software.scpt" as alias

```

```

tell application "MacLoggerDX"

```

```

    set firstName to first_name of qso 1

```

```

    set firstName to word 1 of firstName

```

```

end tell

```

```

set theIndex to getPositionOfItemInList(firstName, firstNameList) as integer

```

```

if theIndex > 0 then

```

```

    set firstName to item theIndex of nickNameList

```

```

end if

```

```

tell application "Mail" to activate

```



```

tell application "System Events"
    key code 125
    keystroke return & "Thanks for the contact " & firstName & "!" & return & return &
    "73," & return & return & myFirstName & return & myCallSign & return
    keystroke "D" using {command down, shift down}
end tell

delay 1

tell application "Mail" to send

delay 2

run script reorderAlias

on indexOfStringInList(targetItem, aList)
    set i to 1
    repeat with aItem in aList
        considering case
            set compareResult to (aItem as string = targetItem as string)
        end considering
        if compareResult is true then
            return i
        end if
        set i to i + 1
    end repeat
    return missing value
end indexOfStringInList

on getPositionOfItemInList(theItem, theList)
    repeat with a from 1 to count of theList
        if item a of theList is theItem then return a
    end repeat
    return 0
end getPositionOfItemInList

```

## A Helpful Hint

A wealth of material for different aspects of loading digital software and using various digital modes is readily available on YouTube. Just type in what you are interested in the search field and you will probably get a lot of hits with the information you need.

## AppleScripts Integrating Digital Software

<https://tasmus.com/ham/applescript-integration/>

## Apple Scripting

AppleScript Language Guide

[https://developer.apple.com/library/archive/documentation/AppleScript/Conceptual/AppleScriptLangGuide/reference/ASLR\\_cmds.html](https://developer.apple.com/library/archive/documentation/AppleScript/Conceptual/AppleScriptLangGuide/reference/ASLR_cmds.html)

## FLDIGI

FLDIGI Download <https://sourceforge.net/projects/fldigi/>

FLDIGI User's Manual [http://www.w1hkj.com/files/fldigi/fldigi\\_help.pdf](http://www.w1hkj.com/files/fldigi/fldigi_help.pdf)

## JT-Bridge

JT-Bridge Download <https://jt-bridge.eller.nu/downloads/>

JT-Bridge Help <https://jt-bridge.eller.nu/documentation/>

## MacLoggerDX

MacLoggerDX Download <https://www.dogparksoftware.com/MacLoggerDX.html>

MacLoggerDX Manual <https://www.dogparksoftware.com/MacLoggerDX%20Help/MacLoggerDX%20Help.html>

MacLoggerDX WSJT-X And JT-Bridge How To <https://k0pir.us/macloggerdx-wsjt-x-jt-bridge/>

## WSJTX

WSJTX Download <https://sourceforge.net/projects/wsjt/>

WSJT-X User Guide <https://wsjt.sourceforge.io/wsjtx-doc/wsjtx-main-2.6.1.html>