

COBRA Reprogramming Instructions

The purpose of this document is to provide instructions on how to setup and use the COBRA reprogrammer to update the software on your COBRA firing system.

It's a little tricky, but if you follow each step, one-by-one, you'll be a reprogramming wizard by the end of the document! Also, if you get stuck, you can contact us at ssmith@cobrafiringsystems.com or call Scott Smith at 518-222-7410. We are here to support you.

How it works

The wireless reprogrammer is a small device that connects to your PC via USB. You can use this device with a software program called Portal to upload the latest COBRA software to both the remote, firing modules, and audio box. The entire process is done wirelessly without opening the system enclosures.

Required hardware

You will need the following hardware:

- 1 PC running either XP, Vista or Windows 7
- 1 COBRA Wireless Reprogrammer
- 1 standard USB thumb flash drive (if you don't own one, we suggest buying the Sandisk brand at Walmart)

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Initial Software Setup

This step explains how to install Portal, which is used in the reprogramming process. You only need to perform the initial software setup once.

Step 1

Download and install the Portal software by going to <http://www.cobrafiringsystems.com/release/> and clicking on [Synapse Portal](#) from the Software Versions section on the right.

When installing, please note the following:

- When prompted with a series of options with checkboxes, make sure all are selected
- When prompted that the software may not pass a Windows Logo test, click Continue Anyway
- Disconnect the wireless reprogrammer from the PC before installing Portal
- Once installed, no need to launch Portal immediately, this will be done later

Step 2

If the Portal software automatically started from Step 1, please close the software. Download the utilities zip file from here: <http://www.cobrafiringsystems.com/release/utilities.zip> and extract the contents of the zip file to the My Documents > Portal > snappyImages directory. In Windows 7, the directory is in Libraries > Documents > Portal > snappyImages. Do not save the files into the c:\Program Files\Portal\snappyImages directory. Also, make sure the extracted files are not in a separate directory. Instead, the files should display within the snappyImages directory.

Step 3

Connect the SNAP wireless reprogrammer to a USB port on your PC. In the lower-right corner of your PC, you may see the device as recognized and installing. If you don't see the device install, that is OK. You are done the initial software setup step.

Upload firmware to your 18R, 18R2, 18M and Audio Box

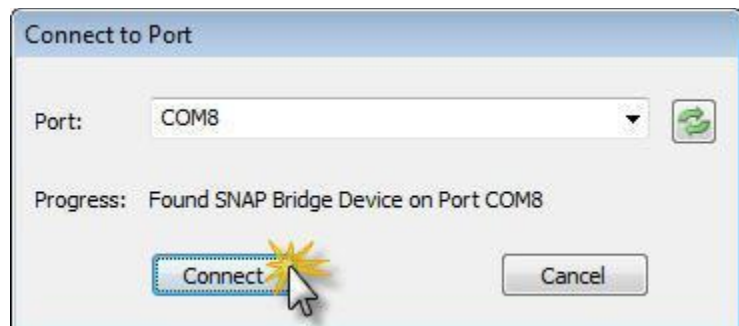
Now that the initial setup is performed, you are ready to upload the latest COBRA firmware to your devices including the 18R, 18R2, 18M, and Audio Box.

Important!: Please update **all devices** using the following steps in the **exact specified order**.

Step 1: Download latest COBRA firmware release version - Go to <http://www.cobrafiringsystems.com/release> and click on the desired version download zip file. Extract all files to the My Documents > Portal > snappyImages directory. In Windows 7, this directory is in Libraries > Documents > Portal > snappyImages. Same as within the initial software setup, do not save the files into the c:\Program Files\Portal\snappyImages directory. Also, make sure the extracted files are not in a separate directory. Instead, the files should display within the snappyImages directory.

Step 2: Connect the SNAP wireless reprogrammer to the PC - Plug the SNAP STICK re-programmer into your PC.

Step 3: Launch Portal and connect to reprogrammer - Launch the Portal program. You will likely have a desktop icon automatically added during the install process. Once launched, a **Connect to Port** window will appear (see below). Your PC should recognize the device on a specific COM port. Once recognized, a COM# or "SNAP STICK" followed by a number will display. click **Connect**. If the device is not recognized, please re-boot your PC and try again. If still unrecognized, please email ssmith@cobrafiringsystems.com.



Step 4: Update the 18R or 18R2 firmware

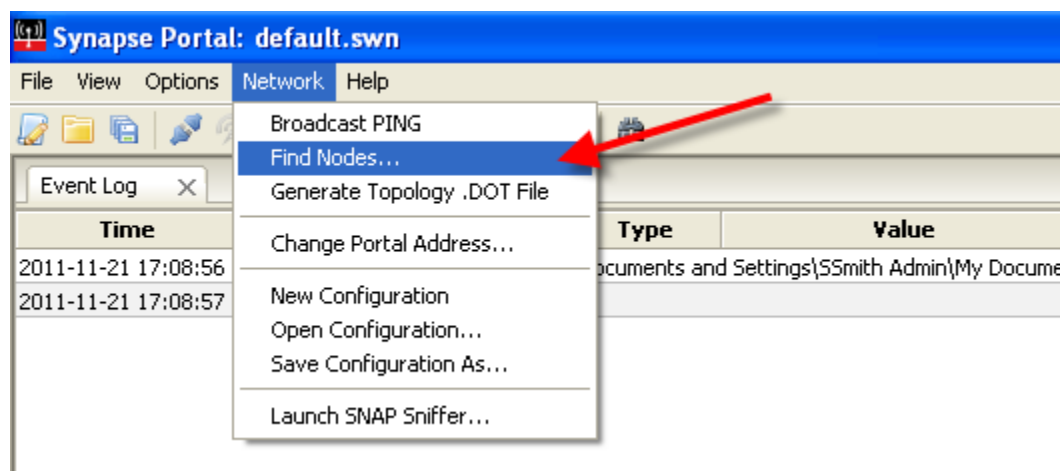
Having fun yet? Brace yourself - this is the hardest part.

We will begin with updating your 18R or 18R2. For the 18R, you need to only update the radio transceiver using Portal. The 18R2 has a radio transceiver and an extra processor. Therefore, 18R2 has the step of updating the extra processor not within the 18R. If you have multiple 18Rs or 18R2s, please repeat this step for each device.

a) Power on your 18R or 18R2. Make sure no other units are powered on, only the 18R or 18R2 you are updating.

b) **ONLY If your 18R or 18R2 firmware is 3.0.2 or greater**, you need to place the device in “program” mode. If your running 3.0.1 or earlier, please skip this step. Press and hold the SYNC button once the unit is fully powered on, and the channel is displaying. Once “P” displays, release the SYNC button. If you are unsure of your 18R or 18R2 firmware, power the unit off and on. The firmware is displayed as three numbers X.Y.Z where the channel normally displays. For example, 2.1.1, 3.0.1, etc... Higher numbers represent newer versions.

c) From Portal, click **Network > Find Nodes**.



d) Select **Channel 4** and click **Scan**. Two results should appear. If two results don't appear, re-click scan a few more times until they do. In some cases, this can take 5+ tries.

e) From the **Node Finder** window results, write down the **Network ID** of the 18R or 18R2. You can compare the network address of the SNAP Stick from the Node Views tab to the Find Nodes search results to determine which unit is your 18R or 18R2. Write down the Network ID of the 18R or 18R2 you are updating. See below for help.

The screenshot shows the Synapse Portal interface. The **Node Views** window displays a table of active nodes:

Node	Network Addr...	Device Image	Link Qua...	Device Type
Portal	00.00.01			Portal
SnapStick	05.26.BA	SnapStick	5%	None

The **Node Finder** window is open, showing search results for Channel 4:

Network Address	Channel	Network ID	LQ	Device Image
C0.00.A9	4	0x2500		
05.26.BA	4	0x0000		

Red annotations include:

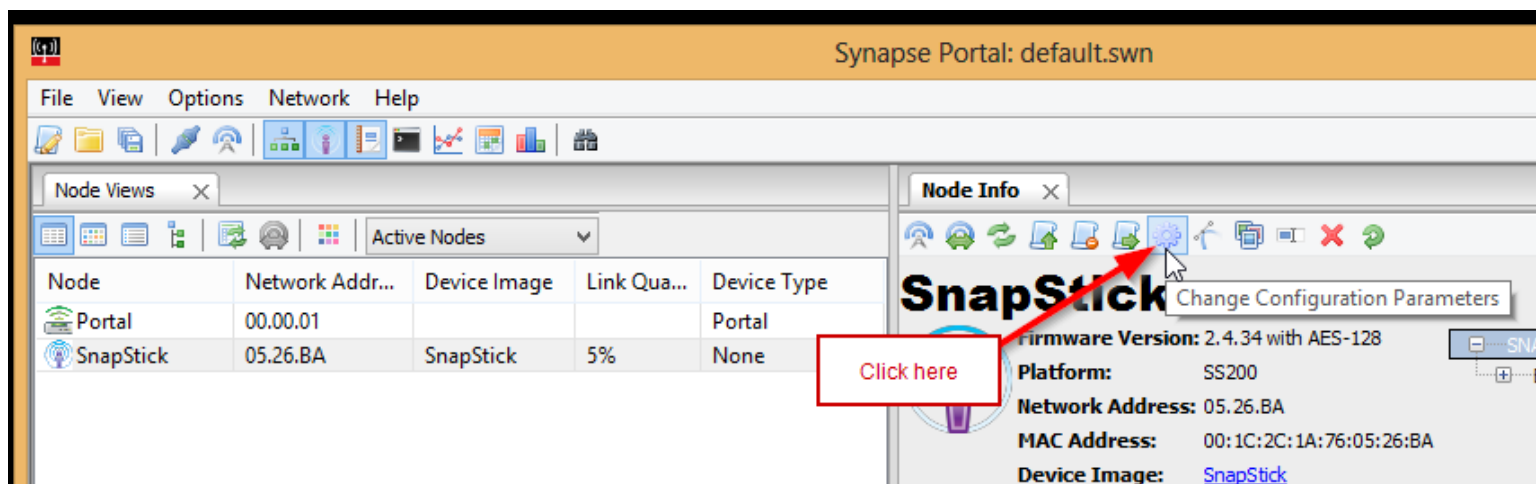
- A box pointing to the 'SnapStick' row in Node Views: "This is your SNAP STICK because the network address is the same."
- A box pointing to the '0x2500' Network ID in Node Finder: "This is your 18R or 18R2 because the Network Address is different. Write down the Network ID. For example, in this case 0x2500."
- A box pointing to the 'X' button in Node Finder: "Click X to close Node Finder window."

f) Close the **Node Finder** window.

g) From the **Node Views** tab, double left-click the row that says **Snap Stick**. You may see nothing happen after clicking, however the **Node Info** tab is now displaying the Snap Stick.

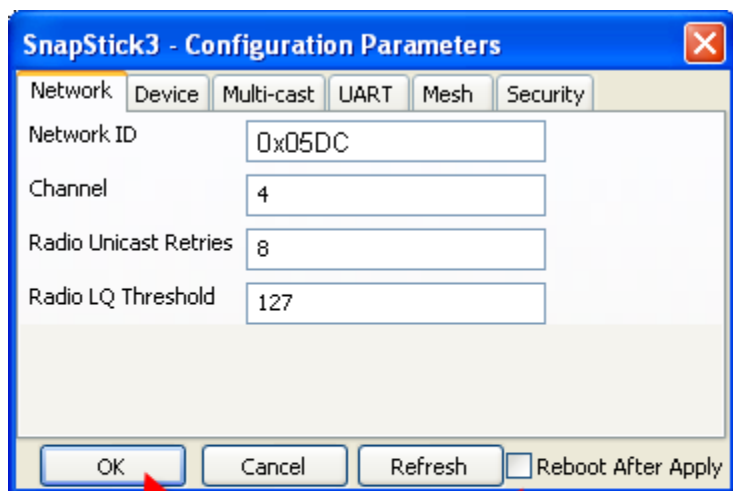
The screenshot shows the Synapse Portal interface with the **Node Views** window. A red box highlights the 'SnapStick' row with the text: "Double left-click this row."

h) Click the small gear icon from the **Node Info** tab. See below.



i) From **Network** tab, replace the current **Network ID** with the value you wrote down in step e) earlier. For example, 0x2500. If you just bought the reprogrammer, you will replace the word "None" with the Network ID.

j) Check the **Reboot After Apply** box. Then, click **OK**.

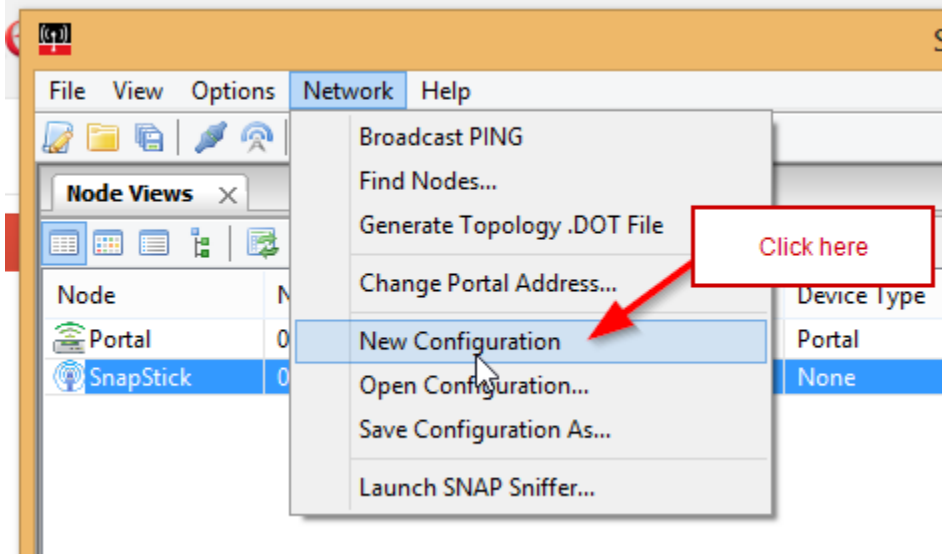


2. Click OK

1. Check here

k) Close the **Configuration Parameters** window.

l) From the **Network** menu, select **New Configuration**. This will refresh the **Node Views** tab.

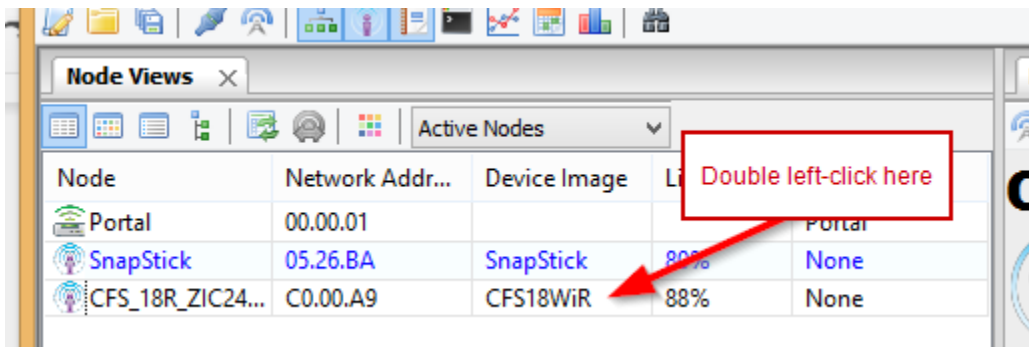


m) From the **Node Views** tab, you should see three rows including **Portal**, **SnapStick**, and a third row with a device image such as CFS18WiR or CFS18WiR_V2_RF200. If you see something different in the **Device Image** column, this is OK. As long as your 18R or 18R2 is the only device powered on, this is normal.

Note: If you don't see a third row, close and restart Portal and repeat step k). Also make sure your 18R or 18R2 still displays "P" if the firmware version is 3.0.2 or greater.

n) Double left-click on this third row (ie. CFS18WiR or CFS18WiR_V2_RF200) that is not Portal or SnapStick. You may see nothing happen after clicking, however the **Node Info** tab is now displaying the 18R or 18R2.

Important! DO NOT double left-click on the SnapStick as you may end up reprogramming the reprogrammer which may damage the unit.



o) From the **Node Info** tab, click the green up arrow icon (see step **o**) below). The **SNAPpy Image** window will appear.

p) From the **SNAPpy Image** window, left click the the appropriate software file. For example, if you're upgrading the 18R2 to 3.0.3, select 18R2-3.0.3.spy. The naming convention is the device (ie. 18R or 18R2) followed by a dash and the version number and the .spy file extension. For example, the 18R2 on 3.0.3 is 18R2-3.0.3.spy.

Synapse Portal: default.swn

File View Options Network Help

Node Views X

Active Nodes

Node	Network Addr...	Device Image	Link Qua...	Device Type
Portal	00.00.01			Portal
SnapStick	05.26.BA	SnapStick	80%	None
CFS_18R_ZIC2...	C0.00.A9	CFS_18R_ZIC...	93%	None

Node Info X

CFS_18R_ZIC2410

Firmware Version: 2.4.10

Platform:

CFS_18R_ZIC2410 - SNAPpy Image

Please select the SNAPpy image you would like to upload. This operation is service affecting.

- 18M-2.1.spy
- 18M-3.0.spy
- 18M302.spy
- 18R-2.1.spy
- 18R-3.0.2a.spy
- 18R2-2.1.spy
- 18R2-3.0.spy
- 18R2302.spy
- 303aCFS_18M_ZIC2410.spy
- AB-3.0.spy
- atFlasher.py
- atMcast.py
- Audiobox302.spy
- BatteryMonitor.py
- buzzer.py

OK Cancel Preview

Event Log X

Time	Event	Device	Type	
2014-04-30 09:10:06	QUERY	CFS_18R_ZIC2410	Version	2.4.10, (Jul 14 2010)
2014-04-30 09:10:06	NV PARAM	CFS_18R_ZIC2410		
2014-04-30 09:10:06	QUERY	CFS_18R_ZIC2410		
2014-04-30 09:10:06	QUERY	CFS_18R_ZIC2410		
2014-04-30 09:10:06	NV PARAM	CFS_18R_ZIC2410	MAC Address	00:1C:2C:00:00:C0:
2014-04-30 09:10:06	QUERY	CFS_18R_ZIC2410	SNAPpy Space	19968
2014-04-30 09:10:06	NV PARAM	CFS_18R_ZIC2410	Device Type	None

1. Click on green up arrow icon here.

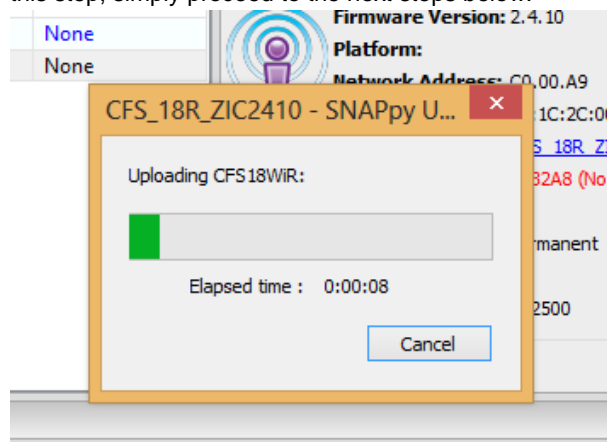
2. Select the appropriate software file.

3. Click OK.

q) Click **OK**. A green progress bar will progress from left to right.

Note: Once complete, you may see a **red error** in the **Event Log** noting the node cannot be detected. The Firmware Version may also say "out of date". Both of these errors are normal.

Note: Once updated, the 18R2 is **not recognizable** by Synapse Portal unless you proceed to the next steps. Please don't attempt to re-perform this step, simply proceed to the next steps below.



r) Once finished, if you updated the 18R, the 18R will restart. If you updated the 18R2, the 18R2 won't restart. This is normal.

s) If you updated the 18R, you are done!

t) If you updated the 18R2, save the **cobra.s19** file to a standard USB thumb drive. The cobra.s19 file was downloaded in Step 1) from <http://www.cobrafiringsystems.com/release> in the firmware release zip file. Make sure the cobra.s19 file is not saved into a directory on the USB thumb drive.

Note: It is OK to have both the cobra.s19 and audiobox.s19 files saved to the USB thumb drive along with any other files. You don't need to remove all files from the thumb drive.

u) Power off the 18R2 and insert the USB thumb drive into USB port on the side of the 18R2.

v) Hold the SYNC button on the 18R2 and power on the 18R2 at the same time you are holding this button. You should see red LEDs circle around the display. You can release the SYNC button at this time. After about 15 seconds, the 18R2 will display all green LEDs and then power off.

Note: If you see all red LEDs instead of circling red LEDs when first powering on the 18R2, your USB thumb drive is not compatible with the 18R2. We suggest purchasing the Sandisk brand at Wal-mart. Purchase the cheapest one available with the lowest number of GB.

w) Remove the USB thumb drive, and restart the 18R2. You will see the new version display correctly. You are done!

Step 5: Update the 18M firmware

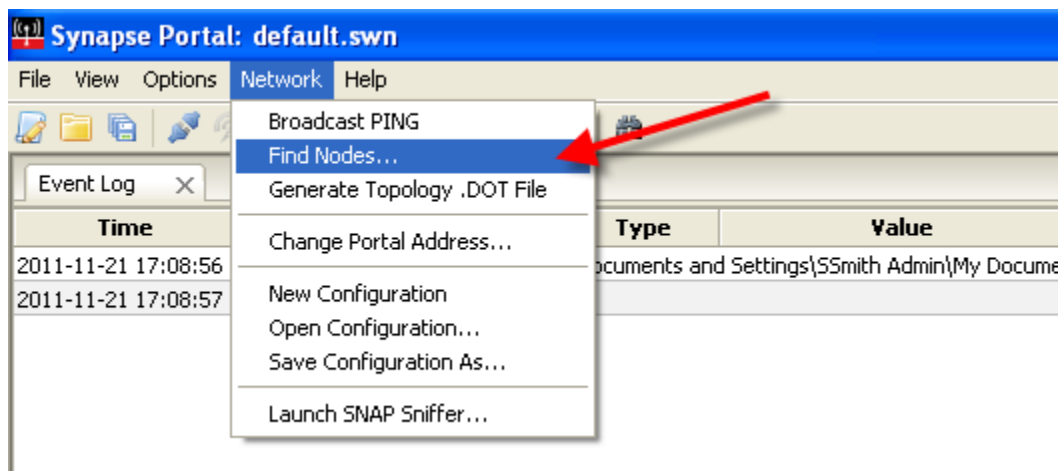
Congrats! If you successfully made it this far, you are still alive, kicking, and are well on your way. Consider yourself a reprogramming wizard.

The 18M only has a radio transceiver and therefore only requires one step vs. two. We suggest repeating the following steps for each 18M.

a) Power on the 18M by placing the key in the TEST or ARM position. Make sure only a single 18M is on. Power off all other devices.

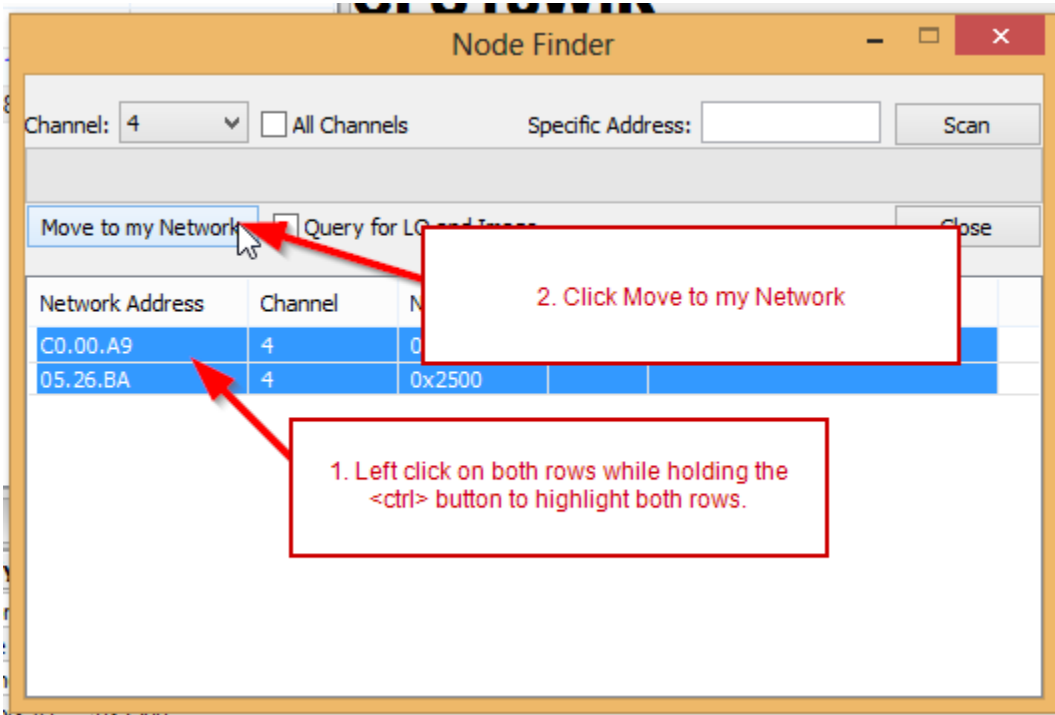
ONLY If your 18M firmware is 3.0.2 or greater, you need to place the device in “program” mode. If your running 3.0.1 or earlier, please skip this step. Press and hold the SYNC button once the unit is fully powered on, and the channel is displaying. Once “P” displays, release the SYNC button. If you are unsure of your 18M firmware, power the unit off and on. The firmware is displayed as three numbers X.Y.Z where the channel normally displays. For example, 2.1.1, 3.0.1, etc... Higher numbers represent newer versions.

b) From the **Network** menu, select **Find Nodes**.



c) From the Node Finder window, select **Channel 4**. Then, click **Scan**. Two results should appear. If two results don't appear, re-click scan a few more times until they do. In some cases, this can take 5+ tries.

d) Once two rows appear, hold down the <ctrl> button and left-click on both rows to highlight both. Once highlighted, click **Move to my Network**.



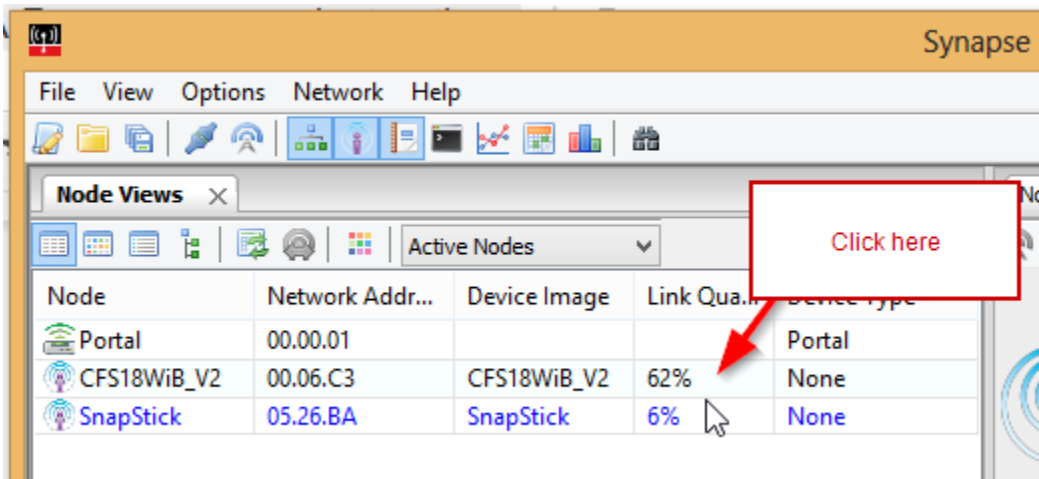
e) You will receive a success message. Click **OK**. Then, close the **Node Finder** window.

f) From the **Network** menu, click **New Configuration**. The Node Views tab will refresh and you should see three rows including **Portal**, **SnapStick**, and a third row with a device image such as CFS18WiB. If you see something different in the **Device Image** column, this is OK. As long as your 18M is the only device powered on, this is normal.

Note: If you don't see a third row, press and hold the SYNC button on the 18M for about 3 seconds. If the row still does not appear, close and restart Portal and repeat step f). Also make sure your 18M still displays "P" if the firmware version is 3.0.2 or greater.

g) Double left-click on the third row (ie. CFS18WiB) that is not Portal or SnapStick. You may see nothing happen after clicking, however the **Node Info** tab is now displaying the 18M.

Important! DO NOT double left-click on the SnapStick as you may end up reprogramming the reprogrammer which may damage the unit.



h) From the **Node Info** tab, click the green up arrow icon (see step i) below). The **SNAPpy Image** window will appear.

i) From the **SNAPpy Image** window, left click the the appropriate software file. For example, if you're upgrading the 18M to 3.0.3, select 18M-3.0.3.spy. The naming convention is the device (ie. 18M) followed by a dash and the version number and the .spy file extension. For example, the 18M on 3.0.3 is 18M-3.0.3.spy.

The screenshot shows the 'Node Info' window with a table of 'Active Nodes' and a 'Node' details panel. The 'Active Nodes' table has columns for 'Device Image', 'Portal', and 'SnapStick'. The 'Node' panel shows 'Firmware Version: 2.4.10', 'Platform:', and 'Network Address: 00.06.C3'. A 'Node - SNAPpy Image' dialog box is open, displaying a list of software files. Red boxes and arrows indicate the following steps:

1. Click on green up arrow icon here.
2. Select the appropriate software file.
3. Click OK.

The 'Node - SNAPpy Image' dialog box contains the following text: "Please select the SNAPpy image you would like to upload. This operation is service affecting." The list of files includes: 18M-3.0.spy, 18M302.spy, 18R-2.1.spy, 18R-3.0.2a.spy, 18R2-2.1.spy, 18R2-3.0.spy, 18R2302.spy, 303aCFS_18M_ZIC2410.spy, AB-3.0.spy, atFlasher.py, atMcast.py, Audiobox302.spy, BatteryMonitor.py, buzzer.py, and CFS18WiB_V2.py. The 'OK' button is highlighted with a red arrow.

j) Click **OK**. A green progress bar will progress from left to right. Once complete, you may see an error in the Event Log noting the node cannot be detected. The Firmware Version may also say "out of date". Both of these errors are normal.

Note: If this process times-out, or the is somehow cancelled mid-process, see the section "Help! My device is dead" at the end of this document to help recover the unit.

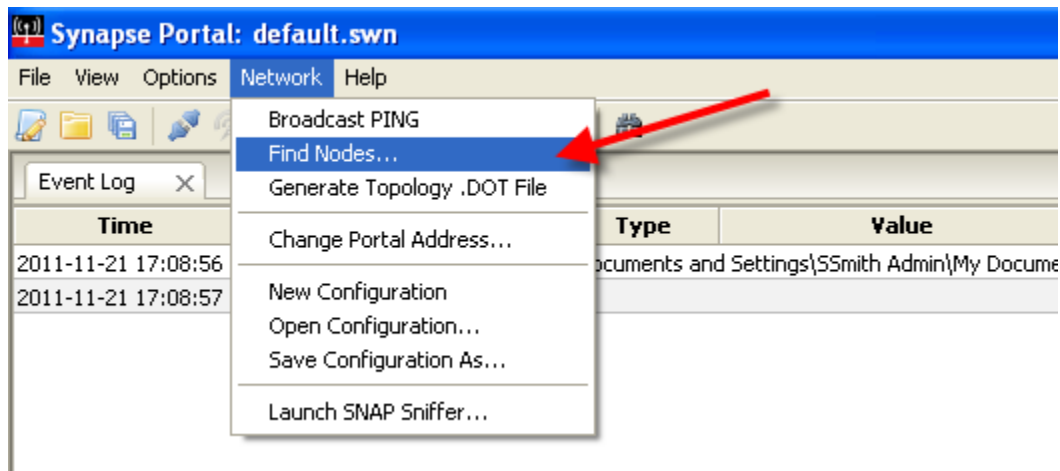
k) Once finished, the 18M will restart automatically and display the new software version. You are done! Repeat this process for each 18M.

Important! Once updated, you may be required to re-sync your 18M to the 18R or 18R2.

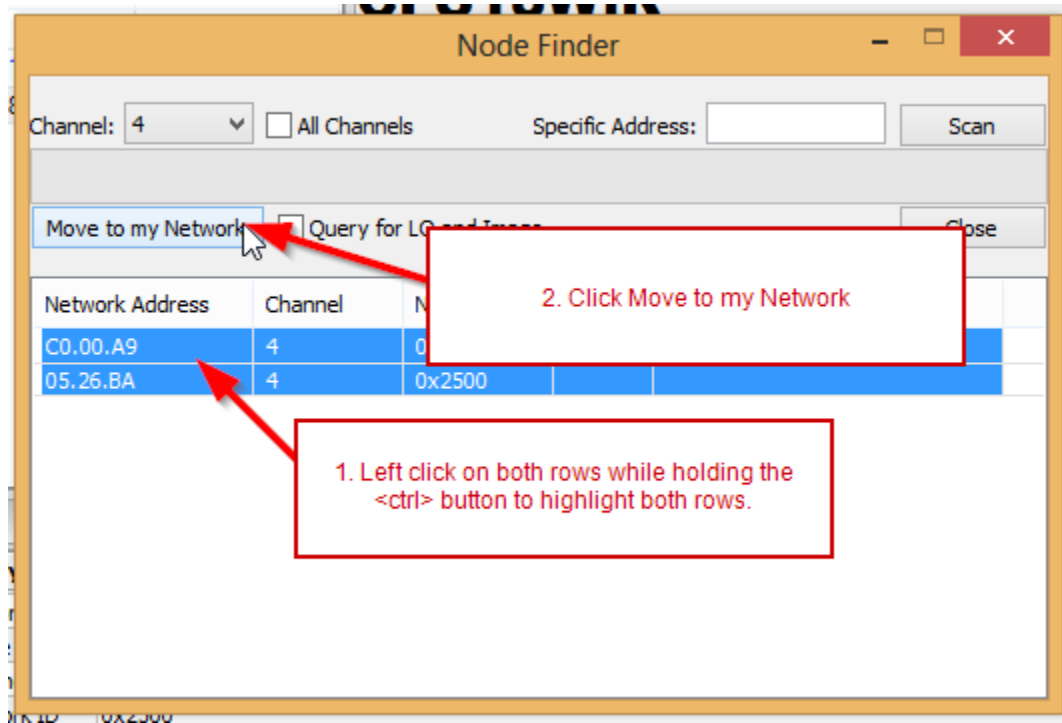
Step 6: Update Audio Box firmware

The Audio Box firmware update process is nearly identical to the 18R2 process since it has both a radio transceiver and processor. There are two steps required including Portal and a standard USB thumb drive.

- a) Power on your Audio Box. Make sure no other units are powered on, only the Audio Box you are updating.
- b) **ONLY If your Audio Box firmware is 3.0.2 or greater**, you need to place the device in “program” mode. If your running 3.0.1 or earlier, please skip this step. Press and hold the SYNC button for about 3 seconds after powered on. The SYNC LED will display solid even after the SYNC button is released. If the SYNC LED is still lit without holding the button, it is in “program” mode.
- c) From Portal, click **Network > Find Nodes**.



- d) Select **Channel 4** and click **Scan**. Two results should appear. If two results don't appear, re-click scan a few more times until they do. In some cases, this can take 5+ tries.
- e) Once two rows appear, hold down the <ctrl> button and left-click on both rows to highlight both. Once highlighted, click **Move to my Network**.



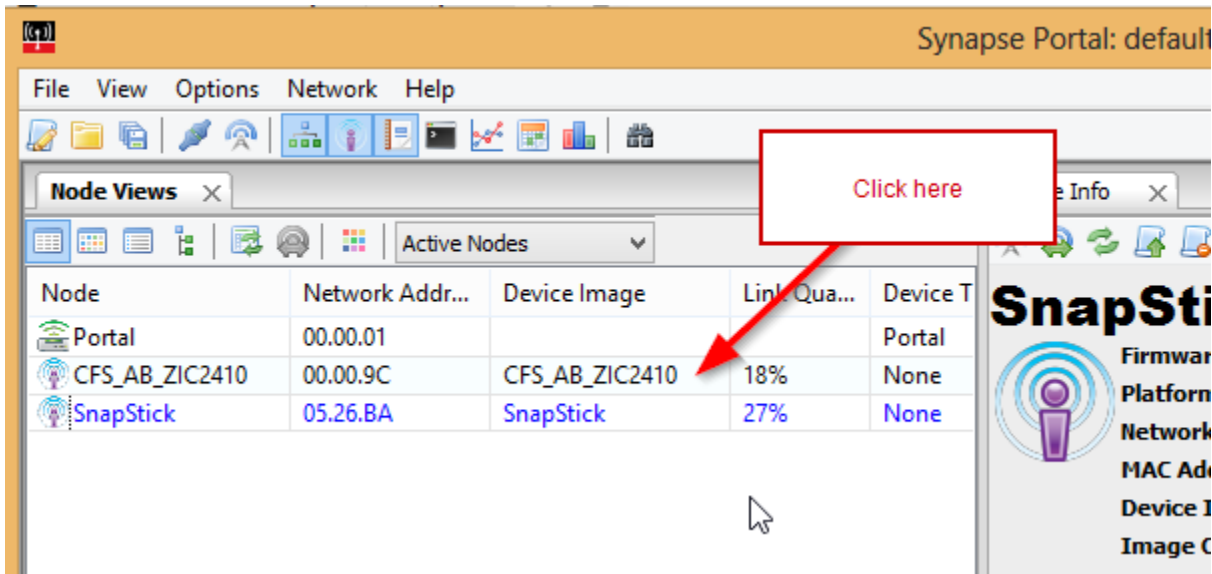
f) You will receive a success message. Click **OK**. Then, close the **Node Finder** window.

g) From the **Network** menu, click **New Configuration**. The Node Views tab will refresh and you should see three rows including **Portal**, **SnapStick**, and a third row with a device image such as CFS_AudioBox or CFS_AB_ZIC2410. If you see something different in the **Device Image** column, this is OK. As long as your Audio Box is the only device powered on, this is normal.

Note: If you don't see a third row, close and restart Portal and repeat step g). Also make sure your Audio Box still displays a solid SYNC LED if the firmware version is 3.0.2 or greater.

h) Double left-click on this third row (ie. CFS_AudioBox or CFS_AB_ZIC2410) that is not Portal or SnapStick. You may see nothing happen after clicking, however the **Node Info** tab is now displaying the Audio Box.

Important! DO NOT double left-click on the SnapStick as you may end up reprogramming the reprogrammer which may damage the unit.



The screenshot shows the Synapse Portal software interface. The main window displays a table of nodes. A red box highlights the 'Link Qua...' column for the 'CFS_AB_ZIC2410' row, with a red arrow pointing to it and the text 'Click here'.

Node	Network Addr...	Device Image	Link Qua...	Device T
Portal	00.00.01			Portal
CFS_AB_ZIC2410	00.00.9C	CFS_AB_ZIC2410	18%	None
SnapStick	05.26.BA	SnapStick	27%	None

On the right side of the interface, there is a 'Node Info' tab for the selected 'CFS_AB_ZIC2410' node, showing details such as Firmwar, Platform, Network, MAC Ad, Device I, and Image C.

i) From the **Node Info** tab, click the green up arrow icon (see step j) below). The **SNAPpy Image** window will appear.

j) From the **SNAPpy Image** window, left click the the appropriate software file. For example, if you're upgrading the Audio Box to 3.0.3, select AB-3.0.3.spy. The naming convention is the device (ie. AB) followed by a dash and the version number and the .spy file extension. For example, the AB on 3.0.3 is AB-3.0.3.spy.

The screenshot shows the Synapse Portal interface with the following components:

- Node Views Table:**

Node	Network Addr...	Device	Device T
Portal	00.00.01		Portal
CFS_AB_ZIC2410	00.00.9C	CFS_AB_ZIC2410	18%
SnapStick	05.26.BA	SnapStick	27%
- Node Info Window:**

CFS_AB_ZIC2410
Firmware Version: 2.4.10
Platform:
Network Address: 00.00.9C
MAC Address: 00:1C:2C:00:00:00:9C
- SNAPpy Image Dialog:**

Please select the SNAPpy image you would like to upload. This operation is service affecting.

 - 18M-2.1.spy
 - 18M-3.0.spy
 - 18M302.spy
 - 18R-2.1.spy
 - 18R-3.0.2a.spy
 - 18R2-2.1.spy
 - 18R2-3.0.spy
 - 18R2302.spy
 - 303aCFS_18M_ZIC2410.spy
 - AB-3.0.spy
 - atFlasher.py
 - atMcast.py
 - Audiobox302.spy
 - BatteryMonitor.py
 - buzzer.py

Buttons: OK, Cancel, Preview
- Event Log Table:**

Time	Event	Device	Type
2014-04-30 10:29:43	QUERY	CFS_AB_ZIC2410	Version
2014-04-30 10:29:43	NV PARAM	CFS_AB_ZIC2410	Image CRC
2014-04-30 10:29:43	QUERY	CFS_AB_ZIC2410	Image CRC
2014-04-30 10:29:43	QUERY	CFS_AB_ZIC2410	Image CRC
2014-04-30 10:29:43	NV PARAM	CFS_AB_ZIC2410	Image CRC
2014-04-30 10:29:43	QUERY	CFS_AB_ZIC2410	Image CRC
2014-04-30 10:29:43	NV PARAM	CFS_AB_ZIC2410	Image CRC
2014-04-30 10:29:43	QUERY	CFS_AB_ZIC2410	Image CRC
2014-04-30 10:29:43	NV PARAM	CFS_AB_ZIC2410	Image CRC

k) Click **OK**. A green progress bar will progress from left to right. Once complete, you may see an error in the Event Log noting the node cannot be detected. The Firmware Version may also say "out of date". Both of these errors are normal.

Note: If this process times-out, or the is somehow cancelled mid-process, see the section "Help! My device is dead" at the end of this document to help recover the unit.

l) Once finished, the Audio Box won't look like it re-started. This is OK.

m) Save the **audiobox.s19** file to a standard USB thumb drive. The audiobox.s19 file was downloaded in Step 1) from <http://www.cobrafiringsystems.com/release> in the firmware release zip file. Make sure the audiobox.s19 file is not saved into a directory on the USB thumb drive.

Note: It is OK to have both the cobra.s19 and audiobox.s19 files saved to the USB thumb drive along with any other files. You don't need to remove all files from the thumb drive.

n) Power off the Audio Box and insert the USB thumb drive into USB port on the top of the Audio Box.

o) Hold the SYNC button on the Audio Box and power on the Audio Box at the same time you are holding the SYNC button. You should see SYNC LED blink quickly. You can release the SYNC button at this time. After about 15 seconds, the SYNC LED will stop blinking.

Note: If you don't see the SYNC LED blinking when first powering on the Audio Box, your USB thumb drive is not compatible with the Audio Box. We suggest purchasing the Sandisk brand at Wal-mart. Purchase the cheapest one available with the lowest number of GB.

p) Remove the USB thumb drive, and restart the Audio Box. You are done!

LAST STEP: DRY RUN YOUR SYSTEMS!

After performing an update, it is critical that you fully dry run your systems. This includes syncing them up, checking continuity, module counts, making sure they run a full script. Make sure you are seeing full operation before proceeding to fire the first show after the upgrade.

Any questions or concerns, please contact Scott Smith at 518-222-7410 or email me at ssmith@cobrafiringsystems.com.

Help! My device is dead.

If you have a device that won't power on due to a time-out or other issue, it's likely that the firmware was improperly loaded or corrupt. To fix the unit, please follow the following steps.

- 1) Power on the device even though it looks like it's dead. Make sure the dead device is the only device that is powered on.
- 2) Start Portal, connect to the SNAP reprogrammer, and click Network > Find Nodes.
- 3) Select Channel 4, and click Scan. You should see 2 results. Continue this process until 2 results appear. This may take 5+ times.
- 4) Click on both results while holding the <ctrl> key. This will highlight both rows.
- 5) Click Move to my Network. Click OK and close the Finder Node window.
- 6) Click Network > New Configuration. The node should appear as a third row in the Node Views tab. If it does not, restart Portal, connect to the SNAP reprogrammer, then click Network > New Configuration again.
- 7) If a third row appears, the Device Image column will likely be blank. Double click this row. The Node Info tab will display this device.
- 8) From the Node Info tab, click the green up arrow and select the appropriate software file. Click OK. Once the update is complete, the unit should re-start.

Important! If the dead device was an 18R or 18R2, you need to request a new Net ID from COBRA. Please email ssmith@cobrafiringsystems.com for further information. If the dead device is an Audio Box or 18M, you don't need to request a new Net ID.