[BETA] RBS Internet Installation/Usage Instructions
(Last Updated: 2023-03-17)

Note: If the Internet Update has been installed already (as shown by the "Internet Update Installed?" item on the About screen), then skip to the "Usage" section below.

<u>Installation</u>

In order to configure the Red Box to be able to connect to the Internet, **<u>v00.01.15</u>** of the software **must** be installed before the Internet capability will be enabled. No other version of the Red Box software will properly configure the Red Box for the Internet. However, this particular installation only needs to be completed *once* per Red Box. In other words, once v00.01.15 has been installed on a Red Box, then subsequent version(s) of the Red Box software can be installed, and the Red Box will retain its Internet capability.

Note: It can be determined whether v00.01.15 (the "Internet Update") has been installed on a given Red Box by going to the "About" screen and looking for "Internet Update Installed?" value on the left side of the screen. If the value is "Yes", then v00.01.15 has been installed previously. Else, v00.01.15 will need to be installed to enable Internet access/features.

Prerequisites

(1) v00.01.15 of the Red Box software;

(2) (optional) subsequent version of the Red Box software;

(3) an approved Ethernet-to-USB dongle from RedBoardSystems; and

(4) a high-speed Ethernet connection to the Internet (with at least 20-25 Mbps upload speed).

Steps for Installation

(1) Install version 00.01.15 of the Red Box software onto the Red Box, per the usual USB update procedure.

(2) After installation, verify that the software was properly installed on the Red Box by looking at the top of the Red Box "About" screen for the Version number. The version should be "v00.01.15".

(3) (Optional) Install any subsequent updates after v00.01.15. See **Examples** below.

(4) After the Red Box is rebooted, enter the License Number into the Red Box under Settings --> Other --> License Number. This is an important step, since each Red Box is uniquely identified at the Server by this License Number.

Note: The License Number may be found on the label affixed to the bottom of the Red Box.

(5) After the License Number is entered into the Red Box, power down the Red Box by unplugging the power cord.

(6) Plug the approved Ethernet-to-USB dongle into the USB slot on the Red Box.

(7) Plug the high-speed Ethernet cable to the Ethernet-to-USB dongle.

(8) Power on the Red Box. Wait until the READY light blinks at a rate of about 2 times per second. At this point, the Red Box is ready to use.

(9) If successful, internet connected devices should be able to connect to **https://myredbox.live/[License Number]** in a Chrome browser. See the *Usage* section below for more details. If this does not work, see the *Troubleshooting* section below.

Example 1: (user wants to update from v00.01.13 to v00.01.17 while enabling the Internet)

Step 1: Install v00.01.15 (to enable the Internet on the Red Box)
Step 2: Install v00.01.17

Example 2: (user wants to update from v00.01.13 to v00.01.17 <u>without</u> the need to enable the Internet)

Step 1: Install v00.01.17 (no need for v00.01.15 since Internet connectivity is not required)

Example 3: (user wants to update from v00.01.17 to v 00.01.18 as well as enable the Internet for the first time)

Step 1: Install v00.01.15 (to enable the Internet on the Red Box)
Step 2: Install v00.01.18

<u>Usage</u>

Note: These usage instructions assume that the <u>Internet has already been properly installed/enabled</u> on the Red Box, and that the <u>License Number is set and correct</u> under Settings --> Other --> License Number.

(1) Attach an ethernet cable to a USB-to-Ethernet adapter and plug the adapter into the Red Box <u>before</u> powering it up.

(2) Power on the Red Box and wait for the green READY light to blink about 2 times a second, which indicates that the Red Box is ready to operate. This may take a few minutes, depending on the upload speed of the internet connection.

(3) In a Chrome browser (preferably on a tablet or a laptop/computer), go to **https://myredbox.live/[License Number]**

Example: https://myredbox.live/1234567890

Note: It is important that the "s" of "https" be entered, as an unsecure connection to the Server will not work properly.

Features/Quirks/Notes

(1) **It is important to note that the Internet connectivity functionality for the Red Board System is currently in the "BETA" stage of development, and is to be used at the user's own risk.**

(2) As of the time of this writing, most Events, States, and Settings are updated on the Server from the Red Box in real-time. Although every reasonable effort has been made to ensure the accuracy and timeliness of this data, it is not guaranteed that the web client will represent the exact status of the Red Box with 100% accuracy.

(3) As of this writing, although the Buttons, Menus and Settings appear to be "enabled" on the web client, none of the Buttons, Menus and/or Settings are functional with respect to the Red Box. Thus, the user cannot start or stop the Dryer, nor otherwise change any parameters of the Red Box from the web client, even if the Buttons, Menus and/or Settings appear to function via the web client. In other words, at this time, the web client is "read only" and does not serve to actually control the Dryer in any way.

(4) After the appropriate software is installed, the Internet functionality is designed to be "Plug and Play." Once connected via Ethernet, upon powering ON the Red Box assumes it will be assigned an IP address by the router on the user's network. It is contemplated that the Red Box will be assigned an IP address by DHCP. However, the Red Box can be assigned a static IP if desired, but the Red Box cannot request a static IP.

(5) There have been mixed results with viewing the graphical user interface on phone-sized devices. Therefore, it is recommended to use a tablet or laptop/computer (using a Chrome browser) for a better experience.

(6) If the data is not refreshing on the web client, try refreshing the page.

(7) Multiple users can view the data on the Server concurrently. This allows, for example, for a user and a Dealer to be able to view a single Red Box at the same time, remotely.

(8) It is important that the user not publish or give out the Red Box License Number unless the user wants others to be able to view Dryer data. It is planned to implement a user-settable passcode in a future software release to add extra security and privacy. However, this feature is not implemented as of the date of this writing.

(9) Settings modified on the web client are stored on the Server. However, these Settings are not transmitted back to the Red Box itself. Thus, to avoid inconsistent states (between the Red Box and the Server), please do not change any Settings via the web client.

(10) Note that the Server synchronizes with the Red Box during the bootup of the Red Box. If the bootup process is taking too long, it can likely be shortened by clearing the database under Dryer Config --> Database Settings on the Red Box, and then cycling power.

(11) In general, the Server is software version agnostic. This means that, unless indicated otherwise, all internet-compatible versions of the Red Box (i.e., after v00.01.15) are supported by the Server concurrently for different users. This means that in general, users will not have to upgrade their Red Box software version every time a new version is released. This avoids unnecessary software upgrades if the user is satisfied with a given software version.

Troubleshooting

Problem/Issue	Possible Causes	Possible Solution(s)
The Red Box does not boot up at all when the Ethernet-to-USB is plugged in.	(1) The network configuration is not set up correctly to allow the Red Box to fully connect to the Internet. (2) There is a software bootup error.	(1) First, try power cycling the Red Box and see if the problem fixes itself. (2) To get the Red Box to boot up so that the user can at least run locally, power OFF the Red Box, unplug the Ethernet-to-USB adapter from the USB slot, and power ON the Red Box. (3) Set up the network so that the Red Box receives a DHCP (i.e., dynamic) address. (4) Make sure no firewalls are preventing access to/from the Red Box.
The website at **https://myredbox.live/[License Number]** is not populating data.	(1) The Red Box is not connected to the Internet. (2) The "s" in the "https" at the beginning of the URL address is missing.	(1) Make sure the network (ethernet) cable is plugged in, and that the network is functional. (2) Include the "s" in the URL address. This provides a secure connection and allows the Red Box to transmit and receive data securely.