

Series B Bryant® Evolution® Connex™ Control Version 3.94 Release Notes

July 12, 2021

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General



This document is provided in conjunction with the “hex” file [BINF0394.hex](#), which comprises the executable code for the following Bryant Evolution Connex System Control model numbers:

- SYSTXBBECC01-B
- SYSTXBBWEC01-B
- SYSTXBBECF01-B
- SYSTXBBWEF01-B

This software is **ONLY** compatible with these model wall controls.

Detailed instructions on uploading this software into the Bryant Evolution Connex System Control are included in this document. The software release package is available through this link:

http://cacbdpapps.net/marketing/eula/Evolution_Connex_V0394_EULA.html

Note: This software is for the Series B controls only. The Series A controls cannot use Series B software and vice-versa.

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Revision History

Version 3.94 (July 2021)

Version 3.94 software includes the following updates to the Series B Bryant® Evolution® Connex™ Control:

- Addressed issue where a restart causes BING to lose the equipment configuration for the 2-TON GS3 with FANCOIL model FE4ANB005 combination
- Energy tracking feature is updated to display daily usage values accurately in respective columns
- Updated the blower motor fault type (Code 41) from System malfunction to System fault
- Added support for 802.11n compatible routers
- Added capability for resetting reminders via mobile phone application.
- Fixed issue where system could operate in the wrong mode set by the user, resulting in possible over-conditioning.
- Track the cycle and hours of the variable speed operations
Displaying run time hours and Cycles for supported IDU and ODU is implemented.
- Wall control not clearing the root cause diagnostics on a reset to factory defaults
When the last 10 faults are specified to be factory reset, the last 10 faults and root cause faults recorded will be restored to factory defaults.
- Add 3 buckets for run times and cycles for 2+ stage furnaces
Displaying run time hours and Cycles for Modulating furnace is implemented.
- Addressed the issue to report valid ODU model upon new system installation
- Added feature to configure Low/High Temp and high/low humidity alerts.
- Getting Heat and Cool Set points as 0F,0F in utility Event Notification
If a utility event multi-property with offsets is received, then UI notification will show the actual offsets by which setpoint is being changed.
- Missing parameter log files on cloud
System control now sets Set To Cloud bit only one time for each data file preventing missing files on the cloud.
- Updated the dehumidification airflow logic so that the dehumidification airflow matches the expected airflow.
- Wall Control software has been updated so that old faults having same fault code number will not be shown as active on UI Screen and equipment events packet
- Added improvements to the GeoHP Windup Control
- For some of the faults the text is trimmed on Home screen
"Fixed the issue of fault text being trimmed in the Fault Message Box. Reset MAX_MSGBOX_LINE_LEN to 14."
- Account registration with mobile app using QR Code on GUI

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Displays a QR code on the registration info screen. The QR code contains the S/N number, MAC address, and pin number delimited by commas. The code reflects the current screen values. *Note: This feature requires the new mobile app, available soon.*

Changes specific to Bryant® Evolution™ Extreme 26 Air Conditioner and Bryant® Evolution™ Extreme 24 Heat Pump:

- Enhancement: PCM and VFD display - suggest showing "current" and "update"
System Control software has been updated to display fault strings with both base code and expansion codes from PCM.
- If Airflow Setting is changed in system control, it is taking more time to reflect in PCM in some instances
The airflow setting use to take 60+ seconds to update but now it takes 5-10 seconds.
- Change the system control defrost behavior in response to PCM changes
Removed the 5 minute post-defrost shutdown timer for ODU systems to match with an update in behavior on the PCM side.
- Support Stator Heat changes for ODU
Added new CESR Number / File name combos to the lookup map to add support for new ODU class B software
- Add new VFDs for ODU OTA update
Added support for the new VFD models with Stator Heat in system control equipment firmware update.
- OST and suction superheat for ODU are displayed for both AC and HP

Version 3.62 (December 2020)

Version 3.62 software includes the following updates to the Series B Bryant® Evolution® Connex™ Control:

- Fixed issue that prevents Wi-Fi connection to certain 802.11n-only routers, and a small subset of routers running in a "mixed mode" (802.11b/g/n). Solution is to enable the High Throughput Rates so the control can communicate via 802.11n.
If you are not experiencing connectivity problems, then there is no need to install this update.

Version 3.61 (October 2020)

Version 3.61 software includes the following updates to the Series B Bryant® Evolution® Connex™ Control:

- Reduced the Maximum Transmission Unit (MTU) to resolve connectivity issues with certain Internet Service Providers.
If you are not experiencing connectivity problems, then there is no need to install this update.

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Version 3.60 (September 2020)

Version 3.60 software includes the following updates to the Series B Bryant® Evolution® Connex™ Control:

Major updates:

- Some users experienced 3.40 OTA update leading to the screen going blank; wall control then recovers to v3.00 upon forced reboot. The primary cause has been corrected; but additional analysis is in progress to ensure this will not happen in the future.

Minor updates:

- False G-terminal Alerts could be triggered during learning process check, if the system control reads the status inputs from furnace and fancoil before they have been set properly.
- Fix provided in system control, G-terminal status is updated only after reading the control inputs status event from indoor control boards.
- Revised the Capacity Limiting logic to allow for duty cycling the Greenspeed3 to emulate a capacity lower than the set minimum.
- Resolved issue where cooling demand took a long time (~30 minutes) to start.
- Improved Fault Code handling for **Bryant® Evolution™ Extreme 24/26**
 - Fault Codes with differing expansion codes are now considered to be different codes and show up as separate entries in the Last 10 Events screen.
 - Now storing fault description messages in permanent memory to prevent incorrect messages displayed after a wall control reset.
 - If an active 127-EQUIPMENT UPDATE FAILURE fault occurs, it will be cleared after the next successful firmware update.
 - Fixes for mismatched fault code and fault description combinations in the Last 10 Events screen.
 - System control software has been updated to handle empty fault strings on status screens and refrigerant charging screens.
- The defrost on **Bryant® Evolution™ Extreme 24/26** can run longer than 15 mins and will not cause a system malfunction so that heat demand could run afterwards.
- Removed warning for LLV open on Charging screen.
- Help text for cycle counters and run times screens are added for both Air Conditioner and Heat Pump
- Utility Curtailment feature when active will get recorded in Last 10 events screen
- Refrigerant charging - pump down statuses were incorrectly displayed. Changes in pumpdown state typically take 5 seconds to reflect the actual state from the outdoor unit; in rapid state change from the NGIP, It can take 10 seconds to reflect that state change.
- Fixes for range and toggle button related issues for capacity limiting screens have been made in the system control.
- Corrections to Capacity Limiting minimum demand calculations; now applies the minimum demand limit as a part of the capacity limiting feature as opposed to the previous behavior where a minimum would not be imposed.

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Version 3.40 (June 2020)

Version 3.40 software includes the following updates to the Series B Bryant® Evolution® Connex™ Control:

Major updates:

The following new features are added for the following outdoor unit models:

- **Bryant® Evolution™ Extreme 26 Air Conditioner**
- **Bryant® Evolution™ Extreme 24 Heat Pump**
- **Quiet Mode**
 - The system control now supports the Quiet Mode setting for the outdoor unit. This is a configurable setting that limits the compressor speed to maintain a low level of noise. It is also called Silencer System II™ feature.
- **Capacity Limiting**
 - The system control now supports the Capacity Limiting feature for the outdoor unit. This is a user-configurable setting that sets minimum and maximum limits for the Bryant® Evolution™ Extreme's operating capacity.
 - Known issues: The outside air temperature range setting can only be set to "Limiting Above" the specified temperature; the capacity limiting feature is not working as expected when the MIN capacity is set to 50%,

Additional updates:

- Energy Estimate calculation issues, causing energy estimates to appear to be much higher than expected.
 - Energy usage was displayed incorrectly, giving a false reading of estimated energy used. This change is a modification of the conversion of watts to kilo watt hours (KWH). Under energy tracking, in the view energy usage screens, energy used is now displayed in KWH.
- The system control could update the outdoor unit to the same software version if the SD card was not removed after a successful update.
 - Added a periodic check of the SD card contents to see if the files are still valid for update.
- Service Valve Subcool Value - displayed value accuracy.
 - System control code is changed to display accurate Subcool values.
- Operating status on the home screen is not aligned with the actual equipment operation.
 - Home Screen equipment operation is now aligned to actual operation.
- Blower RPM shows as 0 when the IDU blower is operating.
 - The Blower RPM value was outputting 0 on the AC/HP checkout screen, so the AC/HP checkout screen has been updated to output the actual Blower RPM value.
- During system installation (learning), system control did not correctly discover the 24VNA624 ODU + FE4ANB005 fan coil combination.
 - Corrected a logic error in the learning process that prevented this valid combination from being recognized.

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- During checkout mode, received message "Info 104 - Low Indoor Temp Zone 2 Aux Heat" on HP's and AC's, cooling and heating mode.
 - The equipment Firmware update failure fault code has been updated from 104 to 127 on the system control and also a fix has been added in the system control for the issue where the equipment firmware update failure was being raised at startup of the wall control.
 - Discharge pressure is shown as "----" in AC Status/HP Status screen when the Discharge pressure is valid.
 - The system control has been updated to fix issue where the valid discharge pressure values were shown as invalid on the AC status/HP Status screens.
 - When running heat demand for fan coil and Bryant® Evolution™ Extreme HP combination, the wall control was showing "HP + Electric Heat" even when fan coil is being used to fulfill the demand.
 - The logic was updated for the Bryant® Evolution™ Extreme HP. Now, the status will be shown correctly, as per the units fulfilling demand.
 - System control was showing improper stages and empty values on the "Cycle Counters" and "Lifetime Hours" screens for a 1 Stage ULN furnace.
 - Adjusted both screen layouts to properly account for a 1 Stage Furnace and Input the proper runtime values to the new design.
 - Demand not being sent to Bryant® Evolution™ Extreme HP/AC.
 - Updated the capacity clamping function to return the correctly formatted result for the demand calculations.
 - Outside Air Temperature (OAT) value is always -12 F and not able to change in capacity limiting Heating screen.
 - With the capacity limiting feature now enabled in system control, the outside temperature should have default values of 55 F in heating and 75 F in cooling, the system control has been updated to fix the issue where on some wall controls out-of-limit values were seen.
 - ULN 90 Communicating Furnace Control - Wall control updates
 - Wall control updated the level of furnace control fault code 26 to malfunction fault and increased the number of re-settable furnace faults from 19 to 20.
 - Change default for time synchronization from disabled to enabled.
 - When connected to the server via Wi-Fi, the system control can automatically synchronize the local time based on date/time stamps received from the server. The system control has been updated to make this automatic synchronization the default, so it does not have to be enabled by the installer or homeowner. It can still be disabled, if desired.
 - Update equipment run-time parameters in the checkout mode.
 - Additional equipment run-time parameters (Blower RPM, Discharge Pressure, Outdoor Fan RPM, Low Ambient Cooling, AC Line Current, DC Bus Voltage, PFCM Temperature, and IPM Temperature) have been added to the AC/HP checkout mode screen to help the technicians evaluate the system's performance.

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Version 3.01 (June 2020)

Version 3.01 software includes the following updates to the Series B Bryant® Evolution® Connex™ Control:

Major updates:

- Fixed installation (system learning) issue in which the system control did not recognize the 2 Ton versions of the following AC/HP equipment models, in combination with the FE4ANF002 fan coil:
 - **Bryant® Evolution™ Extreme 26 Air Conditioner**
 - **Bryant® Evolution™ Extreme 24 Heat Pump**

Version 3.00 (April 2020)

Version 3.00 software includes the following updates to the Series B Bryant® Evolution® Connex™ Control:

Major updates:

- Supports new AC/HP equipment models:
 - Bryant® Evolution™ Extreme 26 Air Conditioner**
 - Bryant® Evolution™ Extreme 24 Heat Pump**
- Key features for new AC/HP equipment:
 - System Integration
 - Firmware Update of PCM & VFD via BING (OTA & SD Card)
 - Enhanced Fault Communication
 - Enhanced HP/AC Status Screen
 - Refrigerant Charging Update
 - Parameter Data Logging
- Improvements to Wi-Fi and connectivity long-term stability.
- Fixed various minor faults
 - Energy tracking and ENERGY STAR improvements
 - Minor GUI corrections and improvements
 - Fixed GeoHP integration issues
 - Multiple causes of Reboots found and corrected

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Version 2.40 (January 2020)

Version 2.40 software includes the following updates to the Series B Bryant Evolution® Connex System Controls:

Major updates:

- Added support for OpenADR2.0b compliance
- Backward compatibility with OpenADR2.0a
- Added support for FER airflow change requirement
- Added fix for the GeoHP Lake loop lockout feature
- GUI updates to support GeoHP Lake Loop
- Fixed various minor faults

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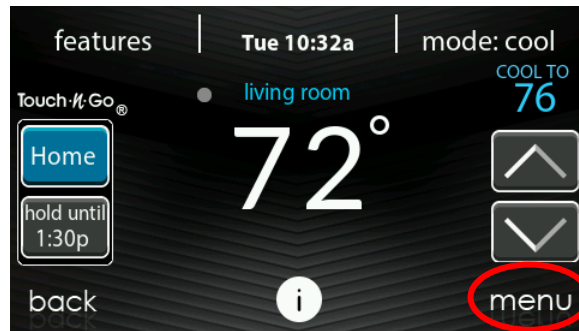
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Installation Instructions

Finding the Current Software Version

Before starting the software installation process, the current software version may be determined as follows:

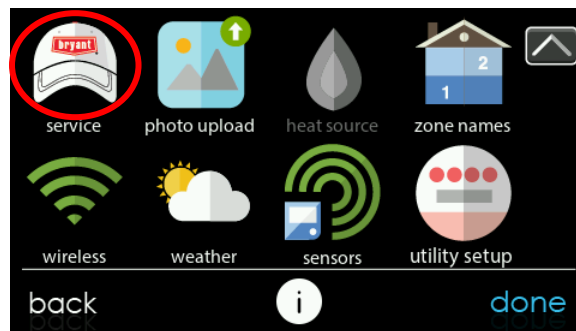
Press **menu** on the Main screen,



and then the down-arrow to go to the second menu screen.



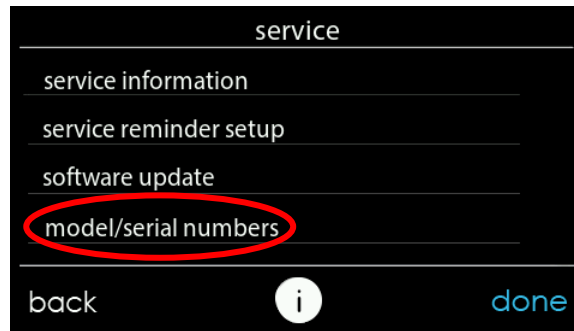
Touch **service** icon.



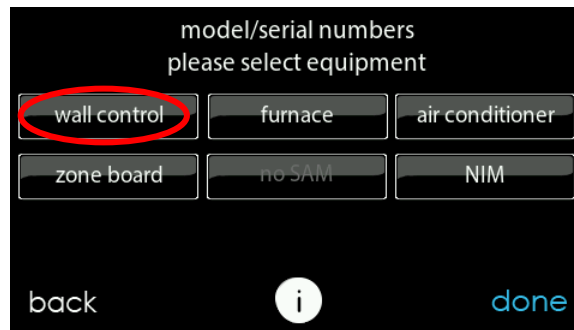
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Touch **model/serial numbers** on the resulting screen.

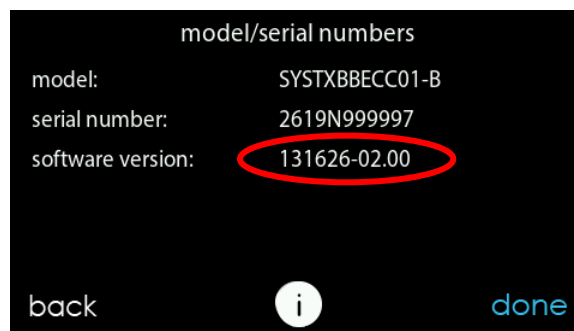


Touch **wall control** on the resulting screen.



View the Software Version number.

Software Version 131626-02.00, for example, is the production software version 2.00, released in August 2018.



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Downloading the Software Update

For Series B controls, software updates are provided over-the-air (OTA), or uploaded manually using a microSD memory device. The following instructions apply to the manual update process.

You will obtain best results using a MicroSD card that is between 4GB and 32GB in size, and formatted as a FAT32 device. Any other formatting (NTFS, exFAT, etc.) will result in an error of “please insert MicroSD card.”

To perform a control software update, follow these steps:

- Click on this link to obtain the updated software:

http://cacbdpapps.net/marketing/eula/Evolution_Connex_Control_V0394_eula.html

If the link does not work properly, copy the link into your browser web address window and open the link.

NOTE: You may NOT distribute the software itself. You may only distribute the link to the software, or this document.

- Read the End User License Agreement (EULA).

Evolution® System Control
End User License Agreement

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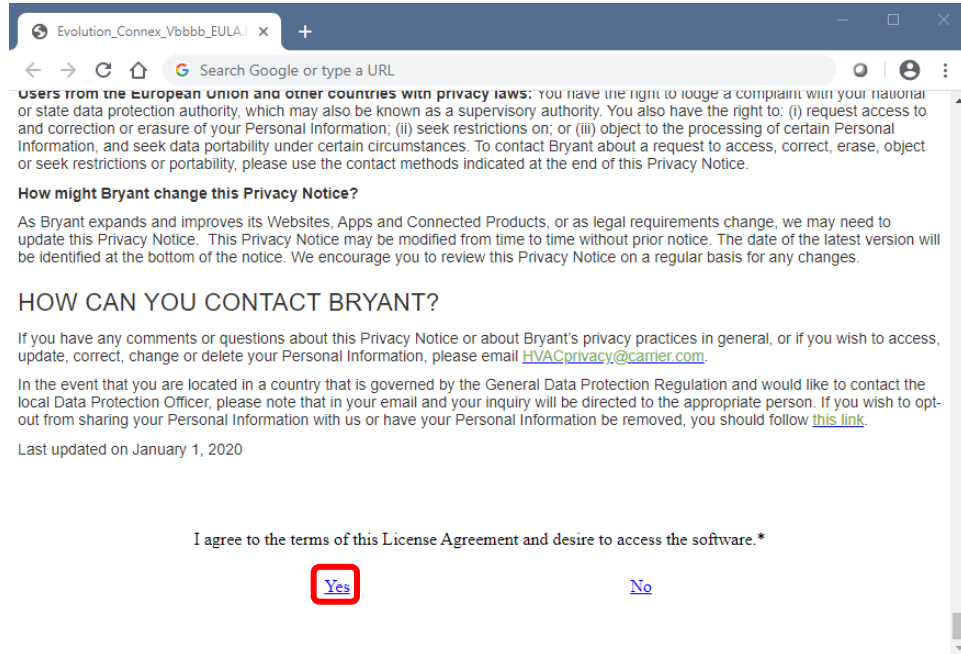
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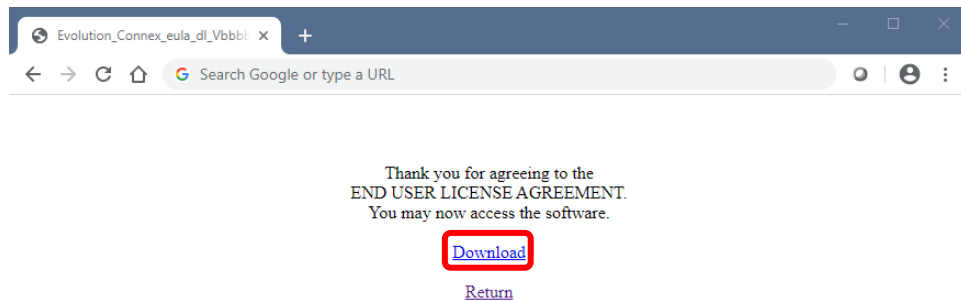
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- At the bottom of the EULA, choose “Yes” if you accept the agreement. If you do not wish to accept the agreement, you will not be able to download the software update.

NOTE: EACH user must accept the EULA each time the software is downloaded. You may NOT distribute the software itself. You may only distribute the link to the software, or this document.



- Use the Download link provided in the EULA document to download the software update package.

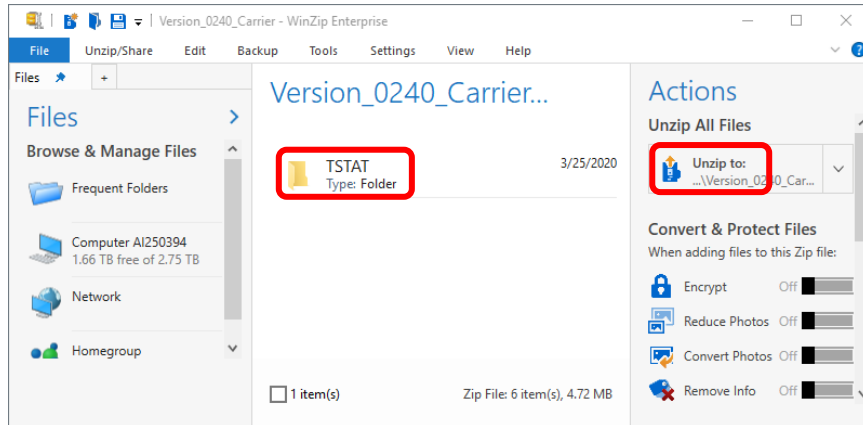


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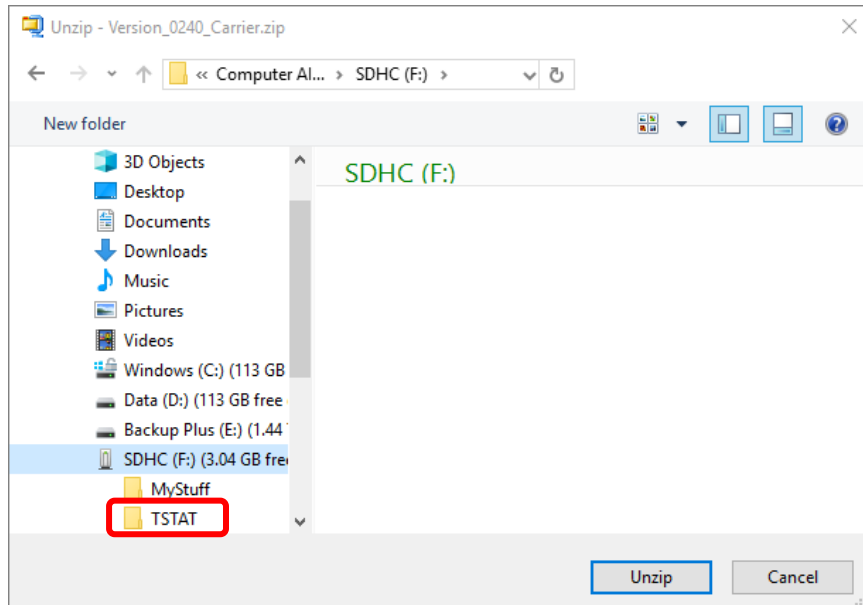
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- Once the file has been downloaded, open it in WinZip. Select the **TSTAT** folder, then the **Unzip to** action.

NOTE: The names of the files in the images below are examples, and will change with the latest version numbers.



- Choose the MicroSD memory device as the location to which to extract the folder from the zip file. This will create a new **TSTAT** folder, or over-write the existing **TSTAT** folder and any files contained within it. Click **Unzip**.

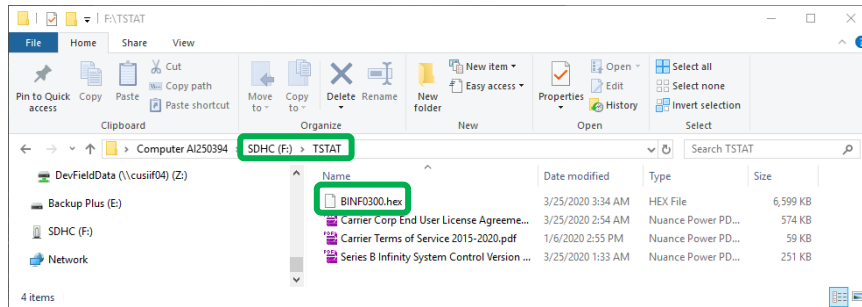


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- Verify that the files, including the [BINF0394.hex](#) file, have been extracted into the TSTAT folder of the MicroSD device. Note that the “USER” folder is where the photo and schedule files would be stored.

NOTE: *The names of the files in the images below are examples, and will change with the latest version numbers.*



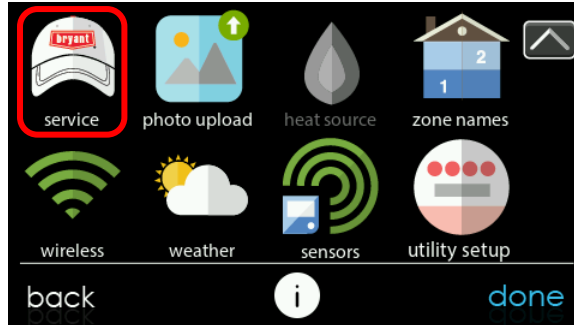
Next, eject the MicroSD from the PC and go on to the installation, below.

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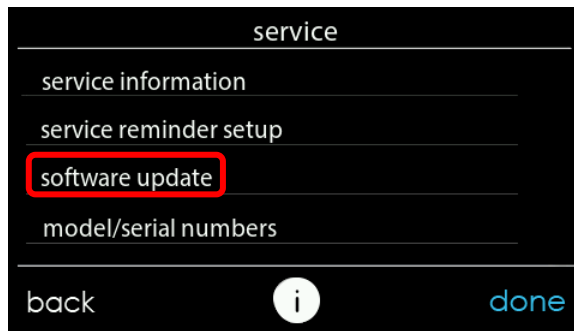
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Installing the Software Update

- From the **MENU** screen, select the **service** icon.



- Select **software update**. If this option does not appear, your dealer will need to install your software. Contact your dealer for assistance.



- Select **update software using MicroSD card**.



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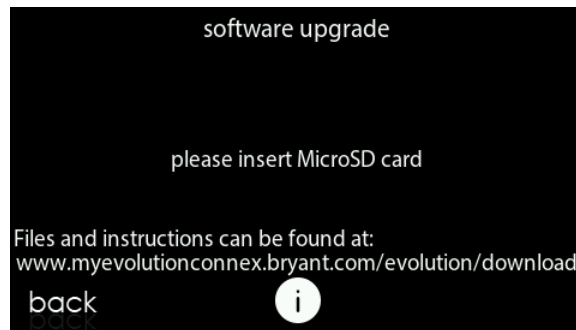
- Select **system control software update**.

Note: Some systems may include HVAC equipment capable of accepting a software update, but that is not covered in this document.



- Plug the MicroSD card into the bottom of the control.

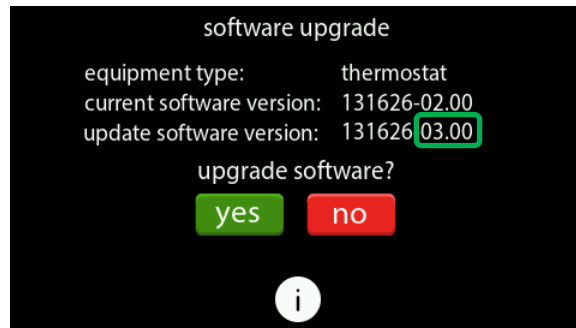
If this screen continues to appear, recheck the device and formatting. See the download section.



- If the .hex file is stored properly on the MicroSD device, this screen will appear. If the screen says, "Please insert MicroSD Device", remove the MicroSD device and re-insert. If it still does not show the screen, below, go back to the download part and retry.

NOTE: The names of the files in the images below are examples, and will change with the latest version numbers.

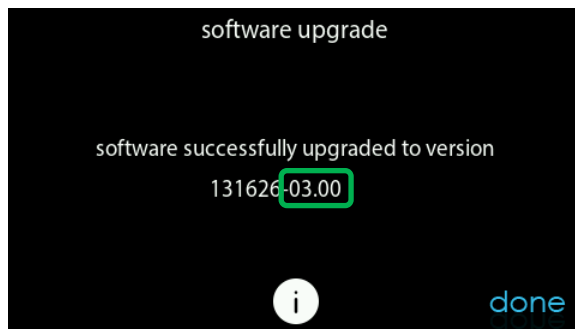
Press **yes** to continue with the software upgrade. The upload and installation will take several minutes.



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- When the software upgrade is complete, a “successful” message will appear.



- The control will perform a restart after the **done** button is pressed.

There will be a longer than normal delay for the wall control to restart since part of the process at this time is the completion of the new software installation. Once the control has successfully restarted, the MicroSD device may be removed.



- This completes the software upgrade process.

You may want to confirm the new software version, as described above.