



EMBROIDERY
STUDIO



EmbroideryConnect



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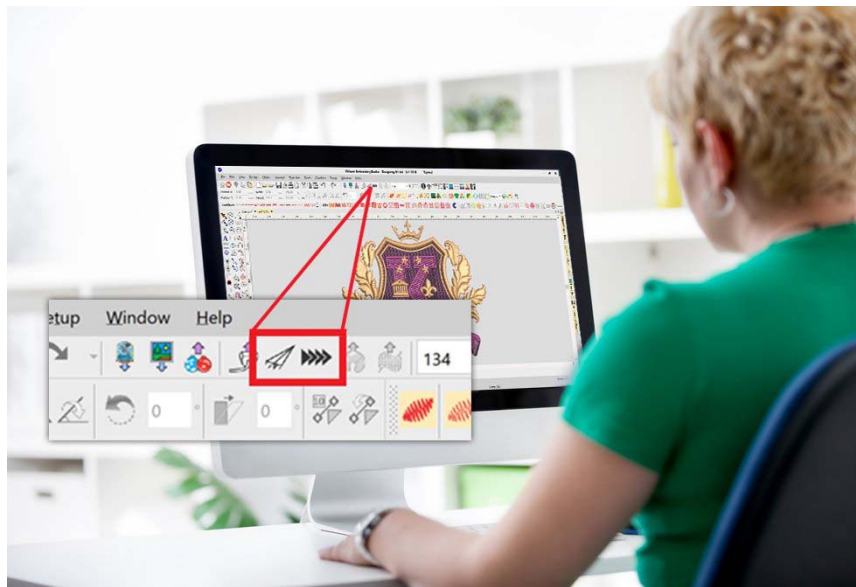
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EmbroideryConnect WiFi Machine Networking

The EmbroideryConnect capability allows you to wirelessly transfer embroidery designs from EmbroideryStudio to USB-enabled embroidery machines. Machine files are automatically generated and sent via a standard WiFi network to a compatible EmbroideryConnect WiFi device plugged into an associated machine. Design transfers are securely encrypted.



Most modern embroidery machines like Tajima, Barudan, Happy, ZSK, Ricoma and SWF, can read files from a standard USB memory stick. With EmbroideryConnect, there is no need for serial ports, different interface methods, or machine cabling.

The EC device is of great potential benefit to commercial embroiderers who want to network any brand of commercial or 'prosumer' embroidery machines and need a choice of 'push' or 'pull' wireless transfer methods. Benefits can also be found for retail kiosk operators.

This section presents an overview of the product concepts, installation, configuration, and basic usage for EmbroideryConnect.

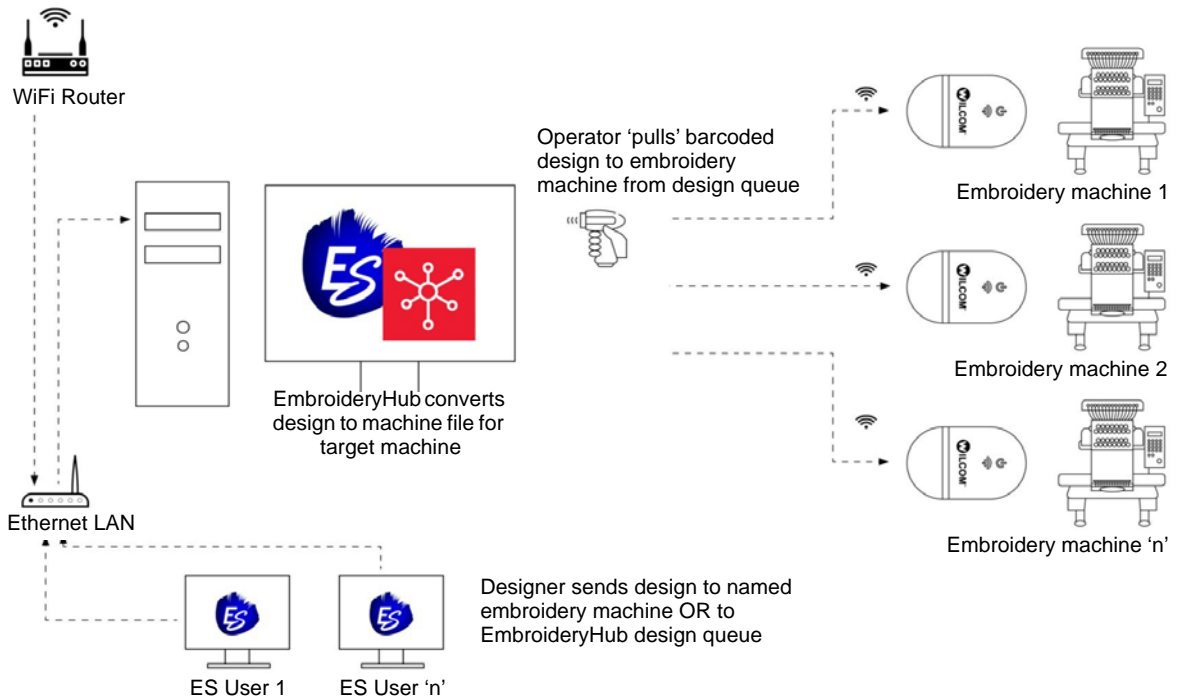
Network overview

In a nutshell, EmbroideryConnect allows users to wirelessly transfer embroidery designs from EmbroideryStudio to multiple commercial USB-enabled embroidery machines. It is an ideal solution for small to medium size commercial embroidery manufacturers. EmbroideryConnect is designed to meet the following usage requirements:

- ◀ EmbroideryStudio user wants to be able to send a design from PC directly to a nominated machine.
- ◀ ES user wants to 'push' a design to a queue for eventual production.
- ◀ Machine operator wants to 'pull' a nominated design to embroidery machine from the design queue.

What is an EmbroideryConnect network?

The concept behind the EmbroideryConnect network is described by the following diagram...



End-user benefits

What are the benefits of the EmbroideryConnect capability?



Simple and easy to use...

- Easy to install and configure.
- Connect to existing WiFi and eliminate complicated network setup and configuration.
- Plug into any USB-enabled embroidery machine.
- Wireless design transfer – no need for network cables.
- Mix and match different brands of machine on the same network.



The right design, every time...

- Machine file automatically generated on output.
- Convenient operation with the pull method. No risk of selecting wrong design for the order.



Safe and secure...

- Correct design loaded to the correct embroidery machine.
 - Designs encrypted during transfer and, optionally, removed automatically from the design queue.
 - Optionally, designs deleted from the EC device when disconnected.
-

Usage scenarios

There are two basic ways of setting up an EmbroideryConnect network using either a single PC or multiple PCs.

Scenario 1: Single PC

If you are using a single PC to create, edit, and manage your designs as well as serve machine files to your embroidery machine/s, you will need both EmbroideryStudio and EmbroideryHub running.

Scenario 2: Multiple PCs

If you are using two or more PCs to create your designs and a dedicated PC to serve your machine files, you will need:

- ◀ EmbroideryStudio with EmbroideryHub running on PC 1.
- ◀ EmbroideryStudio running on PC 2, PC 3, etc.

Design files may be saved anywhere on your network. These are sent to the EmbroideryHub where they are converted to machine files and sent to the EmbroideryConnect network.



Tip Visit the Wilcom Support Center at www.wilcom.com.au/support for a current list of compatible machines.

EmbroideryConnect components

The system employs the following components...

Component	Details
EmbroideryConnect WiFi device	A Wilcom-supplied WiFi device – one per machine.
EmbroideryHub PC	A nominated PC will act as the EmbroideryHub. This PC should remain on at all times. All designs are routed through it to embroidery machines connected to the EmbroideryConnect network.
EmbroideryHub	EmbroideryHub software is activated on the dedicated PC... <ul style="list-style-type: none">• Designers can send (push) designs to connected machine(s) running the EC device.• Alternatively, designers can send designs to the EmbroideryHub queue.• Machine operators can request (pull) specific design from the queue via barcode scanner connected to the EC device.
EmbroideryStudio users	Other ES users can send designs to machines via the EmbroideryHub. All EmbroideryConnect devices on the network will appear for selection in a machine list. There is no need for shared folders, etc.
ES dongle	EmbroideryHub will only run if there's an ES dongle plugged into the EmbroideryHub PC or there is an ES network dongle on the same network.



Note All EmbroideryConnect devices are locked to the dongle used during the setup process. These devices will only run with that particular dongle attached to the EmbroideryHub PC or network.

Third-party components

To set up an EmbroideryConnect network, some third-party hardware items are also required...

Component	Details
USB-capable embroidery machines	<ul style="list-style-type: none">• Able to read designs from USB memory stick.• Preferably with the USB port built into the control panel. Add-on USB converters in old machines may not be compatible.
Compatible WiFi router	See below for details.
Barcode reader	Optional.

Component	Details
Windows Administrator privileges	Access must be configured by a user who has full administrator privileges and is part of a Windows 'Workgroup' or 'Domain' network.

WiFi router compatibility requirements

Note the following WiFi router requirements to be compatible with the EC device:

Requirement	Details
Standard security protocol	The WiFi router must use one of the standard security protocols: WEP or WPA/WPA2 Personal. Security type 'none' or 'unsecured' is not supported at present. A WiFi password is mandatory.
Support for WLAN Protocol 802.11 G	The WiFi router needs to support WLAN Protocol 802.11 G in the 2.4 Ghz band. The EC device will not connect to a WiFi router using the 5 Ghz band. If unsure, consult the documentation provided with your router.
WiFi network name	You must know the WiFi network name (SSID) and WiFi router password (key). We recommend using a SSID (network name) that contains only alphanumeric characters – letters and numbers.
WiFi coverage	WiFi coverage must be sufficient to serve the entire production area.

EmbroideryConnect device

A separate EmbroideryConnect device is needed for each embroidery machine on the network. Designs can be 'pushed' to a named device or 'pulled' via barcode reader at each machine.



Note All EmbroideryConnect devices are locked to the dongle used during the setup process. These devices will only run with that particular dongle attached to the EmbroideryHub PC or network.

Device features

Device features are summarized below:

Item	Description
EmbroideryConnect device	The device itself is small and compact. It can plug directly into an embroidery machine USB port or via USB extender cable.
USB-C connection	USB-C connection at top to connect device to PC or embroidery machine.
USB-A connection	Separate USB-A input port for USB barcode scanner.
Device state indicator	The device displays basic status information. See below for details.
Power from USB	No separate power supply needed – power is drawn from USB port.



Tip The EmbroideryConnect device comes with 3M mounting strips in order to attach the device to the target machine.

EC device states

The EC device indicates various devices states. The following table explains the color coding...

When...	Status light	Status
Attaching device to machine	Solid green	Device is running smoothly so machines can access designs.
Scanning barcode	Flashing orange	Barcode scan failed. Scanned file not found in design queue.
	Flashing purple	Device cannot connect to EmbroideryHub for design request.
Sending design to device	Flashing yellow	Device is unmounted.
	Flashing orange	Sent file already exists on device.
	Flashing red	Error occurred.

EmbroideryConnect setup

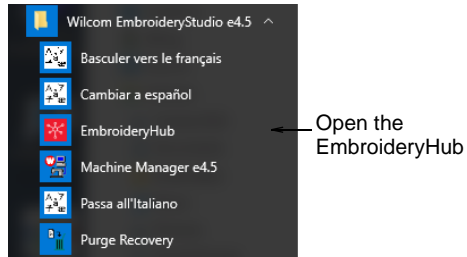
Setting up an EmbroideryConnect network is easy...

- ◀ Separate device required for each embroidery machine.
- ◀ Dedicated network PC to act as the 'EmbroideryHub' and run the EmbroideryHub software.
- ◀ All devices need to be configured by EmbroideryHub on this PC.

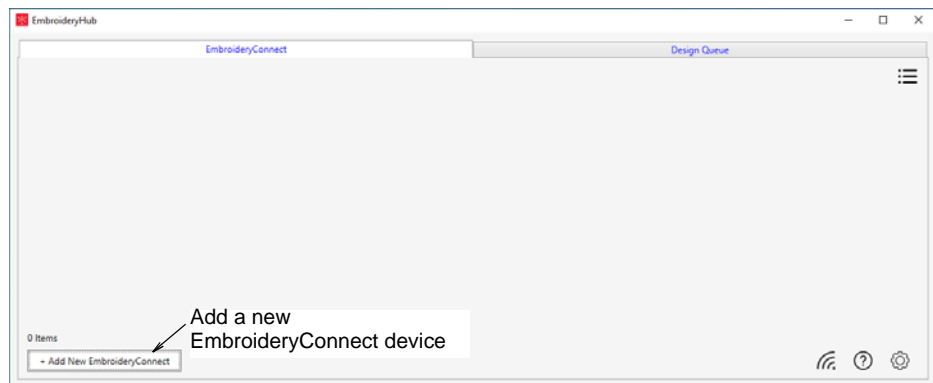
- ◀ All secondary PCs access the EmbroideryConnect network via the EmbroideryHub.

To configure an EmbroideryConnect device

- 1 Ensure your computer has an active internet connection.
- 2 Start EmbroideryHub from the program group or desktop.



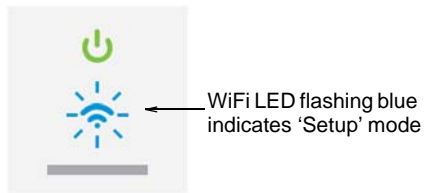
When first run, the device list in the EmbroideryHub main window is empty.



- 3 Plug the EC device into the computer via the USB-C port located at the top.

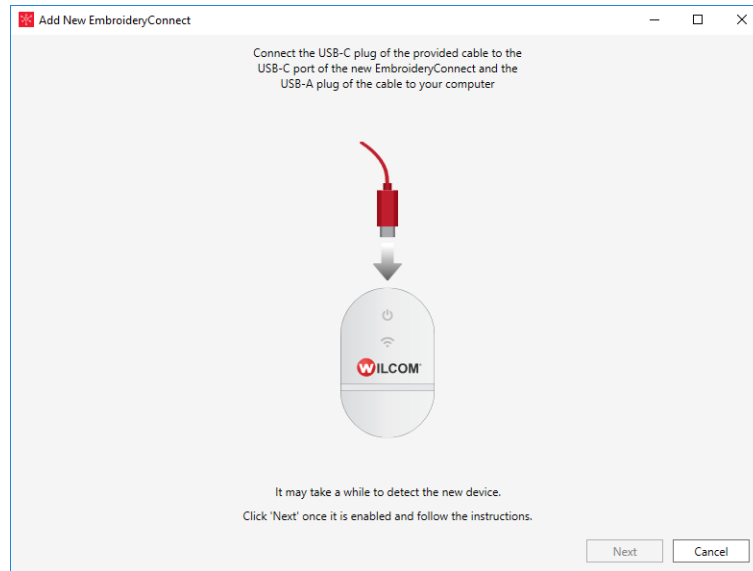


- 4 Ensure all lights are in 'Setup' mode. When the power LED is solid green and the WiFi LED is flashing blue, the device has finished booting. This generally takes about 60 seconds.

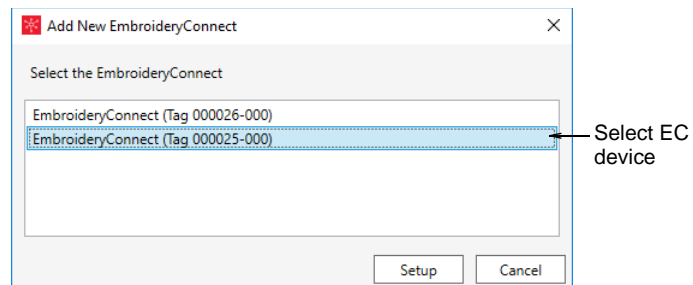


- 5 Click **Add New EmbroideryConnect** and follow the setup wizard prompts.
 - ◀ If an unconfigured EC device is detected, the process will open the wizard directly and take you to Step 6.

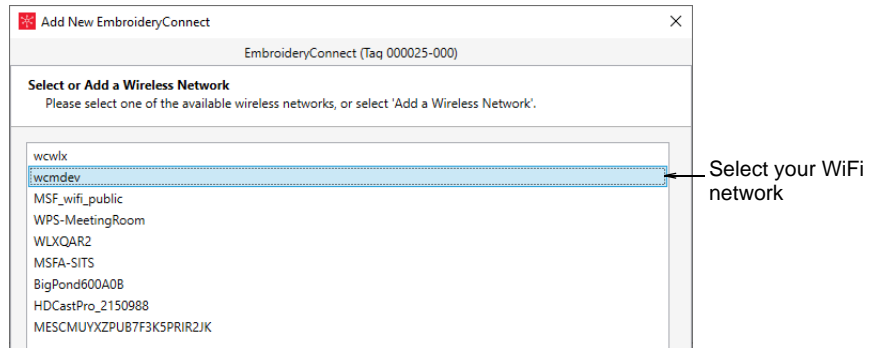
- ◀ If no unconfigured EC device is detected, the dialog below will appear. Check the device is correctly attached and has finished booting. Click **Next** when the button becomes available.



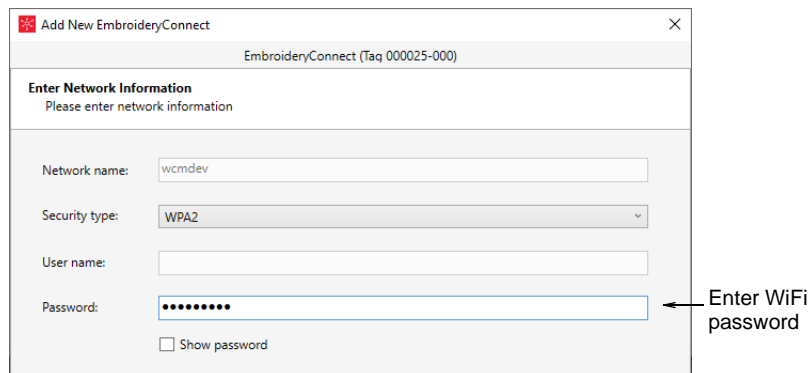
- ◀ If more than two unconfigured EC device are connected, the dialog below will appear. The code displayed corresponds to the tag number on back of the device. Select a device and click **Setup**.



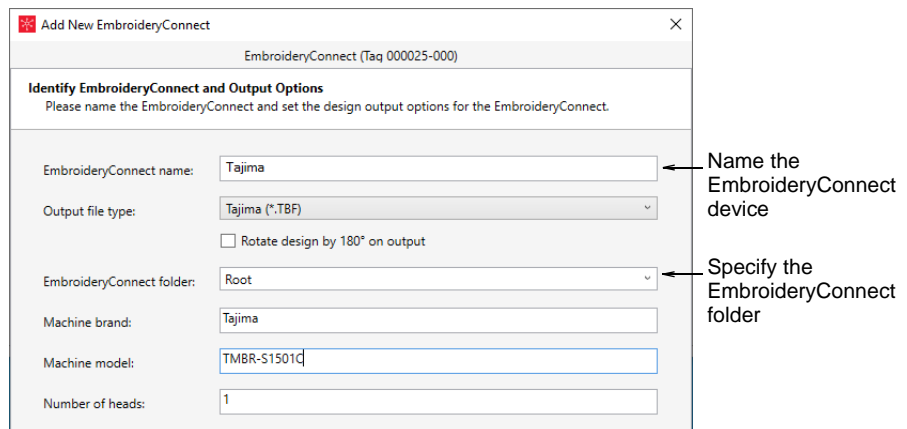
6 When prompted, select your WiFi network and click **Next**.



7 Enter the WiFi password and click **Next**.



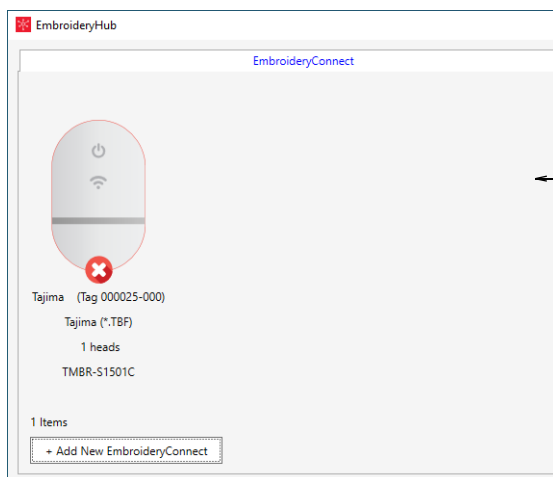
8 Identify the EmbroideryConnect device and specify output options.



Options include:

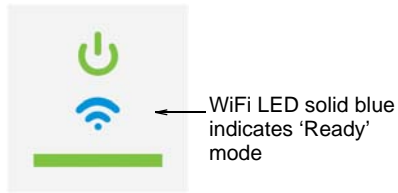
Field	Purpose
EmbroideryConnect name	Give the device a unique name associated with the connected machine – e.g. 'Tajima #2'.
Output file type	Specify the machine file type for the selected machine – e.g. *.TBF. Design files will be converted on-the-fly to this format.
Rotate design	The design is auto-rotated 180° on the machine. If the machine is dedicated to cap designs, tick this option.
EmbroideryConnect folder	Specify the folder on the device if different to the 'root' folder. Different machines have different requirements. These equate to those for sending a design via USB stick.
Machine brand	This field is simply descriptive to help identify the machine associated with the EC device.
Machine model	This is a descriptive field.
Number of heads	This is a descriptive field.

9 Click **Finish**.

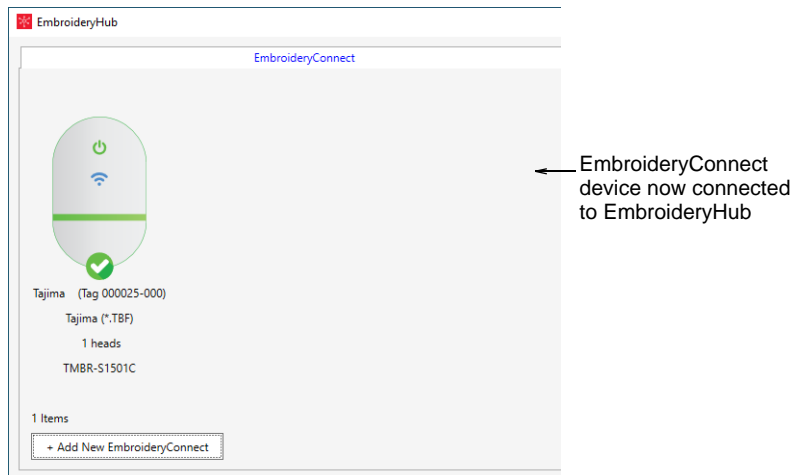


← EmbroideryConnect device connecting to EmbroideryHub

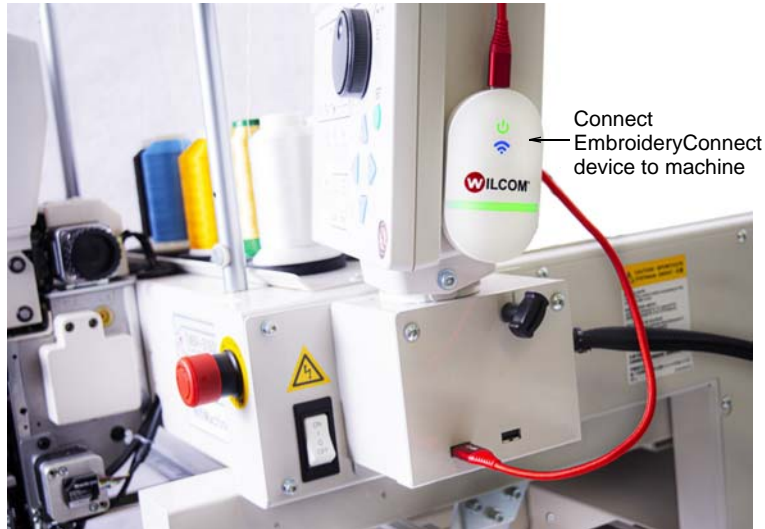
- 10 Wait to ensure the EC device has successfully connected to the network and EmbroideryHub. The blue WiFi LED will flash and then turn solid blue when it has successfully connected.



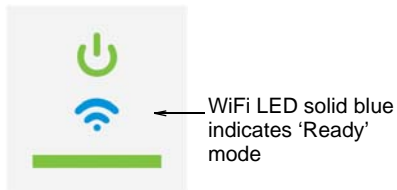
Generally connection takes about 60 seconds depending on network traffic.



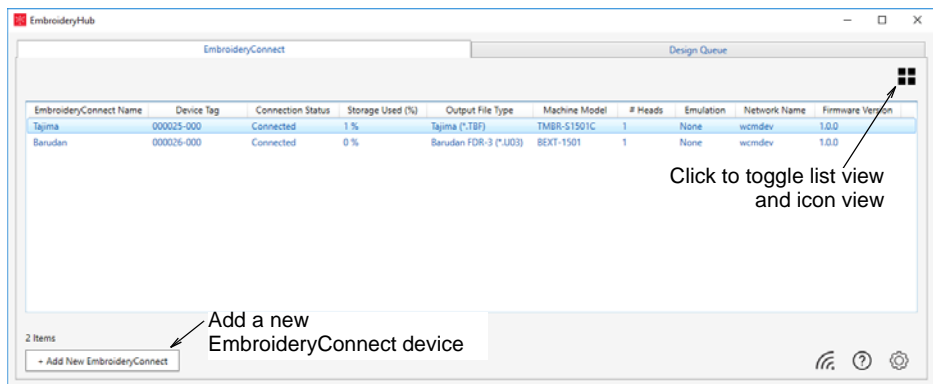
- 11 Once connected, remove the EC device from the EmbroideryHub PC and connect it to the target machine.



- 12 Again, ensure all lights return to 'Ready' mode. You can now send designs to this device from EmbroideryStudio.



- 13 Configure your other devices the same way.

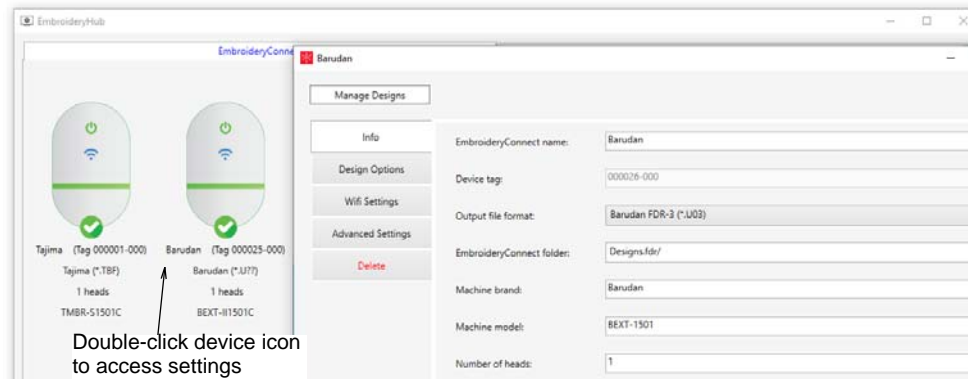




Note The EmbroideryHub needs to remain active at all times in order to manage the design flow to all connected EmbroideryConnect devices.

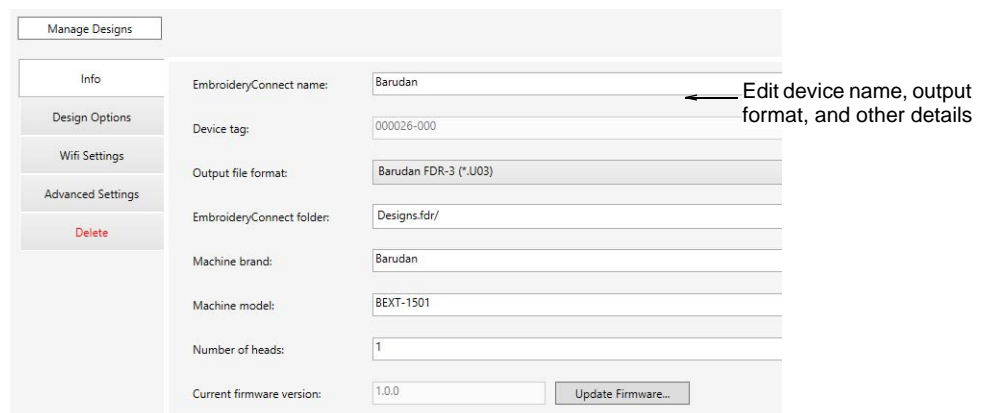
Basic device settings

Once your devices are set up and connected to the target machines, you can further configure or modify them at any time. There is no need to re-attach the EC device to the EmbroideryHub PC. Settings can be modified across the network. Double-click the device icon or list item in the EmbroideryConnect main window in order to access settings.



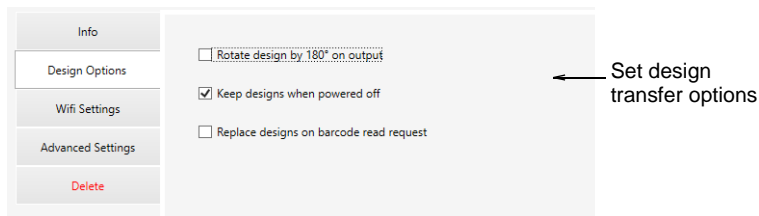
Device details

Access the **Info** tab to modify details provided during the EC device setup procedure. Here you can change the device name, output file type, and other details...



Design options

Access the **Design Options** tab to manage design options. All design transfers are securely encrypted across the EmbroideryConnect network. Various options are available for handling design transfers...

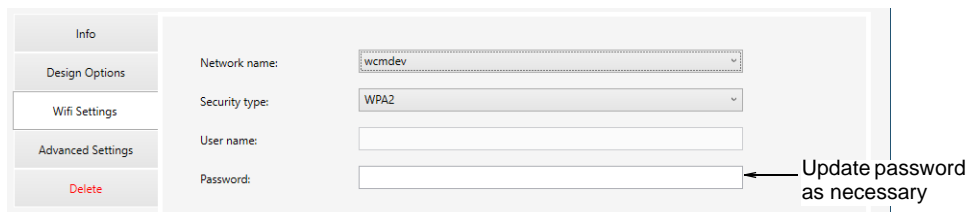


Design options can be modified as preferred for this EC device...

Option	Purpose
Rotate design by 180° on output	The design is auto-rotated 180° when output to machine file on a connected EC device. If the machine is dedicated for cap designs, tick this option.
Keep designs when powered off	By default designs stay on the device the whole time unless you remove them in the Manage Designs window. When unticked, designs are cleared so they can't be copied from the device.
Replace designs on barcode read request	When ticked, whenever the operator does a barcode scan to fetch a design, EmbroideryConnect will delete all existing designs on the device before transferring the scanned design. Some users only want one design on the device at any given time.
Apply to all	Click to apply the same settings to all EmbroideryConnect devices configured on the EmbroideryHub.

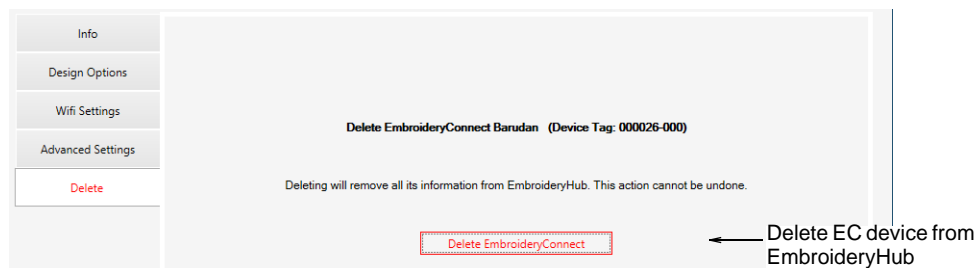
WiFi settings

Access the **WiFi Settings** tab to check WiFi settings. The main reason for accessing this tab is to update the WiFi network password...



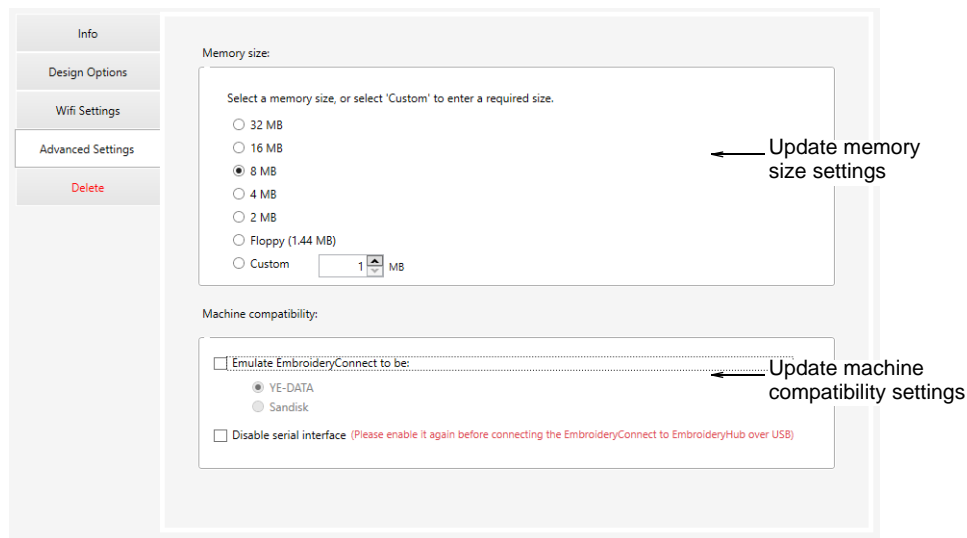
Delete EC device

Access the **Delete** tab to remove a selected EC device from EmbroideryHub.



Advanced device settings

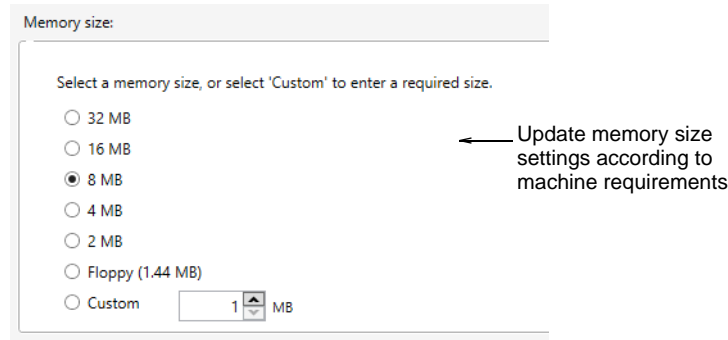
Access the **Advanced Settings** tab to update USB memory size settings and machine compatibility settings as needed...



Configuring EC device memory size

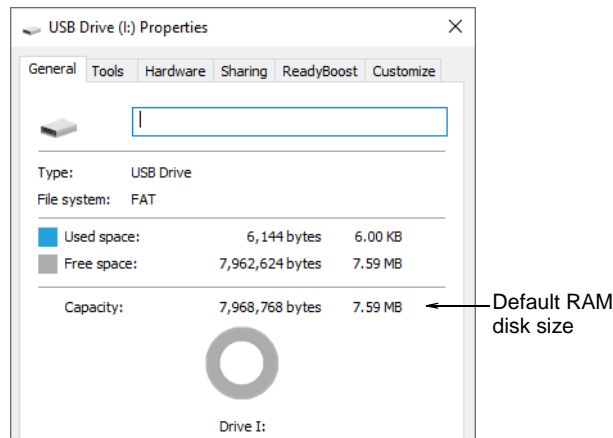
The default capacity of the EC device is 8MB. Most machines accept this size of USB memory stick. Some older machines require smaller sizes

such as 4MB or Floppy disk size (1.44 Mb). It can take up to 30 seconds for changes to be made.



Warning If you choose floppy memory mode (1.44 Mb), it may not work on newer machines.

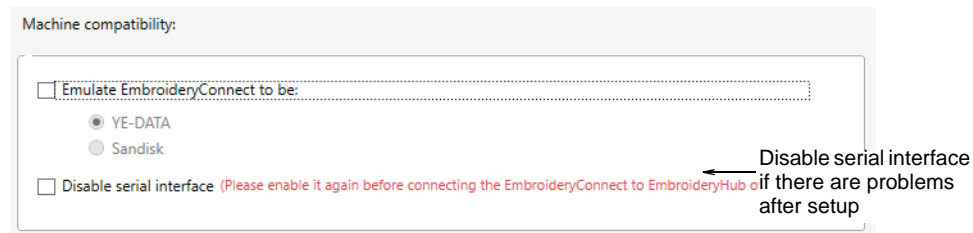
You can confirm the change in memory size when the EC device is connected to the PC.



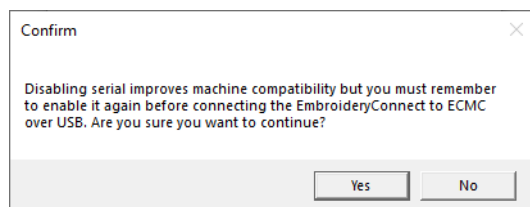
Disabling serial interface

By default, EmbroideryConnect devices have a USB serial interface enabled in order to configure them on the EmbroideryHub PC. It is best to leave the setting activated in case you need to reconfigure the device. However, you may need to disable it if the embroidery machine has an issue with both WiFi connection and serial interface being activated at the

same time. The machine may lock up and display a unexpected message when the device is connected.



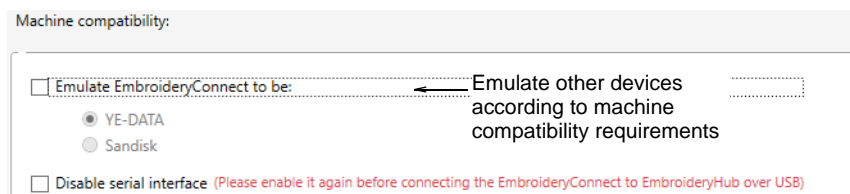
Tick the **Disable serial interface** function and click **OK**. You will receive the following warning...



Note If you turn off the serial interface and subsequently lose WiFi connection to the EC device, the only way to reconfigure it is to perform a 'hard reset'. See [Troubleshooting EmbroideryConnect](#) for details.

Emulating other devices

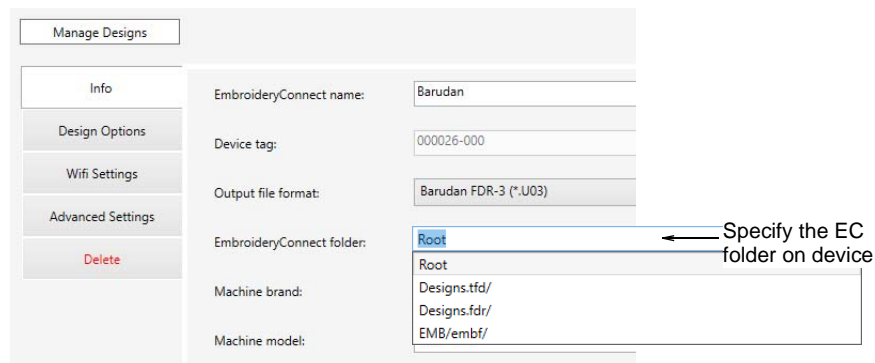
EmbroideryConnect can emulate other types of device. Some machines can only read designs from YE-DATA or Sandisk. For example, Tajima TEJT-II-C embroidery machines require these types of device. EmbroideryConnect can be set to emulate them.



Configuring sub-folders for Barudan machines

Sometimes you may need to specify a folder on the device which is different to the 'root'. Different machines have different requirements. For example, 'MyDesign.fdr/'. These are the same as requirements for

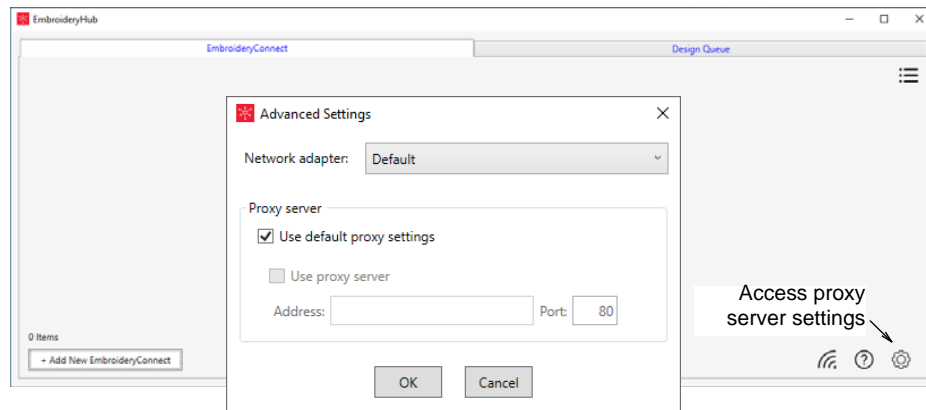
sending a design via a USB stick. Make sure you include a 'slash' (/) at the end.



If the EC device will be used with a Barudan machine, a special sub-folder must be configured. Barudan machines will not read designs from the root folder of any USB stick. You can edit the folder structure on the EC device whenever necessary.

Adjusting proxy settings

To access proxy server settings, click the 'cog' button in the lower right corner of the main screen. The default proxy settings are the ones set in the Windows **Internet Options** dialog. Keep ticked for most situations.



If you are using two networks with different proxy requirements, this is likely to cause issues – 504 errors from the devices. You will need to untick the default settings and use the other controls to specify the proxy configuration for the EmbroideryConnect network.

The network adapter should be left on default most of the time. It's only needed when there are multiple adapters connected to two different networks **and** there are device connectivity issues. If you have two adapters and find that the devices consistently switch from 'Connected'

to 'Disconnected', select the adapter connected to the EmbroideryConnect network. EmbroideryHub should also be restarted.

Sending designs to EmbroideryConnect

Once you have set up one or more EmbroideryConnect devices on your EmbroideryConnect network, you have the choice of 'pushing' designs to a named device or sending them to a queue where they can be 'pulled' from the machine itself. You can use any PC running EmbroideryStudio on your local WiFi network.

Send designs to EmbroideryConnect device

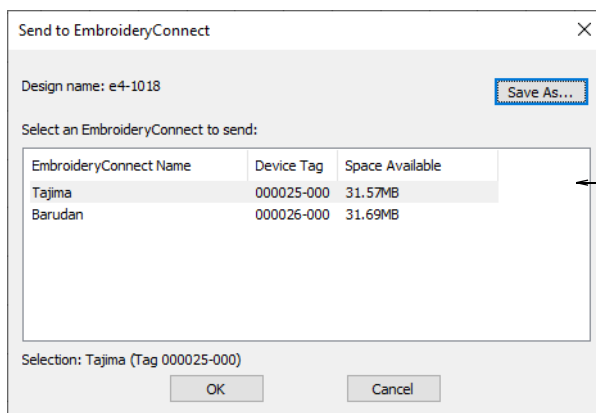


Use Standard > Send to EmbroideryConnect to send the current design to a named EmbroideryConnect device.

Open EmbroideryStudio and load the design or designs you want to send to EmbroideryConnect.

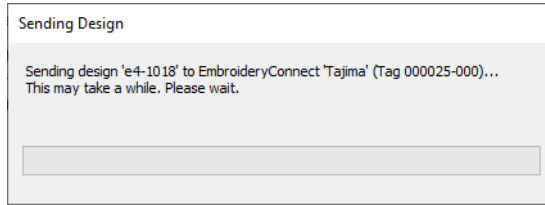
To send a design to an EmbroideryConnect device

- ◀ Select a design tab and click the **Send to EmbroideryConnect** icon. The dialog will show a list of named devices connected to the network.



- ◀ Choose your preferred device and click **OK**. The design will be automatically converted to the corresponding machine file and sent to

the EC device where it can be loaded into machine memory for stitching.



- ◀ Repeat for all designs you want to send to named devices connected to the network.

Send designs to EmbroideryConnect design queue



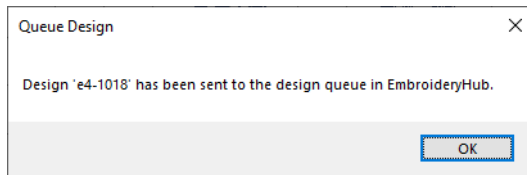
Use Standard > Queue Design to send the current design to the EmbroideryConnect design queue where they can be 'pulled' from the machine.

Open EmbroideryStudio and load the design or designs you want to send to EmbroideryHub.

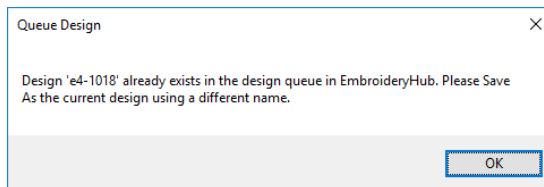


To send a design to the EmbroideryConnect design queue

- ◀ Click a design tab and click the **Queue Design** icon. A confirmation message will appear indicating that the design is in the queue.



- ◀ An error check prevents you from sending multiples of the same design to the queue.



- ◀ Repeat for all designs you want to queue up in preparation for production.
- ◀ On the machine itself, 'pull' designs to the EmbroideryConnect device by means of a barcode reader attached to the USB port.
- ◀ Run the reader over the barcode printed on the production worksheet. The relevant design will be pulled from design queue to the EC device. Here it can be loaded into machine memory for production.

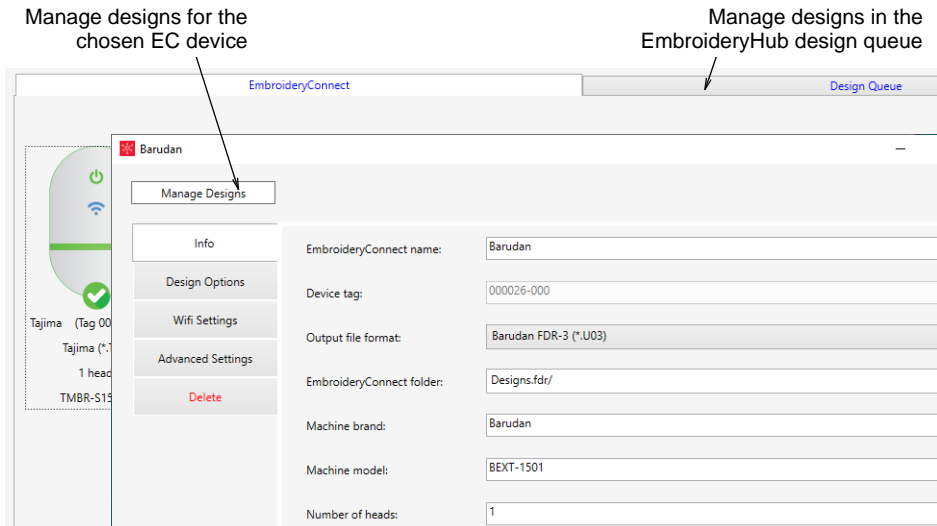


View & manage designs on EmbroideryHub

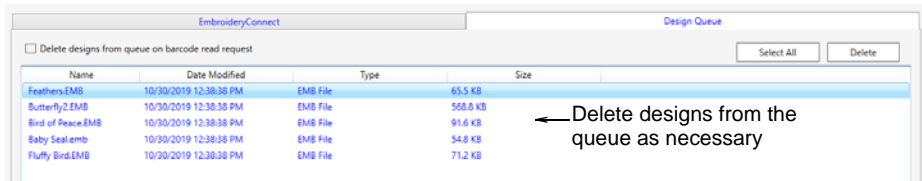
On the EmbroideryHub, you can view and manage designs sent both to particular machines as well as to the design queue.

To view and manage designs on EmbroideryHub

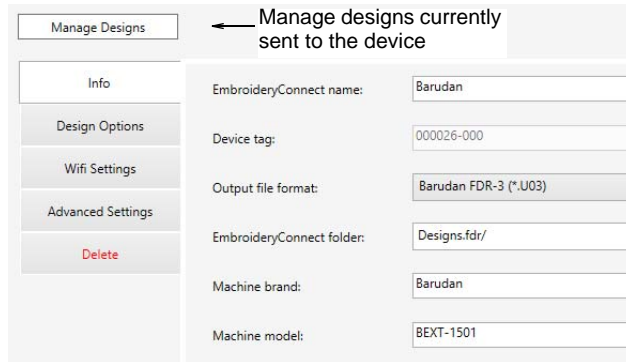
- ◀ Open EmbroideryHub on the EmbroideryHub PC.



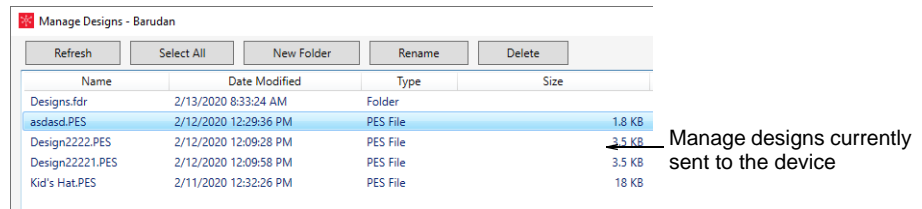
- ◀ Click the **Design Queue** tab to view queued designs in EmbroideryHub. Here you can delete designs as necessary.



- ◀ If you want to view designs sent to the chosen EC device, click the **Manage Designs** button on the device settings dialog.



- ◀ A list of designs pending production on the target machine is displayed. Here you create new folders, and rename or delete designs as preferred.



Troubleshooting EmbroideryConnect

If experiencing problems using the EmbroideryConnect device, double check that it connects to the WiFi and EmbroideryHub correctly.

- ◀ The Power and WiFi LEDs on the EC device will be both on and solid if connected.
- ◀ If they flash briefly and then fade out, the EC device is not connected.

If a mistake lies in the configuration settings, simply start again and double-check the settings.

Reset the device

If you turn off the serial interface and subsequently lose WiFi connection to the EC device, the only way to reconfigure it is to perform a 'hard reset'. Power up the device and insert a hairpin into the **Reset** aperture on the side. It must be connected to the EmbroideryHub PC during this

operation. Hold it for 10 seconds. This restores it to its factory settings. The EC device must then be reconfigured using EmbroideryHub.



Tip If this doesn't solve the problem, go to the [Help & Support](#) site and check for updates.

Glossary

Connection Manager: A software feature to allow the sending of files to shared folders.

Control panel: The panel on an embroidery machine by which the operator sets up the machine for embroidery production.

Design file: Design files, also known as 'outline' or 'condensed' files, are high-level formats which contain object outlines, object properties and stitch data. Examples include CND, GNC, INP and PCH. When you open an outline file in EmbroideryStudio, corresponding stitch types, input methods and effects are applied. Outline files can be scaled, transformed and reshaped without affecting stitch density or quality.

EmbroideryConnect WiFi device: Wilcom-supplied device to enable connection of USB-enabled embroidery machines to an EmbroideryConnect machine network via a WiFi router.

LAN: Local Area Network – a wired network of interconnected PCs and other network enabled devices such as printers.

Machine file: Machine or 'stitch' files are low-level formats for direct use by embroidery machines. They contain only stitch coordinates and machine functions. Machine files are generally not suited to scaling because stitches are not regenerated during rescaling. See also [Design file](#).

Machine format: Different embroidery machines understand different languages. They have their own control

commands for the various machine functions. Before you can stitch a design, it must be in a format which can be understood by the target machine. Common formats include Barudan, Brother, Fortran, Happy, Marco, Meistergram, Melco, Pfaff, Stellar, Tajima, Toyota, Ultramatic and ZSK.

Network file server: A PC on a network which is used to serve files up for use by other PCs on the network.

Network folder location: The logical location of a folder on a network. Contains the PC name together with the folder name – e.g. \\MyPC\EmbroideryMachine1.

USB-capable embroidery machine: An embroidery machine which has a standard USB port built into the machine or machine control panel.

USB converter: A device which converts a standard serial connection port to a USB type A connection.

USB memory stick: Standard USB memory stick or simply 'USB stick' used for storing and transporting files.

USB port: Universal Serial Bus Connector – a connection on a computer where you plug in the dongle.

WiFi device: Device capable of connecting to a WiFi Router or wireless access point.

WiFi network name (SSID): Service Set Identifier (SSID) – the unique identifier attached to the information which is sent over a wireless local area network.

WiFi password (key): Password, passphrase or key (depending on the WiFi security type) that allows connection to the WiFi router or access point.

WiFi router: Device that provides basic network infrastructure for a home or small office network. Provides a wireless access point for many wireless devices to connect to each other for access to the Internet as well as for file sharing and printing. Sometimes referred to simply as a Wireless Router.

WiFi USB machine network: A network of wirelessly connected, USB enabled embroidery machines and PCs.

Windows domain: a network of Windows PCs, also known as 'network domain', in which computers rely on a centralized authentication database. Users log into the domain and the access privileges are served from the central database which is controlled by a network administrator.

Windows workgroup: 'Workgroup' is Microsoft's term for a peer-to-peer local area network. Computers running Microsoft operating systems in the same workgroup may share files, printers, or Internet connection.

Wireless Access Point (WAP): A wireless access point or 'WAP' is a hardware device on a local area network (LAN) that allows wireless capable devices and wired networks to connect.

WLAN: Wireless Local Area Network or WiFi network.