

The DesignaKnit USB Brotherlink 1

For Brother electronic machines

This document can be downloaded as a PDF from softbyte.co.uk/cablelinkmanuals.htm



What this link does

- Uploading and downloading patterns between DesignaKnit and the KH930, KH940, KH950i, KH965i, and KH970 knitting machines.
- Uploading and downloading between DesignaKnit and the PPD with cartridge III in the mode for the KH900. It is also suitable for use with the PPD + CK35 cartridge.
- If used with a Knitlink arm, this cable link becomes a USB Brotherlink 5 and will therefore support interactive knitting in DesignaKnit with almost any knitting machine. In this case, the instructions for the USB Brotherlink 5 should be referred to instead of this document - see <https://softbyte.co.uk/cablelinkmanuals.htm> for all our cable link manuals.
- If used in conjunction with the DesignaKnit PPD Adapter, it is also suitable for use with the PPD in modes for KH270, KH930, KH940, KH950i, KH965, KH965i, and KH970, and for uploading from the Stitch Pattern Extras Cartridge. When the PPD Adapter is added, the USB Brotherlink 1 cable effectively becomes converted to a USB Brotherlink 3 cable, when the instructions for the USB Brotherlink 3 should be referred to instead of this document. See <https://softbyte.co.uk/cablelinksbrother.htm> for the PPD Adaptor and <https://softbyte.co.uk/cablelinkmanuals.htm> for all our cable link manuals.

Fitting the link to the knitting machine

For uploading or downloading, connect the cable to the 8-way FB100 connector on the knitting machine or PPD. In the case of the KH970, the 8-way connector attaches to the FB100 connector on the CB-1.

Excess cable should not be tightly coiled as this can cause electromagnetic effects that can interfere with the operation of the link.

Installing the Driver

The process varies according to the version of Windows and whether the same driver already happens to be installed for a similar device. All the DesignaKnit cable links, and many other devices use the same driver.

Installing the driver should be done by an Administrator Windows user. If your computer doesn't offer you a choice of user names when starting up, it almost certainly means you are an Administrator user.

Insert the USB cable into a standard USB port on your computer. Windows will recognize that the cable link has been attached and may show a message saying that it is searching for a driver. A message may appear to say that devices are being installed or it might say that the best driver is already installed. If Windows requests the driver, follow one of these options:

- If your computer has a RISC or ARM processor, refer to the topic at the bottom of this webpage: <https://softbyte.co.uk/cablelinksdriver.htm>.
- For Windows CE, download the driver from <http://www.ftdichip.com/Drivers/VCP.htm>;
- For other computers and other versions of Windows download the driver from here <https://softbyte.co.uk/download/DKdrivers.zip>

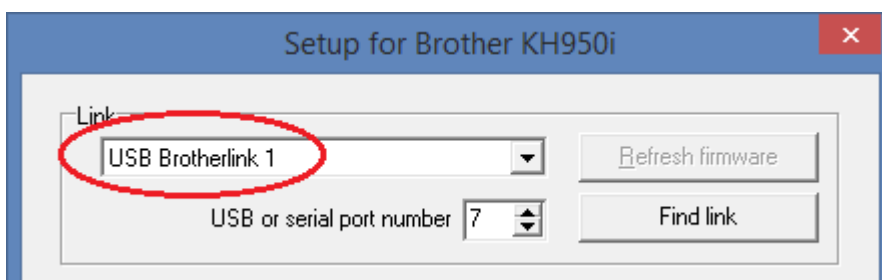
When Windows requests the driver, select the file you have downloaded. Finally Windows may ask you to restart the computer - if so, do it.

If your DesignaKnit computer is **not** connected to the internet, copy the downloaded file onto a USB drive or other removable media and transfer it to the DesignaKnit computer.

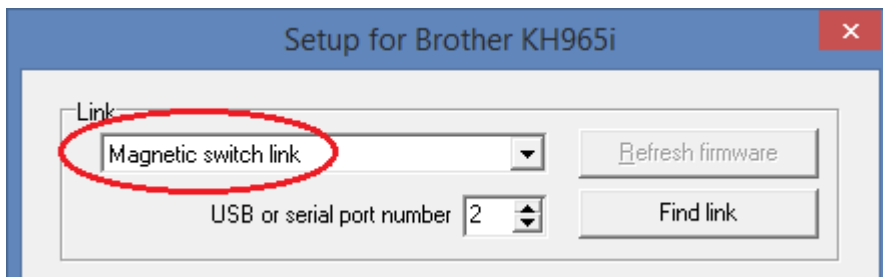
If the driver does not appear to have installed correctly, see the Troubleshooting section at the end of this manual.

Telling DesignaKnit 8 or 9 which cable & port number to use

1. Open Stitch Designer and select Transfer / Upload.
2. Select the required knitting machine from the Knitting Machine Selection list by left clicking it, then click the Setup button.
3. **KH930, KH940, or KH950i:** Under Link or Cable link, select 'USB Brotherlink 1'. If this choice is not available for these machines, it may mean that you need to update your DesignaKnit using Help / Web Updates / Program Update.



KH965i, KH970: Under Link or Cable link, select 'Magnetic switch link'.



4. Click on the Find Link button and then Start Search.
5. When DesignaKnit finds the port number it will automatically enter that number into Knitting Machine Setup. If it reports that the link was not found, go to the section titled Troubleshooting for information about updating the driver.
6. Click OK and OK again. When back at the list of knitting equipment, finish by clicking Cancel.

Telling DesignaKnit 7 which port number to use

Please see <https://softbyte.co.uk/usingdevicemanagertofindport.htm> for instructions on how to find the port number using Device Manager. When you have worked out which port number you are using:

1. Open Stitch Designer and select Options / Upload.
2. Select the correct machine from the Knitting Machine Selection list by left clicking it, then click the Setup button.
3. At the top of the Knitting Machine Setup dialogue box you will see 'Connected to serial port number'. Enter the port number that was found in Device Manager and click OK.
4. When back at the list of knitting machines, finish by clicking Cancel.

Upload, Extract, & Restore

These features are available from the Transfer menu in Stitch Designer.

Upload transfers all 900 series patterns from the knitting machine or CB-1 memory to DesignaKnit, in a single batch.

For the CB-1 use the Save data to disk icon.



After uploading the batch of patterns, DesignaKnit requests a filename for the batch, which is stored with the filename suffix .bro. If there are 900 series pattern numbers in the knitting machine that you want to keep and are not already in DesignaKnit, they can be uploaded and stored on the computer.

The **Extract** option on the Transfer menu can then be used to extract individual patterns from the stored .bro file and save them as DesignaKnit stitch pattern files.

The **Restore** option takes a previously uploaded .bro file and downloads it back to the machine or CB-1, thereby restoring the 900 series pattern numbers that were in the memory of the machine or CB-1 at the point at which the batch was previously uploaded to the computer.

Downloading an Unintegrated Stitch Pattern to KH965i or KH970

1. In Stitch Designer, open the stitch pattern you want to download to the machine and select Transfer/Download.
2. At the list of knitting machines, make sure that the required knitting machine is highlighted and click OK.
3. Connect the cable link's 8-way connector to the FB100 connector on the knitting machine or CB-1. Ensure the USB connector is attached to the computer USB port.
4. Click the Download button in the next dialogue and follow the on-screen instructions.
5. For the CB-1 use the Load data from disk icon.



6. A bar indicates the progress of the download. The time taken to download will vary according to the size of the pattern.

Downloading an Unintegrated Stitch Pattern to other machines

1. For the KH965i and KH970 only: In Stitch Designer, open the stitch pattern you want to download to the machine and select Transfer/Download.
2. At the list of knitting machines, make sure that the required knitting machine is highlighted and click OK.
3. For machines other than KH965i and KH970, the "Assemble Batch of Patterns" dialogue opens. Use the Help button if necessary to find out how to assemble the required batch of patterns. Note the 900 series pattern number that gets assigned to each stitch pattern in the batch - these numbers will be required later. When the required batch of patterns has been specified select OK.
4. Connect the cable link's 8-way connector to the FB100 connector on the knitting machine or CB-1. Ensure the USB connector is attached to the computer USB port.
5. Click the Download button in the next dialogue and follow the on-screen instructions. A bar indicates the progress of the download. The time taken to download is not related to the size of the pattern.

Downloading an Integrated Stitch Pattern

An integrated stitch pattern is one which has been positioned on a garment piece, either by dragging the outline of the garment piece over the stitch pattern in Stitch Designer, or by dragging the stitch pattern over the garment piece in Original Pattern Drafting. The filename and position of a stitch pattern may be stored independently for each piece in a shape file.

Whichever way a garment piece is integrated with a stitch pattern, it is unlikely that row 1 of the garment piece will end up coinciding with row 1 of the repeating stitch pattern unit as shown on the Stitch Designer screen. It is also unlikely that the centre stitch of the garment piece will coincide with the centre stitch of the repeating pattern unit, though the interactive knitting instructions include centring each garment piece on the needle bed. DesignaKnit manages this situation by automatically shuffling the pattern vertically and horizontally by the required number of rows and stitches before downloading it. The end result is that the knitted piece exactly matches the display of the integrated piece on the Stitch Designer or Original Pattern Drafting screen.

In Stitch Designer, when Transfer / Integrated Download is selected, a garment piece is first chosen. The stitch pattern that has been integrated with that piece is then downloaded to the knitting machine or CB-1 memory, correctly positioned at the centre of the needle bed.

Even if the same stitch pattern has been integrated with more than one garment piece, the positioning of the pattern on each piece is likely to vary, so the automatic shuffling of the pattern will be different, and a separate download is required for each piece.

The garment shaping cannot be transferred to the console memory: only the stitch pattern can. The process is as follows.

1. In Stitch Designer, open the shape file that has been integrated and select Transfer / Integrated Download.
2. At the list of knitting machines, make sure that the required knitting machine is highlighted and click OK.
3. The Integrate window opens. In the left column, select the required garment piece(s). For the KH965i and KH970, only one piece may be selected, but for other models multiple pieces may be selected. The filename of the stitch pattern that has been integrated with the selected piece(s) should be shown in the middle column. For machines other than the KH965i and KH970, note the 900 series pattern number that has been assigned to each integrated garment piece, starting at 901. These numbers will be required later. Click OK.
4. Connect the cable link's 8-way connector to the FB100 connector on the knitting machine or CB-1. Ensure the USB connector is attached to the computer USB port.
5. Click the Download button in the next dialogue and follow the on-screen instructions.
6. For the CB-1 use the Load data from disk icon.



Load data from disk Save data to disk

7. A bar indicates the progress of the download.

Large patterns

Different knitting machines have different memory sizes. The memory space required for a given pattern is roughly proportional to the total number of stitches.

When downloading to the KH965i or KH970 machines, patterns are downloaded singly, but for other machines a batch of patterns is downloaded. For a given pattern or batch of patterns DesignaKnit is able to calculate whether the total memory required will fit into the knitting machine memory. If there is insufficient memory a message is shown. If downloading a batch, then some patterns will have to be removed from the batch.

It is also possible that one large pattern is too large for the machine memory - in which case DesignaKnit will give a message saying how many sections it must be divided into and asking which of those sections you want to download. Dividing into sections is done automatically - you do not have to decide how to divide the pattern. When a section number is chosen, a message shows how many rows must be knitted before the next section needs to be downloaded. Interactive Knitting will give a message reminding when the current section has been knitted and the next section must be downloaded.

Jacquard and lace patterns require more memory than other knit methods, as each row of the on-screen visible pattern may be duplicated multiple times within the knitting machine memory.

Preparing for Interactive Knitting

Lace knitting is not possible using the USB Brotherlink 1 without KnitLink Arms. For lace knitting it is necessary to have a magnetic KnitLink Arm mounted on the lace carriage as well as a

separate one on the main carriage. This is true even for the KH940 and KH950i which are capable of generating pulses detectable by DesignaKnit.

The manual and help for interactive knitting are available from the Help menu in the Interactive Knitting section of DesignaKnit: please see those in order to find out about the general principles of interactive knitting. Only points that are specific to this type of cable link and knitting machine are included in the present document.

Whatever the model of Brother electronic knitting machine, it is necessary to select the pattern number on the knitting machine console. The downloaded pattern number will be in the range 901 to 998. For the KH900, KH930, KH940, and KH950i, the pattern numbers will be the same as they appeared in DesignaKnit, because an entire batch is downloaded together in one operation with the pattern numbers already defined.

For the KH965i and KH970, the knitting machine assigns its own 900 series number - it gives the next available 900 series number to each downloaded pattern, so they are likely to end up with different numbers from those shown in DesignaKnit earlier.

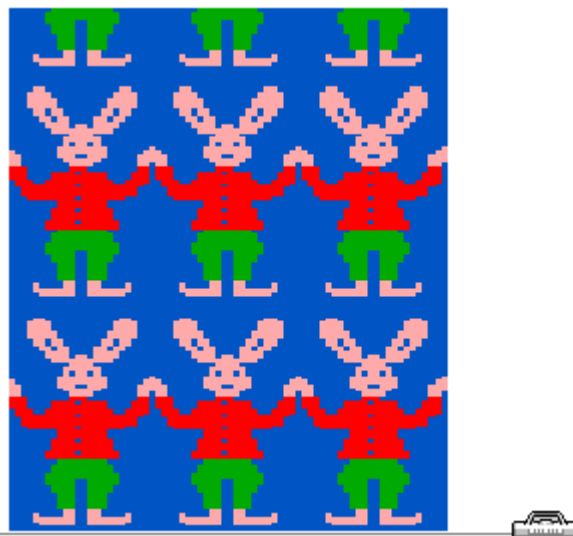
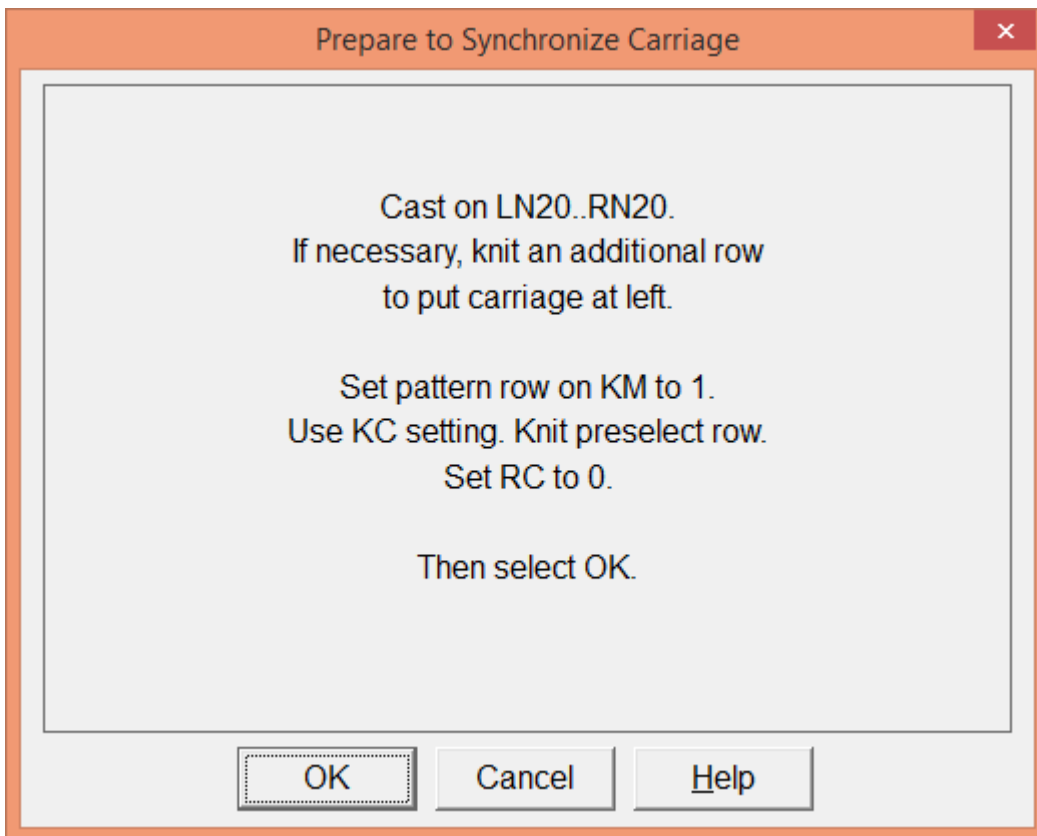
For the KH965i and KH970 care must be taken to delete other 900 series patterns periodically, or before downloading a particularly large pattern. When working out if a pattern will fit into the machine memory, DesignaKnit assumes that no other patterns are using up memory. For other models of machine, all other 900 series patterns are automatically replaced by the new batch of downloaded patterns so there is no need to delete anything.

Interactive knitting may be done using the USB Brotherlink 1 on some machines - see the section titled "Interactive Knitting with KH940 or KH950i" below. The electronic design of other machines means that interactive knitting is not possible with the USB Brotherlink 1.

When starting to work the first preselect row for a new stitch pattern, and the carriage is moved for the first time with the KC setting, it is necessary to move it past the further turn mark in order for the machine to start selecting needles and to start incrementing the electronic row count on the machine. This is not necessary for subsequent carriage passes.

Preselection

Except when using the garter carriage, Brother knitting machines preselect needles for the following pass of carriage. Each pass of the carriage knits the pattern that was defined by the previous pass, and also selects needles for the following pass. When the amber traffic light button is clicked to prepare to start knitting, the following dialogue appears:



Note that in this example, the Progress window at the top right of the Interactive Knitting screen shows the carriage at the right hand side of the work. The instructions are saying to work the first preselect row starting with the carriage at the left - so that it will be at the right when starting to knit row 1. ***The interactive knitting screen always shows the row that is about to be knitted, not the row that is about to be preselected.***

Interactive Knitting with KH940 or KH950i

Before knitting, ensure that the cable link is the knitting machine's FB100 socket, but bent out of the way to make sure that the carriage cannot snag the cable and cause damage to either the socket or the cable.

The KH940 and KH950i machines are unique in that they generate a signal when the carriage changes direction. This signal can be detected by DesignaKnit which is then able to update the Interactive Knitting screen and provide knitting instructions for the next row. The USB Brotherlink

1 therefore does not need a magnetic KnitLink arm to enable interactive knitting for these two models of knitting machine. (In order to do Interactive Knitting with other Brother machines it is necessary to attach a magnetic KnitLink Arm to the carriage, converting it to a USB Brotherlink 5.)

These two machines produce the signal only if the KC setting is selected on the carriage. This setting is always necessary for patterned knitting as it engages the patterning belt.

Once knitting has begun (using the amber or green traffic light buttons), each time the carriage passes the KnitLink box, the screen will update and show the instructions for the next row.

Interactive Knitting with other Brother electronic machines

For interactively knitting with other machines it is necessary to purchase a Knitlink Arm which converts this cable to a USB Brotherlink 5. After doing that please refer to the manual for the USB Brotherlink 5.

Plain Knitting with KH940 or KH950i

There are some disadvantages of using the KC setting for plain knitting: engaging the patterning belt makes the carriage noisier and harder to push, and it is also necessary first to download a blank pattern to the machine.

If it is required to do much plain knitting, it may therefore be preferable to purchase the KnitLink Arm. Adding it converts a USB Brotherlink 1 to a USB Brotherlink 5. After doing that please refer to the manual for the USB Brotherlink 5. The signal to DesignaKnit is then provided by the KnitLink Arm and Box, instead of the patterning belt. Plain knitting is therefore easier, quieter, and it is not necessary to download a blank pattern first.

Updating the Driver from the Internet

From time to time the manufacturer of the chips in the cable link publishes a new driver because a modification may be necessary for it to work with newly published Windows updates. We recommend that from time to time you follow the instructions on this webpage to keep the driver updated. If you have a problem with the cable link at any time it is a good idea to update the driver before contacting technical support. <https://softbyte.co.uk/updatinganexistingdriver.htm>

Troubleshooting

If Windows reported a problem when trying to install the driver from the internet, or Device Manager shows a yellow error icon next to the serial port, or there is a yellow error icon next to an "Unknown device", follow the instructions at <https://softbyte.co.uk/cablelinksdriver.htm>.

If your DesignaKnit computer is not connected to the internet, download a driver installer from this web page and transfer it on a pen drive to the DesignaKnit computer: <https://softbyte.co.uk/cablelinksdriver.htm>.

Updating the cable link driver: please see <https://softbyte.co.uk/updatinganexistingdriver.htm>

For problems uploading or downloading, please see <https://softbyte.co.uk/uploading&downloadingwithbrotherlinks.htm>

For problems with interactive knitting, please see <https://softbyte.co.uk/interactiveknittingwithbrotherpassapscreenlinks.htm>

Updates to this manual

The document you are reading was updated in October 2024.
The most recent editions of cable link manuals may be found at
<https://softbyte.co.uk/cablelinkmanuals.htm>

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