

# The DesignaKnit USB Brotherlink 3 Plus

## For the Brother PPD



### What this link does

- Uploading and downloading patterns between DesignaKnit and a PPD cartridge in the modes for KH270, KH930, KH940, KH950i, KH965, KH965i, and KH970, and for uploading from the Stitch Pattern Extras Cartridge.
- Interactive knitting in DesignaKnit with almost any knitting machine. Knitters who have pacemakers fitted should be aware that the KnitLink Arm contains a magnet. It is not an especially strong magnet, but please observe the normal guidelines concerning the proximity of magnets to pacemakers.
- If used in conjunction with the DesignaKnit PPD Adapter, it is also suitable for use with the PPD modes for KH900 and CK35. It can then also connect direct to the KH930, KH940, KH950i, KH965i, and KH970 machines without using a PPD. When the PPD Adapter is added, the USB Brotherlink 3 Plus cable effectively becomes converted to a USB Brotherlink 5 cable, when the instructions for the USB Brotherlink 5 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.

### Part List

1. The DesignaKnit USB Cable.
2. CD with test program and USB drivers.

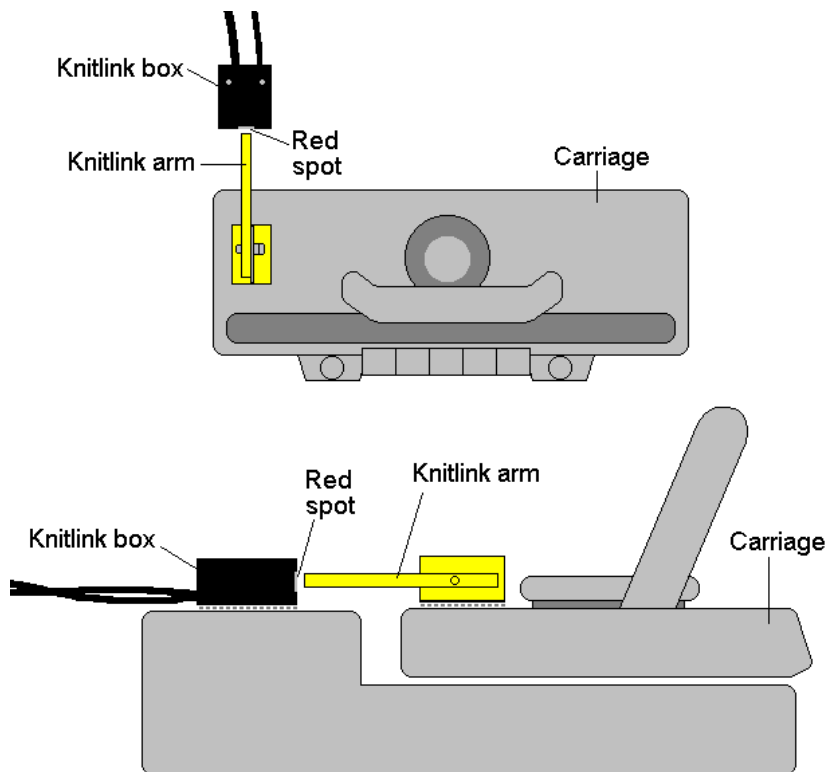
3. The magnetic KnitLink Arm.

## Fitting the link to the PPD & knitting machine

For uploading or downloading, connect the cable to the 8-way FB100 connector on the PPD. It doesn't matter whether the Knitlink box is attached to the knitting machine.

For reliable results when interactively knitting it is best to disconnect the 8-way end of the cable from the PPD. The Knitlink box is fitted as follows.

1. Move the carriage to the middle of the bed.
2. Place the base of the KnitLink Arm with both layers of the fastening fabric still attached to its underside onto the carriage.
3. Place the KnitLink Box with both layers of the fastening fabric still attached to its underside onto the plastic top surface of your knitting machine. Direct the red spot towards you and the cable pointing away.
4. Make sure that the magnet in the end of the KnitLink Arm lines up with the red spot on the KnitLink Box and passes as closely as possible without actually touching when the carriage is moved.
5. The angle of the Knitlink Arm is adjustable. If your Knitlink Arm is made of aluminium, loosen the nut to adjust it, and tighten it when the arm is in the correct position. If the Arm is black, it is quite stiff and needs some effort to bend it, but it is very strong and will not break: it can safely be bent using pliers.



6. When positioned correctly, remove the backing strip of the fastening fabric from the base of the KnitLink Arm and fix to the carriage. Remove the backing strip of the fastening fabric from the base of the KnitLink Box and fix to the plastic top of the knitting machine.
7. Make fine adjustments to the positioning of the arm and box by altering the position in which their fabric fasteners engage. Aim for a clearance of two or three millimetres.
8. Press the arm base and box down firmly to make sure they stay in place.

9. Make sure that the KnitLink Arm does not catch on anything in its path when the carriage is moved, including charting devices.
10. Extra pieces of ordinary fastening fabric may be purchased and attached to other knitting machines, so that the KnitLink arm and box can be moved to whichever machine you need to work with.
11. To pack your knitting machine in its case, simply pull the KnitLink Box upwards so that the two layers of fabric fastener are separated. You might also need to detach the KnitLink Arm from the carriage in the same way.
12. 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.

This 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.

For the driver for Windows CE, please visit <http://www.ftdichip.com/Drivers/VCP.htm>

If your DesignaKnit computer is **not** connected to the internet, go straight to the section titled "Installing the driver from CD".

## Installing the driver from the internet

Insert the USB cable into a standard USB port on your computer.

When Windows starts, or if the link is connected while Windows is running, it 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 a problem is reported please see the Troubleshooting section.

If Windows does not react when the cable link is connected for the first time, it could mean that a similar USB device has previously been installed on the computer. In this case, Windows might not search or request a driver for the cable link but may just continue to use the driver that is already installed, which may be too old to work well with your current version of Windows. If Windows does not react when the cable link is connected for the first time, please go to the Troubleshooting section titled "Updating the cable link driver". If your knitting computer is not connected to the internet, see the notes at the end of that section.

Finally you may be presented with an instruction to restart the computer - if so, do it.

Now please go to the section titled "Telling DesignaKnit 8 or 9 which port number to use".

## Installing the driver from CD

**Do not connect the DesignaKnit cable link yet.** If the cable is already connected, disconnect it.

If the cable link was purchased after DesignaKnit, insert the CD that came with the cable link, otherwise insert the DesignaKnit CD to install the driver (if the DesignaKnit Setup program opens, do not install DesignaKnit again - close the window).

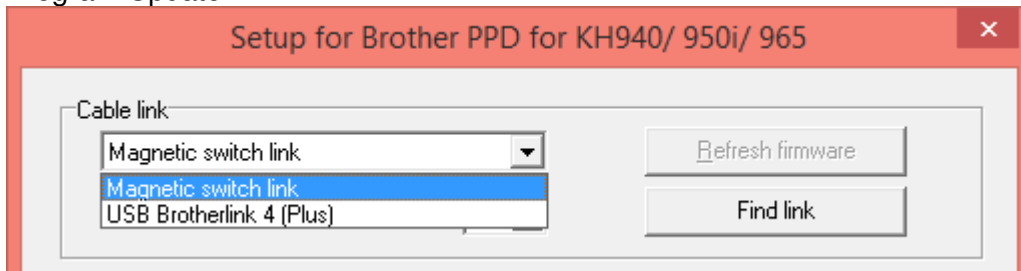
If Windows offers to open a folder to view the files accept that option; otherwise open a My Computer window yourself, right click on your CD or DVD drive and select Explore, Browse, or Open in a new window. Run the program whose filename begins USBlinks\_DriverInstaller. The

driver will then be installed. Finally you may be presented with an instruction to restart the computer - if so, do it.

Insert the USB cable into a standard USB port on your computer.

## Telling DesignaKnit 8 or 9 which port number to use

1. Open Stitch Designer and select Transfer / Upload.
2. Highlight the PPD and required machine from the knitting equipment list by left clicking it, then click the Setup button.
3. Under Link or Cable link, select "Magnetic switch link". If this choice is not available, it may mean that you need to update your DesignaKnit using Help / Web Updates / Program Update.



4. Click on the Find Link button and then Start Search. When the link is found, touch the magnetic end of the KnitLink Arm to the red spot and the screen should flash red to confirm that the correct port number has been detected. If the screen doesn't flash, set the range of ports to exclude this port number and search again.
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. Back at the list of knitting machines, 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. When you have worked out which port number you are using:

1. Open Stitch Designer and select Transfer / Upload.
2. Highlight the PPD and required machine from the knitting equipment list by left clicking it, then click the Setup button.
3. At the top of the Knitting Machine Setup dialogue box there is 'Connected to serial port number'. Enter the port number that was found in Device Manager and click OK.
4. 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.

In Stitch Designer, Transfer / Upload transfers all 900 series patterns from the PPD cartridge to DesignaKnit, in a single batch. 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 PPD cartridge 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 on your hard disk as DesignaKnit stitch pattern files.

The **Restore** option takes a previously uploaded .bro file and downloads it back to the PPD, thereby restoring the 900 series pattern numbers that were in the cartridge at the point at which the batch was uploaded to the computer.

## Downloading an Unintegrated Stitch Pattern

1. In Stitch Designer, open the stitch pattern you want to download to the PPD and select Transfer/Download.
2. At the list of knitting machines, make sure that the Brother PPD for the required knitting machine is highlighted and click OK.
3. 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, starting at 901 - 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 PPD, and the USB connector to a 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.

## 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 PPD cartridge 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 Brother PPD for the required knitting machine is highlighted and click OK.
3. The Integrate window opens. In the left column, select the required garment pieces. The filenames of the stitch patterns that have been integrated with the selected pieces should be shown in the middle column. For knitting 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 PPD, and the USB connector to a 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.

## Large patterns

Different PPD modes have different sized memory pages. Each page is the same size as the knitting machine(s) that the mode relates to. The memory space required for a given pattern is roughly proportional to the total number of stitches. For a given batch of patterns DesignaKnit is able to calculate whether the total memory required for the batch will fit into a PPD memory page. If there is insufficient memory a message is shown - and some patterns will have to be removed from the batch.

It is also possible that one large pattern is too large for the PPD memory page - 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.

## Preparing for Interactive Knitting

Knitters who have pacemakers fitted should be aware that the KnitLink Arm contains a magnet. It is not an especially strong magnet, but please observe the normal guidelines concerning the proximity of magnets to pacemakers.

***Before knitting, remove any cable link from the knitting machine's FB100 socket, in case the carriage snags the cable and causes damage to either the socket or the cable.***

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 are included in the present document.

For reliable results when interactively knitting it is best to disconnect the 8-way end of the cable from the PPD.

In Interactive Knitting, prepare a stitch pattern swatch or a garment piece for knitting and select Options / Knitting machine. Highlight the required Brother electronic knitting machine and click the Setup button. Make sure the Link type is set to Magnetic switch link.

If the port number has not already been entered, set the port number of the knitting machine to the same port number that was earlier found and used by Stitch Designer for downloading to the PPD.

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 and in the PPD, because an entire batch is downloaded together in one operation with the pattern numbers already defined.

For the KH965i and KH970, patterns are loaded from the PPD cartridge into the machine one by one - by specifying the number that a pattern has in the cartridge. The knitting machine then assigns its own 900 series numbers - it gives the next available 900 series number to each pattern, so they are likely to end up with different numbers from those shown in DesignaKnit earlier.

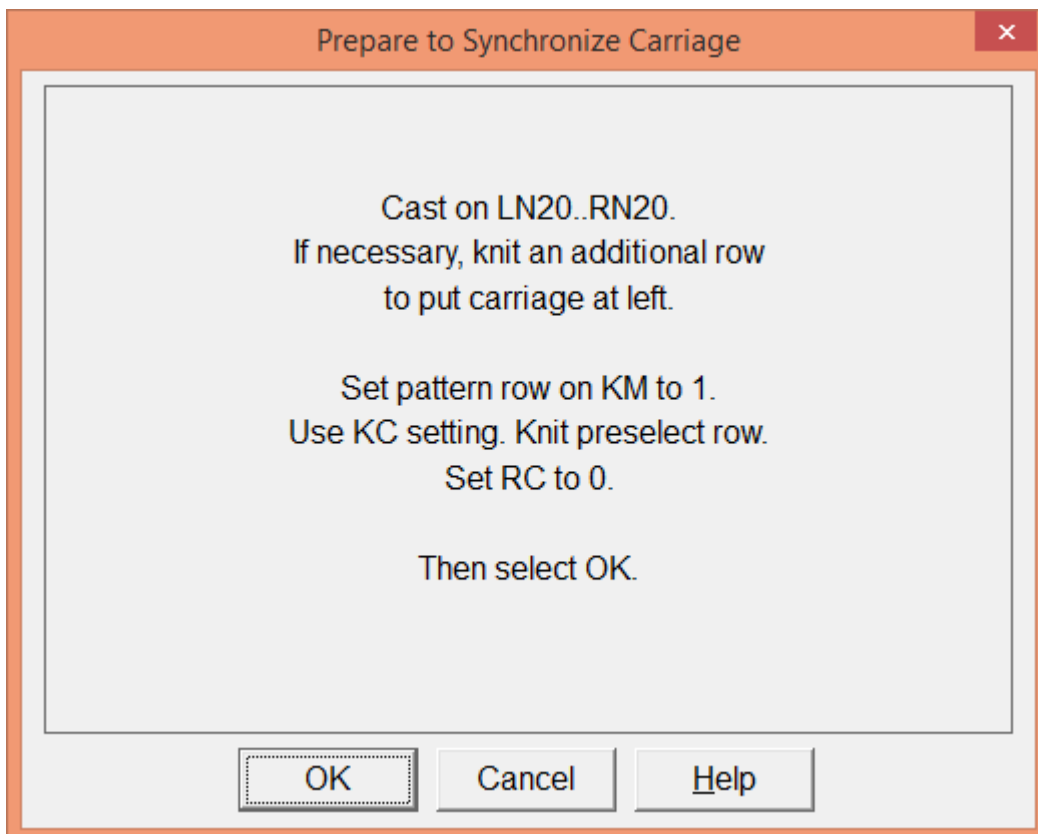
For the KH965i and KH970 care must be taken to delete other 900 series patterns periodically, or before downloading a particularly large pattern. When working out if a pattern will fit into the machine memory, DesignaKnit assumes that no other patterns are using up memory. For other models of machine,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

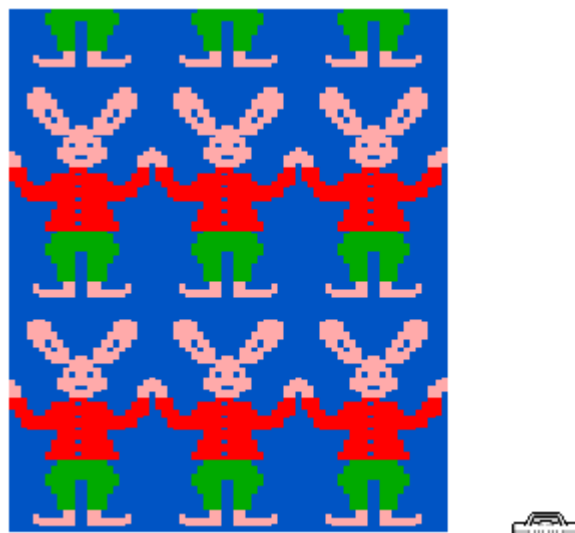
When doing plain knitting with this type of cable link, the KC setting on the carriage is not used. For pattern knitting, a KC setting must be used.

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.***

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

## 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", try using the driver installer. Either follow the directions in this document under "Installing the driver from CD", or from <https://softbyte.co.uk/cablelinksdriver.htm>.

If your DesignaKnit computer is not connected to the internet, download a driver installer here and transfer it on a pen drive: <https://softbyte.co.uk/cablelinksdriver.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 December 2021.

The most recent editions of cable link manuals may be found at <https://softbyte.co.uk/cablelinkmanuals.htm>



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