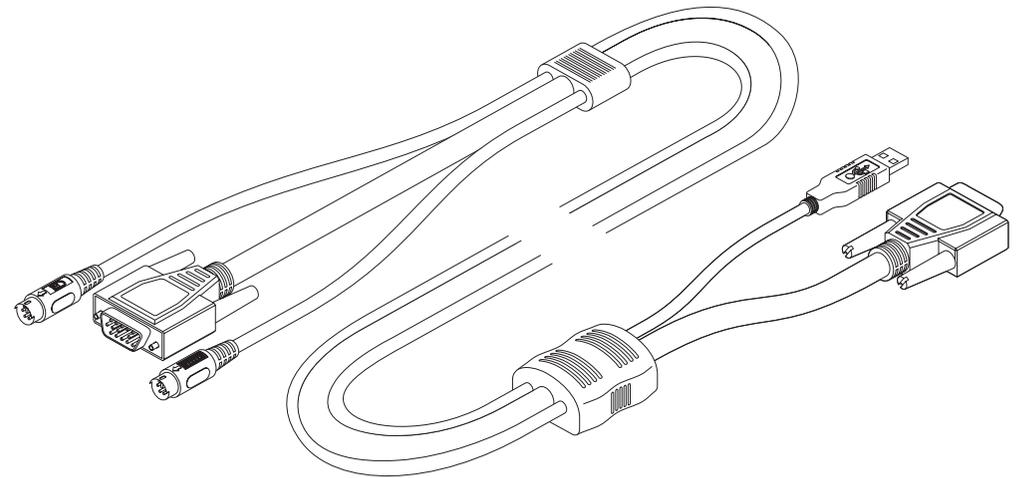# USB Converter Cable

Software upgrade and keyboard emulation guide

Software upgrades and keyboard emulations

The internal software of your USB converter cable can be upgraded to fulfill two main functions:

- Utilize the latest features and functionality,
- Emulate particular styles of USB keyboards so that extra keys may be supported. Keyboard styles supported include the Microsoft® Office keyboard, the Microsoft® Natural Pro keyboard and Sun® workstation keyboard. Additionally for Sun® systems, the converter cable can be made to declare a country code.

This guide covers all of the steps needed to perform such changes, which are arranged into four main stages:

- *Stage one*   Download upgrade files from the Black Box website.
- *Stage two*   Create a startup diskette.
- *Stage three*   Copy the files and edit the control file.
- *Stage four*   Reconnect the USB converter cable and reboot.

Stage one - Download the upgrade files

To download the files

1 Access the Black Box website (www.blackbox.com), enter the Software Updates section. Choose the upgrade option that best suits your requirements and download it to your system.

2 Decompress the downloaded file. Depending on the chosen option, there will be a collection of suitable files. As a minimum, there should be the following files:

- AUTOEXEC.BAT – directs the computer to run the driver update and firmware upgrade programs.
- PS2USB.EXE – this is the upgrade program that causes upgrade data to be sent to the USB converter cable from your PC.
- A keyboard definition file that has the extension .S19, such as: GENxxx.S19, OFFxxx.S19, SUNxxx.S19 and NPROxxx.S19.

  Where xxx is the upgrade version number.

*Now please follow **Stage two**.*

## Sun system keypress equivalents

Once the Sun keyboard emulator has been downloaded, you can emulate the extra keys on a Sun keyboard using the following PS/2 key press combinations.

PS/2 keyboard	Sun keyboard
Right-[Ctrl] [F1]	Stop
Right-[Ctrl] [F2]	Again
Right-[Ctrl] [F3]	Props
Right-[Ctrl] [F4]	Undo
Right-[Ctrl] [F5]	Front
Right-[Ctrl] [F6]	Copy
Right-[Ctrl] [F7]	Open
Right-[Ctrl] [F8]	Paste
Right-[Ctrl] [F9]	Find
Right-[Ctrl] [F10]	Cut
Right-[Ctrl] [1]	Mute
Right-[Ctrl] [2]	Volume -
Right-[Ctrl] [3]	Volume +
Right-[Ctrl] [4]	Power*
Right-[Ctrl] [H]	Help

* Certain PS/2 keyboards have a power key which will be mapped to perform the same function for a Sun system.

Stage four - Reconnect USB converter cable and reboot

1 On the Windows-based computer from which you will run the upgrade, ensure that its BIOS settings will allow it to boot from the floppy diskette drive, rather than booting immediately from the hard drive.

2 Switch off the computer and remove its keyboard connector.

3 Disconnect your USB converter cable (if connected) from its computer and KVM switch.

4 At the end of the converter cable that has three plugs, locate the keyboard plug (purple with ⌨ icon) and connect it to the keyboard socket of the Windows-based computer. This is the reverse of the usual connection method and the cable will automatically detect this to prepare itself for the ugrade procedure.

Keyboard connector
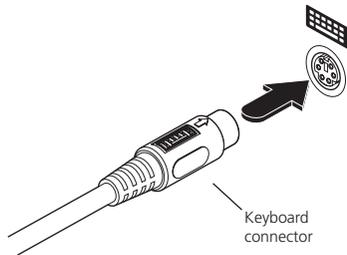
5 With the upgrade diskette installed in the drive, switch on the computer. The computer must boot from the floppy diskette and will then automatically perform the upgrade/apply the keyboard & country code. The upgrade process should take no more than two to three minutes and a progress indicator will be displayed on screen. Once the upgrade is complete, switch off the computer and disconnect the USB converter cable.

6 Reconnect the USB converter cable between the USB-equipped computer and the KVM switch.

Stage two - Create a startup diskette

For this stage you will need a 3½ floppy diskette that is either blank or has existing contents that are no longer required. The write protect tab must be moved to the 'unprotected' position. Depending on your operating system, use one of the following to create a startup disk:

To create a startup disk in Windows XP

1 Insert a diskette into the floppy disk drive.

2 Select 'Start' and then 'My Computer'.

3 Right mouse click on the '3½ Floppy (A:)' icon and select 'Format'.

4 Check the 'Create an MS-DOS startup disk' box and select 'Start'.

To create a startup disk in Windows 95/98/Me

1 Insert a formatted diskette into the floppy disk drive.

2 Select 'Start', then 'Settings' and then 'Control Panel'.

3 Double click on the 'Add/Remove Programs' icon.

4 Select the 'Startup Disk' tab.

5 Click 'Create Disk' and follow the instructions.

To create a startup disk in Windows 95/98 (alternative method)

1 Insert a diskette into the floppy disk drive.

2 Right mouse click on the '3½ Floppy (A:)' icon and select 'Format'.

3 Select the 'Full format' option and ensure that the 'Copy system files' box is checked.

4 Select 'Start' to format the disk.

To create a startup disk from MS-DOS or a DOS window within Windows 95/98

1 Insert a diskette into the floppy disk drive and check that the drive is configured as drive A (it usually is).

2 At the DOS prompt (C:\>) type:

```
FORMAT A: /S
```

and follow the instructions given by DOS.

*Now please follow **Stage three**.*

Stage three - Copy the files and edit the control file

In order to choose the appropriate upgrade/keyboard emulation options, you now need to copy the downloaded files to the diskette and then edit the AUTOEXEC.BAT control file.

1 Using Windows Explorer or the My Computer option, copy the downloaded and decompressed files from your computer to the floppy diskette.

2 Using a text editor, such as Notepad or Wordpad, open the AUTOEXEC.BAT file on the floppy diskette (A:). The file will contain a command line similar to the one shown here:

```
PS2USB GEN104.S19 /C21
```

The command line relates to the USB keyboard that you wish to emulate to the connected system. There are two parts to the line:

- The GEN104.S19 entry sends a new keyboard profile (in this case the general driver with a version number 1.04). A list of keyboard profiles is provided on the right. If necessary, change this entry to match the required keyboard file.

- The /C21 suffix optionally sets a country code that will be reported to the USB-connected system(s). This is required only for Sun workstation systems, which require the country layout of the keyboard to be reported. A full list of country codes is provided opposite. The country code is not required for other kinds of computers and can be removed.

3 When all required changes have been made, save the AUTOEXEC.BAT file. Do not change the name otherwise it will not be recognized by the system.

*Now please follow **Stage four**.*

USB keyboard drivers

- GENxxx.S19 - This is the general driver that is suitable for most systems and is loaded by default into the USB converter cable. When used with certain Black Box KVM switches, operation is totally 'plug and play'.

- OFFxxx.S19 - This driver supports the extra keys found along the top of Microsoft Office keyboards.

- NRPOxxx.S19 - This driver supports the extra keys found along the top of Microsoft Natural Pro keyboards.

- SUNxxx.S19 - This driver supports the extra keys found on Sun-style keyboards. Sun systems also require a country code to be specified - see previous page for details.

The last three of these drivers provide support for the extra keys of these specialist keyboards and allow you to emulate them using combination key presses on a standard PS/2 style keyboard (a list of emulation key presses for a Sun keyboard are provided on the next page).

Keyboard country codes

Country	nn code	Country	nn code
Arabic	01	Persian (Farsi)	14
Belgian	02	Poland	15
Canadian-Bilingual	03	Portuguese	16
Canadian-French	04	Russian	17
Czech Republic	05	Slovakian	18
Danish	06	Spanish	19
Finnish	07	Swedish	1A
French	08	Swiss/French	1B
German	09	Swiss/German	1C
Greek	0A	Switzerland	1D
Hebrew	0B	Taiwan	1E
Hungary	0C	Turkish-Q	1F
International (ISO)	0D	UK	20
Italian	0E	US	21
Japan (Katakana)	0F	Yugoslavia	22
Korean	10	Turkish-F	23
Latin American	11	Reserved	24-FF
Netherlands/Dutch	12	Not supported	00
Norwegian	13		