Premium PLUS +

Quick Start Guide

Connecting your Microbee Premium Plus

Power / Video / Cassette interface (5 Pin DIN) | H/S Serial Port | Ethernet Port | SD Card Socket | Floppy Disk interface (optional) | Standard Serial Port | Parallel Port | RGB Color
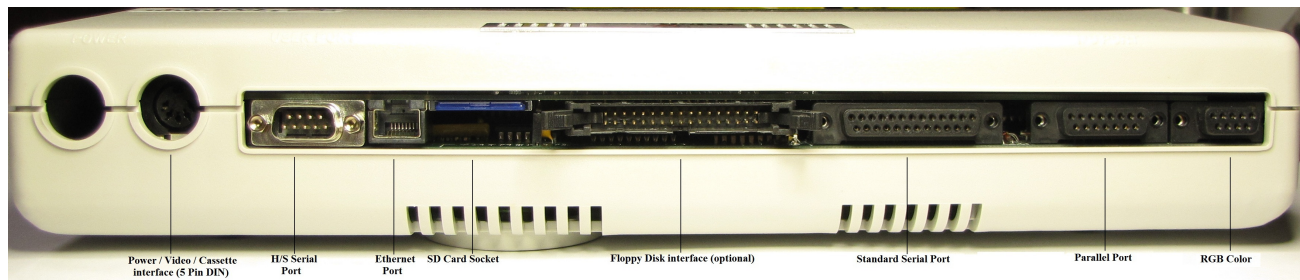
Power:
The Microbee Premium Plus requires 10 to 14 Vdc @ approximately 1.2amps
This is supplied to the unit via the standard microbe power/video/cassette lead which plugs into the 5 pin DIN connector on the left hand end (rear view, as above) of the unit.
Usually the Microbee is power from either a Plug Pak unit, or, if you have a Microbee disk drive, it has a power outlet socket that is designed to power the keyboard unit.

Shown to the right is the standard power / video / cassette lead and also (far right) the plug pak power supply


Video out:
Normal monochrome video is output via the cable mentioned above, from the 5 Pin DIN connector. This video output is suitable for connecting to a video monitor that has a composite video input, or as an alternative, most modern televisions have 'AV' inputs which are also suitable for use.

Starting up your Microbee:
If you have your Microbee connected to a suitable monitor, and a suitable power source, apply power and if there is no SDcard in the socket, the Microbee should present you with a boot menu. (See screen shot – next page)
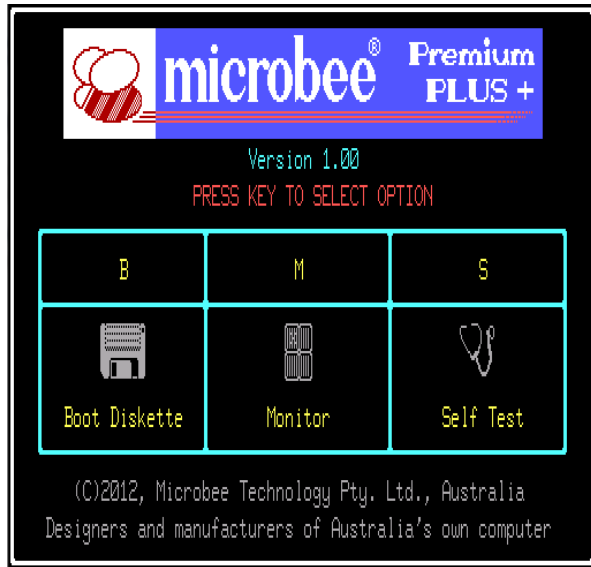
Premium Plus Boot Menu
(no SDcard installed)
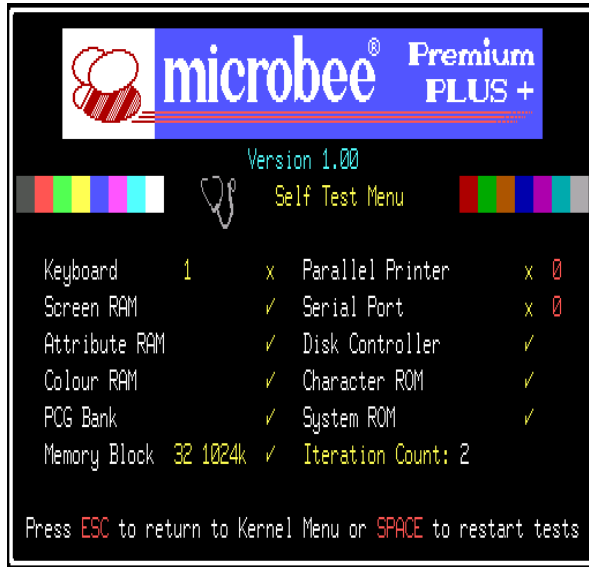
Premium Plus Self Test

The boot menu will only appear if there is no SDcard in the socket, or it cannot find a valid image to boot from (either Microbee mode or uClinux). The boot menu allows you to Boot a disk (this will only be useful if you have the physical floppy disk interface option and a disk drive connected), run the Microbee's diagnostic Self Test routines, or, enter the Machine language monitor.

Booting from SDcard:
If an SDcard is inserted into the Microbee (label side faces down, contact side faces upwards) and a valid disk image is on the card, the microbe will boot from this image.
At boot time, the Premium Plus checks the SDcard for a small configuration file and initialises in 1 of 4 modes. Each of these modes has a different arrangement of 'Emulated floppy' drives and physical floppy drives. Note that to support connection & use of physical floppy drives, the Floppy disk controller option will have to be purchased and fitted to the Premium Plus coreboard. As standard, the Premium Plus kit will be shipped to work with an SDcard only.Here are the mode details:

Mode 0 - [Boot from Physical Floppy drive]
   Physical floppy drive support at drive A: and B:
   and SDcard stored Emulated drives at C: and D:.
Mode 1 - [Boot from SDcard Emulated Floppy drive]
   SDcard stored Emulated drives at A: and B:
   and Physical floppy drive support at C: and D:.
Mode 2 - [Boot from SDcard Emulated Floppy drive]
   SDcard stored Emulated drives at A:, B:, C: & D:
Mode 3 – Select Coldfire / uClinux mode

Because of the way the SDcard interface has been done, it is compatible with all normal Microbee software and file copy programs like TRANSFER, BACKUP, CP and so on. These allow you to use and copy files between the Physical floppy drives & the Emulated SDcard drives seamlessly - fantastic for backup of floppies onto modern media.

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Here is an example of the contents of the BEEMODE.CFG file

```
2
BOOT.DS8
DRVB.DS8
DRVC.DS8
DRVD.DS8
```
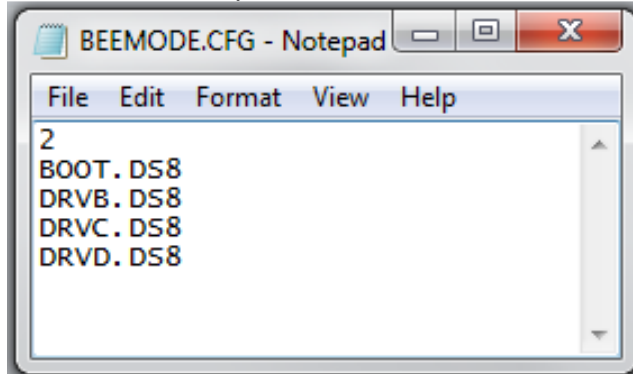
<- MODE
<-File for emulated drive 'A'
<-File for emulated drive 'B'
<-File for emulated drive 'C'
<-File for emulated drive 'D'

The files can have any file name – these are only an example. Long file names are not Supported though – only xxxxxxxx.eee (8.3) format is supported at this time.

Files on the SDcard:
The SDcard has 2 partitions on it. The first partition is formatted with a FAT16 file system and this is where you will find BEEMODE.CFG and the microbee disk images.

[DIR] MANUALS   (copies of this quick start guide and the Construction manual)
[DIR] UCL_NET   Contains the uClinux kernel image with networking enabled
[DIR] UCLNONET   Contains the uClinux kernel image with networking disabled
ARCADE1.DSK   Microbee Arcade games Vol. 1 Disk Image
BEEMODE.CFG   Premium Plus boot configuration file
BOOT.DS8   Standard Microbee Premium Series System disk image
DRVB.DS8   Blank Double Sided 80 Track disk
DRVC.DS8   Blank Double Sided 80 Track disk
DRVD.DS8   Blank Double Sided 80 Track disk
UCLINUX.IMG   Kernel image for uClinux (normally the net disabled variant)

Notes on Microbee disk images:
The Premium Plus supports various disk image types that covers the different types of floppy disks that were supplied at various stages for microbe systems.

Double Sided, 40 Track format – these images must use the file extension '.DS4'
Single Sided, 80 Track format - these images must use the file extension '.SS8'
Double Sided, 80 Track format - these images must use the file extension '.DS8'
These image types (above) are all 'RAW' disk formats – that is they are a straight copy, sector for sector with no embedded information as to what size the sectors are, how many heads are used etc.

CPC-EMU DSK format files.
The '.DSK' file type is also supported by the Premium Plus. This format has embedded information that contains a lot of information about the disk image as a whole & also information about each track within the image. As a result, lots of different types of floppy disk image types can be represented with this format.
You will notice in the SDcard file listing above that we have included ARCADE1.DSK.
The 'HoneySoft' copy protected / autoboot disks used a special disk format to stop the disks being copied. Some tracks have sectors of different sizes, and some have sector numbers that start from 0 instead of starting from sector 1. The DSK format allows these disks to be properly represented.

The 'Honeysoft' disks (like the one supplied) must be booted from to access & run the contents, so you would specify it's filename in BEEMODE.CFG like so :

```
2                 <-Mode
ARCADE1.DSK       <-disk we want to boot from (Drive A position)
DRVB.DS8          <- Drive B,C & D don't matter when you are booting
DRVC.DS8             a HoneySoft disk as it doesn't let you access them anyway.
DRVD.DS8             Just leave them as they were – no need to change them.
```

uClinux

As mentioned earlier, the SDcard has 2 partitions on it. The 2nd partition contains the root file system for uClinux. When booting uClinux, BEEMODE.CFG has to be set for mode 3

```
3                 <-Mode
ARCADE1.DSK       <- No need to change any of these as uClinux doesn't need this info.
DRVB.DS8
DRVC.DS8
DRVD.DS8
```

The Premium Plus will automatically detect the mode upon RESET & start loading the uClinux Kernel into memory and pass control to it. The kernel then starts booting, loading device drivers for various items (serial ports, timers, MMC card interface and so on) and within a short amount of time will present you with a command prompt.

```
Welcome to

          ____ _  _
         /  __| ||_|
   _   _| |  | | |  _ ____  _   _  _  _
  | | | | |  | || |  _ \| | | | |\ \/ /
  | |_| | |__| || | | | | | |_| |/    \
  |  _____|_||_|_| |_|\____|\_/\_/
  | |
  |_| For the Microbee Premium Plus+



Command:
Execution Finished, Exiting

Sash command shell (version 1.1.1)
/>
```

Once at this point you can issue commands much like CP/M or MS-DOS

A couple of common commands are
LS<CR> View the contents of a directory
CD [dirname]<CR> Change to directory [dirname]

Linux is a very big subject and well beyond the scope of this quick start guide.
Some basic tutorials will be offered at a later stage, so check our website for news, or sign up to our newsletter in the web store to make sure you are kept informed.

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