

BW-DOS TC 1.31

User Manual

This is the supplement to the BW-DOS 1.31 User Manual describing all changes and additions from version 1.31 to TC 1.31.

The version TC 1.31 was mainly developed to support The!Cart.

Main Features of version 1.31:

- Driver for ram disk using the 512k Ram of The!Cart
- Driver for flash disk using up to 4 drives each with 512k flash memory of The!Cart
- Cartridge switcher to change active cartridge of The!Cart without reboot
- Miscellaneous other small utilities

Changes

- Version 1.31 always starts command processor after reboot. It does not automatically starts an active cartridge after reboot. Use command CAR to run cartridge.
- Command CWD is renamed CD.
- Command CREDIR is renamed MD.
- Command DELDIR is renamed RD.

Additions

There are three versions:

XBW130.DOS	original BW-DOS 1.30.2
XBW131.DOS	version 1.31, see chapter Changes
XBW131B.DOS	version 1.31, works with 16K but cannot be started from other DOS
XBW131TC.DOS	version 1.31 with integrated driver for The!Cart using D1: for flash disk F1: and D8: for ram disk , see TCDRIVER

These three versions are executables and can be stored and executed like executable files on The!Cart. They can be directly booted by selecting them in the start menu of The!Cart.

List of new external commands:

TCAR name

Switch cartridge entry of The!Cart. The configuration file D1:>TCAR.CFG is read for information of The!Cart entries. This file must be manually maintained.

The configuration file is line oriented and every line must be structured as following:

- Position 1-8 contains the name blank padded
- Position 9 blank
- Position 10-11 contains the cartridge kind of the entry, two digit hexadecimal number
- Position 12 blank
- Position 13-16 contains the start bank number, four digit hexadecimal number

Examples of valid lines of TCAR.CFG:

```
BASIC XL 04 22B6
MENU    01 0000
OFF     00 0000
```

The example entry BASIC XL is an OSS M91 (id \$04) cartridge wich starts at bank \$22B6 of The! Cart. The real bank number must be looked up in the menu of the The!Cart. Select an entry and use the <TAB> key to get the information of mode and start bank.

MENU and OFF are standard entries and are valid for every The!Cart and do not need to be looked up. Mode \$00 and start bank \$0000 switches The!Cart off. Mode \$01 (standard 8K cartridge) and start bank \$0000 contains the menu of The!Cart.

Entries in the configuration file should be set to fixed start bank for these entries in TheCartStudio. This will ensures that a reassigning of banks and new flashing of The!Cart won't invalid the configuration file.

After using TCAR to switch to a cartridge the command CAR can be used to run the cartridge.

Examples:

```
TCAR BASIC XL
      Switch to cartridge BASIC XL described in configuration file D1:>TCAR.CFG

TCAR OFF
      Switch The!Cart off (if the entry is defined with mode $00 and start bank $0000).
```

TCDRIVER Dx: [Da:] [Db:] [Dc:] [Dd:] [/D]

Installs driver for RAM and flash disk. Dx: contains the drive number for the RAM disk. Da: to Dd: contains the drive numbers for flash disk F1: to F4:.. If the RAM disk and/or flash should not be assigned to a drive number then drive number zero D0: must be used.

The RAM disk is formatted with 512k and 128 Bytes sectors, if necessary. The formatting of the RAM disk can be prevented with the option /D (driver only). It is possible to format the RAM disk with any other tools but only 128 Byte sectors (single density,SD) are supported.

The RAM disk uses the 512k RAM of The!Cart.

The flash disks use the flash memory of The!Cart. It is possible to use four 512k flash disks. The User Space of The!Cart is used. The User Space must be defined in TheCartStudio (see User Space Size of the Workbook Options). At least 2176k User Space must be defined.

The flash disks have the following start banks:

```
F1: 16.304 bank
F2: 16.240 bank
F3: 16.176 bank
F4: 16.112 bank
```

The version 1.31 TC (XBW131TC.D05) already contains the driver and the RAM disk is set to D8: and flash drive F1: is set to D1:.

Example:

```
TCDRIVER D8: D4: D0: D3:
      Installs driver and formats RAM disk, sets RAM disk to D8:, flash disk F1: to D4:
      and flash disk F3: to D3:
```

TCFORMAT

Initialize the 512k RAM of The!Carts as 512k SD SpartaDOS 2 FS.

Example:

```
TCFORMAT
    Formats RAM disk
```

TCRESTOR Fx :

Copies the flash drive Fx: to the RAM disk of The!Cart. x must be between 1 and 4. The display is switch of during copying for performance reason. It will take about 5 seconds.

Example:

```
TCRESTOR F3:
    Copies flash disk F3: to RAM disk
```

TCSETDRV [Dx:] [Da:] [Db:] [Dc:] [Dd:]

Sets the drive numbers for the RAM disk Dx: and the flash drives Da:-Dd:. Without parameter the current drive number assignments are displayed. The drive number zero D0: is used to display or set RAM or flash disk without drive number assignment.

Example:

```
TCSETDRV D4: D8:
    Sets new drive number configuration, RAM disk is set to D4: and flash disk F1: to
    D8:, flash disk F2:-F4: are unassigned if they were assigned to a drive number
    before
```

TCSTORE Fx :

Stores the RAM disk to flash drive Fx: of The!Cart. x must be between 1 and 4. The display is switch of during copying (flashing) for performance reason. It will take about 20 seconds.

Before writing to flash memory the User Space is checked. The User Space Size must be set at least to 2176k (see User Space Size of the Workbook Options).

Example:

```
TCSTORE F1:
    Copies RAM disk to flash disk F1:
```

How to Use The!Cart for Ramdisk Drive

Use command TCDRIVER to install driver and set drive number. The driver can be called from command line or in STARTUP.BAT.

```
TCDRIVER D8:
```

Now the RAM disk is assigned to D8: and should have been formatted with SpartaDOS 2 FS. The RAM disk can be reformatted at any time using the command TCFORMAT.

```
TCFORMAT
```

The RAM disk can be formatted to any format as long it has 128 Byte sectors and the size is not larger than 512k, e.g. the command `FORMAT` can be used to format the RAM disk with medium density to 130k:

```
FORMAT
```

With the command `SECOPY` it is very easy to copy whole disk to the RAM disk if for example you want to store a hole single or medium density disk.

```
SECOPY D1: D8:
```

The command above will copy the whole disk in drive D1: to the RAM disk D8:. This will only work with disks of 128 Bytes per sector.

How to Use The!Cart for Flash Disk Drive

The prerequisite to use the flash drive is that the User Space Size is set to at least 2176k and flashed to The!Cart (see User Space Size at Workbook Options in TheCartStudio).

To use the flash drives the driver `TCDRIVER` must be installed and a drive number must be set for at least one drive.

```
TCDRIVER D8: D4:
```

The command above installed the driver and set the RAM disk to D8: and flash drive F1: to D4:.

Writing to flash drives is only possible by copying the whole RAM disk to one of the flash drive using the command `TCSTORE`.

```
TCSTORE F1:
```

The command above copied the RAM disk (set to D8: with the command before) to the flash disk F1:. Now it is possible to access read only the F1: using D4: (drive number was set with the `TCDRIVER`). Write access to flash disk are ignored.

The drive number assignment can be changed at any time using the command `TCSETDRV`.

```
TCSETDRV D8: D1:
```

Now the assignment of the flash drive F1: is changed from D4: to D1:.

If you want to change the content of a flash drive then you have to restore it to the RAM disk, change the content of the RAM disk, and again store the RAM disk to the flash drive. The commands `TCRESTORE` restores the content of a flash dick to the RAM disk.

```
TCRESTORE F1:
```

Now the content of F1: ist restored to the RAM disk D8:. After doing the changes to the RAM disk store the RAM disk to the flash drive F1:.

```
TCSTORE F1:
```

Now the content of flash drive F1: was updated.

How to Run BW-DOS from The!Cart

This is quite easy because the DOS files are just executable files and can be easily stored as Executable File on The!Cart using TheCartStudio.

There are three versions:

XBW130 .DOS	original BW-DOS 1.30.2
XBW131 .DOS	version 1.31, see chapter Changes
XBW131TC .DOS	version 1.31 with integrated driver for The!Cart using D1: with flash disk F1:and D8: with ram disk , see TCDRIVER

Now you can boot DOS just by selecting the entry in The!Cart Menu.

With XBW131TC.DOS it is possible to boot from flash drive without any SIO device. First you have to write F1: (see How to Use The!Cart for Flash Disk Drive).

Now you can boot XBW131TC.DOS just by selection the entry in The!Cart Menu. Because this version automatically installs driver with F1=D1 and RAM=D8 it also will startup from F1: it runs completely from The!Cart without any SIO device. The command TCSETDRV can be used to change drive number assignment at any time.

How to Switch Cartridges of The!Cart

First you have to flash all your cartridges, e.g. ACTION!, Assembler Editor etc. to The!Cart (best way is to use fixed start banks for this entries). Now you have to prepare the configuration file D1:>TCAR.CFG.

The data for the different cartridges can be obtained from The!Cart Menu by moving the cursor to the desired entry and press <TAB>. The line before the last line contains the Mode and Bank number. Take this numbers and give every entry a name you want and add a line in D1:>TCAR.CFG.

Example File TCAR.CFG:

```
ASS      01 1FF0
ALTIBAS  01 1FEE
BASIC C  01 1FF6
BASIC B  01 1FF5
BASIC A  01 1FF4
INTBAS   04 1F44
MICBAS2  21 1F78
SYNASS   01 204D
PILOT    01 203A
VEASEL   01 2051
WSFN     01 2052
MENU     01 0000
OFF      00 0000
```

Now it is possible to switch between these cartridges using command TCAR without reboot or using the Menu of The!Cart.

The cartridge is started with the CAR command.