

Quick start guide for UniCMT installation and usage



Thank you for your purchase!

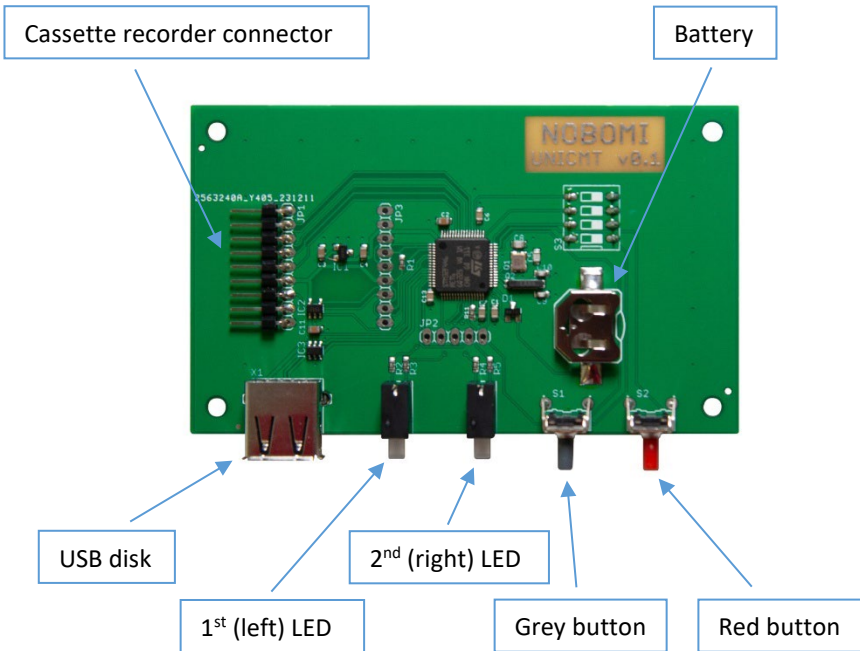
UniCMT is a modern **cassette tape replacement** for SHARP MZ-700, MZ-800 and MZ-1500 computers. It allows you to record programs and data to and from your computer via a modern storage device - a **USB flash drive**.

In addition to the standard speed used by cassette recorders, which is fully compatible with all programs, it can also operate at significantly higher speeds, up to **55 times faster**. This way you can run a program that used to take about 5 minutes to load from a cassette recorder now in less than 6 seconds.

The built-in file manager makes programs launching simple and straightforward without any modification to your computer needed. The UniCMT takes the place of the built-in cassette recorder.

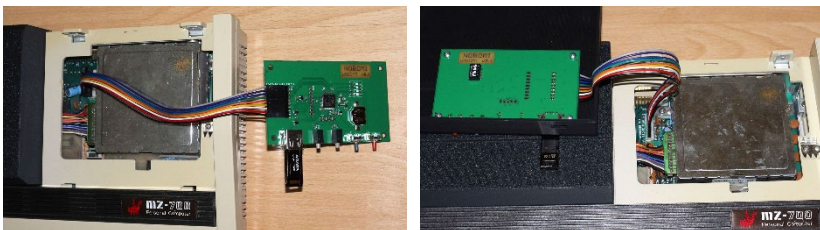
CAUTION: Before installing the UniCMT in place of the built-in cassette recorder, read these instructions carefully and make sure the computer is turned off and unplugged from the power. Please, pay special attention to the cable connection. Twisting the cable or wiring it incorrectly (e.g. moving it one pin too far) can damage the UniCMT and the computer!!!

Hardware description



Cassette recorder connector

It is used to connect the UniCMT to the computer. The cable must be plugged in straight, not twisted when the UniCMT is in the computer and the USB flash drive is facing the user. Please look carefully at the pictures.



Battery holder

CR1220 battery holder (battery not included). The battery is only used to maintain the internal clock, which is used to set the file time when saving files. If the correct time when saving files is not important to you, it is not necessary to install the battery. The accuracy of the internal clock is not high, the error can be a few seconds per day, please adjust it regularly.

USB flash drive connector

Format the USB flash drive up to 32 GB to the FAT32 file system. The file manager is stored in the internal memory of the UniCMT and can be loaded even without the USB flash drive inserted. All other programs and data must be stored on the USB flash. There may also be **run.cfg** file in the /unicmt folder on the disk with a configuration for automatically loading or running certain data types.

1st (left) LED

The left LED indicates the status of the USB flash drive:

red – USB flash drive is not inserted or does not have a FAT32 file system

green – USB flash drive with a recognized file system is inserted

2nd (right) LED

The right LED indicates the status of the cassette recorder emulation:

not lit – nothing is happening, no more data, the manager will be loaded

green – there are more data (multi file MZT), the engine signal starts playing

red – playback finished, nothing is sent until the motor signal

flashing orange – loading from emulated cassette recorder

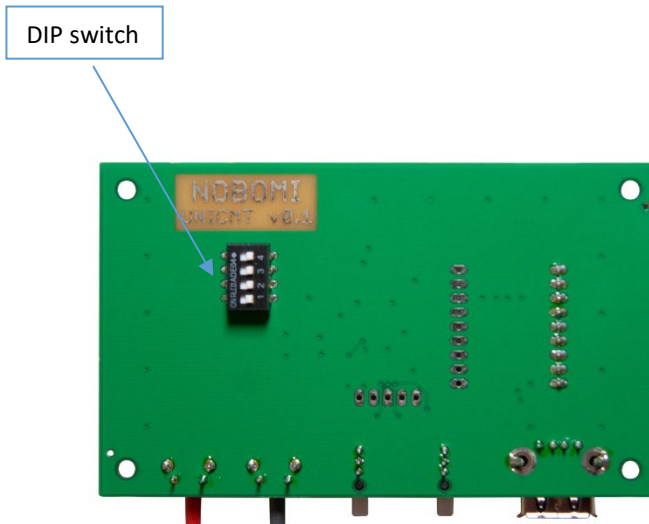
flashing red – saving to emulated cassette recorder

Grey (left) button

It has no function in the current firmware and is only used for updating it, see below in the section **Firmware update**.

Red (right) button

It has no function in the current firmware except reset after firmware update. When SW1 is ON, it is used to reset the internal MPU. This can be used in case you want to e.g. exclude files from the playback queue and do not want to reset the whole computer.



DIP switch

It is used to preset some hardware functions. In the current firmware only SW4 is relevant, or SW1 can be used (hardware connected).

SW1 – in the ON position the red button is connected to reset the MPU

SW2 – it has no function in the current firmware

SW3 – it has no function in the current firmware

SW4 – in **ON** position the manager boot is adapted **for MZ-700**

SW4 setting to ON is necessary for MZ-700 EN and JP computers

the name when loading the manager contains unreadable characters

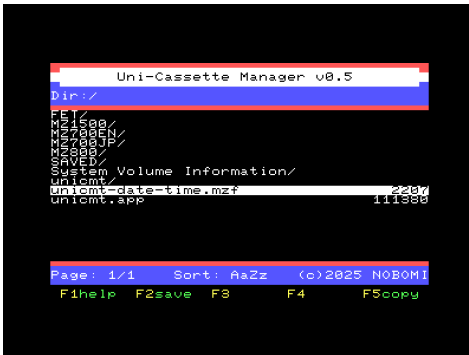
this is fine, it's machine code to speed up the loading process 😊

Starting the UniCMT manager

After you turn on your computer, you start the UniCMT manager (UC) by:

Entering the **L<CR>** monitor command **in the MZ-700** computer. The DIP switch **SW4 must be** in the **ON** position for proper operation.

For **MZ-800** or **MZ-1500** computers, just **press the C key on the startup screen**. If you have a device on your computer that causes another program to start automatically (for example SRAM disk, Floppy disk, Unicard, etc.) it is possible to **press the C key, hold it down, and press the reset button**. This will force the computer to boot directly from the cassette recorder. You also can load the manager with the **L<CR>** command from the monitor.



```
Uni-Cassette Manager v0.5
Dir: /
1500
MZ700N
MZ700P
MZ800
SAVED
System Volume Information/
unicmt_date-time.mzf 2200
unicmt.app 11300

Page: 1/1 Sort: AaZz (c)2025 NOBOMI
F1help F2save F3 F4 F5copy
```

USB flash drive contents and configuration

Apart from the FAT32 file system, there is no need to organize the files on the USB flash drive in any way. The structure is entirely up to you. The manager is always loaded, as it is in the internal memory of the UniCMT. It displays the contents of the USB flash disk when loaded.

There are three exceptions. If you want to configure certain types of data files to run, you can place a **run.cfg** file with the configuration in the **/unicmt** folder. The second exception is the location of the data to be saved. If you save data in any program to a cassette recorder, it will be saved to the **/SAVED** folder on the disk. The name is always in the form **KANJITEST.BAS____#001.MZF**, with the name you choose at the beginning

and the version number at the end in case you save under the same name more than once. The last exception is placing the **unicmt.app** file in the root directory. This file is used to update the firmware and is no longer necessary and can be deleted after the update, but it doesn't matter if you keep it.

The directory structure could look like this:

```
/GAMES/  
    FLAPPY.MZF  
    multipart_game.mzt  
/PROGS/  
    BASIC_1Z-016A.MZF  
/SAVED/  
    LINEDEMO.BAS _____ #001.MZF  
    LINEDEMO.BAS _____ #002.MZF  
    OPENINGB000 _____ #001.MZF  
/unicmt/  
    run.cfg  
unicmt-date-time.mzf  
unicmt.app
```

Setting the UniCMT real time clock

To set the internal real-time clock of the UniCMT, use the program **unicmt-date-time.mzf**, which can be downloaded as part of the sample contents of the USB flash drive for UniCMT (see below).

The real time clock is backed up by a **CR1220 battery**. Currently, the time is only used when saving files. If you do not use this function or the time of the saved files is not important to you, we recommend not inserting the battery to prevent it from draining during potentially extended periods of non-use.

Running programs

You can navigate through the disk structure with the manager and press <CR> to quickly start any MZF, MZT, M12 or similar executable file. Executable programs start with byte with the value 01.

Files with bytes starting with 02 or 05 are usually BASIC programs or data. You can use the **run.cfg** file in the /unicmt folder to tell UniCMT what

program to use to load the data. UniCMT then runs this program instead of the data and prepares the data file for cassette tape emulation. Once the program is loaded, just enter LOAD command and the data file you started with the <CR> key will be loaded.

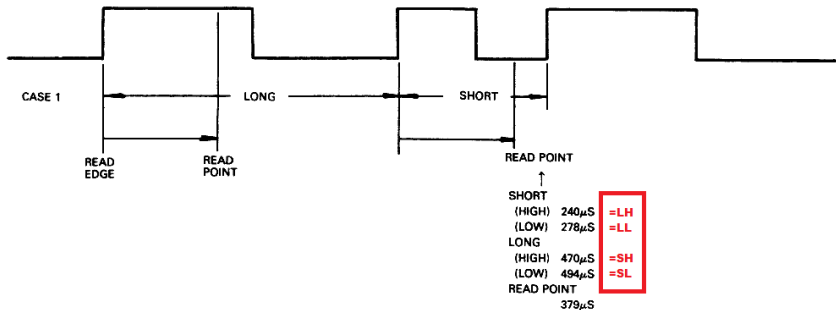
The UniCMT manager has the integrated MZ-1Z016A BASIC for the MZ-800 and the FET editor. It is not necessary to create a run.cfg for these.

Sample contents of /unicmt/run.cfg file and the default configuration

```
; English MZ-800 BASIC programs (fast load/save)
[05]
RUN=/unicmt/1z-016a_run_max_speed.mzf
LH=85
LL=25
SH=18
SL=65
```

```
; Czech MZ-800 FET editor text files
[FE]
RUN=/unicmt/Fet-3-2.mzf
LH=470
LL=120
SH=240
SL=278
```

; lines starting with semicolon are treated as comments and ignored
[HH] starts a section for data files starting with a byte HH (hex)
RUN= specifies the program to be run to load data file
LH, LL, SH and **SL** are the time coefficients used in the tape recording routines. By changing the coefficients, you can change the recording speed.



Multipart cassette files and accelerated recording

A cassette recorder usually has several programs on tape in a row. UniCMT allows this function via **MZT** files (the file extension is not important). Simply concatenate multiple files into one file and UniCMT will play them sequentially when the computer requests the CMT to run.

If you want to change the playback speed of a part, just insert a header file **1xspeed.mzf**, **2xspeed.mzf** or **3xspeed.mzf** between them.

Download sample content for a quick start

To make your work with UniCMT easier, we have prepared sample content for a USB flash drive to get you started with UniCMT:

<https://www.sharpwiki.cz/doku.php?id=en:unicmt:download>

Firmware update

The firmware includes the manager, so updating the firmware usually means updating the manager as well. To update the firmware, you need to place the **unicmt.app** file in the **root directory of the USB flash drive** and **turn on the computer with the grey button pressed**. The left LED will flash red, then both LEDs will flash red, then **both LEDs will flash green and stay green**. This indicates that the firmware has been successfully updated. Then just press the right red button to switch the UniCMT to normal operating mode. Or turn the computer off and on.

Technical support

In case of problems, you can get support for your purchased product by email: support@retrocomp.cz.

Please note that UniCMT is a hobby product. It is not a product of industrial mass production and the capacity to support and develop both hardware and software is limited. Nevertheless, we will do our best to help you.