Alphatronic P2 - only with the MOS produce a cp/m disk via V24

Dipl.-Ing. Helmut Wiertalla, developed **for Alphatronic P2** or similar machine.

Prerequisite to NOTHING to create a CP/M **diskette.**   **(update 25.jun.2016) Added:** cpm43t7.bin

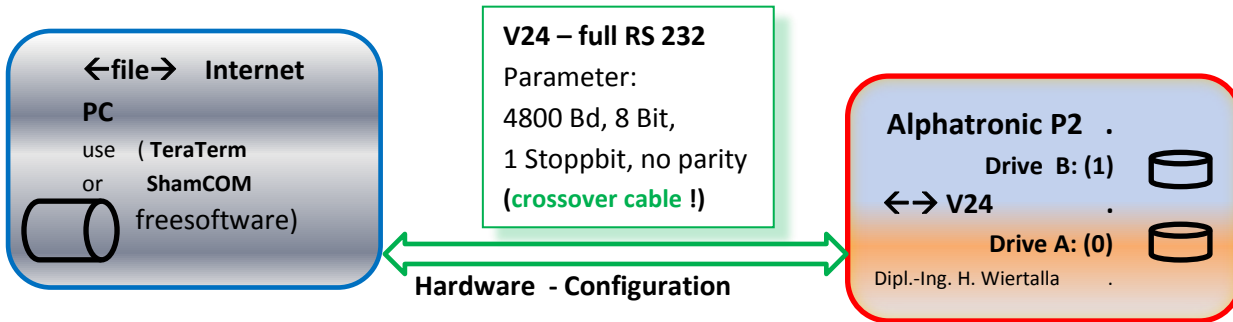> CODE1_2 ● COLD FORMATTER ● create CP/M ● Filetransfer YMODEM

Do you have a technically **working Alphatronic P2** - or a similar machine - and some free **recordable Floppy-disks** (160kB, DD or better, 5 ¼”), then you can CP/M system disks and produce some key programs with few details even

easy!   **I will help you to help yourself!**

HARDWARE

To prepare, you need a **crossover cable** from the V24 Alphatronic P2 (25 pol.) to a PC (eg WIN) and Internet access to this PC. About my website important: For step A) or B) a sufficient Alphatronic with 48kB memory expansion.

Later, at the start of the newly created TPA 100h a CP/M (**cpm2p7t.bin**) diskette required 64kB memory expansion.

Added yet, I create another new 48kB memory variant for cp/m and a lot of programs (TPA 4300h!) is cpm43t7.bin available!

http://www.waltroper-aufbruch.de/AlphatronicP2.php

> get yourself Alphatronic P2 and MOS **documents (PDF**) and some binary files.
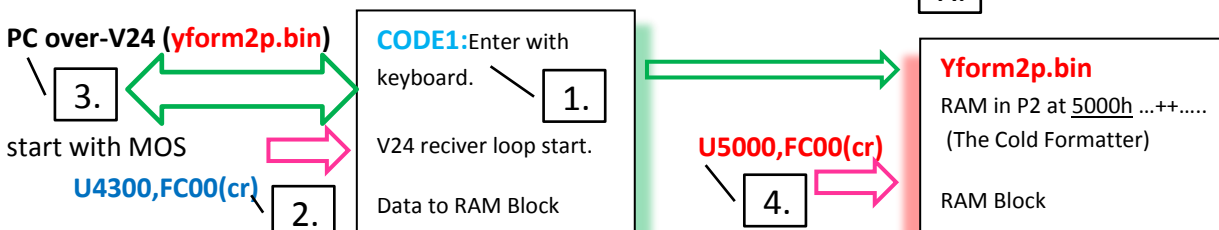

Hardware - Configuration

Software workshop:

You have no CP/M disk, or **can not write to their floppy** thing. I will help you to help yourself! Show to my WEB.

A.) Formatting a disk with a COLD Formatter. MOS **CODE1** you keys in the RAM. If the Code1 was first started with the MOS, send the Formatter (**yform2p.bin**) per **TeraTerm** (read user manual-binmode!).

Then start the **CODE 1** with the MOS **U43000,FC00** (**cr**= Return Key). The eternal loop receives each character of the V24 and puts the character from 5000h and following in the memory.

These start with the "TeraTerm", send file in **binary mode yform2p.bin** the file. If everything is received (PC display), you can only cancel the Alphatronic P2 button HARD RESET.   (steps)
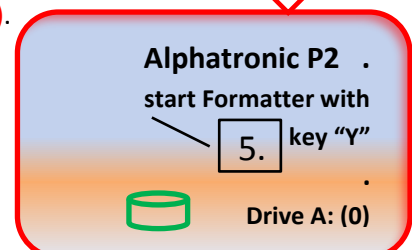

Is everything in RAM, then you (not read-only by floppy) create a writable   **(up)**

disc in the lower drive (0 or A:). The Formatter starts with .**U5000, FC00 (cr)**.

The process run automatically with the formatting and proofreading.

There are only two short messages. **ok - then you win**,

otherwise **Error** - is what the disc or the device is not in order. **Repeat!**

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Then **any more new disks are formatted**. These hard reset key
and restart with the MOS at **U5000,FC00** (cr) or **G5000 (cr)**.   **(up)**

If they have permanet format mistake "Error / FEHL" , they study workshop on my website. Check your Hardware and/or the Floppy disc drive (read- writeheads).

END section FORMATTER   **(up)**

Here the **handling** of the input CODE1 and / or CODE2 **via MOS.**

The Substitute **.S**hhhhcr **MOS comma**nd it is begun. Of the **.** (Point comes from MOS) So **S** and following a hhhh: = HEXE input (0..9 or A..F), **cr**: = is the Return key. The displayed memory content can now be modified with a hex value. This is done with the **BLANK** button, the next memory cell is displayed, for example, be edited as before. **Case A)** is the value currently displayed and is to be no change, is incremented with **BLANK** (example below here **_**). **Case B**), it is also - a cell to **go back (minus key)**. **Return** key ends   At the conclusion is with cr. (see other description in MOS). Next the CODE-area is to get as an image from the Web Site (dowload show this)!
Before we sweep the input area with Fill: (**red** are the reactions eg **MOS**, blue input with key's)
.F4300,4400,0cr
Here we go: To try and the storage area to occupy on eg with 55h.
(Only the left column with .S generated - **right column only for understanding**)

.S4300cr **CODE1**	**ADR : CODE**	**Symbolic instruction**		**(up)**
4300:00-01_ 00-00_ 00-90_	**4300: 01 00 90**	LXI	**B,9000h**	;long
4303:00-21_ 00-00_ 00-50_	**4303: 21 00 50**	LXI	**H,5000h**	;start address
4306:00-1E_ 00-55_ 00-73_ eg….	**4306: 1E 55**	MVI	**E,55h**	;Konstante
	4308: 73	MOV	**M,E**	;move to memory
only CODE (HEX)	**4309: 23**	INX	**H**	;address++
input.	**430A: 0B**	DCX	**B**	;long--
	430B: 78	MOV	**A,B**	
	430C: B1	ORA	**C**	;is .not zero. BC
	430D: C2 08 43	JNZ	**4308h**	;not finish

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```
4310: 21 00 50      LXI     H,5000h     ;addaress start !!!
4313: C3 50 43      JMP     4350h       ;jump to  V24 init and loop
```

.S4350cr   **CODE-1   the V24 init and loop**   (reciver loop V24) (up)

```
4350:00-3E_ 00-91_ 00-D3          4350: 3E 91     MVI     A,91h   ;Dummy
4353:00-05_  usw…..               4352: D3 05     OUT     5       ;Port V24 command
.                                 4354: 3e 40     MVI     A,40h   ;Reset
.                                 4356: D3 05     OUT     5
.                                 4358: 3E 4E     MVI     A,4Eh   ;Mod-cmd
                                  435A: D3 05     OUT     5
.                                 435C: 3E 37     MVI     A,37h   ;Mod-line
.                                 435E: D3 05     OUT     5
.                                 4360: DB 05     IN      5       ;read STATUS Port
.                                 4362: E5 02     ANI     2       ;RxRdy for character
.                                 4364: CA 60 43  JZ      4360h   ;loop
.                                 4366: DB 04     IN      4       ;get data from Port
.                                 4368 77         MOV     M,A     ;data to mem
.                                 436A: 23        INX     H       ;position++
.                                 436B: C3 60 43  JMP     4360h   ;loop
```
. **end cr** in MOS -

(up)

.S4370cr   **CODE-2**   (enter *reciver block* <u>to Disk write</u> mem block)

```
4370:00-2E_ 00-10_ 00-3E_         4370: 2E 10     MVI     L,10h   ;LW 1 = driver upper
4373:00-84_ 00-11_ 00-01_         4372: 3E 84     MVI     A,84h   ;Positions-CODE
4376:00-00_ 00-CD_ 00-14_         4374: 11 01 00  LXI     D,0100h ;RD sec=1,RE Track=0
….                                4377: CD 14 08  CALL    814h    ;disc driver
.                                 437A: DA 98 43  JC      4398h   ;error jump
.                                 437D: 2E 10     MVI     L,10h   ;LW 1=upper
.                                 437F: 3E 83     MVI     A,83h   ;write code
.                                 4381: 01 00 50  LXI     D,5000h ;memory address.
.                                 4384: 11 00 81  LXI     B,8100h ;long BLOCK
.                                 4387: CD 14 08  CALL    814h    ;disc driver
.                                 438A: DA 98 43  JC      4398h   ;error jump
.                                 438D: 21 B8 43  LXI     H,43B8h     ;ok –Text
.                                 4390: CD 5E 00  CALL    5Eh     ;Txt output
.                                 4393 : C3 55 00 JMP     55h     ;jump to MOS ok

.                                 4398: 21 B0 43  LXI     h,43B0h     ;error –text
.                                 439B: CD 5E 00  CALL    5Eh     ;text output
.                                 439E: C3 55 00  JMP     55h     ;jump to MOS
```
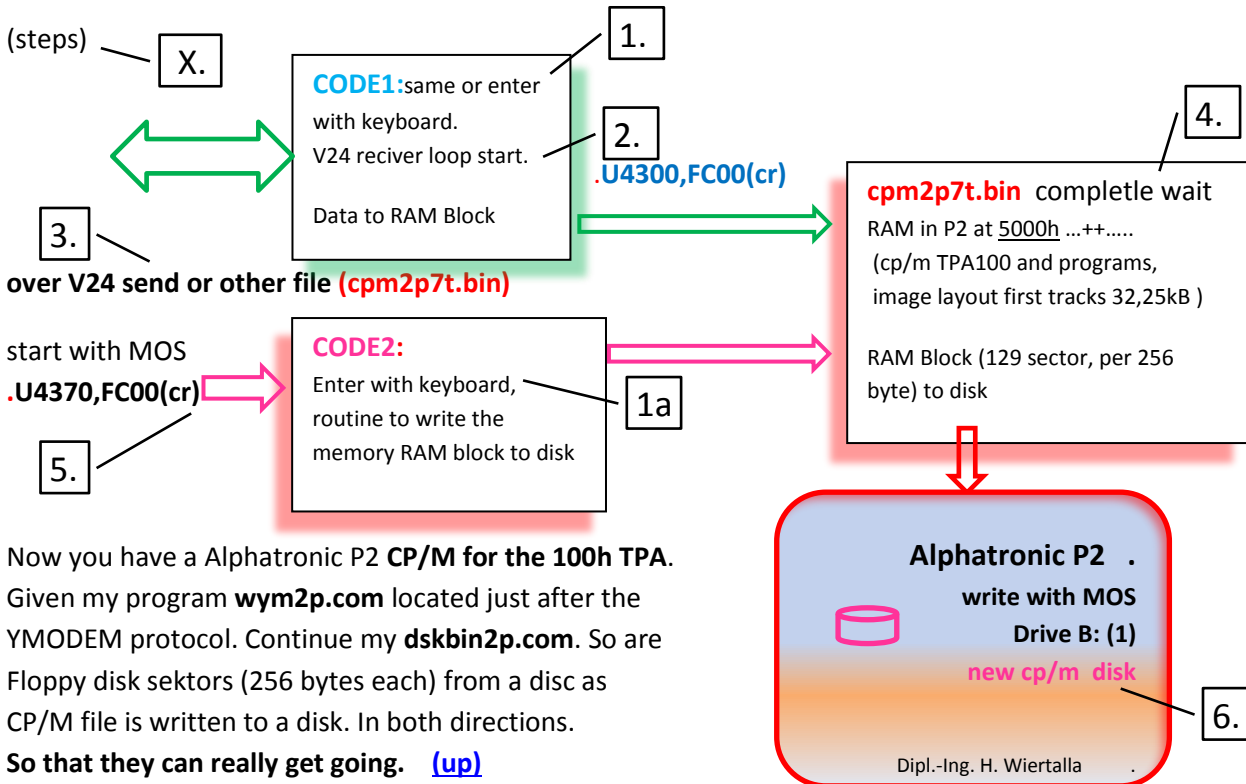
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. **(up)**   **43B0:** 06 0D 0A 46 45 48 4C   DB 06,13,10,"FEHL" ;for error

.   **43B8:** 04 0D 0A 6F 6B   DB 04,13,10,"ok"   ;04_long ok

B.) Preparing a CP/M diskette and equal to agree useful programs from me. The identical **CODE1** will now be expanded to include the small **CODE2** using the keyboard. The **CODE2** later with two floppy disk driver calling a block 129 setoren (per 256 byte) to a floppy disk drive in 1 or B: but here written.   **(up)**

(steps)   X.

1.

CODE1:same or enter with keyboard.
V24 reciver loop start.

2.

.U4300,FC00(cr)

Data to RAM Block

3.

over V24 send or other file (cpm2p7t.bin)

4.

cpm2p7t.bin completle wait
RAM in P2 at 5000h …++…..
(cp/m TPA100 and programs,
image layout first tracks 32,25kB)

RAM Block (129 sector, per 256 byte) to disk

start with MOS
.U4370,FC00(cr)

5.

CODE2:
Enter with keyboard,
routine to write the
memory RAM block to disk

1a

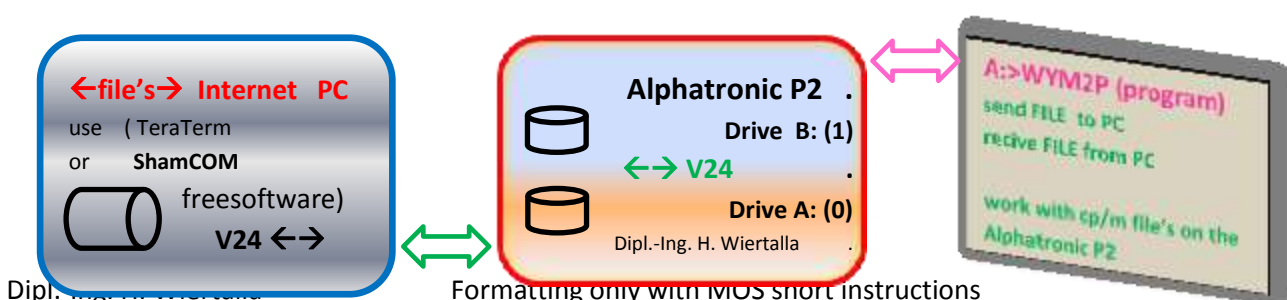Now you have a Alphatronic P2 **CP/M for the 100h TPA**.
Given my program **wym2p.com** located just after the
YMODEM protocol. Continue my **dskbin2p.com**. So are
Floppy disk sektors (256 bytes each) from a disc as
CP/M file is written to a disk. In both directions.
So that they can really get going. (up)

Alphatronic P2 .
write with MOS
Drive B: (1)
new cp/m disk

6.

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If you exchange the cpm2p7t.bin to **cpm43t7.bin**, then you create a CP / M for a TPA **4300**h, so put them memory configuration of **48 kB RAM**, with wym43.com. A zip –file for cp/m 4300h programs are ready.

C.) Filetransfer with the YMODEM protocol (**wym2p.com** on the cp/m disk TPA 100h)

If you have created a **new cp/m Alphatronic P2 disk**, use my wym2p.com (Ymodem protocol). In order to work with the identical V24 crossover cable as before, with the PC (batch transmission only from the Alphatronic P2) (WINDOW 7 or..) program TeraTerm or **better ShamCom**. For this they get a guide to **wym2p.com** program from my website. The most important basic functions of the file transfer from the PC to Alphatronic P2 and in the other direction. Please study my instructions. **(up)**
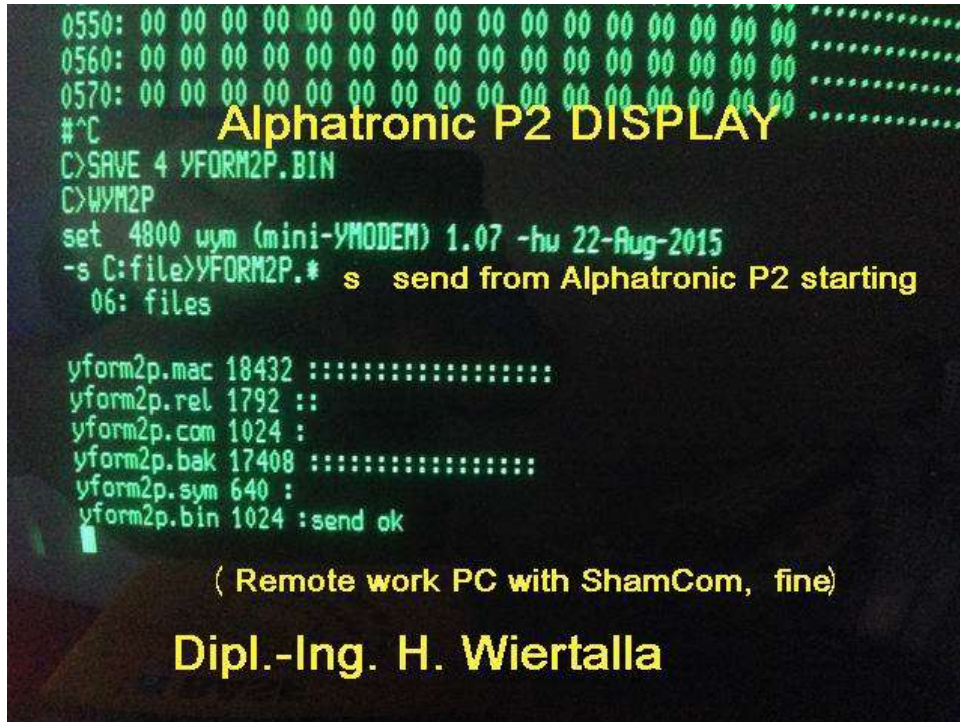
←file's→ **Internet PC**
use (TeraTerm
or **ShamCOM**
freesoftware)
V24 ←→

Alphatronic P2 .
Drive B: (1)
←→ V24 .
Drive A: (0)
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A:>WYM2P (program)
send FILE to PC
recive FILE from PC

work with cp/m file's on the
Alphatronic P2

Alphatronic P2 - only with the MOS produce a cp/m disk via V24

Connected to the world
Now I have helped you - to help himself.

Much success of Alphatronic P2 owners and similar systems.   **(up)**

It would be nice if I would sometimes hear of your successes.
Who wants me via e-mail to find me, find me by search engines.   **(up)**

http://www.waltroper-aufbruch.de/AlphatronicP2.php