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 10.jan.2019) Added: cpm43t7.bin**
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!**

- CODE1_2
- COLD FORMATTER
- create CP/M
- Filetransfer YMODEM
- V24 connect

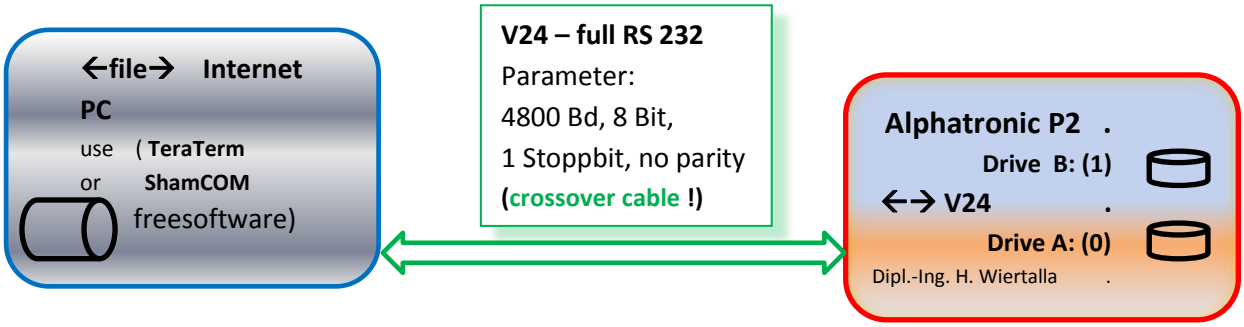
1 Green=Printer, Red=V24 RS 232C

HARDWARE

To prepare, you need a **crossover cable** from the V24 Alphatronic P2, P2S or P2U (25 pol.) to a PC (eg WIN) and Internet access to this PC. For this to work, you must use the **red point for V24 connection**.

About my website important: For step A) or step 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/Archiv/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 **A.)** or 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** (Free-software, 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.

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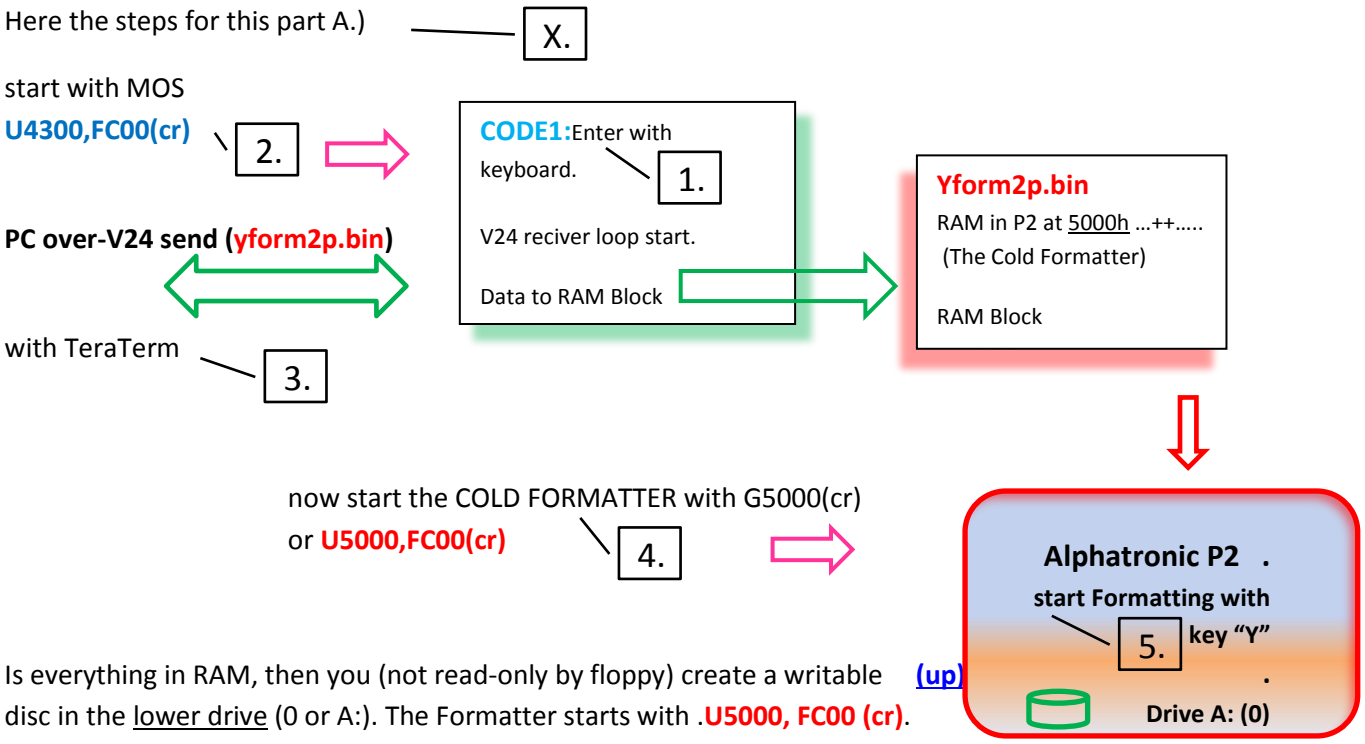
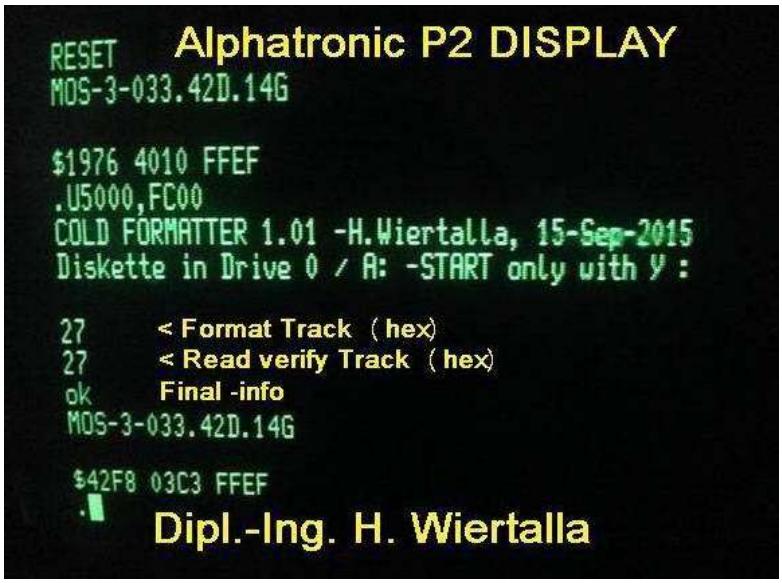
These start with the "**TeraTerm**", send file in **binary mode** **yform2p.bin** the file. If everything is received (PC display), you can only cancel the Alphatronic P2 button HARD RESET.



Is everything in RAM, then you (not read-only by floppy) create a writable disc in the lower drive (0 or A:). The Formatter starts with .**U5000, FC00 (cr)**. The process run automatically with the formatting and proofreading.

(up)

There are only two short messages. **ok - then you win**,
otherwise **Error** - is what the disc or the device is not in order. **Repeate!**
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- write heads or more).

END section FORMATTER (up)

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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
	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)

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update in Attention-line!

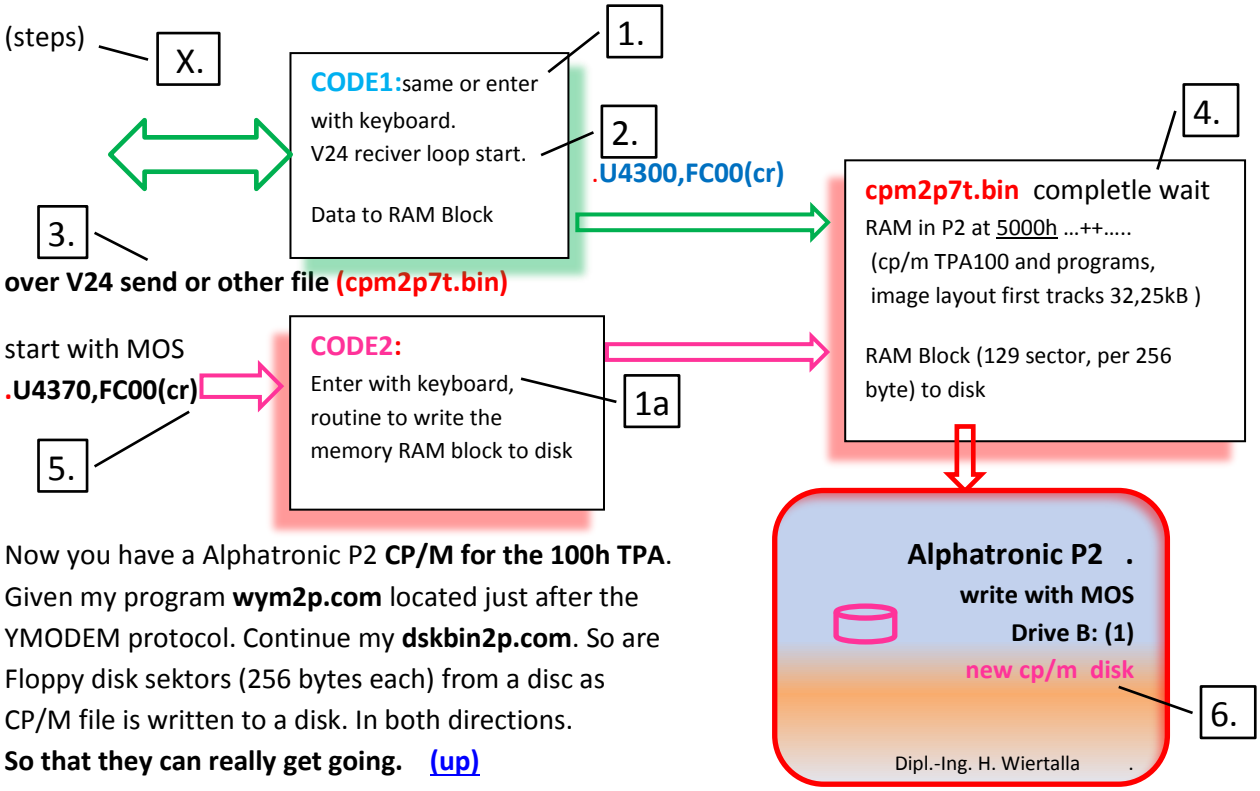
.S4370cr **CODE-2** **(enter *reciver block* to Disk write mem block)**

```
4370:00-2E_ 00-10_ 00-3E_      4370: 2E 10     MVI   L,10h   ;LW 1 = drv upper, or LW0 =0
4373:00-84_ 00-11_ 00-00_      4372: 3E 84     MVI   A,84h   ;Positions-CODE
4376:00-01_ 00-CD_ 00-14_      4374: 11 00 01  LXI   D,0100h ;RD sec=1,RE Track=0 !Attention!
....                           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, or LW0 =0
.                              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

. (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)



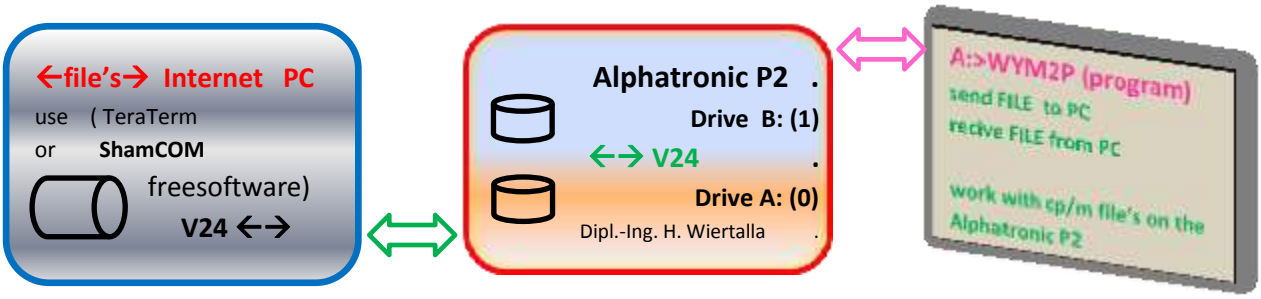
Now you have a Alphatronic P2 **CP/M for the 100h TPA**. Given my program **wym2p.com** located just after the YMODEM protocol. Continue my **dskbin2p.com**. So are Floppy disk sektors (256 bytes each) from a disc as CP/M file is written to a disk. In both directions.

So that they can really get going. (up)

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

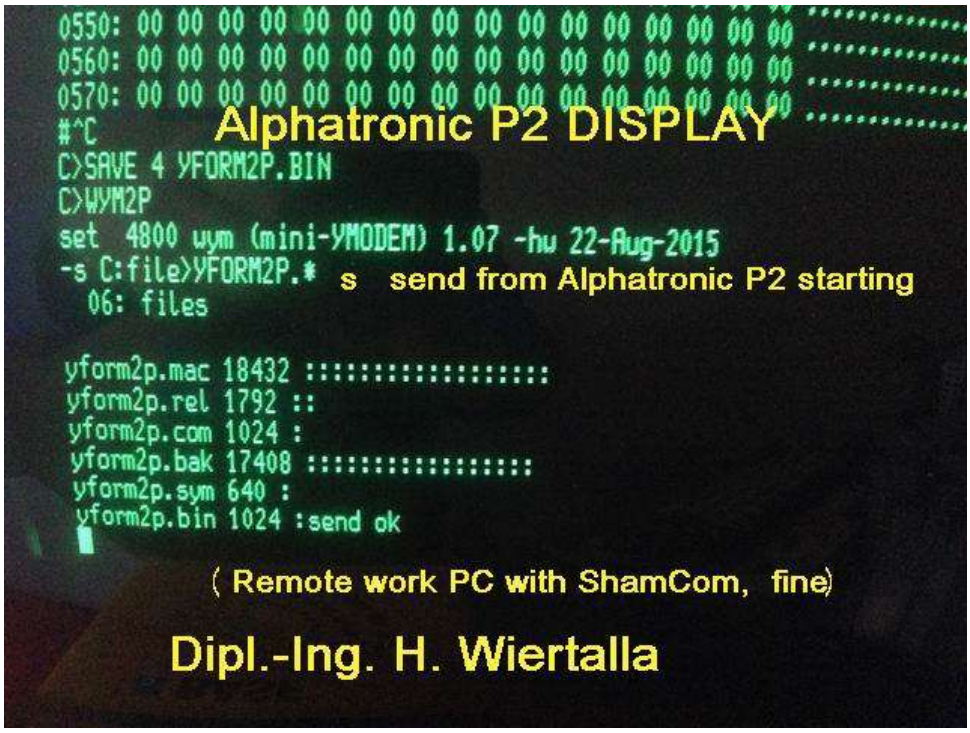
C.) Filetransfer with the YMODEM protocol (**wym2p.com** on the cp/m disk TPA 100h)

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)**



Connected to the world

Now I have helped you - to help himself.



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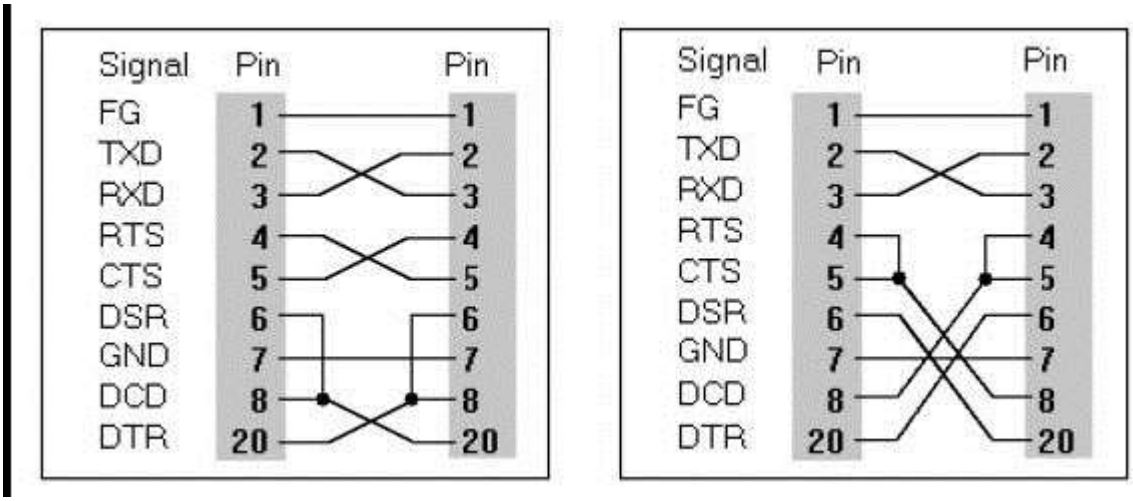
V24 cross-over cable

You must have a V24 cable from Alphatronic P2 (red point) to a PC (V24). This cable must like as this shown here. My part is on the left (semilar “Drehteil” see) **(up)**. The accessories - like V24 cable or converter USB to V24 are easily available in the trade. Or you build yourself a lot.



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

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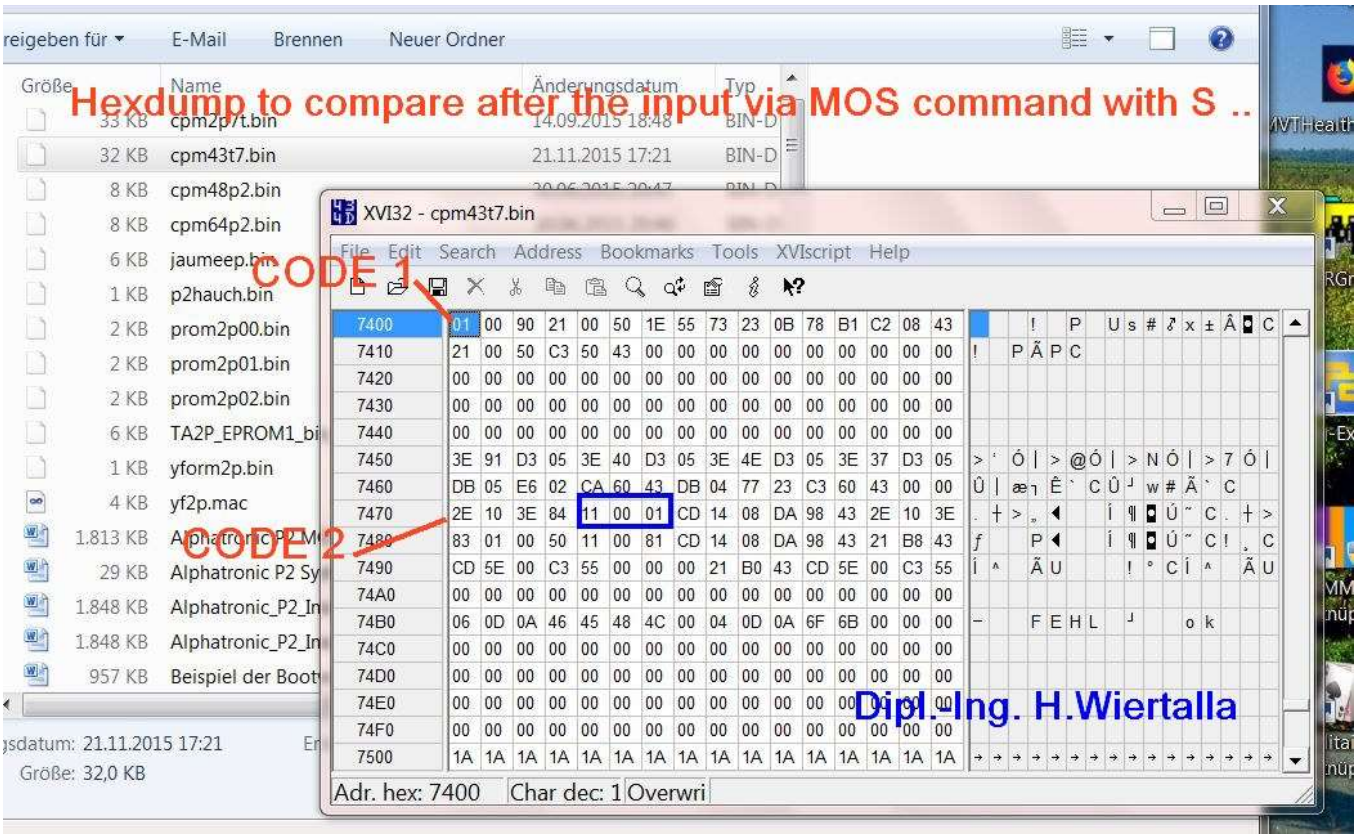

It would be nice if I would sometimes hear of your successes.
Who wants me via e-mail to find me, find me by search engines. **(up)**

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