Sharp-PC-1600 ASSEMBLER
Three Versions are avaible (&C0C5,&D500,&D900)

Short manual to the assembler (&D900):
You needs two Files for assembling:
 1. ASSEMBLER.BIN (the program)
 2. A basic program which one ASET.BAS calls and which follows as be developed must:
10 CALL &D900;#0, &c0c5, &d800, #1, &8000, &bfff
Thus for working one assigns to the ASSEMBLER of the memory. This can be divided depending upon computer equipment differently.
With CALL &D900 the program is started. The first number (#0) gives the bank and the two next numbers (&C0C5, &d800) that Storage area in that the ASSEMBLER to work can. Just as then the next number (#1) also still the bank 1 and the memory range from (&8000 to &BFFF) includes.
As assistance:
With no work memory expansion in Slot 1 thus ca.12 KB main memory:
10 CALL &D900;#0, &c0c5, &d800
With a work memory expansion of 32 KB in Slot 1 thus ca.44 KB main memory:
10 CALL &D900;#0, &c0c5, &d800, #1, &8000, &bfff
With a work memory expansion of 16 KB in Slot 1 thus ca.28 KB main memory:
10 CALL &D900;#0, &80c5, &d800
One stores these under SAVE "S2:ASET.BAS".

Now one occupies the function keys F1 to F3 in reserve the mode (SHIFT + mode) like-followed.
F1 BLOAD "S2:ASSEMBLER.BIN @
F2 LOAD "S2:ASET,BAS", r @
F3 CALL &D900;">S2:E.T, S2:name1.txt, S2:name2.txt, S2:READY.BIN
The last line means ASSEMBLER with CALL&D900 is called. Then S2:E.T thereby symbol a table put on in all this Variable ones with their values and jump labels are specified. This file must be called always E.T. The next Dateienen (S2:name1.txt)
in that the Programierte is source text stands. Several Dateine with source texts can be added together.
Thus S2:name1.txt, S2:name2.txt, S2:name3.txt etc. that name and the Extension can be gewaeht freely.
(e.g. S2:A.A, S2:HALLO.ASM, X:TEST.TF etc..)
The letze file name always indicates to the names produced machine files. Then with BLOAD"S2:name.xxx" to be called can.
To the Erzeugug one presses only the keys F1 F2 and F3 and the source files (text files) becomes a Maschienenprogramm now generated.

Example:
The following small coded program was translated with the assembler. It writes ' HELLO ' into the announcement.
Source text for PC-1600 assembler.

```
' hello
'
' Demoprogranm for that
' PC-1600 ASSEHBLER
'
------------------------------------------------------------------
--------------------
EQU START &F900       ' the program is loaded into the standard
variables
'
------------------------------------------------------------------
----------------------
EQU CLS     &0112       ' variable CLS is set with value &0112
(subroutine routine screen to delete)
EQU HOME &0109        ' variable HOME is gestezt with value &0109
(subroutine routine cursor to position left above)
EQU PRINT &OOEB    ' variable PRINT is gestezt with value &00EB
(subroutine routine shows indications from DE register to null
bytes in the A-register)
EQU CR       &0D          ' variable CR is set with value &0D
(13).
'
------------------------------------------------------------------
--------------------
ORG START                ' start address coded program. Must be
always indicated.
AUTO START              ' the Maschienenprogramm is after Bload
automatically starting. Can be indicated.
'
------------------------------------------------------------------
--------------------
CALL CLS
CALL HOME
LD DE, TEXT
LD A, CR
CALL PRINT
RET
'
TEXT:                        ' labels such as e.g. text are
evaluated with up to 6 indications.
DEFB "* * hello **"    ' DEFB reserves 8 bits a value or in
quotation mark standing ASCII character.
DEFB CR                    ' DEFW reserves 16 bits a value or an
address (e.g. DEFW &F01A)
'
END                          ' END stands for end of the source
text and must always at the last file which can be assembled!

With the assembly the following symbol table becomes (e.g..
"S2:E.T") produces:
0112 CLS
000D CR
0109 HOME
00EB PRINT
F900 START
F90F TEXT
```

The Assemberquelltext can be entered in the pro mode in the Sharpbasiceditor or better with the program TEXT+.
In the Sharpeditor the text with line number and comment symbol (') written e.g.:

```
10 ' ' hello
20 ''
30 ' ' Demoprogranm for that
40 ' ' PC-1600 ASSEHBLER
50 ''
60 ' EQU START &F900
70' '
80 ' EQU CLS     &0112
90 ' EQU HOME &0109
100 ' EQU PRINT &OOEB
110 ' EQU CR       &0D
120 '
130 ' ORG START
140 ' AUTO START
150 '
160 ' CALL CLS
170 ' CALL HOME
180 ' LD DE, TEXT
190 ' LD A, CR
200 ' CALL PRINT
210 ' RET
220 '
230 ' TEXT:
240 ' DEFB "* * hello **"
250 ' DEFB CR
260 ''
to 270 ' END
```

Subsequently, with SAVE * "S2:name.ext" store and with LOAD * "S2:name.ext" load. It can naturally each drive assembly such as X: , S1: , S2: , CAS: , COM1: , COM2: , and each name and each Extetion to be used.