SCHAUER

time-systems

Master Clock

MPU-I

Operating manual

Edition
MPUi_m_e4.doc

Attention! Important Information!

- Never remove the cover. This clock may not serviced by the user.
- If there are service works necessary, please contact our Service partners.
- If parts or fluids enter the housing, immediately interrupt the power supply, and before putting int into operation the clock must be checked by a authorised service partner.
- To disconnect the mains cable from mains never pull on the cable but on the plug.
- Schauer does not assume any liability arising out of the application or use of any products, or software described herein, neither does it convey any license under ist patent rights nor the patent rights others.
- Schauer reserves the right to make changes in any products described herein without notice. This document is subject to changes without notice.

Master Clock MPU-I

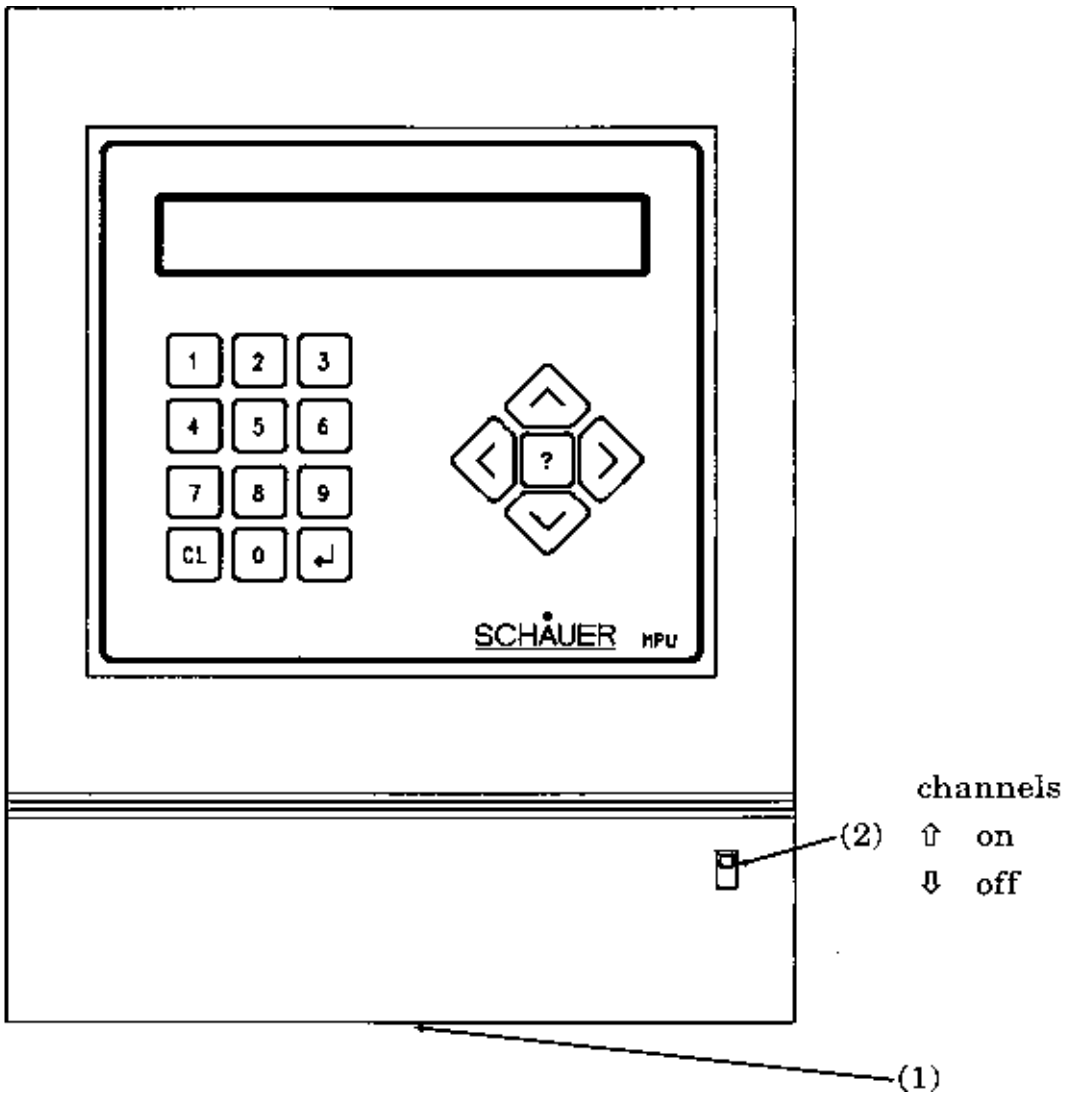
List of Content

1 MOUNTING INSTRUCTIONS

1. Packing:
   The MPU master clock is packed in carton box and should include following parts:
   - MPU-i master clock
   - MPU-i manual
   - spare fuse (F500mA/250V)
   - 3 screws and dowels

2. Opening the housing

figure 1



Warning:
High Voltage inside the housing
The housing of the MPU may only be opened when the power supply of the MPU is switched off.

The housing may be opened with a flat screwdriver. In the centre of the bottom of the upper housing a slot can be located (see Figure 1, position 1). Inserte the screwdriver into the slot and push it up slightly to remove the housing.

Warning:
CMOS parts inside the housing
CMOS components can be easily damadged by static electricity. You must use the necessary CMOS protection facilities to avoid any damages.

Check all moduls if they are snapped on propperly due to rough transport. Check all cable connections.

Warning:
Partially or misplaced connection of cables my lead to malfunction or damage of the master clock MPU

3. Mounting the MPU

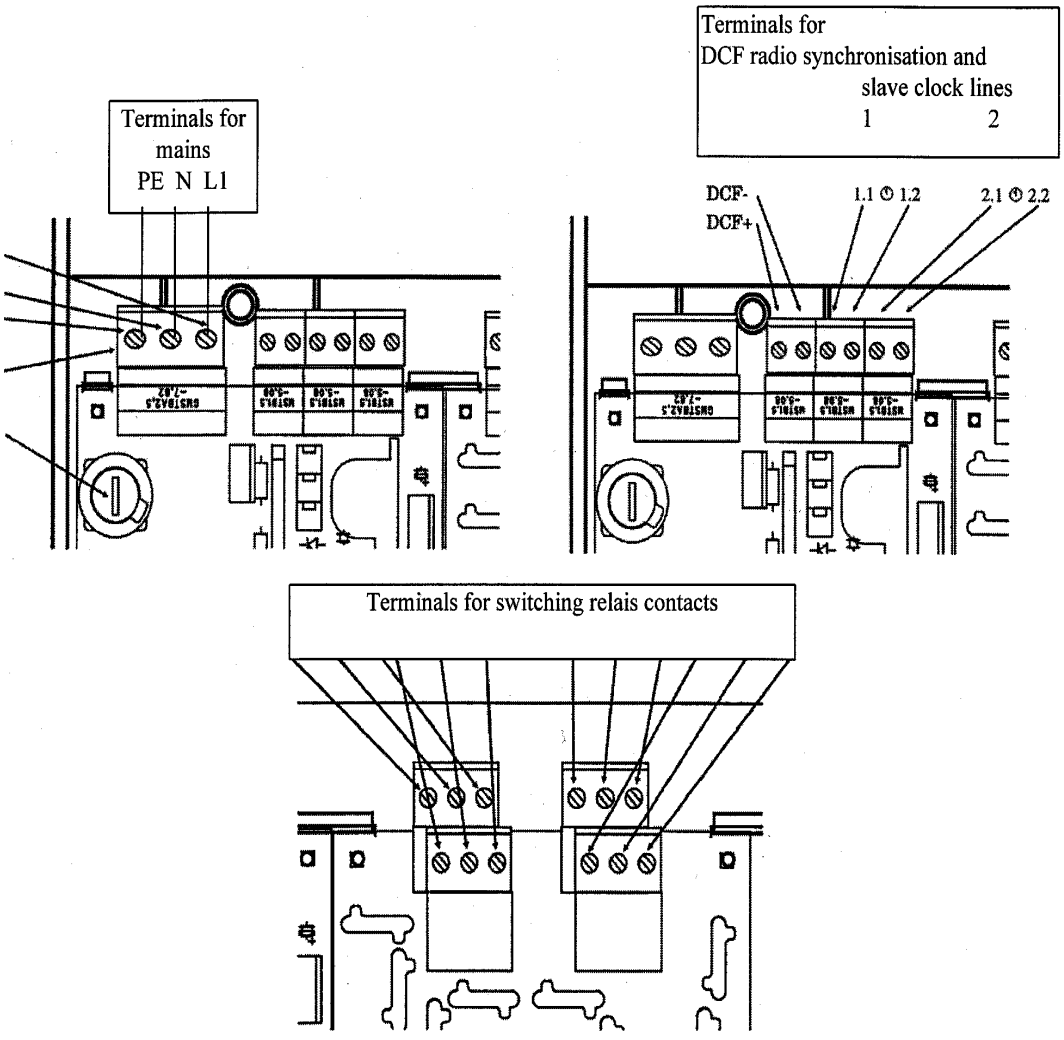
The MPU can be mounted directly on the wall or on a C-track. The connection of mains, slave clock lines, switching outputs, and DCF to the corresponding terminals (see figure2).

Master Clock MPU-I

In case a DCF-antenna is connected to the MPU and pwer supply is on, the LED for DCF-signal receiption must be flashing every second in case of good receiption conditions. To improve receiption condition please change position of DCF-antenna as long as necessary. The DCF-antenna should be mounted in an 90* angel to the direction of Frankfurt/Germany.

Warning:
Due to EMC reasons the connection of the mains must be done on the terminals of the extra cable with the integrated ring-ferrit.

Figure2



2 OPERATING INSTRUCTIONS

Display:
Standard display:

```
Fr 12:00:00 1.9.95
```

Extended display after pressing the key ?

```
Fr 12:00:00 1.9.95
—— I::
```

Following information are shown on the display:
1. line:

```
Fr 12:00:00 1.9.95
```

Fr	weekday
!	user level 2
?	user level 1
12:00:00	time
1.9.95	date

2. line:

```
—— I::
```

:	status of slave line 1
:	status of slave line 2
I::	status of relays

Start programming the master clock by pressing simultaneously v ^

2.1 Short description of the most needed steps to operate a master clock MPU-i

1. set the time of the master clock either manually (see item 1) or by connecting a DCF-Antenna as described in the MOUNTING INSTRUCTIONS. Check the quality of the DCF-Protocoll received (see item 611)
2. set the type of the slave clock lines (see item 52) the standard presetting is minute pulse line.
3. set the time of all slave clocks to 12.00
4. release the slave clock lines (see item 2)
5. program the needed timers for relays switching (see item 531)
6. program the different day programs (see item 43)
7. set the validity periods for each day program (see item 42)
8. set the day program for all holidays (see item 41)

2.2 Description of the different functions

1 **1 master clock**

display: `Fr?12:00:00 08.09.95`
`1 master clock`

enter: press >

display: `stop slave line? (↵)`

confirm with ↵

display: `input hours`
`Fr 12:00:00 08.09.95`

enter the correct time and date of the master clock

confirm with ↵

display: `set time? (↵)`
`Fr 12:00:00 08.09.95`

confirm with ↵

2 **2 slave clock lines**

display: `Fr?12:00:00 08.09.95`
`2 slave clk`

enter: press >

display: `Set Line (v)(^)`
`1 o 12:00`

2.1 enter the correct No of slave clock line 1, 2, etc and press >

display: `input Stat.`
`1 o 12:00`

enter o for OFF or a for ON and press >

display: `input hours`
`1 a 12:00`

set hour and minute of the connected slave clocks

confirm with ↵

display: `store changes? (↵)`
`1 a 12:00`

confirm with ↵ and repeat proceedure for other slave clock lines starting with position 2.1

for closing this menue press CL

3 **3 manual switching**

display: `Fr?12:00:00 08.09.95`
`3 manual switching`

enter: press >

display: `Fr?12:00:00 08.09.95`
`31 switch`

3.1 **31 switch**

display: `Fr?12:00:00 08.09.95`
`31 switch`

enter: press >

display: `input switchoff v^`
`output 01 = off`

3.1.1 select No of relay, press >, set status as:

3.1.2 if OFF press 0 and press ↵ to store

display: `set status? (↵)`
`output 01 = off`

press ↵ to confirm or CL to return

3.1.3 if ON press 1 and press ↵ to store

display: `set status? (↵)`
`output 01 = activ`

press ↵ to confirm or CL to return

3.1.4 if TIMER press 2 and enter the time period in minutes and seconds and press ↵ to store

display: `set status? (↵)`
`output 01 = t 00:05`

press ↵ to confirm or CL to return

3.1.5 repeat proceedure for other relays
starting with position 3.1.1
for closing this menue press CL

3.2 **32 deactivate**

display: `Fr?12:00:00 08.09.95`
`32 deactivate`

enter: press >

display: `input switchoff v^`
`output 01 = active`

3.2.1 select No of relay, press >, set status

3.2.2 press 0 to activate the relay and press ↵ to store

display: `set status? (↵)`
`output 01 = activ`

press ↵ to confirm or CL to return

3.2.3 press 1 to deactivate the relay and press ↵ to store
(no switching is possible untill the relay is activated again by pressing 0)

display: `set status? (↵)`
`output 02 = deactiv`

press ↵ to confirm or CL to return

3.2.4 repeat proceedure for other relay starting with position 3.2.1
for closing this menue press CL

4 **4 Program**

display: `Fr?12:00:00 08.09.95`
`4 program`

enter: press > and scroll ^ v untill you reach

4.1 **41 program the holiday calender**

display: `Fr?12:00:00 08.09.95`
`41 holiday calender`

enter: press >

display: `selection (v)(^)`
`01 01.01.-- D00`

4.1.1 press v or ^ to select the preprogrammed holidays and press > to change the date `01.01.--` or the day program `D00` and press ↵ to store

display: `store line? (↵)`
`01 01.01.-- D00`

press ↵ to confirm or CL to return

4.1.2 press ? to insert or delete additional holidays

display: `insert=1 delete=2`
`01 01.01.-- D00`

4.1.3 press 1 to insert an additional holiday press > and set the date either 02.02.97 (once) or 02.02.-- (yearly) and set the the number of day program D00 to be activated press ↵ to store

display: store line? (↵)
01 02.02.-- D00

press ↵ to confirm or CL to return

4.1.4 press 2 to cancel preprogrammed holidays

display: delete line? (↵)
04 02.02.-- D00

press ↵ to confirm or CL to return

4.1.5 press CL to close this menue

display: store holiday? ↵
04 02.02.-- T00

press ↵ to confirm or CL to return

4.2 **42 programming periods for day programs**

display: Fr?12:00:00 08.09.95
42 Program Periods

enter: press >

display: Mo Tu We Th Fr Sa Su
01 01.01.-- W D00

4.2.1 **change period dates**

press > to set starting date

display: Mo Tu We Th Fr Sa Su
01 01.01.-- W D00

enter starting date of period either 01.01.97 (once) or 01.01.-- (yearly),

display: Mo Tu We Th Fr Sa Su
01 01.01.-- W D00

set valid week days by pressing ^ to reach the upper line to select the valid week days, press 1, 2, 3, 4, 5, 6, 7 for Mo, Tu, We, Th, Fr, Sa Su to activate these week days, press CL to return to lower line, press >, enter the No of day program

press ↵ to store

display: store line? (↵)
01 01.01.-- W D01

press ↵ to confirm or CL to return

4.2.2 **insert period date**
press ? and 1 to insert additional period date
display:
01 01.01.-- W D00
repeat proceedure 4.2.1 to enter the ending date of the period of the day program D01

4.2.3 repeat proceedure 4.2.1 and 4.2.2 for every day program stored

4.2.4 **cancel period date**
press ? and 2 to cancel stored period date
display: delete line? (↵)
01 01.01.-- W D00
press ↵ to confirm or CL to return

4.2.5 press CL to close this menue
display: store period? ↵
01 01.01.-- W D00
press ↵ to confirm or CL to return

4.3 **43 progamming day programs**
display: Fr?12:00:00 08.09.95
43 input day
enter: press >
display: input day number
i01
select number of day program from 01 to 57
(the day programs 58 to 64 are used for weekly programs at holidays
e.g. i58 will be activated if holiday 1.1.-- is monday
i59 will be activated if holiday 1.1.-- is tuesday
i60 will be activated if holiday 1.1.-- is wednsday
i61 will be activated if holiday 1.1.-- is thursday
i62 will be activated if holiday 1.1.-- is friday
i63 will be activated if holiday 1.1.-- is saturday
i64 will be activated if holiday 1.1.-- is sunday
press ↵,
display: input day name
i01 i01
enter name of day program (for alphanumeric names see page 27),
press ↵

display: selection (v)(^)
01 00:00:00 01 off

press >

display: input hours
01 00:00:00 01 off

4.3.1 enter the time in hours, minutes, seconds
display: input relays
01 00:00:00 01 off

4.3.2 enter the no of relay (01 upto 32) or 00 to reach the upper line to select more than one relay
display: I:::: :::: :::: ::::
01 00:00:00 01 off

4.3.3 enter the active relays (01 to 32) by pressing > to select the row and by pressing v^ to select the relay. (a big dot means „relay activated“)
press CL to return to lower line and press >> to enter status
display: input status
01 00:00:00 -- off

4.3.4 enter the status by scrolling ^ v
(off, activ, tim01)
press > to select the timer (tim01 .. tim32)

4.3.5 press ↵ to store
display: store line? (↵)
01 00:00:00 -- off
press ↵ to confirm or CL to return

4.3.6 press CL to close this menue
display: store day? (↵)
01 08:00:00 -- tim01
press ↵ to confirm or CL to return

4.4 **44 cancel day programs**
display: Fr?12:00:00 08.09.95
44 delete day

enter: press >

display: delete day number
i01 i01

press ↵

display: delete realy?(↵)
i01 i01

press ↵ to confirm or CL to return
press CL to close this menue

4.5 **45 copy day programs**

display: `Fr?12:00:00 08.09.95`
`4 copy day`

enter: press >

display: `copy day number`
`i01 i01`

press ↵ to confirm

display: `copy into day number`
`i02`

press ↵ to confirm

display: `copy day? (↵)`
`i02`

press ↵ to confirm or CL to return
press CL to close this menue

5 **5 setup changes**

display: `Fr?12:00:00 08.09.95`
`5 set up`

enter: press > and scroll ^ v

5.1 **51 setup master clock**

display: `Fr?12:00:00 08.09.95`
`51 master clk setup`

enter: press > and scroll ^ v

5.1.1 **511 time correction**

Attention this menu is only for trained persons, any changes of parameters can cause malfunction of the master clock

display: `Fr?12:00:00 08.09.95`
`511 time correction`

enter: press >

display: `input correct`
`+ 0.724`

press CL to return or set the new time correction

5.1.2 **512 LCD contrast**

display: `Fr?12:00:00 08.09.95`
`512 LCD contrast`

enter: press >

display: `bright(v) dark(^)`
`10 LCD contrast`

press v or ^ to change brightness of the display

press ↵ to store

display: `store change? (↵)`
`11 LCD contrast`

press ↵ to confirm or CL to return

5.1.3 **513 Summer Winter Time**

Attention this menu is only for trained persons, any changes of parameters can cause malfunction of the master clock

display: `Fr?12:00:00 08.09.95`
`513 SummerWinterTime`

enter: press >

display: `W>S T.change`
`W>S 03 02 Su E 1`

enter: press > to continue or press ^ to scroll

display: `input month`
`W>S 03 02 Su E 1`

set month for W>S Time change, or press >>

display: `input hours`
`W>S 03 02 Su E 1`

set hour for W>S Time change, or press >>

display: `input weekday`
`W>S 03 02 Su E 1`

set weekday for W>S Time change, or press >

display: `input Startv End^`
`W>S 03 02 Su E 1`

set the direction to calculate the weekday for W>S Time change (from the start or end of the month), or press >

display: `input week`
`W>S 03 02 Su E 1`

set the number of the week for W>S Time change, or press >

The set W>S Time change will be calculated as following: The Sunday (Su) of the first week (1) calculated from the end (E) of march (03) at 2 o'clock (02).
press ↵ to store
display: store time? (↵)
W>S 03 02 Su E 1
press ↵ to confirm or CL to return
display: S>W T.change
S>W 10 03 Su E 1
repeat the proceedure to change the setting of S>W Time change
press CL to close the menue

5.1.4 **514 Language**

Attention this menu is only for trained persons, any changes of parameters can cause malfunction of the master clock

display: Fr?12:00:00 08.09.95
514 Language
enter: press >
display: input group v ^
0 English
If a multifunctional EEPROM is built in then you can select different languages by selecting the group. If the number changes but not the language, no multifunctional EEPROM is built in.
press CL to return and ↵ to confirm

5.1.5 **515 reset DCF receiption**

display: Fr?12:00:00 08.09.95
515 DCF reset
enter: press >
display:
DCF start new?(↵)
press ↵ to confirm

5.1.6 **516 set DCF offset**

This function gives the possibility to set a DCF-offset to the received DCF-synchronisation time protocol. The range is from -23:59 upto +23:59

Attention: The Summer/Winter time-change will not be controlled by DCF-protocol and must be set according menue item 513

display: `Fr?12:00:00 08.09.95`
`516 DCF time offset`

enter: press >

display: `set sign`
`- 00:00`

set the sign for the DCF time offset

`0` for -

`1` for +

display: `set hours`
`- 00:00`

set the hours for the DCF time offset

display: `set minutes`
`- 00:00`

set the minutes for the DCF time offset

display: `store DCF offset?(↵)`
`- 01:00`

press ↵ to store

5.1.7 **517 set type of synchronisation**

This function is used if the master clock should work as a slave clock and should be synchronized by different kind of minute pulses instead of DCF-77 antenna.

Attention this menu is only for trained persons, any changes of parameters can cause malfunction of the master clock

display: `Fr?12:00:00 08.09.95`
`517 Synchronisation`

enter: press >

display: `input synchronize`
`DCF-77 antenna`

scroll with v ^ between:

```
DCF-77 antenna
pol.minute pulse
unpol.minute pulse
pol.1/2 min.pulse
unpol.1/2 min.pulse
```

press ↵ to store

display: `store changes? (↵)`

```
DCF-77 antenna
```

press ↵ to confirm or CL to return

5.1.8 **518 set type of holidays**

This function is used if the holiday calender should not use the easter holidays of the catholic church

Attention this menu is only for trained persons, any changes of parameters can cause malfunction of the master clock

display:
```
Fr?12:00:00 08.09.95
518 holiday cal.
```

enter: press >

display:
```
Easter holiday(v)(^)
 yes
```

select `yes` or `no` by scrolling v or ^ and press ↵ to store

display:
```
store changes? (↵)
 yes
```

press ↵ to confirm or CL to return

5.2 **52 setup slave clock lines**

Attention this menu is only for trained persons, any changes of parameters can cause malfunction of the master clock

display:
```
Fr?12:00:00 08.09.95
52 slave line
```

enter: press >

display:
```
set line (v)(^)
1 minu 01 01 24H 1 1
```

select the number of the slave line and press >

display: input type v ^
1 minu 01 01 24H 1 1
select the type of the slave line (minu, 1/2, seco)
by scrolling v ^ and press >
display: input pulse sec
1 minu 01 01 24H 1 1
select the pulse length of the slave line depending on the type of the slave line: minu: 01 - 30s
1/2: 01 - 15s
seco: 01 - 50/100s
display: input pause sec
1 minu 01 01 24H 1 1
select the pause length of the slave line depending on the type of the slave line according above.

display: input function v ^
1 minu 01 01 24H 1 1
select the function of the slave line between (24H,12H,We,Dat) for the automatic adjustment of the slave clocks in case of a power failure. Depending on the selected function the slave clocks will be adjusted for maximum 12hours (12H), or 24 hours (24H), or 7days (We), or all (Dat) pulses that were missed since power failed.
press >
display: input SummerWinterTi
1 minu 01 01 24H 1 1
select 1 to wait one hour on SummerWinterTimechange
display: input wait
1 minu 01 01 24H 1 1
select 1 to wait max. 1 hour or select 0 to give as many pulses as missed during an power failure.
press ↵ to store
display: store changes? (↵)
1 minu 01 01 24H 1 1
press ↵ to confirm and repeate the setup for any other slave line necessary and press CL to close this menue.

5.3 **53 setup relays**

display: `Fr?12:00:00 08.09.95`
`53 relays`

enter: press >

display: `Fr?12:00:00 08.09.95`
`531 Timer`

5.3.1 **531 set timer**

display: `Fr?12:00:00 08.09.95`
`531 Timer`

enter: press >

display: `input timer v^`
`timer01 = 00:00`

select the number of timer (01 upto 32) and enter the time period in minutes and seconds, press ↵ to store

display: `store changes? (↵)`
`timer01 = 00:10`

press ↵ to confirm or CL to return
repeate this proceedure for all different timers you need.
press CL to close this menue.

5.3.2 **532 set relays-channel**

Attention this menu is only for trained persons, any changes of parameters can cause malfunction of the master clock

display: `Fr?12:00:00 08.09.95`
`532 relays-channel`

enter: press >

display: `input switchoff v^`
`ouput 01 = 01`

scroll v ^ to see the releation of relay and output channel
press CL to close this menue

5.3.3 **533 set periodical pulses**

display: `Fr?12:00:00 08.09.95`
`533 period. pulse`
enter: press >
display:
`not available!`
This feature is not implemented yet in the software and will be an item of further software-updates.
press ↵ to return

5.4 **54 setup interface output**

Attention this menu is only for trained persons, any changes of parameters can cause malfunction of the master clock

display: `Fr?12:00:00 08.09.95`
`54 interface`
enter: press >
display: `Fr?12:00:00 08.09.95`
`541 parameter`

5.4.1 **541 set parameter**

Attention this menu is only for trained persons, any changes of parameters can cause malfunction of the master clock

display: `Fr?12:00:00 08.09.95`
`541 parameter`
enter: press >
display: `input tact`
`48 7 E 1 0 Schauer`
scroll between 48 and Ex (Ex will be automatically selected if you included the option MPU-SSI, otherwise only 48 e.g. 4800 Baud is possible) press >
display: `input databits`
`48 7 E 1 0 Schauer`
scroll between 7 and 8, press >
display: `input parity`
`48 7 E 1 0 Schauer`
scroll between E (even), O (odd) and N (non), press >

display: input stopbits
48 7 E 1 0 Schauer
scroll between 1 and 2
(2 is not possible if you selected parity E or O), press >
display: input modus
48 7 E 1 0 Schauer
scroll between 0, 1, 2, 3 and 4
mode 0 send on request and every 5 minutes
mode 1 send on request only
mode 2 send every second
mode 3 send every minute
mode 4 send every 5 minutes
press >
display: input protocoll
48 7 E 1 0 Schauer
scroll between Schauer (standard), Diem CT, Zera, Special and MPU/LPU

protocoll Schauer	(*96:02:...)
protocoll DIEM CT	(T:96:02:... for Computime)
protocoll Zera	([]199602... for ESI, Metro, ...)
protocoll Special	not yet defined
protocoll MPU/LPU	internal

press ↵ to store

display: store changes? (↵)
48 7 E 1 0 Schauer
press ↵ to confirm or CL to return

5.4.2 **542 set transmitting protocoll**

Attention this menu is only for trained persons, any changes of parameters can cause malfunction of the master clock

display: Fr?12:00:00 08.09.95
542 transmit protoco
enter: press >
display: transmit protocol v^
01 = 2A
scroll from 01 upto 31 to change the 31 databits of the transmitting protocoll. (for details please contact your next Schauer Partner)
press CL to close this menue

5.4.3 **543 set receiption protocoll**

Attention this menu is only for trained persons, any changes of parameters can cause malfunction of the master clock

display: Fr?12:00:00 08.09.95
543 receiptn protoco
enter: press >
display: receiptn protocol v^
01 = 05
scroll from 01 upto 15 to change the 15 databits of the receiption protocoll. (for details please contact your next Schauer Partner)
press CL to close this menue

5.4.4 **544 set status of the interface**

Attention this menu is only for trained persons, any changes of parameters can cause malfunction of the master clock

display: Fr?12:00:00 08.09.95
542 release
enter: press >
display: input stat. (v) (^)
Interface off
scroll between off and active
to release the interface output for sending according the preveous set parameter the status must be active
press CL to close this menue

5.5 **55 set user level**

display: Fr?12:00:00 08.09.95
55 user level
enter: press >
display:
Code =
enter the code for the user level 1 or user level 2

6 **6 Test functions**

display: `Fr?12:00:00 08.09.95`
`6 Testfunctions`

enter: press >

display: `Fr?12:00:00 08.09.95`
`61 DCF and Sync`

6.1 **61 DCF and Sync status**

display: `Fr?12:00:00 08.09.95`
`61 DCF and Sync`

enter: press >

display: `Fr?12:00:00 08.09.95`
`611 DCF last valid`

6.1.1 **611 Receiption of last DCF-protocoll**

display: `Fr?12:00:00 08.09.95`
`611 DCF last valid`

enter: press >

display: `Fr?12:00:00 08.09.95`
`?? 0:00 .  0.0.00`

display if the master clock never received a DCF-protocoll

display: `Fr?12:00:00 08.09.95`
`Fr-12:00bW  08.09.95`

display if the master clock receive a good DCF-protocoll

display: `Fr?12:00:00 08.09.95`
`Th 11:28   e07.09.95`

display if the master clock did not receive a good DCF-protocoll since 7.9.95 at 11:28
press CL to return

6.1.2 **612 Receiption of last DCF-protocoll in hex**

display: `Fr?12:00:00 08.09.95`
`612 DCF input hex`

enter: press >

display: `Fr?12:00:00 08.09.95`
`-- 00 0000000000000000`

display if the master clock never received a DCF-protocoll

display: `Fr?12:00:22 08.09.95`
`22 4AbA1200125080995`

display if the master clock receive a good DCF-protocoll
press CL to return

6.1.3 **613 Status of Synchronisation**

display: `Fr?12:00:00 08.09.95`
`613 synchronisation`

enter: press >

display: `Fr?12:00:00 08.09.95`
`. .  00 DCF-77 anten`

description:
`. .  00 DCF-77 anten`

`*` even input pulse
`*` odd input pulse
`#` no input pulse for more than 5 minutes
`+` synchronisation: timebase is 50msec too fast
`-` synchronisation: timebase is 50msec too slow
`!` synchronisation: timebase is 5msec too slow
`0` time base is synchronised, last input pulse was even
`1` time base is synchronised, last input pulse was odd
`>` synchronisation: 50msec too fast, still correcting
`<` synchronisation: 50msec too slow, still correcting
`.` synchronisation: 5msec too slow, still correcting
`03` time differenz in 1/100 seconds
`DCF-77 anten` type of synchronisation

according item 517

display if the master clock never received a DCF-protocoll
display: `Fr?12:00:00 08.09.95`

display if the master clock receive a good DCF-protocoll
press CL to return

6.1.4 **614 Status of DCF-Time offset**

This function is used to check the last valid calculation for the DCF-Time offset

display: `Fr?12:00:00 08.09.95`
`Do 9:09 W  07.09.95`

press > to return

6.2 62 Displays

display: Fr?12:00:00 08.09.95
62 displays

enter: press >

display: Fr?12:00:00 08.09.95
621 SummerWinterTime

6.2.1 621 Display of SummerWinterTime changes

display: Fr?12:00:00 08.09.95
621 SummerWinterTime

enter: press >

display: W>S S>W
26. 3. 2h 29.10. 3h

press CL to return

6.2.2 622 Display of the internal Temperature

display: Fr?12:00:00 08.09.95
621 Temperature

enter: press >

display: Fr?12:00:00 08.09.95
Temperature= 29.8 °C

press CL to return

6.2.3 623 Display the internal supply voltage

display: Fr?12:00:00 08.09.95
621 supply voltage

enter: press >

display: Fr?12:00:00 08.09.95
Vii = 23.50 V

press CL to return

6.2.4 624 Display the MPU-Version

display: Fr?12:00:00 08.09.95
624 MPU-Version

enter: press >

display: MPUi9603E V1.04 73A6

press CL to return

6.2.5 625 Display of the error memory

display: `Fr?12:00:00 08.09.95`
`625 error memory`

enter: press >

display: `07 error no. 14`
`11590155 0809955 P0`

press CL to return

6.2.6 626 Display of the time correction

display: `Fr?12:00:00 08.09.95`
`626 Time correctn`

enter: press >

display: `Fr?12:00:00 08.09.95`
`F=-00 S=+00 W=+00`

press CL to return

6.3 63 Init functions

Attention this menu is only for trained persons, any changes of parameters can cause malfunction of the master clock

display: `Fr?12:00:00 08.09.95`
`63 Init-Functions`

enter: press >

display: `Fr?12:00:00 08.09.95`
`631 Watch Dog Reset`

6.3.1 621 Watch dog reset

Attention this menu is only for trained persons, any changes of parameters can cause malfunction of the master clock

display: `Fr?12:00:00 08.09.95`
`631 Watch dog reset`

enter: press >

display:
`start WatchDog?(↵)`

press ↵ to confirm or CL to return

6.3.2 **632 EE programming**

Attention this menu is only for trained persons, any changes of parameters can cause malfunction of the master clock

display: `Fr?12:00:00 08.09.95`
`632 EE Programming`
enter: press >
display: `really`
`EE Programming?(↵)`
press ↵ to confirm or CL to return
display: `standard setup? (↵)`

press ↵ to confirm or CL to return
display: `actual config? (↵)`

press ↵ to confirm or CL to return
display: `switchoff? (↵)`

press ↵ to confirm or CL to return
display: `interface? (↵)`

press ↵ to confirm or CL to return

6.3.3 **633 Initialise !**

Attention this menu is only for trained persons, any changes of parameters can cause malfunction of the master clock

display: `Fr?12:00:00 08.09.95`
`633 Initialise !`
enter: press >
display:
`delete old data?(↵)`
press ↵ to confirm or CL to return
display: `really`
`delete old data?(↵)`
press ↵ to confirm or CL to return

6.3.4 **634 switch off mode for stock keeping**

Attention this menu is only for trained persons, any changes of parameters can cause malfunction of the master clock

display: `Fr?12:00:00 08.09.95`
`634 switch off stock`
enter: press >
display:
`switch off?(↵)`
press ↵ to confirm or CL to return

6.3.5 **635 Adjustment**

Attention this menu is only for trained persons, any changes of parameters can cause malfunction of the master clock

display: `Fr?12:00:00 08.09.95`
`635 adjustment`
press CL to return

6.4 **64 Mini Monitor**

display: `Fr?12:00:00 08.09.95`
`64 mini-monitor`
enter: press >
display: `X=0 C=1 I=2 P=3`

press CL to return

6.5 **65 Test Peripherals**

display: `Fr?12:00:00 08.09.95`
`65 Test-Peripherie`
enter: press >
display: `Fr?12:00:00 08.09.95`
`651 relays`

6.5.1 **651 Test relays**

display: `Fr?12:00:00 08.09.95`
`651 relays`
enter: press >
display:
`not available!`
This feature is not implemented in this software.
press ↵ to return

6.5.2 **652 Test I/O**

display: `Fr?12:00:00 08.09.95`
`652 I/O Test`
enter: press >
display:
`not available!`
This feature is not implemented in this software.
press ↵ to return

6.5.3 **653 Test Slave Lines**

display: `Fr?12:00:00 08.09.95`
`653 Lines`
enter: press >
display:
`not available!`
This feature is not implemented in this software.
press ↵ to return

6.5.4 **654 Test Keyboard input**

display: `Fr?12:00:00 08.09.95`
`654 keyboard input`
enter: press >
display: `Fr?12:00:00 08.09.95`

This function enables you to test the keyboard as following:
enter now 1 2 3 4 5 6 7 8 9 CL 0 ↵ ^ > v < and ?
The display must show following:
display: `Fr?12:00:00 08.09.95`
`123456789c0fACBD?`
press CL CL to return

6.5.5 655 Test Keyboard counter

display: `Fr?12:00:00 08.09.95`
`651 keyboard counter`

enter: press >

display: `Fr?12:00:00 08.09.95`
`00000006D`

The display shows the number of keyboard activities in hex-form

press CL to return

6.5.6 656 Test A/D Converter

display: `Fr?12:00:00 08.09.95`
`656 A/D Converter`

enter: press >

display:
`not available!`

This feature is not implemented in this software.

press ↵ to return

6.6 66 Interface status

display: `Fr?12:00:00 08.09.95`
`66 Interface status`

enter: press >

display:
`not available!`

This feature is not implemented in this software.

press ↵ to return

2.3 Keyboard with Second-Functions

To enter names you can use the second-functions of the keyboard by pressing several times to scroll the different signs as following :

Taste *1*	a	b	c	1	A	B	C	1
Taste *2*	d	e	f	2	D	E	F	2
Taste *3*	g	h	i	3	G	H	I	3
Taste *4*	j	k	l	4	J	K	L	4
Taste *5*	m	n	o	5	M	N	O	5
Taste *6*	p	q	r	6	P	Q	R	6
Taste *7*	s	t	u	7	S	T	U	7
Taste *8*	v	w	x	8	V	W	X	8
Taste *9*	y	z	.	9	Y	Z	.	9
Taste *0*		-	/	0	!	?	"	0
Taste *?*	ä	ö	ü	?	ß	°	&	?

3 TECHNISCHE DATEN

Supply Voltage	220V (110V) AC, 47-63Hz
Power Consuption at full load	
1,3A Power Supply (standard)	110VA (220V)
3,5A Power Supply (optional)	176VA (220V)
Operating Temperature	0°C to 40°C
Storeage Temperature	-20°C to 60°C
Master Clock	
Display	Liquid crystal display (LCD) 2 lines, 20 characters, 8,5mm height
Keyboard	Touchpanel with 17 keys with tactile feedback
Accuracy	< 0,1 seconds per day at 25°C without external Synchronisation (e.g. DCF-Antenna)
Memory Battery Backup	> 5 years
Operation Battery Backup	as Option
Processor Type	PCF80C552W-4
Memory	256k Byte EPROM, 32k Byte RAM, 256 Byte EEPROM
Memory Capacity	max 1023 lines with upto 64 Day programs with 99 switchings each, 99 Periods and 64 Holidays

Master Clock MPU-I

Slave Clock Line	
Quantity	2 (standard) upto 10 in groups of 2
Output Voltage	24VDC, low voltage cut-off at 18V
Output Current	1,3A with standard power supply e.g. 130 Slave clocks 3,5A with optional power supply e.g. 400 Slave clocks Short Circuit protection max 1A per slave clock line
Types of Slave clock lines	Polarized pulses, settable for each slave clock line independetly: Minute Line 1/2. Minute Line Second Line
Relays	
Quantity	4 potential free (standard) upto 16 in groups of 4 or 8 upto 32 non potential free in groups of 8
Operating Voltage	220VAC
Operating Current	4 A max (ohmic load)

SCHAUER
time-systems
A-1140 Vienna, Matznergasse 34
Phone +43-1-789 79 89-0
Fax +43-1-789 79 89-239
Email: time@schauer.at
Web: www.schauer.at

Author. Dealer