===== Manual control, and display Version 5.2 - 5.4====

As addition to GCA145, a display and control [[mgv146-en|GCA146]] is available.

Addional settings are possible with GCA146.

A separate switch -or jumper if you wish- on the manual control board puts the GCA145 in adjust mode.

The best way is installing this switch close to the turntable on a not normal accessible place.

This avoids getting into settings accidently.

When this switch is ON, The display will show the menu number for one second and then show the present position.

Older versions than 5.5 have different menu. Please refer to {{:mgv:hardware:version_4-6.pdf| Version 4.6}}.

Pressing the control push button, the menu will shift.\\
Menu items 0 and 1 write information in the eeprom, dependent on the current position. To prevent overwriting settings with wrong information these menu itmes are not available when special positions 62 or 63 are set.

MENUE -0 :   Position correction

Display will show actual position.

That actual position can now be fine tuned by turning the knob.

Value will be stored in memory after the program-switch or jumper is set OFF

All next positions will be checked and increased if necessary, to avoid that next positions are lower that the one you just changed.

For this, it is important to know that correction should be made from the lowest position upwards.

Two extra positions are available for correction:

Pos 62 : This is a 'back to base' position where TT will run backwards until base switch is hit and reset all non important internal used positions.

No changes will be made in any stored value.

Pos 63 : Selecting this positon will make the actual base position and, after the base switch is activated will make one more full turn to count the total steps for 1 round.

MENUE -1 : Setting of reversed/not reversed power to the bridge

This menu is only important to Control type 0,2 and 4.

Each position has now its own setting for the bridge power to be reversed or not.

The value can be either 0 or 1 and is set to the actual bridge position.

Changing it will immediate engage the bridge power.

MENUE -2 : Setting of maximum used positions

Display will show max position , as stored in memory.

Turn the knob to get the right value.

Maximum positions are possible from 1 - 47 (1-30 for type 6)

Values will be stored in memory after the program-switch or jumper is set OFF

**MENUE -3 : Setting for control type. **

This menu has no connection with the type or speed of the used steppermotor.

MGV145 is a universal controller, useable in many ways.

But some instructions are necessary to make the right decisions on wether the rail on the bridge is two or three rail type and reverse on non reverse power etc. on the bridge.

Displays shows the type as stored in Memory.

After changing, new value will. be stored in EEprom

Optional settings:

Value	Description
0	Control is set for Turntable without 'shortest way option', Rail on bridge will have reversed power on top half of positions \\ NO 'shortest way option' means that running from highest to lowest position (or v.v.) will NOT pass 0 position.
1	Same as 0, but railpower to bridge will not be reversed. This is the three rail setting.
2	Control is set for Turntable with 'shortest way option', Rail on bridge will have reversed power on top half of positions \\ Shortest way option means that running from highest to lowest position (or v.v.) will pass 0 position.
3	Same as 2, but railpower to bridge will not be reversed. This is the three rail setting. NOT suitable for Fiddle-yard.
4	Version 3-7+, for two rail TT , no restriction on 'short way'. This is special for TT with contact rings (no cables).
5	Same as 4 but for three rail TT, so no change of polarity on bridge.
6	Fiddle yard. Railpower will not be reversed. End switch at the high position side is needed. \\ Connector ICSP1 is used for connecting this switch
\\	

MENUE -4 : Motor speed minimum.

Display shows a number which in program will be multiplied by 256 microseconds.

This is the interval time between two sequential steps of the motor.

The higher the number, the slower the motor.

Maximum setting is 99, minimum equals setting of maximum speed.

Turn the knob to get the right value.

Value will be stored in EEprom memory.

In menue 6 a setting is available to invflouence the ramp-up and ramp-down time.

MENUE -5 : Motor speed maximum.

Display shows a number which in program will be multiplied by 256 microseconds.

This is the interval time between two sequential steps of the motor.

The higher the number, the slower the motor.

Maximum setting equals setting of menue 4, minimum = 1.

Turn the knob to get the right value.

Value will be stored in EEprom memory.

In menue 6 a setting is available to influence the ramp-up and ramp-down time.

Menue -6 : ramp-up/ ramp-down setting.

This value is used to influence the speed increase / decrease between settings speed-minimum and speed-maximum.

Value can be anything between 1 (speed remains minimum speed) to 99.

Depending on the amount of steps to be taken between two positions, the value to be set here needs to be experienced in practice.

Value will be stored in EEprom memory.

MENUE -7 : extra free space steps.

Display shows the step as stored in memory.

Minimum setting of steps is 0 (= no correction).

Maximum setting of steps is 99.

This number will be calculated by 4 internally, so 1 step as setting means 4 steps in reality.

Turn the knob to get the right value.

Value will be stored in EEprom memory.

MENUE -8 ：Bridge power turned ON or OFF while moving.

With this menu there is a choice to have bridge power ON while moving (Set 1) or OFF (set 0).

MENUE -9 ：Motor test.

This menu is only to test motor.

Using this menu will not change anything in settings.

Turning the regulator will only move the motor.

Menu -9 : Use base position detector (firmware version 5.4).

When set to 1, the base position detector is used to go to bridge position 0. For details see descripstion at firmware version 5.4