FLEISCHMANN
Die Modellbahn der Profis

6915 *TURN-CONTROL* Turntable Controller

Operating instructions

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Dear Railway Modeller,

Thank you for deciding to purchase the TURN-CONTROL turntable controller 6915 from FLEISCHMANN. The controller can be used for any of the FLEISCHMANN turntables (as well as Märklin* 7286) either in DC powered or digital systems and even in 3-rail AC layouts, so that you can pre-select your desired turntable exit tracks and automatically rotate the turntable to them. The TURN-CONTROL can even be operated by DCC equipment or via LocoNet connections.

You won't need to make any alterations either to the layout or directly to the turntable itself.

In this operational manual, we will describe, step by step, all you need to know about how to install and how to use, (i.e. connection to additional turntables) the TURN-CONTROL controller on your layout.

The FLEISCHMANN-Team wish you many hours of enjoyment with your new controller.

* Märklin is a registered trademark of the Company of Gebr. Märklin&Cie GmbH, Göppingen

1 Safety Warnings and Advice on Use

Safety Warnings

- ➜ *TURN-CONTROL 6915* is not designed for use by children under the age of 3.
- ➜ Under no circumstances, connect the components or the track directly to the 240 volt mains power (danger to life)!
- ➜ Under no circumstances should the *TURN-CONTROL* controller and its power source (i.e. transformer 6710) be allowed to come into contact with water! Never try to open the housing!
- ➜ Before undertaking any electrical work on the layout, always disconnect the mains plug!
- ➜ When operating, please take care of loose cables from controllers, mains plugs and connecting cables (danger of tripping).

Advice on Use

- ➜ The *TURN-CONTROL* requires a separate power source (transformer: not included in delivery).
- ➜ In the interests of safety in operation as well as the enjoyment of the equipment itself, please read this operational manual through completely.
- ➜ This high quality product is for indoor use only.
- ➜ In order to enoy trouble-free operations, you should clean the rail surfaces regularly.
- ➜ We recommend that you securely fasten the *TURN-CONTROL* controller onto a suitable surface (baseboard or control panel). 3 locating holes on the under side of the baseplate can be drilled through to accept the fixing screws. Alternatively you could also use sticky pads. Please take care to read the installation instructions of all the components to be connected!

What can you operate by using the *TURN-CONTROL*?

- ➜ All FLEISCHMANN DC turntables, in all scales of 00/HO, TT and N gauge, with or without switchable track exits ("C" types) (see page 29).
- ➜ Turntables of a similar construction for 3-rail AC operation (Art.-No. 6652, see page 29).
- ➜ Turntables of a similar construction from the company of Märklin (Art.-No. 7286)

1.2 Components, operational elements and connections

First of all, please **check through** the components of your *TURN-CONTROL* as delivered. The components consist of:

- *TURN-CONTROL 6915* Controller
- Connection cable 39 6865 (for power feed)
- 7-pole connecting plug
- This operational manual

Please familiarise yourself with the **various parts**, see Fig. 1.

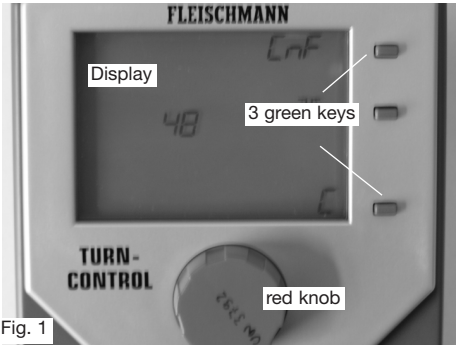


Fig. 1

All **connections** of the TURN-CONTROL will be found on the rear of the equipment (Fig. 2).

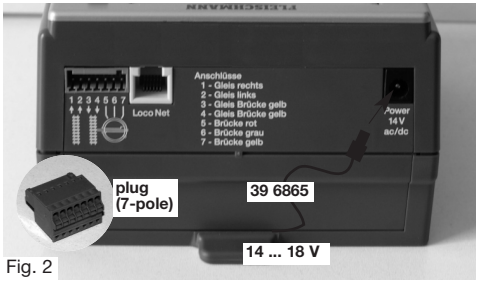


Fig. 2

You now have the following possible connections.

- ➜ The power feed can be connected up to any of the FLEISCHMANN transformers 6706, 6735, 6755 or 6811 by using the connecting cable 39 6865 as supplied, or to any transformer which incorporates a 14-16.5 V continuous voltage output (DC or AC), see Fig. 2.
- ➜ Track connections and turntable connections are made via the 7-pole plug. The location of the wires can be seen above (Fig. 2) or shown on the rear of the equipment and are decribed in the following chapter.
- ➜ Connect up the wires first of all and then plug in the transformer.
- ➜ If you wish to use the TURN-CONTROL digitally or via the LocoNet connection, then you will also need a suitable length LocoNet cable! The FLEISCHMANN article 6887 (2.15 m long) and 6888 (0.6 m long) would be best for this use.

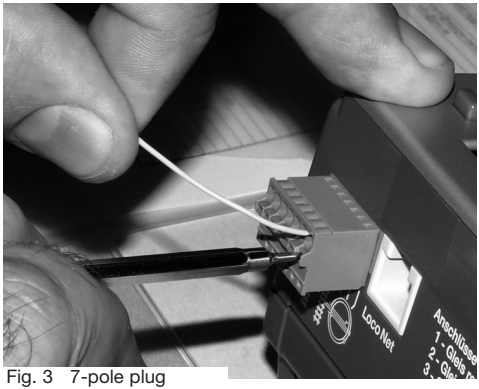


Fig. 3 7-pole plug

2 Operation

In this chapter you will learn all about the connection of the *TURN-CONTROL* to the turntable and the operation of the equipment and its various menu options. The individual functions of the equipment will be slowly explained step by step. The controller has been designed to give the best possible operation with all types of FLEISCHMANN electrical turntables. As a minimum requirement, you will need:
1 turntable, either 6052 (C), 6152 (C), 6154 (C), 6651 (C), 6652, 6680 (C), 9152 (C), Märklin 7286 (3-rail AC operation).
Please Note: The "C" denotes turntables which are fitted with switchable track ends at each end of the bridge to turn the power on or off to the lined up track exit. These can be easily identified by the tiny isolating rail break at each end of the turntable rails.

2.1 Connection to the layout

In principle, the *TURN-CONTROL* is suitable for all model railway systems, whether, **2-rail or 3-rail.** We will separate the 2-rail systems into **analog** (= standard DC operation) and **digital operation**. Although you can use *TURN-CONTROL* with the various digital control systems, (also FMZ, Selectrix, etc.) **"remote control"** (from a central digital controller) is **only possible with DCC and LocoNet**.

For DCC digital control, there are two possible variations for you to select: On one hand, all control commands can be carried out using track conection to the *TURN-CONTROL*, or on the other, you can use the LocoNet connection (= independent of rail connection) for this task. This requires an awareness of the function methods of the relevant digital controller.

It's the same for all current systems: simply make the connections.
First of all, insert the 7-pole plug into its locating socket on the *TURN-CONTROL*. Connect up the wires onto the 7-pole plug (see Fig. 2).

To make a secure connection, use a small screwdriver to press down on the spring tension clamp of the relevant socket (see Fig. 3) and feed the **unisolated** and twisted end of the wire into the relevant plug socket. Remove the screwdriver and the wire will be retained in place by spring tension.

A) Here are the plug connections for **connecting up** a FLEISCHMANN turntable **for 2-rail operations**:
Two wires from the track layout are connected into sockets **1** and **2** of the plug "**right hand track (1)**" and "**left hand track**". The **pair of two yellow wires** (coming from the turntable tracks) are then connected into sockets **3** and **4**. The **red wire** from the turntable is connected into socket **5**, the **grey wire** from the turntable is connected into socket **6** and the remaining **yellow wire** from the turntable is connected to socket **7**.

B) For **connecting up** a FLEISCHMANN turntable 6652 **for 3-rail AC operation** (Märklin system), here are the plug connections:
The two wires from the track layout are connected into sockets **1** and **2** of the plug "**common track (1)**" and "**centre rail (2)**". The **pair of two yellow wires** are then connected to socket **3**, the **white wire** of the centre rail into socket **4**. The **red wire** from the turntable is connected to socket **5**. The **grey wire** is connected to socket **6** and the **yellow wire** into socket **7**.

Advice: The wiring instructions are also indicated on the rear of the equipment!

C) When **connecting** to the Märklin turntable **7286** for **3-rail AC operation**, the wiring is as follows:
First of all, cut off all of the "old" plugs on the connecting wires of the turntable.
Connect the wires from the layout into sockets **1** and **2** of the 7-pole plug "**common rail (1)**" and

"**centre rail (2)**". The **brown** and **orange wires** go into socket **3**, the **yellow wire of the centre rail** goes into socket **4**. The **red** connecting wire from the turntable goes into socket **5**. The **blue** wire goes into socket **6** and the **green** wire into socket **7**.

Advice: The plug can only be inserted in one way into the equipment. Thus it is not possible to "mix up" the connections when inserting the plug.

Now we will create the power feed for the *TURN-CONTROL*. You can feed the *TURN-CONTROL* either with DC or AC power so long as the power is continuous, between 14 volts and 16.5 volts.

2.2 Connection to a transformer

Using the connecting cable supplied, 39 6865, connect the free ends of the wires onto - a) the continuous AC output 14-16.5 V or - b) the continuous DC output 14-16.5 V of the transformer. This could be, for example, the black and white clips of the AC output on a FLEISCHMANN transformer 6735. The small round plug on the other ends of the wires is then inserted into the socket on the *TURN-CONTROL* marked "Power 14 V ac/dc" (Fig. 2).

Possible FLEISCHMANN transformers: 6706, 6710, 6735, 6755, 6811.
Other transformers are connected up in a similar manner.

Now the *TURN-CONTROL* is connected up and ready for use.

2.3 Operation and Menu Options

Remove the protective packaging foil from your *TURN-CONTROL*. We are now going to put into the *TURN-CONTROL* the actual situation of your layout (turntable model, bridge position and locations of the track exits).

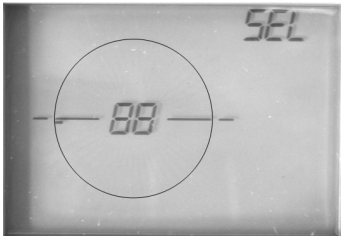


Fig. 4 Display after switch-on

Advice: It is not necessary to use a digital central controller or PC to do this. All of the settings are carried out on the equipment itself.

After first switching on your *TURN-CONTROL* you should see the following indication in the display (Fig. 4). If not, then there may be a fault, so you can look it up in the "error" appendix.

Please carry out the following procedure exactly, step by step, so that it is done correctly.

To **operate** your *TURN-CONTROL* there are certain operational controls:

- ➜ The **red rotating knob**. This has 2 operational functions: **Rotation** and **Depression**. **Rotating** the knob brings up the "next step" in the menu selection and later to "set the turntable in motion". As the red knob is rotated, there are detectable, fine control setting of "notches". **Each notch** will select a new menu option or a new track exit.
  Depressing the knob (as a "key") denotes a "selection/confirmation" of a chosen menu option.
  Advice: This "selection/confirmation" can also be similarly carried out by using one of the relevant green keys.
- ➜ The **green keys**. According to the symbol shown in the display next to each key, they are used to carry out the required functions of the relevant operation.

Advice: The selection/confirmation by depressing the red knob will be indicated by a symbol " " in the display next to the corresponding green key. You then have the choice either to press the red knob or the green key " ". If you have made a mistake in entering the instruction, then this can be cancelled by pressing the green key next to the "C" (correction/cancel). The minimum time between two depressions should be 0.5 s!

➜ The uppermost **green key** is the menu selection key. Possible menu options are: **SEL, Pro, CnF, POL, rEL, CH1, CH2, rES**.

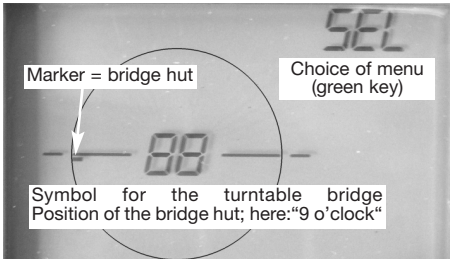


Fig. 5 Display symbols

The display of the *TURN-CONTROL* shows the turntable on the layout and gives information on its current position, numbers of the track exits, the active exit side of the turntable (on switchable C-bridges).

So that everything works correctly, we will now call up in the display all of the menu options or steps which you will find necessary.

We will now show you how to set up your *TURN-CONTROL*, step by step, using as an example a turntable 6152 C, which is a turntable with up to 48 track exits with a switchable bridge, in DC operation.

However, each of the steps described will also apply in principle for all of the turntables previously listed. TURN-CONTROL has the additional facility of an inbuilt "learning function" where it finds out for itself whether your turntable rotates slowly or quickly, and some other characteristics.

Advice: During the setting procedure, (configuration CnF) the display will blink, so this is not a malfunction.

The first step is to let your *TURN-CONTROL* know how many track exits your turntable has as a maximum.

Possible values: 48, 24 and **3L** (Märklin 7286).

The display in Fig. 4 is now on show.

➜ Please now press the **green key** next to the "**SEL**" (**sel**ect) in the display.

The menu option CnF is now displayed.

Fig. 6 Number of exit tracks (possible other values: 24, 3L)

➜ "**48**" will now appear in the display. Around the number 48, 48 blinking markers will appear, indicating the number of possible exit tracks.

Advice: If the display shows that you have turned further than the desired selection, then you can continue to turn a little bit further until the desired selection appears again. You can however, also rotate the knob in the opposite direction until the desired selection appears.

➜ To confirm your selection, press the **red knob** once. The *TURN-CONTROL* now knows that **your turntable** has 48 possible track exits.

As we are using a "switchable" "C" bridge in our example, we must now tell the *TURN-CONTROL*.

After pressing the **red knob**, the indications in the display have now changed. The right and left ends of the bridge are now both blinking alternately. This means that the *TURN-CONTROL* already knows that it is a "C" bridge.

➜ Press the **red knob** to confirm this selection.

Important advice: *If you have a turntable w i t h o u t the switchable isolating ends, (without a "C"), then turn the red control knob until both ends of the bridge section indicated in the display are both blinking at the same time. This will be the setting for "standard" bridges. Confirm this*

selection by pressing the red knob.

The next step is to synchronise the position of the bridge hut in the **display** with the actual current position of the bridge hut on the turntable **on the layout**.

➜ In menu option **CnF**, rotate the **red control knob** until the bridge is in the current position.

➜ Press the **red knob** to confirm this selection.

The display will now automatically switch to the SEL menu option.

Now you will be able to access all bridge positions "step by step" (with each rotation of the **red knob**, the bridge will turn to the next available track exit, or rest setting) in accordance with the way you have turned the **red knob**.

In our example, however, we will start from the bridge position shown in Fig. 7.

A new feature that you will now be aware of are the **two arrows** on the bottom right of Fig. 7. You can now determine which of the active track ends should be live – either the **bridge hut side (left arrow)** or on the **opposite side (right arrow)**. The selection is made using the green key beneath the symbol **<-->**.

For the purpose of our example, we will select the left side (= bridge hut side as the live side).

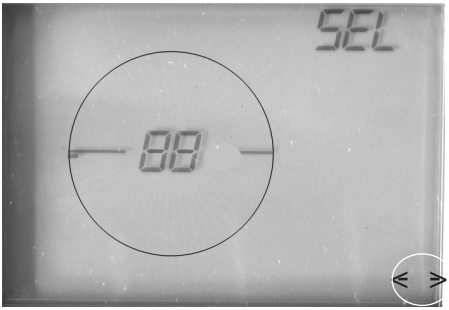


Fig. 7 Selecting the live track end side

➜ Press the green key until only the left arrow is visible.

2.4 Exit track Programming

As the second step, you must now put into the *TURN-CONTROL* the actual track exit positions which you have on your layout, for example, with 4 exit tracks (Nos. 1 to 4).

In principle, you can program exits without even having the turntable connected.

➜ Press the green (menu) key **"SEL"**.

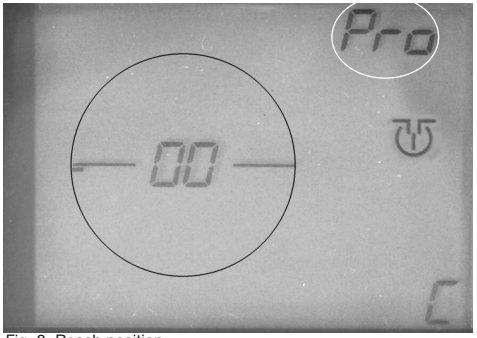


Fig. 8 Reach position

The indication will change from "SEL" to "**Pro**" (**Pro**gramming, Fig. 8).

In our example, the first track exit is in the position at "9 o'clock", with the bridge in the correct position!

Advice: If not, turn the red knob to the desired position so that the bridge symbol in the display turns with it.

➜ To confirm the selection, press the central green key **or** the **red knob**. From now on, in this manual we will be calling that "**confirm**".

The left hand section of the bridge symbol will now blink and a tiny strip next to the bridge hut

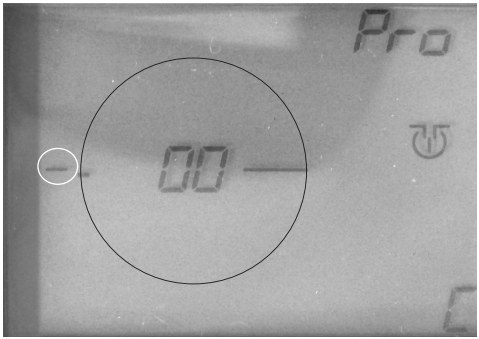


Fig. 9 1. Create 1st exit

symbol will be seen indicating a newly allocated track exit (Fig. 9).

➜ **Confirm**!

The first allocated track exit must now be given a number, in our case, the number "**1**".

➜ Turn the **red knob** until the number "**01**" blinks in the display in place of the indication "00" (Fig. 10).

Advice: turning the red knob to the right will give ascending numbers, turning to the left will give descending numbers.

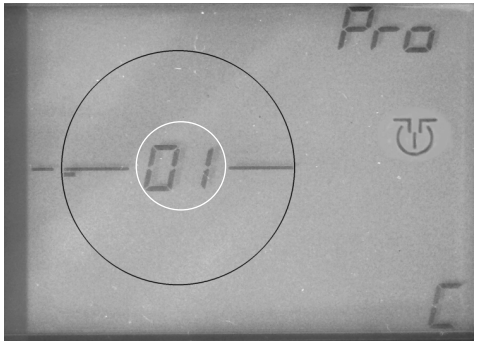


Fig. 10 Give the first exit a number

➜ **Confirm**!

The track exit number "01" has now been put in and remembered.

In the same way, we can now put the next track exits (Nos. 2 to 4) into the *TURN-CONTROL*.

*Advice: Once you have no further track exits to put in, then you can get out of the programming menu "**Pro**" by pressing the green key C, which will automatically return you to the operating menu "**SEL**" (Select).*

➜ Using the **red knob**, turn the **bridge hut symbol** to the position of the next track exit (No. 2), which you wish to put into the *TURN-CONTROL* (Fig. 11).

In our example, this is the next track exit in a clockwise direction which we wish to give the number "**02**".

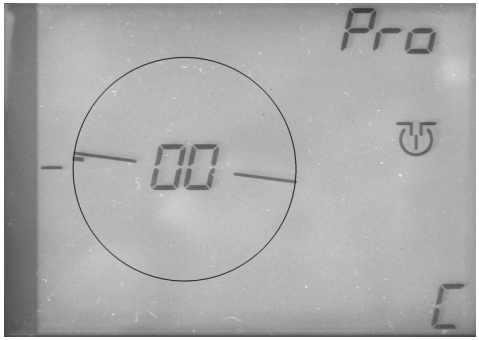


Fig. 11 Create 2nd exit

➜ **Confirm**!

The **left hand side of the bridge symbol** will now blink. After turning again the **red knob**, a second **tiny strip** will appear beside the bridge hut symbol.

➜ **Confirm**!

➜ Turn the **red knob** until the number "02" blinks in the display in the place of the indication "00" (Fig.12).

➜ **Confirm**!

The track exit number "02" has now been put in and remembered.

After this step, your display should look like that shown in Fig. 12.

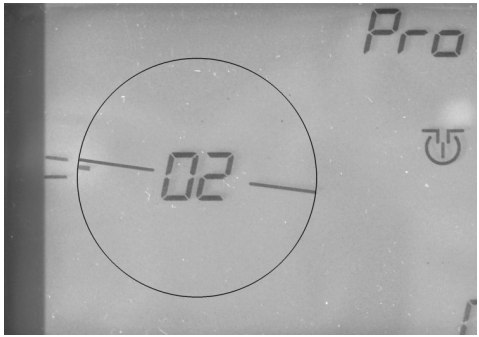


Fig. 12 2. Put in 2nd exit

The third step is just the same as the second.

➜ Turn the **red knob** until the bridge has reached the position of the third track exit.

➜ **Confirm**! After turning the **red knob** again, a new **tiny strip** will appear beside the bridge hut symbol.

➜ **Confirm**!

➜ Turn the **red knob** until the number "**03**" appears in the display.

➜ **Confirm**!

Your display should now look like this (see Fig. 13):

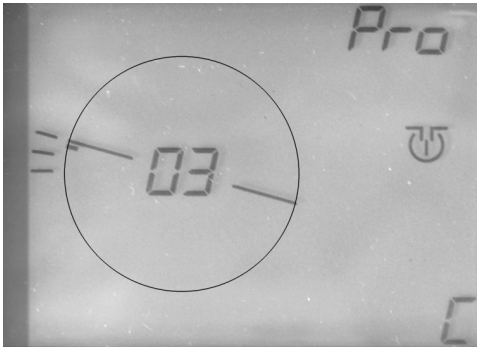


Fig. 13 Put in 3rd exit

The fourth step (e.g. creating the access track) is just like the third.

➜ Turn the **red knob** until the bridge hut has reached the position of the fourth track exit (as in our example, at "3 o' clock") (Fig. 14).

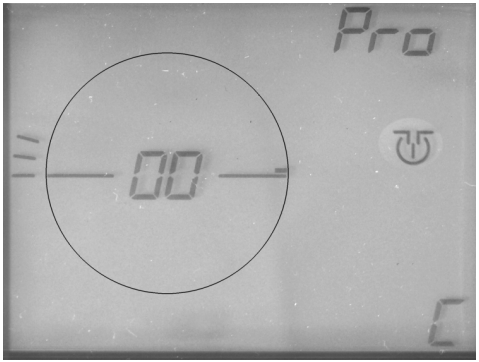


Fig. 14 Go to the 4th exit

➜ **Confirm**! After turning the **red knob** again, a new **tiny strip** will appear beside the bridge hut symbol.

➜ **Confirm**!

➜ Turn the **red knob** until the number "**04**" appears in the display.

➜ **Confirm**!

Your display should now look just like that shown in Fig. 15:

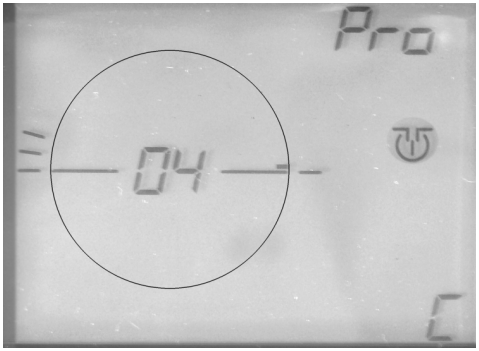


Fig. 15 Put in 4th exit

You have now successfully entered the positions of all your track exits into the *TURN-CONTROL*.

Advice: The exit numbers do not necessarily have to be in a clockwise direction. The numbering system can be completely independent of the position of the track exit.

Independent of the number of possible track exits, you can assign the numbers 1 through 99 to your programmed exits.

We can now leave the programming menu "**Pro**", so please press the green "**C**" key. The display will now show the menu "**SEL**" and you can now use the track exits which will always be shown with the individual (programmed) exit numbers.

We have now told the *TURN-CONTROL* all it needs to know about the tasks it has to perform, so we can now proceed to the next section on how to use it.

2.5 Using the Controller (Menu SEL)

With your *TURN-CONTROL* in the **SEL** menu setting, you can now:

➜ **Select** the desired exit track using the **red rotating knob** and then by **pressing it**, turn the bridge to the selected exit.

Advice: If the bridge display rotates, but the turntable is not started, the display will return to the original start position within 10 seconds.

Advice: When switching on the equipment, the display will always start up in the last correct

position stored in the memory. On C-bridges, the active, live exit section will be blinking. The active displays will be "SEL" and "  *". As well as that, the display will also show "**<-->**" whether it has a C-bridge type (only one arrow) or a bridge without C-function (2 arrows) under control.*

➜ Pressing the **green key** " "will start a 180° rotation. For bridges without switchable exits, this will be in the last direction of rotation, and similarly for C-bridges, according to the last selected exit track.

Advice: For bridges without a C-function, and two possible track exits, the exit numbers will be displayed alternately.

If you perhaps decide to drive your loco off of the other, non-active side of a C-bridge, then you will need to change the active side to suit.

➜ press the green key "**<-->**". This will change the active side of a C-bridge. If the active side is lined up with a programmed track exit, the number of this exit will also be displayed. The active exit section will blink.

In the case of an emergency when you need to bring your turntable to a halt *straight away*, then in the **SEL menu** you have an **emergency stop** button available. In this case, just press the **red knob**. The turntable will stop at the next notch position. The display will show the next available notch position. You can now select a new target position. After you **confirm**, the bridge will now travel round automatically to the new target position.

Advice: Whilst the bridge is actually rotating, you will not be able to select a new target position. You must wait until the rotation has stopped.

Advice: When rotating through more than 360° only the postion exceeding 360° will be carried out.
Advice: For control commands greater that 180°, the bridge will operate intelligently, and will always choose the shortest direction to rotate.

The *TURN-CONTROL* stores information internally whether a selected target position has

been reached or not. If the equipment is switched off and it is not in the correct selected position, then on being switched on again an error code will be displayed (see appendix). The bridge symbol in the display must then be rotated "by hand" into the relevant position. (see 2.6).

Advice: The remote control via DCC or LocoNet can be found in the digital operation section.

TURN-CONTROL is also capable of performing **additional special functions** which we have set out for you in the following section.

2.6 Special Functions

Within the menu options of the *TURN-CONTROL* , by pressing the **upper green menu key**, alongside the already mentioned menu options **CnF**, **SEL** and **Pro** you will also find the menu options **POL, CH1, CH2, rEL** and **rES**.

CnF

You have already discovered the **CnF** menu (**Con**figuration) at the beginning, as you set up the capabilities of your turntable. In this menu, you can also "correct" the bridge position which may have been altered by the current being cut off or by you carrying out some maintenance so the actual position no longer corresponds to that stored by the *TURN-CONTROL*.
If this should be the case, then go into the **CnF** menu and then rotate the **red knob** until the bridge position indicated in the display actually corresponds to the current position.
➜ **Confirm** this position.
.
The display will automatically switch to the **SEL**

menu, in other words, the exit tracks can now be accessed in the normal way.

POL

You can change the **pol**arity of the tracks of the bridge in any desired position ("**Pol**arity change"). This is handy to have so that, if after rotating through 180 degrees, the loco moves off of the bridge with the same polarity as it had when entering. Without changing the polarity, there would be a short circuit with the exit tracks!

➜ Go into the **POL** menu.
➜ using the **red knob**, rotate the bridge into the **position** in which you wish to change the polarity.

Advice: Clockwise from this position, then the next 23 (11) possible track exits will take this polarity.

➜ **Confirm** this position!

The menu will now change back to the **SEL** menu. As an indication of this change of polarity, the symbol "**+/-**" will be shown when the bridge hut is moved over that position. This additional indication will remain in the display until the bridge hut has completed a complete half turn, changing the polarity anew.

Advice: To switch off the changing of polarity, go to menu POL and, while "+/–" is blinking, press key "C".

CH1

In the menu **CH1** (**Ch**eck 1) you can test your turntable. This will allow the *TURN-CONTROL* to "learn" the running characteristics of your turntable and fits in with it. For example, the time taken to rotate between each exit.

➜ Press the central **green key or the red knob**.

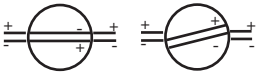
The turntable will now rotate through a complete 360°. Then it will rotate again in the opposite direction.
If an error should be discovered during the test, then a relevant error code will be dispayed (see appendix).
At the end of the test, you will automatically be returned to the **SEL** menu.

rEL

In the menu option **rEL**, the bridge power can be turned on or off using a small **rel**ay.

Normally, whilst the bridge section is rotating, the rails have no power. This means that the locomotive on a digital layout will not have its lights on, nor if applicable, any sound function.

Using the **rEL** function, you can choose whether to have the power to the rails on or off whilst it is rotating (if turned on, then there is the danger of a short circuit with the exit tracks). In certain positions, short circuits may occur when passing track exits with a different polarity setting.



and other

➜ To access the **rEL** function out of the normal operational mode, press the **green** "**SEL**" **key** several times (attention: pause for at least 0.5 seconds in between each pressing of the key) or similarly, press the key and hold it down, when the sequence of menu options will be displayed one after the other (at 0.5 second intervals as long as you keep the key pressed) "Pro", "CnF", "POL" and "rEL", when " " will blink in the dispay. In the display, the bridge will be shown **blinking**. This means "bridge power off". If the **red knob** is turned, then the display will be static (without blinking) for "bridge power on".

➜ **Confirm** this setting!

Short circuits on the entry track can be prevented by inserting isolating rail joiners on both rails. This will prevent short circuits between the powered bridge and exit tracks, and thus a possible switching off of the layout.

Advice: This problem does not occur in 3-rail system operation.

CH2

In Menü **CH2** (**Ch**eck**2**) you can test your **LocoNet or DCC signal connection**.

For exchange of data, **LocoNet** will always take **precedence** over DCC.

You can check whether you **have an active LocoNet**, **or similarly a DCC signal**:

➜ Press the upper, **green key SEL**, until the menu **CH2** is displayed.

The equipment will check immediately and according to its findings, will indicate the result in the display (where normally the exit numbers are shown) of the *TURN-CONTROL* by the following code numbers:

0 neither LocoNet nor DCC found,
1 LocoNet found,
2 DCC found,
3 LocoNet and DCC found.

rES

ATTENTION! With the **Reset** menu **rES** you will set the equipment back to its settings as delivered. **All of your input data will be erased!** Please consider carefully which settings you have created previously and whether you really wish to remove them.

➜ If you wish to carry out a reset, press the green key.

All settings will be set back to those at time of delivery!

In the following section, we will now describe the digital operation of the *TURN-CONTROL*.

3. Digital operation

You can operate the *TURN-CONTROL* with any **LocoNet compatible digital central controller** (i.e. TWIN-CENTER 6802) **and DCC Systems**.

Rotating the bridge is also possible via the LocoNet or similarly by decoding the DCC commands which are received from the rail signals.

The programmed track exits, 1-99, correspond to the electrical article adresses 201 to 299. Pressing the **red key** on the TWIN-CENTER means that the bridge hut end of the turntable will rotate to the selected track exit. By pressing the **green key** on the TWIN-CENTER, the end opposite the hut end will be turned around to the selected track exit.

If you press the red, or green, key on the TWIN-CENTER and the bridge is **already in the correct, desired position**, you will only be selecting the **active side of the bridge**, then it will not rotate through 180°.

A **180° rotation** of the bridge, left or right can be started with the electrical accessory address **200**: **red-right** (clockwise), **green-left** (anti-clockwise).

Using the *TURN-CONTROL* in conjunction with a **Märklin Control-Unit 6021** is possible by connecting the **LocoNet** via a LocoNet-Adapter Art. 63820 from Uhlenbrock which is then connected to the 6021.

Receiving valid data via the LocoNet or from the track feed (DCC) will be indicated in the display by the symbol "**->-**". The symbol remains active until the selected position has been reached.

The *TURN-CONTROL* will not react to **invalid** DCC or LocoNet commands, but will show the error symbol " ⚠ " together with an error code (see appendix).

If a **new selected position** of the bridge is transmitted via DCC or the LocoNet, then the *TURN-CONTROL* indicator will also immediately turn to the new selected position.

The *TURN-CONTROL* will not react to a **reset** via DCC or LocoNet, it will continue to function as normal.

LocoNet commands have **precedence over DCC commands.** If a LocoNet is recognised, then a decoding of DCC commands will be switched inactive.

Using an **electrical accessory command**, it will not be the 48 possible positions of the bridge which will be addressed, but the **programmed track exits** with the pre-progammed numbers **1 to 99**. If you use an erroneous electrical accessory command, then you cannot start an erroneous rotation!
This way (you have 99 possible track exit numbers at your disposal) by using different numbers on different turntables, by use of several *TURN-CONTROL* units, you can remotely control several turntables. Please make a careful note of which numbers you have used for each turntable as you cannot use the same track exit number **more than once.** Also, these numbers must not be used by other electrical accessories on your layout.

Advice: Using TWIN-CENTER 6802, version 1.0 and 1.1, at first you must assign the electrical accessory addresses according to the electrical accessory address table (see Appendix).

4. Appendix

This appendix shows some of the specialities of the *TURN-CONTROL*.

Errors will be indicated in the display with this symbol "⚠" and one of the following code numbers.
Indicating:

1 When programming, the selected track exit is already allocated.

2 The equipment was tuned off by interruption of the power feed and is in the intermediate position awaiting a new switch on.

3 When rotating the bridge the rest point was reached too soon.

4 When rotating the bridge the rest point was reached too late.

5 In DCC or LocoNet operation wrong exit selected.

6 Short Circuit

7 No turntable connected, likewise – connection broken.

To the table beneath: For controlling, the adresses 200 to 299 are to be used, the data format is “DC“. Refer to TWIN-CENTER under „Basic settings-> switch settings of dig. addr. of virtual electrical accessory decoders“ (see TWIN-CENTER-manual).

TURN-CONTROL-**DCC-addresses of the track exits.**

Digit. Addr.	exit 1	exit 2	exit 3	exit 4
50				200
51	201	202	203	204
52	205	206	207	208
53	209	210	211	212
54	213	214	215	216
55	217	218	219	220
56	221	222	223	224
57	225	226	227	228
58	229	230	231	232
59	233	234	235	236
60	237	238	239	240
61	241	242	243	244
62	245	246	247	248
63	249	250	251	252
64	253	254	255	256
65	257	258	259	260
66	261	262	263	264
67	265	266	267	268
68	269	270	271	272
69	273	274	275	276
70	277	278	279	280
71	281	282	283	284
72	285	286	287	288
73	289	290	291	292
74	293	294	295	296
75	297	298	299	