

Assembly List:

Pos.	Qty.	Component	Remark	Ref.	Done
1	1	Printed circuit board	Rev. 1.2		
2	1	Resistor 360 Ohm	orange-blue-black-black	R1	
3	1	Resistor 470 Ohm	yellow-violet-black-black	R2	
4	1	Resistor 820 Ohm	gray-red-black-black	R3	
5	1	Resistor 3.6KOhm	orange-blue-black-brown	R4	
6	4	Resistors 4.3KOhm	yellow-orange-black-brown	R5 ... R8	
7	1	Network 4*1.5KOhm	(152) attend to polarity!	RN1	
8	1	Network 4*4.7KOhm	(472) attend to polarity!	RN2	
9	1	Potentiometer 2.5K Ohm	marking: 2K5 ...	P1	
10	8	Diodes 1N4003	attend to polarity!	D1 ... D8	
11	1	Diode BAT42	attend to polarity!	D9	
12	1	Rectifier	attend to polarity!	GL1	
13	1	IC-Socket 28poles	attend to polarity!	IC1	
14	1	IC-Socket 16poles	attend to polarity!	IC2	
15	1	IC-Socket 8poles	attend to polarity!	IC5	
16	1	IC: 817	attend to polarity!	IC6	
17	1	Resonator 12 MHz		CR1	
18	1	Push Button		S1	
19	1	Capacitor 1nF	1nF = 102	C5	
20	5	Capacitor 100nF	100nF = 104	C6 ... C10	
21	1	Electrolytic cap. 100uF/25V	attend to polarity!	C1	
22	1	Electrolytic cap. 470uF/35V	attend to polarity!	C2	
23	2	Electrolytic cap. 220uF/35V	attend to polarity!	C3, C4	
24	1	Multi-Fuse R090		MF1	
25	3	Transistors BC 337	attend to polarity!	T1...T3	
26	1	Transistor BC 327	attend to polarity!	T4	
27	1	LED green plus dist. - spacer	attend to polarity!	LED1	
28	1	LED yellow plus dist. -spacer	attend to polarity!	LED2	
29	1	LED red plus dist. -spacer	attend to polarity!	LED3	
30	1	Pin-Bar 2poles		JP1	
31	1	Pin-Bar angled 8poles	for pc-board PS-8poles		
32	1	PC-Board PS-8poles + Pin Bar	attend to assembly position	ST4	
33	2	Phillips Screws M3x6	for assy. of IC3 and IC4		
34	2	Silikon Insulators	for assy. of IC3 and IC4		
35	2	Isolating Bushings	for assy. of IC3 and IC4		
36	1	Heat Sink	for assy. of IC3 and IC4		
37	1	IC:7805	assembly on heat sink	IC3	
38	1	IC: LM317	assembly on heat sink	IC4	
39	1	Relay	attend to assy. Position	REL1	
40	2	Clamps 3poles	build blocks before assy.	KL1, KL2	
41	2	Clamps 2poles	build blocks before assy.	KL3, KL4	
42	1	IC: ATMEGA8	attend to polarity!	IC1	
43	1	IC: L293	attend to polarity!	IC2	
44	1	IC: 6N137	attend to polarity!	IC5	
45			Final Control		

Littfinski DatenTechnik (LDT)

Assembly Instruction



Turntable-Decoder

TurnTable-Decoder (TT-DEC-R)

from the *Digital-Professional-Series* !

TT-DEC-R-B Part-No.: 010511

>> kit <<

For the **digital control** of the
Roco H0 Turntable 42615.

Suitable for the digital formats Märklin-Motorola and DCC

- ⇒ For Roco Turntable 42615
- ⇒ At the turntable is no mechanical modification required.
- ⇒ Only one minor electrical adaption necessary.

This product is not a toy! Not suitable for children under 14 years of age! The kit contains small parts, which should be kept away from children under 3! Improper use will imply danger of injuring due to sharp edges and tips! Please store this instruction carefully.



Made in Europe by
Littfinski DatenTechnik (LDT)
Bühler electronic GmbH
Ulmenstraße 43
15370 Fredersdorf / Germany
Phone: +49 (0) 33439 / 867-0
Internet: www.ldt-infocenter.com

Subject to technical changes and errors. © 09/2022 by LDT
Roco is a registered trade mark.

Introduction:

You have purchased a **Turntable-Decoder TT-DEC-R kit** for your model railway supplied within the assortment of **Littfinski DatenTechnik (LDT)**. These kits are of high quality and easy to assemble.

We are wishing you having a good time for assembling and application of this product!

General:

Tools required for the assembly

Please assure that the following tools are available:

- a small side cutter
- a mini soldering iron with a small tip
- solder tin (if possible 0.5mm diameter)

Safety Instructions

- We designed our devices for indoor use only.
- All electrical and electronic components included in this kit shall be used on low voltage only by using a tested and approved voltage transducer (transformer). All components are sensitive to heat. During soldering the heat shall be applied for a very short period only.
- The soldering iron develops a heat up to 400°C. Please keep continual attention to this tool. Keep sufficient distance to combustible material. Use a heat resistant pad for this work.
- This kit consist of small parts which can possibly be swallowed from children. Children (especially under 3 years) shall not participate on the assembly without supervision.

Set-Up:

For the board assembly please follow exact the sequence of the below **assembly list**. Cross each line off as **done** after completing the insertion and the soldering of the respective part.

For the **diodes** please keep special attention the correct polarity (**marked line for the cathode**).

Please attend to the polarity mark "+" of the **rectifier GL1**. Some manufacturer are marking the +-side in additional with an extended connection wire. If the rectifier contains a **flat side** this side has to correspond to the **marking on the pc-board**.

With reason to different makes of **electrolytic capacitors** you will find different markings of the polarity. Some are marked with "+" and some are marked with "-". Each capacitor has to be assembled to the board that the marking on the capacitor is in **correspondence** with the **marking on the TT-DEC-R pc-board**.

The four **transistors T1 to T4 (BC 3X7)** have to be assembled with attention to the **flat side** of the transistor.

Light emitting diodes have to be assembled that the **long connection wire** of the diode corresponds to the mark "+" on the pc-board. Before assembly please slip one **distance spacer** each onto the connection wires.

For the **correct assembly position** is the **relay REL1** marked on **one front side** with a **thick line**. This line has to **correspond** to the **mark on the pc-board**.

The **resistor-networks** are marked at one end with a **printed circle** or a **square** for the **correct assembly position**. Assemble this component that way that the marking corresponds with the marking between the first and second bore of the pc-board or with the mark "1" on the pc-board.

The **1.5KOhm network RN1** contains for identification of the resistor value the **label 152** and the **4.7KOhm network RN2** the **label 472**.

For the **pc-board plug ST4** has to be at first the **8poles angled pin bar soldered onto the small pc-board PS-8pol**. The **completed pc-board plug ST4** shall be inserted that way that the **pc-board PS-8pol** will **cover the printed line** next to the bores.

Integrated circuits (IC`s) are either marked with a half round notch on one end or a printed point for the correct mounting position. Push the IC`s into the correct socket or directly into the pc-board (**IC6**) assuring that the notch or the printed point is corresponding to the half-rounded marking on the pc-board.

Additionally please attend to the sensitivity of the IC`s to **electrostatic discharge** which can destroy the component. Before touching those components please discharge yourselves by contacting an earthed metal (e.g. heater etc.) or work with an electrostatic-protected pad.

Assembly of the voltage regulator IC3 and IC4:

The **voltage regulators IC3 (7805)** and **IC4 (LM317)** shall be assembled at the **correct position** onto the **heat sink** in accordance to the below **illustration 1** and **2** by using the **insulator, insulating-bushing** and **screw** and with attention to the **marking on the pc-board**.

Then **insert** the **completed pre-assembly** into the **bores of the pc-board**.

Finally **tighten** the two **screws** and solder the **heat sink** and the two **voltage regulators**.

