

DATA SHEET

Central Processing Unit SD-001

The SD-001 central processing unit provides control for up to eight model railway signals, points actuators or other accessories for Digital Command Control (DCC) systems. It decodes the DCC incoming signal and if the address matches the command is carried out. The decoder provides output signals to slave control modules that then switch the signals, points or other accessory item.

Control Options:

- Control of up to eight two aspect signals
- Control of up to four three aspect signals
- Control of up to eight solenoid points actuators
- Control of signals and points can be mixed on the same decoder

Specifications:

- Input Voltage – 12 to 16 Volts DC
- Input Signal – DCC accessory instruction packet
- Output – four dual ports
- Maximum Output Current – 10 mA (per port)
- Opto Isolated DCC Input

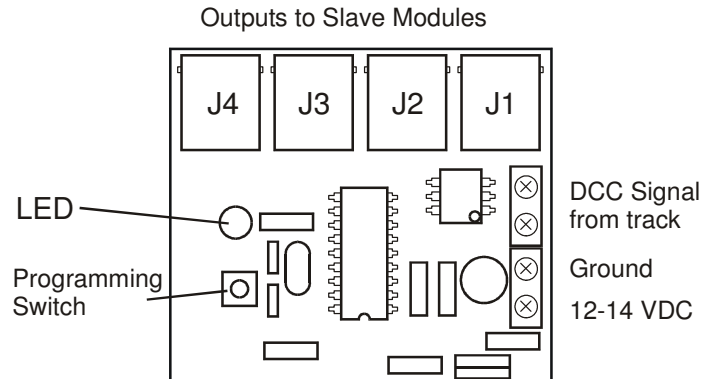


Figure 1 Accessory Decoder

INSTALLATION

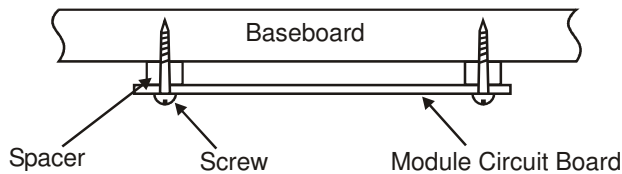


Figure 2 Decoder Mounting

Mount the unit in a position central to the devices to be controlled. Use the screw holes provided in the board to mount it but do not fix the screws too tightly or the board may be damaged.

The use of spacers as shown in Figure 2 is recommended.

Connect the positive of the power supply (12 to 16 V DC) to the power connection terminal

and connect the negative or ground connection as shown in Figure 1.

Connect the DCC signal from the track to the DCC input connector shown in Figure 1.

Connect the devices to be controlled to the output connectors using telephone style connectors and cable. The type of connector and cable is described later in this data sheet.

Caution – Do not connect signals or points actuators directly to the decoder outputs. This will permanently damage the decoder. Only connect using the correct control module – refer to separate data sheets.

OPERATION

The central control unit is designed to use two groups of four consecutive DCC accessory decoder addresses, starting at 1. The groups must also be consecutively numbered. For example, the decoder could be programmed for Group 1 encompassing addresses 1, 2, 3 and 4 and group 2 encompassing addresses 5, 6, 7 and 8 and so on.

To operate any output, activate the address in accordance with your command station instructions and then select the required action, again in accordance with your command station instructions. J1 controls the first two addresses, J2 the next two and so on to J4 that controls the last two addresses.

PROGRAMMING

The central control unit is supplied set to group 1 and group 2 addresses, 1 to 8, and can be operated immediately with these addresses. To set the address to another two groups, carry out the following steps.

1. Turn off the power to the unit.
2. Hold the programming switch down and turn the power back on.
3. Release the switch and observe that the LED remains alight.
4. Set the command station to the required accessory decoder address.
5. Send a command to the unit by operating the command station in accessory mode.
6. The central control unit will automatically be set to the group address that contains the address sent to it, plus the next group number.

The decoder will now respond to the address range set.

CONNECTING TO DEVICES

Connecting from the central control unit to modules is done by using four core telephone cable fitted with RJ11 connectors. Cables of the correct length and orientation are required.

The signals assigned to the pins of the RJ11 connector are detailed in Figure 3.

As the connector pins have the same orientation on both the central control unit and the slave modules, it is necessary to reverse the connectors on the cable, as shown in Figure 4.

Cables can be made with the use of a crimping tool or purchased, in either case ensure that they are the cross over type.

To make the connection, simply plug one end of the cable into the central control unit and the other into the slave module.

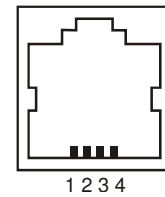
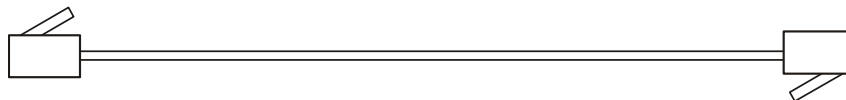


Figure 3 RJ12 Pins



The plugs are reversed

Figure 4 Cable Orientation