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1 2 3 4 5 6 7 8 9 10 11 12

DIGITAL

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Point & Accessory Decoder

R8247 Point & Accessory Decoder for use with the Hornby 'Select' & 'Elite' Digital Command Units

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Using the R8247 Point & Accessory Decoder with the Hornby 'Select' Unit

The Hornby Select Digital Control is capable of operating up to 40 points or solenoid operated accessories when used in conjunction with the Hornby R8247 Point and Accessory Decoder Module.

The Point and Accessory Decoder Module can operate up to 4 points or solenoid operated accessories.

Fitting the Hornby Point/Accessory Decoder:

1. Connect the wires from the point accessory motor to the first available input terminals on the decoder. Then connect the wires from the point decoder to the track or Programming Track. Full wiring instructions are supplied with each Module.

Addressing Points/Accessories:

Addressing a point motor or accessory that uses a solenoid motor is very similar to addressing a locomotive. For consistency it is advisable that the first point motor / accessory is addressed No 61. Once addressed, the other three outlets will be automatically programmed to 62, 63, 64.

Thereafter, the Accessory Decoder should be programmed in consecutive blocks of 4 (ie 65, 69, 73, 77 etc). When programming subsequent Point Decoders, ensure that other Point Decoders are disconnected from the track.

Programming:

1. Press and hold "SELECT". The LCD display will flash "LA".
2. Enter the first address (61) on the keypad, and press "SELECT". The red led will flash up to seven times during which the decoder will be accepting the command. If the LED flashes eight times, it is advisable to re-programme the Decoder again.
3. The point/accessory is ready for use. The other outlets have been automatically coded 62, 63, 64.

PLEASE NOTE:

1. If address 60 is programmed, only one port of the Point Decoder will be programmed.
2. If address 97 is programmed, a block of three addresses will be programmed (97, 98, 99) and applied to three ports of the Point Decoder only. ALL the addresses programmed - 61 to 96 inclusive - will automatically address all four ports of the Point Decoder.

Operation:

Using the direction buttons (◀ and ▶) the points/accessories can be controlled.

1. Press ▶ Point changes. The LCD will display "P5" for one second. The corresponding green LED will illuminate for one second.
2. Press ▶ Point changes. The LCD will display "P6" for one second. The corresponding green LED will illuminate for one second.



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Using the R8247 Point & Accessory Decoder with the Hornby 'Elite' Unit

There are two types of addressing formats that the Elite Unit can perform with the R8247 Point & Accessory Decoder. They are Simple Addressing and Advanced Addressing.

Simple Addressing

Connect the R8247 Point & Accessory Decoder to the Programming Track using the Power Connecting Clip provided.

1. Press Menu and rotate Control 1 until 'Acc' is displayed.
2. Press Control 1 to confirm. Screen shows 'Direct'. Press to confirm. **NB.** The Hornby Point & Accessory Decoder can be programmed using Direct Mode, Register Mode, or Paged Mode.
3. Screen displays 'Address'. Rotate Control 1 until 'CV' is displayed. Press to confirm.
4. Screen displays 'CV Write'. Press to confirm.
5. Screen displays 'CV 0001 W'. Type 513 and press Control 1 to confirm. **NB.** '513' is the CV setting which allows for Group Address programming.
6. Screen displays 'CV 0513 W 000'.

7. Rotate Control 1 until the Address Group you wish to use is displayed. If you are setting up your layout it is best to start with 'Group Address 1' (see table Fig 1).

8. Once you have selected the Group Address number press Control 1 to confirm. The red LED will flash five times to denote acceptance. (If the LED flashes eight times or more the number has not been accepted and you will need to attempt the addressing sequence again.)

9. Screen displays 'Address' The Point & Accessory Decoder is now programmed.

10. Should you wish not to name the point/accessory press Menu to return to the main screen. However if you do, follow the instructions as shown in Step 2 on page 23 of the Elite instruction manual.

11. Once the Hornby Point & Accessory Decoder is programmed you may remove it from the Programming Track and then connect it to the main track.

PLEASE NOTE: When using an R8246 Hornby Point & Accessory Decoder it is advisable in the interest of consistency that the first point/accessory has a Group Address of Number 1. Once programmed the outlets will be automatically programmed to 1, 2, 3, 4. Thereafter all further Hornby Point & Accessory decoders should be programmed with consecutively numbered Group Addresses (see Fig 1).

Group Address	Point/Accessory No.s
1	1,2,3,4
2	5,6,7,8
3	9,10,11,12
4	13,14,15,16
61	241,242,243,244
62	245,246,247,248
63	249,250,251,252

The R8247 Hornby Point & Accessory Decoder is capable of accepting up to 511 Group Addresses which relate to 2044 outlets. This high number of group addresses can only be achieved providing the Controller being used is capable of supporting this number. Please note that the Hornby Elite can supply 63 Group Addresses i.e. 252 outlets.

Advanced Addressing Using the 'Elite' Unit

The Hornby R8247 has four outputs which are factory set to provide a short burst of current to operate points or solenoids. It is however possible to alter the CV settings of the outlets so that their current flow remains switched on permanently or for periods of up to 25.5s.

These differing dwell periods may be useful if motorised point motors are used or if lights or motorised accessories are required to be switched on for a period of time.

Programming

To programme the decoder outlets (change the CV settings) first follow the instructions for 'Simple Addressing'. The following procedure will allow the outlet settings (CVs) to be changed.

Ensure that the Point & Accessory Decoder is connected to a Programming Track. You must first program the decoder with a Group Address which in turn will allocate a number to each outlet. See Fig 1 (Simple Addressing).

1. Complete the Simple Address Procedure, press Menu and rotate Control 1 until 'Acc' is displayed.
2. Press Control 1 to confirm. Screen shows 'Direct'. Press to confirm.
3. Screen shows 'Address'. Rotate Control 1 until 'CV' is displayed and press to confirm.
4. Screen displays 'CV Write'. Press to confirm
5. Screen displays 'CV 0001 :W'. Type in the CV number that relates to the outlet. i.e CV 515 (Outlet 1), CV 516 (Outlet 2), CV 517 (Outlet 3), CV 518 (Outlet 4), and press to confirm. For this example we will change Outlet 1.
6. Type in 515 and press to confirm. Screen shows 'CV 0515 :W 000'.
7. Rotate Control 1 or type in the CV value you wish to change 0-255. (See Fig 2). Value 0 equates to the current being continually on.

Value 1 equates to the current being on for 0.1s. For this example value 6 will be used. Rotate Control 1 until '000' is displayed.



Screen shows 'CV 0515: W 0006' and press to confirm.

8. Press Control 1 to confirm. The Red LED will flash 5 times. Output 1 now has a continuous current flow for 0.6s.

9. Screen displays 'Address'

10. Should you wish to change CV values of other outlets continue from Step 3.

It is important to note that accessories that function using a solenoid motor should not be set with a 'dwell time' longer than 0.8Sec i.e No.8 setting.

Failure to do this could result in damage to the solenoid. For continuous current i.e for lights, the CV settings should be '0'. (See Fig 2)

CV Number	Usage	Value Range	Default value
CV513/CV1	Decoder Address LSB	1-63	15
CV515/CV3	Output 1	0-255	1
CV516/CV4	Output 2	0-255	1
CV517/CV5	Output 3	0-255	1
CV518/CV6	Output 4	0-255	1
CV519/CV7	R8247 Version Info	12	12
Register 7 in Register	Mode(Read only)		
CV520/CV8	R8247 Manufacturer ID	255	255
Register 8 in Register	Mode(Read only)		
CV521/CV9	Decoder Address MSB	0-7	0

Please note that should a Point & Accessory Decoder which has already been programmed be reprogrammed with a new Address the outlets will retain the 'dwell periods' associated with the previous Group Address.

Reading the Hornby Accessory Decoder CVs on a Programming Track

The following example is for the reading of CV515 (Accessory Decoder Outlet 1) and must be executed with the Accessory Decoder connected to the Programming Track.

1. Press Menu. Screen shows 'Loco'.
2. Rotate Control 1 until 'Acc' is displayed.
3. Press Control 1. Screen shows 'Direct'.
4. Press Control 1. Screen shows 'Address'.
5. Rotate Control 1 until screen shows 'CV'.
6. Press Control 1. Screen shows 'CV Write'.
7. Rotate Control 1 until screen shows 'CV Read'.
8. Press Control 1. Screen shows 'CV 0001 R'.
9. Type in 515. Screen shows 'CV 0515 R'.
10. Press Control 1. The red LED will light while the decoder is being read. Screen shows 'CV 0515 R' and the number that CV 515 was programmed is set at.

PLEASE NOTE: Note that not all Accessory Decoders are capable of having their CVs read. Please refer to the specification sheet supplied with the decoder.