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TRAIN

CONFIG

DIGITAL

'Elite' Unit – Operator's Manual

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For more information visit: **www.hornby.com**

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Digital Command Control

Welcome to the Hornby Digital World of model railways. You are about to enjoy a new and exciting experience when it comes to controlling and operating a model railway.

Using the keypad and rotary controls that are on the Elite unit locomotives can be "called up" individually and operated just like the real thing. Imagine a busy marshalling yard where the locomotives are positioned close together and where by using the **Hornby Elite Digital Controller** Hornby digital locomotives can be manoeuvred from one place to another without having to worry about the complexities of connecting metres of wiring to a bank of switches and isolating sections and hoping the whole thing will work!

The **Hornby Elite Digital Control** has the ability to address 254 locomotives and depending on the accessory/ point decoders used up to 255 points or solenoid operated accessories. The following instructions are a guide on how to get the best from your **Hornby Elite Digital Control**. Please take a little time to carefully read through the instructions before you start to use the Hornby Elite. Should you have any questions then you can either contact Hornby via the Hornby DCC website (www.hornby.com), or write to Hornby using the email address: help.dcc@hornby.com

The Hornby Elite is an advanced digital controller and therefore it is important that you read and fully understand the instructions before operation. Please also be aware that that for the majority of programming for both locomotives and accessories a Programming Track must be used.

The real way to run a railway!

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Notes

Locomotive Address

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Hornby Digital Elite DIGITAL

Elite Unit – Fact File

LCD Display

Rotary Control

Keyboard

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Keyboard

The 17 button keyboard includes not only buttons 0 – 9 keys which are alpha numeric, but other keys marked **Locomotive**, **Accessory**, **Function**, **On/Off**, **Menu**, **Escape** and of course **Stop**! These multi-function keys provide the basis for the programming and functioning of up to 254 locomotives and 255 accessories including points. The keyboard has the capability of entering into the unit's memory the names and numbers of locomotives and accessories as well as inputting the various functions that the Hornby Elite offers. Using the Elite's keypad locomotives can be addressed from 0 to 9999 and points or solenoid operated accessories from 1 – 252 if assigned to a Hornby R8216 Accessory/Points Decoder.

Rotary Control

The Hornby Elite Digital Unit incorporates two rotary controllers which not only control the assigned locomotives but also assist in registering each model and accessory to the Elite. The controls are able to do this by a simple click and rotate procedure.

This method is also employed to add names and locomotive numbers to the Elite display so that in place of locomotives being identified with just their coded number, abbreviated names and/or running numbers can be used. The pressing

of the Rotary Controls can also determine which knob has control, the direction of the locomotive's travel plus point motor activation. These are just a few of the functions that are associated with the Rotary Controls, however they do go some way to illustrate the technical advances that the Hornby Digital Elite boasts.

LCD Display

The liquid crystal display centred on the Elite has 2 rows of 8 characters, train direction indicators, a speed indicator, and a set of 13 numbers which are 0 – 12 which show the functions that are switched on in respect of locomotives under direct control.

A clock is also included on the display which can be set to real time or can be set up to 10X faster. Working with the Rotary Controls the display will be able to keep the operator fully up to date with the functionings of the Elite.

Power

The Elite is supplied with a 4 amp transformer. 3 amps is passed directly to the tracks and 1amp is for the Accessories, thus the Elite is capable of providing enough power to run at any one time approximately 10 locomotives depending on how power efficient the locomotives are.

For more information visit: **www.hornby.com**

Setting Up

If the Elite is being connected to an existing layout it must be noted that for Digital Control (DCC) to operate at its full potential it is important that the locomotives receive a strong and consistent signal from the Elite. Please ensure the track and connecting fishplates are clean and are firmly connected.

The Hornby Elite unit operates most efficiently when the whole of the layout is "live". Hornby points are self isolating therefore it is necessary to fit each point with 2 x **R8232 Hornby DCC Electric Point Clips**. See page 8 for further information.

Connecting the Elite Unit to the Track

1. Locate the terminals at the back of the **Elite** unit labelled **TRACK**. See Fig 1

2. Locate the Track to the Controller Link Wire and insert the black lead into Socket **A** and the black and white lead into Socket **B**.
(These wires must NOT be inserted into mains socket outlets.)

3. If fitted, locate the Hornby Power Input Track section on the track circuit.

4. Press down on the left hand button on the Power Input Track section and insert the black and white lead of the Link Wire into the socket and release the button.

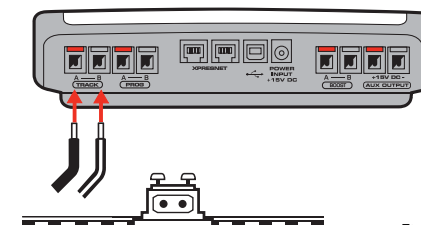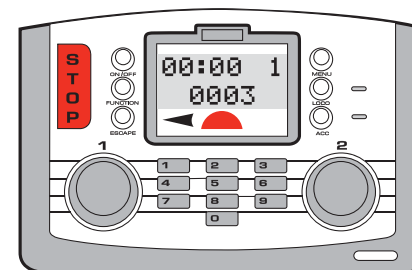5. Repeat the process inserting the black lead into the right socket of the Power Input Track.

Fig 1

Connecting the Power Supply

1. Locate the Power Transformer with integral cable.

2. Locate the Power Input socket on the rear of the unit (**POWER +15V DC**)

3. Take the Power Supply cable and insert the plug into the Power Input socket situated at the rear of the **Elite** unit.

4. Plug the Power Transformer into the mains socket and switch on the power.

Please Note:
There is no On/Off switch on the **Elite** unit. Always ensure that the power supply is disconnected from the **Elite** when not in use.
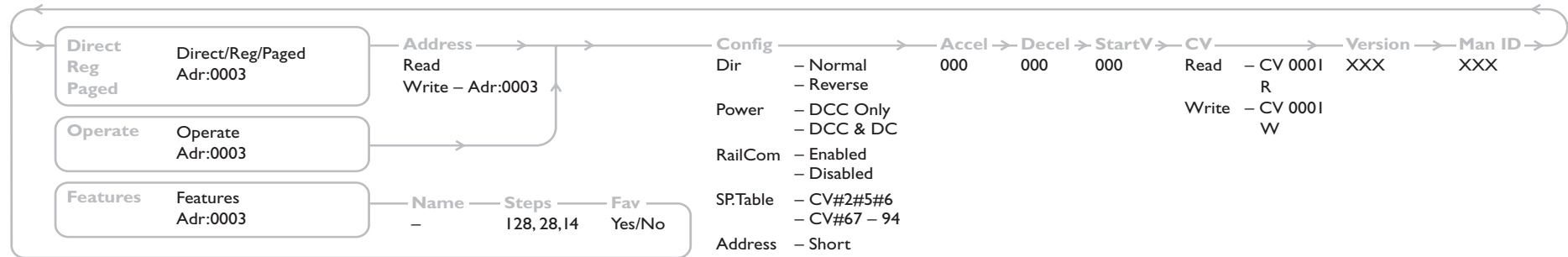
5

The Hornby Elite Menu System Guide

Access the menu options by pressing the **Menu** button on the Elite Unit. ROTATING **Control 1** will cycle through the items shown in **RED**.

Select a menu item by PRESSING **Control 1**. The unit will then display the chosen sub-menu shown in **GREY**.

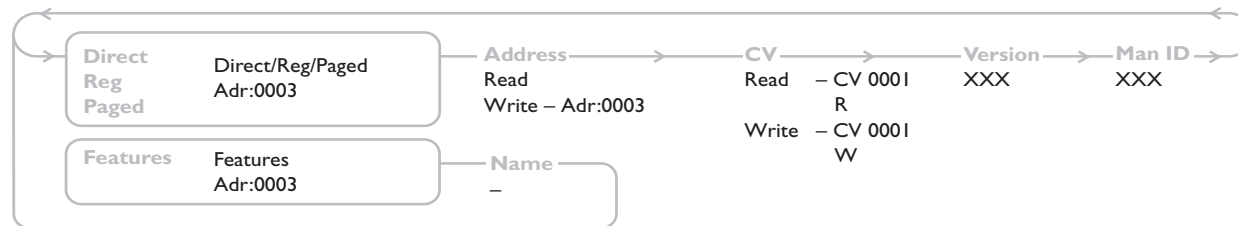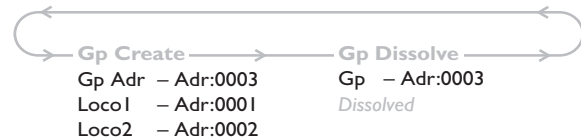Rotate **Control 1** to scroll through the headings.

Loco

| Direct Reg Paged	Direct/Reg/Paged Adr:0003	Address			Config	Accel	Decel	StartV	CV		Version	Man ID
		Read Write – Adr:0003			Dir – Normal – Reverse	000	000	000	Read – CV 0001 R		XXX	XXX
Operate	Operate Adr:0003				Power – DCC Only – DCC & DC				Write – CV 0001 W			
					RailCom – Enabled – Disabled							
Features	Features Adr:0003	Name	Steps	Fav	SP.Table – CV#2#5#6 – CV#67 – 94							
		–	128, 28,14	Yes/No	Address – Short – Extended							
					Decoder – Multi – Acc							

Acc

Direct Reg Paged	Direct/Reg/Paged Adr:0003	Address	CV	Version	Man ID

		Read
		Write – Adr:0003
			Read – CV 0001
			          R
			Write – CV 0001
			          W
				XXX	XXX

Features	Features Adr:0003	Name –			

Unit

Train 0	RailCom	Clock	Set Clk	Clock X	Loco Log	Fav	Language	Reset
On/Off	On/Off	On/Off	00:00	00	Name/Address	On/Off	English French Italian Spanish German	Confirm

Dbl Hdr

Gp Create	Gp Dissolve
Gp Adr – Adr:0003 Loco1 – Adr:0001 Loco2 – Adr:0002	Gp – Adr:0003 *Dissolved*

Acc	Accessory
Accel	Acceleration
Clock X	Clock Speed
CV	Configuration Variable
Dbl Hdr	Double Heading
Decel	Deceleration
Dir	Direction
Fav	Favourite
Gp Adr	Group Address
Gp Create	Group Create
Gp Dissolve	Group Dissolve
Man ID	Manufacturer ID
Operate	Operations Mode
Reg	Register
SP.Table	Speed Table
Start V	Start Voltage
Set Clk	Set Clock

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Making Points 'Live'

The Hornby Elite unit operates most efficiently when the whole of the layout is "live". Hornby points are self isolating therefore it is necessary to fit each point with 2 x R8232 **Hornby DCC Electric Point Clips**. Some of these clips are included in the Hornby DCC sets, further clips are available from Hornby stockists.
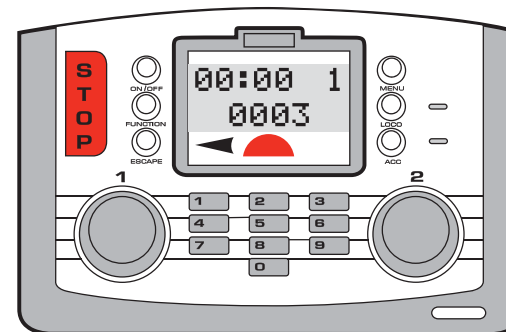
1.

2. 3.
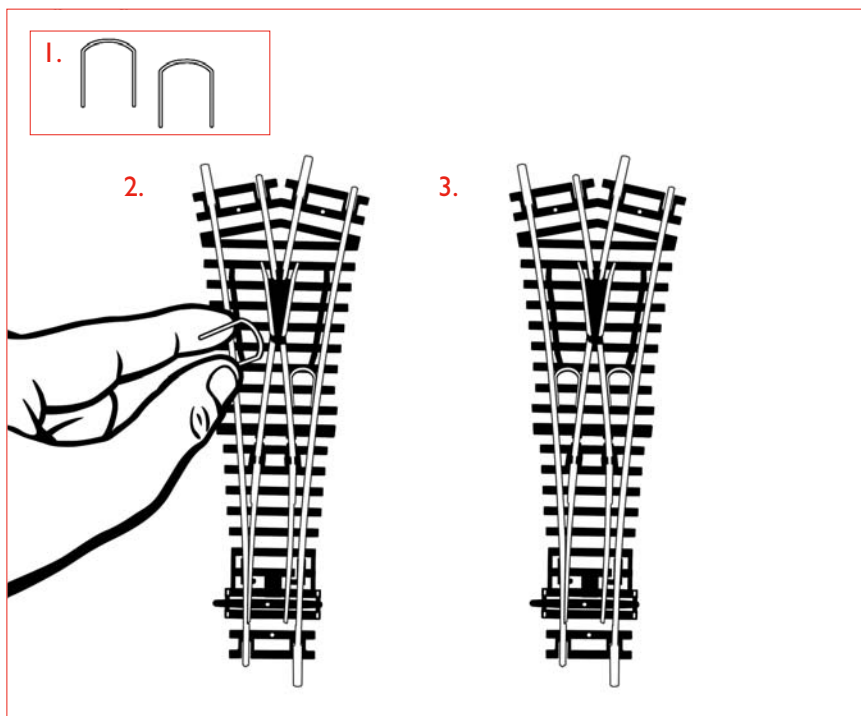
8

Please Note: Always use Hornby Point Motors with Hornby points.

Quick Start

All new factory fitted digital locomotives are programmed No.3 as standard (default).

During the start-up sequence of the **Elite** the LCD will display:

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Using a locomotive programmed as No. 3 please follow these instructions.

1. Place the locomotive on the track.

2. Note that "**0003**" is shown on the LCD (Liquid Crystal Display)

3. Rotate **Control 1** clockwise until the locomotive has reached the desired speed.

4. To slow down and stop the locomotive, rotate **Control 1** anti-clockwise.

5. Direction of travel is controlled by pressing down and releasing **Control 1**.

IT IS IMPORTANT THAT YOU STOP THE LOCOMOTIVE BEFORE CHANGING DIRECTION.

DO NOT REMOVE THE LOCOMOTIVE FROM THE TRACK WHILE IT IS STILL RUNNING. FAILURE TO DO THIS MAY DAMAGE THE LOCOMOTIVE DECODER.

Either **Control 1** or **Control 2** maybe used to either control or programme the selected locomotives or accessories, however for ease of understanding **Control 1** will be used in the majority of examples shown throughout these instructions.

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Second Loco Programming

The Elite Digital unit can support 4 types of locomotive programming modes: **Direct**, **Register**, **Paged** and **Operation**. For definitions please see page 28. As Direct Programming is now considered to be the favoured protocol the following programming instructions are **Direct** based.

Before any programming can commence a Programming Track must be attached to the Elite Unit. A Programming Track will allow for both locomotives and Accessory / Point decoders to be programmed simply and easily. It must be noted that the majority of programming of locomotives and Accessory / Point decoders must be done using the Programming Track and not on the main track.
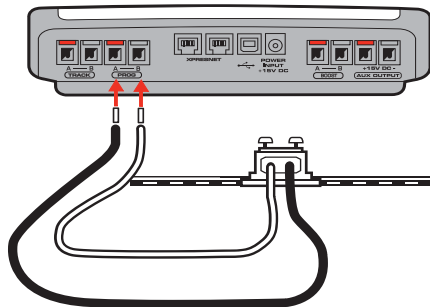
10

1. Connect the **Elite** to the Programming Track as per the diagram.

2. Place the locomotive that you wish to programme on the track.

3. Press **Menu** button on the **Elite**. Screen shows "**Loco**".

   `Loco`

4. Press **Control 1** to confirm. Screen shows "**Direct**".

   `Direct`

5. Press **Control 1** to confirm. Screen shows "**Address**".

   `Address`

6. Press **Control 1** to confirm. Screen shows "**Address Write**".

   `Address Write`

7. Press **Control 1** to confirm. Screen shows "**Adr: 0003**"

   `Address Adr:0003`

8. Rotate to desired number. Press **Control 1** to confirm. For this example choose No. 1.

   `Address Adr:0001`

9. Press **Control 1** once more. Red LED flashes five times. Screen shows "**Address Adr:0001**". After the Red LED has stopped flashing the screen shows "**Address**".

   `Address`

10. The locomotive is now addressed as number 1.

    `00:00 1 0001`

11. To operate the locomotive press **Menu**. Screen shows "**00:00 1 0001**". The clock may vary from 00:00.

12. Place the locomotive on the main track and control as described on page 9.

For more information visit: **www.hornby.com**

Selecting Locomotives to Control

The **Hornby Elite Digital Control** unit can have stored in its memory 254 digitally controlled locomotives and 255 solenoid operated accessories. At any one time the Elite can in theory have running (providing the power is available) or on standby 64 locomotives.

This huge number is far in excess of what would be expected on any model railway layout, however should a 65th locomotive be "called up", one of the previous 64 will be removed from the queue. The locomotive that is returned will be the locomotive that has the lowest current speed address compared to the other 63. Alternatively, if all 64 locomotives are stationary the locomotive with the lowest address will be removed from the queue.

`00:00 2 0003`

`Contr 2 Adr:0004`

1. Press the **Loco** button. The Screen will show the 'active' control knob number on the top row with the default locomotive (number 3) or the last number 'called up' on the second row.

2. Select which **Control** you wish to operate the locomotive – **1** or **2**. For this example **Control 2** will be used and loco 4 selected. Press and then rotate **Control 2** until screen shows "**Contr 2 Adr:0004**"

3. Alternatively to select a loco you can type in the number using the keypad. For this example "**Loco 4**" has been selected.

4. Press and release **Control 2**. Screen shows "**00:00 2 0004**". Rotate **Control 2** and the locomotive will move off. If you wish the loco to move in the opposite direction press **Control 2**. The screen will show that the direction arrow will have changed. See Fig 1.

IT IS IMPORTANT THAT YOU STOP THE LOCO BEFORE CHANGING DIRECTION.

DO NOT REMOVE THE LOCO FROM THE TRACK WHILE IT IS STILL RUNNING. FAILURE TO DO THIS MAY DAMAGE THE LOCOMOTIVE DECODER.
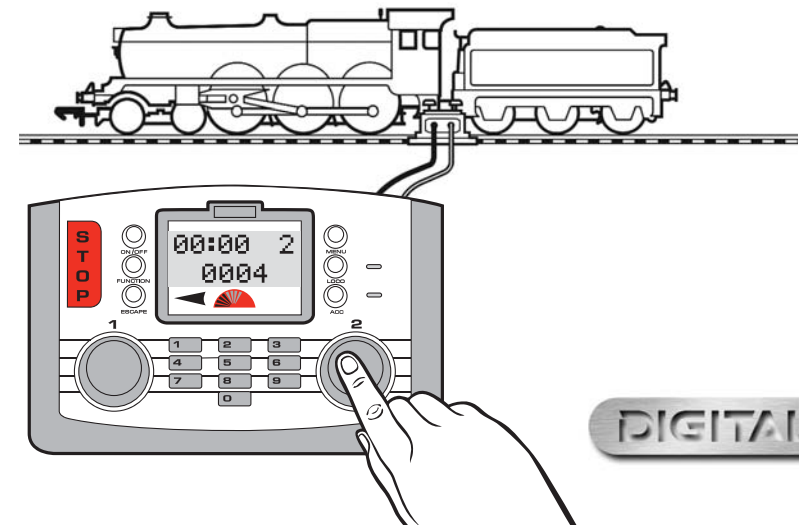
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Fig 1

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Controlling two Locomotives at the same time with the Elite

Allocation

The following procedure illustrates how to allocate specific locomotives to each of the Elite's Controllers.

1. Press **Control 1**. Screen shows "**00:00 1 0003**".

2. Press **Loco**. Screen shows "**Contr.1 Adr:0003**".

3. Rotate **Control 1** until the locomotive required is shown. For this example 10 has been selected.

4. Press **Control 1**. Screen shows "**00:00 1 0010**".

5. Rotate **Control 1** to move the locomotive.

6. To control a second locomotive with **Control 2** press **Control 2**. Screen shows "**00:00 2 0003**" or the last locomotive programmed.

7. Press **Loco**. Screen shows "**Contr 2 Adr:0010**". See Fig 1.

8. Rotate **Control 2** until the locomotive required is shown. For this example 20 has been selected.

9. Press **Control 2**. Screen shows "**00:00 2 0020**".

12
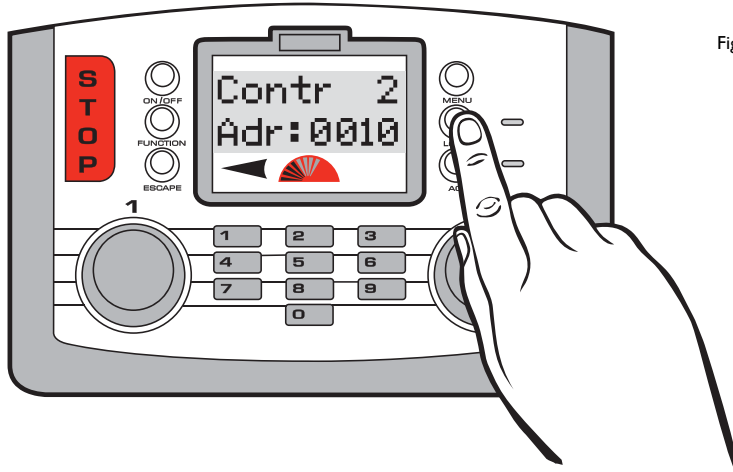
Fig 1

Controlling the Locomotives

1. To operate locomotive 10 turn **Control 1**. Screen changes to show "**00:00 1 0010**". See Fig 1.

2. To operate locomotive 20, turn **Control 2**. Screen changes to show "**00:00 2 0020**". This action will result in locomotive 10 continuing at its set speed. To bring locomotive 10 back under control gently rotate **Control 1**.

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Fig 1

DIGITAL
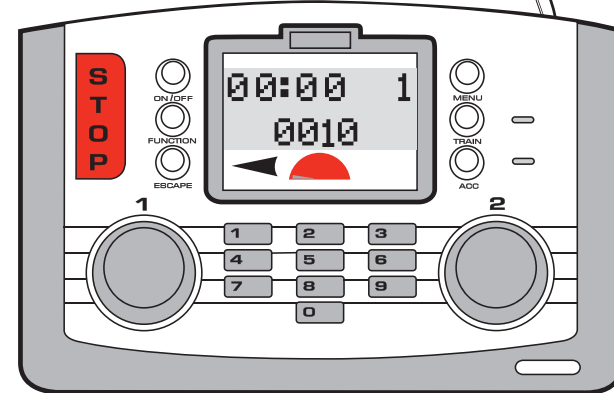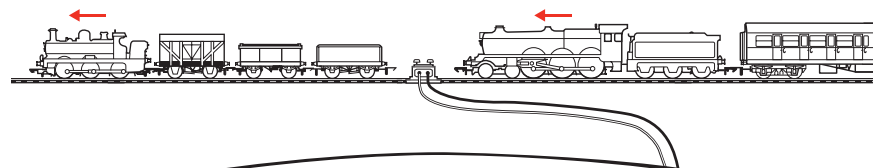
Elite Unit Acceleration Control

Up to 255 acceleration and 255 deceleration levels can be programmed to each locomotive. For this example No. 3 locomotive will be used. Before programming place the locomotive on the Programming Track.

1. Press **Menu** button on the Elite. Screen shows "**Loco**".

2. Press **Control 1** to confirm. Screen shows "**Direct**".

3. Press **Control 1** to confirm. Screen shows "**Address**".

4. Rotate **Control 1** until screen shows "**Accel**".

5. Press **Control 1**. Screen shows "**Accel 000**".

6. Rotate **Control 1** until the desired acceleration level is displayed. Alternatively, you can type in the level using the keypad. The lower the numbers entered the faster the acceleration; the higher the number (maximum 255), the slower the acceleration.

7. Press **Control 1** and the red LED will flash five times. Screen shows "**Accel**". See Fig 1.

8. Press **Menu** to return to the main screen.

Please Note:
1 second per acceleration level (e.g. An acceleration level of 10 equals 10 seconds approximately).

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Fig 1

Elite Unit Deceleration Control

Before programming the deceleration level ensure the locomotive is on the Programming Track.

1. Press **Menu** button on the Elite. Screen shows "**Loco**".

2. Press **Control 1** to confirm. Screen shows "**Direct**".

3. Press **Control 1**. Screen shows "**Address**".

4. Rotate **Control 1** until screen shows "**Decel**". See Fig 1.

5. Press **Control 1** to confirm. Screen shows "**Decel 000**".

6. Rotate **Control 1** until the desired deceleration level is displayed. Alternatively, you can type in the deceleration level using the keypad. The lower the number entered the faster the deceleration; the higher the number, (maximum 255) the slower the deceleration.

7. Press **Control 1**, red LED will flash five times. Screen shows "**Decel**".

8. Press **Menu** to return to the main screen.

Please Note:
1 second per acceleration level (e.g. An acceleration level of 10 equals 10 seconds approximately).

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Fig 1

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Double Heading

Dissolving a Double Headed Consist

Creating a Double Headed configuration (Consist) will require the following procedure. For this example Locos 1 and 2 will be consisted as No. 10. Double Head programming can be done while both locomotives are on the main circuit.
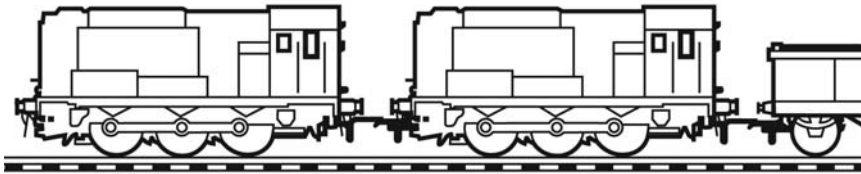
1. Press **Menu** key. Screen shows "**Loco**".

2. Rotate **Control 1** until "**Dbl Hdr**" is displayed on the screen.

3. Press **Control 1** to confirm. The Screen will show either "**Dissolve Gp**" or "**Create Gp**". Rotate **Control 1** until "**Create Gp**" is displayed.

4. Press **Control 1**. Screen shows "**Create Adr: 01**" as a default setting.

5. Decide on an Address / Number that you wish to have as the Double Heading number up to a maximum of 99. For this example 10 has been chosen.

6. Rotate **Control 1** until 10 is displayed. Alternatively you can, using the keyboard type in 10.

7. Press **Control 1** to confirm. Screen shows "**Loco 1 Adr: 0010**".

8. Rotate **Control 1** or type in the number of the first locomotive that you wish to add to the Consist. For this example No. 1 has been chosen.

9. Press **Control 1** to confirm. Screen shows "**Loco2 Adr: 0001**".

10. Rotate **Control 1** until the screen shows "**Loco2 Adr: 0002**".

11. Press **Control 1** to confirm. Screen shows the last locomotive that was operated.

12. To control the Consist press the **Loco** key and rotate **Control 1** until Screen shows "**Contr.:1 Adr:0010**".

13. Press **Control 1** to confirm. Screen shows "**00:00 1 0010**". Rotate **Control 1** both locomotives will now move.

Please Note: For both locomotives to operate in unison it is important that they each have the same acceleration and deceleration levels.

1. Press the **Menu** button and rotate **Control 1** until screen shows "**Dbl Hdr**".

2. Press **Control 1** and rotate until screen shows "**Dissolve Gp**".

3. Press **Control 1**. The screen shows "**Dissolve Adr: 01**".

4. Rotate **Control 1** to show the Consist you wish to dissolve and press **Control 1** to confirm.

5. Screen will then show in sequence "**Dissolve Adr: 10**", "**Adr: 01**", "**Adr: 02**", and finally the screen will show "**Gp Removed**". See Fig 1. If an attempt is made to dissolve a Consist which does not exist the screen will display "**No Member**".

6. The display will return to the main screen automatically "**Dissolve Adr:10**", "**Dissolve Adr: 01**", "**Dissolve Adr: 10**", "**Dissolve Adr: 2**".
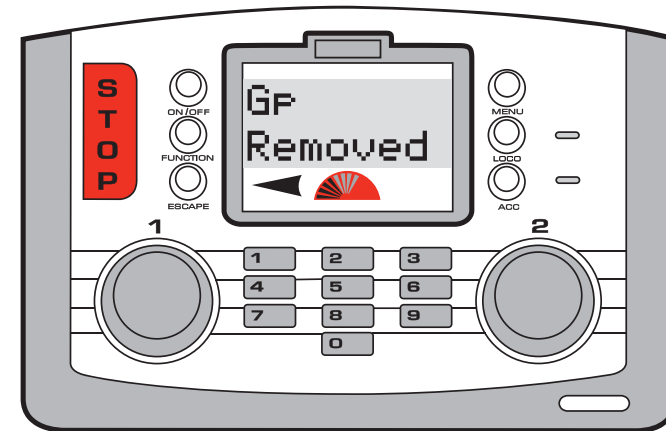
Fig 1

DIGITAL

Function Control

The Elite Digital Control unit is capable of remotely switching on and off up to 13 functions which may have been incorporated into some locomotives. For example the locomotive may be fitted with lights, engine running sounds and a horn or whistle etc. Using the Elite each function can be switched on or off.

1. Select which **Control** you wish to use to operate the locomotive – **1** or **2**. For this example **Control 2** will be chosen.

2. Press and release the **Loco** button.

3. The screen shows either the default number 3 or the number of the last locomotive that was controlled.

4. Rotate **Control 2** until the number of the locomotive you wish to control is displayed. Alternatively you can type in the number using the keypad. For this example "**Loco 1**" will be selected.

5. Press **Control 1** to confirm your selection.

6. Press the **Function** key. The screen will show the locomotive address being used plus "**Func.:00**". See Fig 1.

7. Using the keypad type in the function you wish to operate. (0-12).

8. Press **Control 2** to confirm. The function is now operating. The screen will show the number(s) of the function(s) that are switched on.

9. To switch off the function press the **Function** key then the function number and finally confirm by pressing and releasing **Control 2**.

10. Alternatively to switch off the last function selected press the **On/Off** button located directly above the **Function** button.
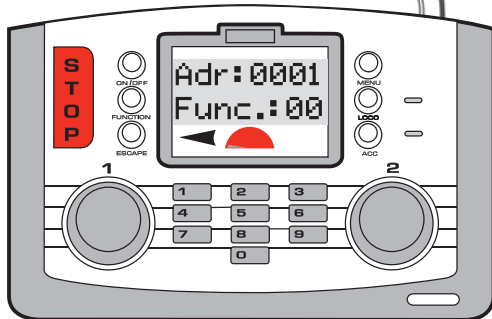
Fig 1

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Naming a Locomotive

Using the Elite alphanumeric keyboard locomotives can not only be given their own unique number but also named. For this example the name "Mallard" will be used.

To Name a Locomotive

1. Press **Menu**. Screen shows "**Loco**".

2. Press **Control 1**. Screen shows "**Direct**".

3. Rotate **Control 1** until screen shows "**Features**".

4. Press **Control 1**. Screen shows "**Features Adr:0001**" or the last locomotive operated. Rotate **Control 1** until loco desired is displayed.

5. Press **Control 1**. Screen shows "**Name**".

6. Press **Control 1**. Press **6** twice. Screen shows "**M**".

7. Press **2** twice. Screen shows "**MA**".

8. Press **5** four times. Screen shows "**MAL**".

9. Press **5** four times. Screen shows "**MALL**".

10. Press **2** twice. Screen shows "**MALLA**".

11. Press **7** four times. Screen shows "**MALLAR**".

12. Press **3** twice. Screen shows "**MALLARD**".

13. Should a mistake be made or you wish to remove the name rotate **Control 1** anti-clockwise so that the cursor is underneath the incorrect letter. Press **0** twice and the letter will disappear then continue as above.

14. Press **Control 1** to confirm. "**Name**" is displayed. Press **Menu** to return to the main screen.

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Speed Step Change

There may be occasions when locomotives fitted with older generation decoders may be required to be controlled by the **Elite**. Some of these locomotives may require to be "tuned" to the Elite. NB: There are basically three main levels of speed steps, 14, 28 and 128. The greater the number of speed steps the smoother the acceleration. All Hornby decoders are factory set at 128 steps. Locomotive 1 will be used in this example. To alter the Speed Steps place the locomotive on the Programming Track and follow the instructions below.

1. Press **Menu**. Screen shows "**Loco**".

2. Press **Control 1**. Screen shows "**Direct**".

3. Rotate **Control 1** until screen shows "**Features**". Press **Control 1**.

4. Screen shows "**Features Adr:0003**" or the number of the last locomotive 'called up'.

5. Rotate **Control 1** to the locomotive number required.

6. Press **Control 1**. Screen shows "**Name**".

7. Rotate **Control 1** until screen shows "**Steps 128**". Press **Control 1**.

8. Rotate **Control 1** until the desired setting is displayed.

9. Press **Control 1** to confirm. Screen shows the steps selected.

10. Press **Menu** to return to the main screen.

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Emergency Stop

If not properly managed running multiple locomotives on one layout can create the potential for accidents and collisions to occur. To help avoid such incidents the **Hornby Elite Digital Control** unit features an Emergency Stop button. Pressing this button causes all activity on the layout to cease.

Emergency Stop Procedure

1. Press the **STOP** button located on the Elite Unit. See Fig 1.

2. The screen will show "**E. Stop**" (Emergency Stop).

3. All activity on the layout will cease.

4. Allow at least 5 seconds to pass before restoring the power. Press **STOP** again to restore power to the layout.

5. To commence movement each locomotive will need to be reselected individually to either of the controls. This will give the operator time to reorganise each locomotive's movements.

Please Note:
The locomotive that was last under direct control before the **STOP** button was pressed will function again if the Controller is rotated.
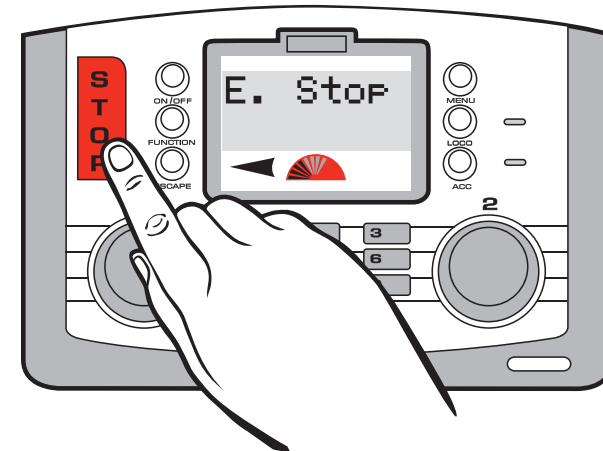
21

Fig 1

Analogue Locomotive Control

It is possible but not recommended that a locomotive that is not fitted with a decoder (analogue) can be operated on a digital layout. This locomotive is given the address "0".

Choose either **Control 1** or **2**.

1. Press the **Loco** key and either rotate the chosen control knob or type in "**0**".

2. Press and release the selected control knob.

3. "**Loco 0**" can now be controlled.

4. Rotate the selected control knob. "**Loco 0**" will move forward. Press and release the selected control knob and the locomotive will reverse.

5. It must be noted that the control of a locomotive which is not fitted with a decoder is noisy and does not support smooth control.

Please Note:

If a digital locomotive is called up for operation the analogue locomotive will continue to run at the speed set prior to the digital locomotive being operated.

It is not possible to program into an analogue locomotive acceleration or deceleration levels.

When an analogue locomotive is placed on the tracks it will emit a high pitched noise when stationary which will become louder when running – this is normal! Only one analogue locomotive (0) can be run on a digital layout at anyone time.
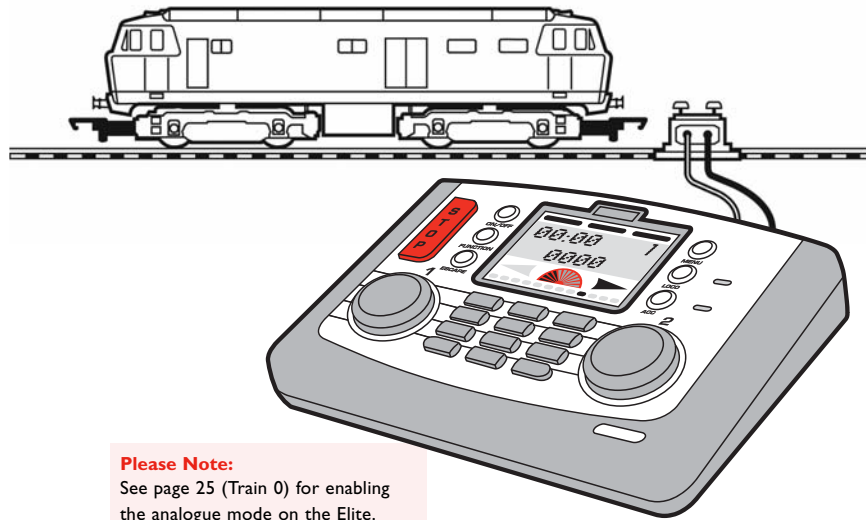
Please Note:
See page 25 (Train 0) for enabling the analogue mode on the Elite.

For more information visit: www.hornby.com

Changing Locomotive Direction Setting

The default direction of the locomotive can be altered using the Elite without taking it off the main track and to do this the following procedure will need to be used.

1. Press **Menu** button. Screen shows "**Loco**".

2. Press **Control 1** to confirm. Screen shows "**Direct**".

3. Rotate **Control 1** until "**Operate**" is displayed.

4. Press **Control 1**. Screen shows "**Operate Adr:0003**" or the last locomotive operated.

5. Press **Control 1**. Screen shows "**Config**".

6. Press **Control 1**. Screen shows "**Dir Normal**".

7. Rotate **Control 1** to show "**Normal**" or "**Reversed**". Select the preferred direction.

8. Press **Control 1** to confirm.

9. Press **Control 1** six times to skip further options. Screen shows "**Config**". See Fig 1.
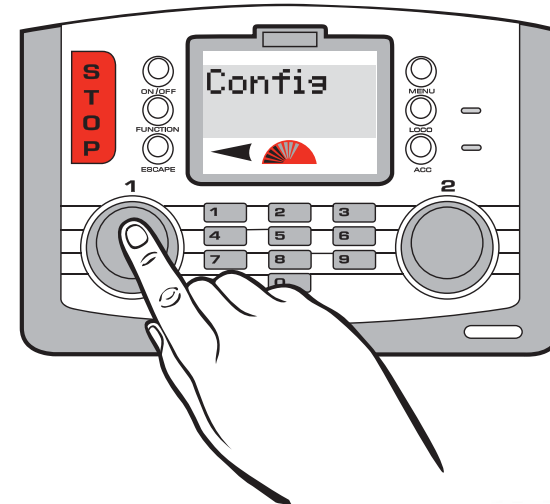
10. Press **Menu** to return to the main menu.

Fig 1

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Setting Up the Elite Unit & Loco Programming Features

Having now experienced the initial control and programming abilities of the Hornby Elite the next section of this instruction book is to explain the many additional features that this unit has to offer.

The Elite has several features that will need to be activated before the full potential of the unit can be experienced. The following are simple set up procedures for both the Hornby Elite Unit and locomotive programming.

Analogue Loco Enabled / Disabled

1. Press **Menu**. Screen shows "**Loco**". Rotate **Control 1** until "**Unit**" is displayed.

2. Press **Control 1**. Screen shows "**Train 0**". This setting is to enable / disable the use of an analogue locomotive with the Elite.

3. Press **Control 1**. Screen shows "**Train 0 Off**". See Fig 1.

4. Rotate **Control 1**. Screen shows "**Train 0 On**".

5. Press **Control 1** when you have decided if you wish the analogue function to be **On** or **Off**. Screen reverts back to "**Train 0**".
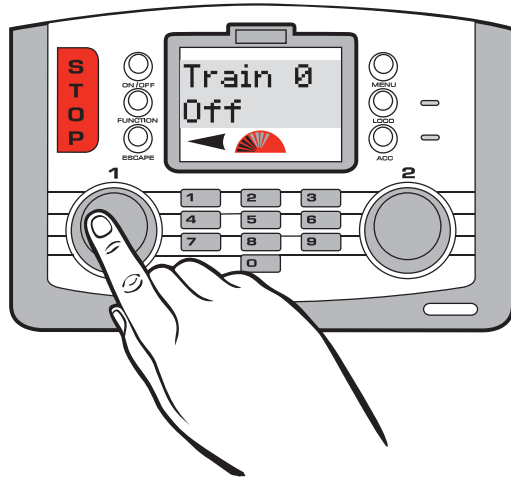
6. Press **Menu** to return to the main screen.

Fig 1

For more information visit: **www.hornby.com**

RailCom® Enabled / Disabled

With digital control the controller in simple terms talks or sends commands to each locomotive individually. The locomotive responds by basically doing what it is told! **RailCom®** which is a registered design and development by Lenz GmBh allows the locomotives to talk to the controller. For example the locomotive can return information to the controller such as speed and details on the load that is being pulled. This and much more will be available in the future. At the time of writing these instructions the operating protocol for RailCom® is still being developed, although like the Elite, products are being introduced onto the market to support RailCom® once the full protocol has been finalised.

It should be noted that the Hornby R8215 does not support RailCom® therefore if programming this decoder or any other that does not support RailCom®, the RailCom® setting while programming a locomotive should be set to "**Off**". i.e. "**Loco**" – "**Unit**" – "**RailCom**" – "**RailCom Off**".

1. Press **Menu**. Screen shows "**Loco**". Rotate **Control 1** until "**Unit**" is displayed. Press **Control 1** to confirm.

2. Rotate **Control 1** until screen shows "**RailCom**".

3. Press **Control 1**. Screen shows "**RailCom On**" or "**RailCom Off**".

4. Rotate **Control 1** clockwise so that the screen shows "**RailCom Off**".

5. Choose if you wish to have RailCom enabled or disabled and press **Control 1** accordingly. Screen shows "**Railcom**".

6. Press **Menu** to return to the main screen.

Clock Enabled / Disabled

1. Press **Menu**. Screen shows "**Loco**". Rotate **Control 1** until screen shows "**Unit**".

2. Press **Control 1** and, if necessary, rotate until screen shows "**Train 0**".

3. Rotate **Control 1** until screen shows "**Clock**".

4. Press **Control 1**. Screen shows "**Clock On**".

5. Rotate **Control 1** to alternate between "**Clock On**" or "**Clock Off**". Select the desired setting.

6. Press **Control 1** to confirm. Screen shows "**Clock**".

7. Press **Menu** to return to the main screen.

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Clock Setting

Please note that the clock will immediately start functioning as soon as the Elite is powered up, therefore some of the clock times that you see on the main screen may not correspond with the graphic interpretations of the main screen shown throughout these instructions.

Set Clock in Real Time

1. Press **Menu**. Screen shows "**Loco**". Rotate **Control 1** until "**Unit**" is displayed.
2. Press **Control 1** and, if necessary, rotate until screen shows "**Train 0**".
3. Rotate **Control 1** until "**Set Clk**" is displayed.
4. Press **Control 1**. "**Set Clk 00:00**" is displayed.
5. To set the hours rotate **Control 1** clockwise until the desired hour has been reached.
6. To set the hours rotate **Control 2** clockwise. The hour is now set and the minutes will flash.
7. Rotate **Control 1** to the minutes required and press to confirm. Screen shows "**Set Clk**".
8. If the hour setting is incorrect, rotate **Control 2** anti-clockwise until the hours flash and reset.
9. Press **Menu** to return to the main screen.

Set Clock in Scale Time

The Clock has the ability to be set at the actual time level or up to 10 times faster, 10 being the fastest. Having set the time you may now wish to increase the speed of the clock.

1. Press **Menu**. Screen shows "**Loco**". Rotate **Control 1** until "**Unit**" is displayed.
2. Press **Control 1** and, if necessary, rotate until screen shows "**Train 0**".
3. Rotate **Control 1** until screen shows "**Clock X**".
4. Press **Control 1**. Screen shows "**Clock X 00**".
5. Rotate **Control 1** until the speed level required is shown on the screen and press to confirm. Screen shows "**Clock X**".
6. Press **Menu** to return to main screen.

For more information visit: **www.hornby.com**

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Loco Log or Search Function

When there are numerous stationary locomotives on the same track at the same time it is quite easy to become confused as to the numbers of the locomotives on the track. The following Loco Search or Log Function is a very useful application should this happen. The following is the procedure to allow you to do this using Locomotive 1 as an example.

1. Press **Menu**. Screen shows "**Loco**".
2. Rotate **Control 1**. Screen shows "**Unit**".
3. Press **Control 1** to confirm. Rotate, if necessary, until screen shows "**Train 0**".
4. Rotate **Control 1** until screen shows "**Loco Log**". Press **Control 1** to confirm.
5. Screen shows "**Loco Log Address**" or "**Loco Log Name**". Rotate **Control 1** to show "**Loco Log Address**".
6. Press **Control 1** and type in the locomotive number you are looking for and press **Control 1** to confirm.
7. Watch for movement on your layout. The locomotive that you are searching for will move slightly forwards and/or backwards. See Fig 1.
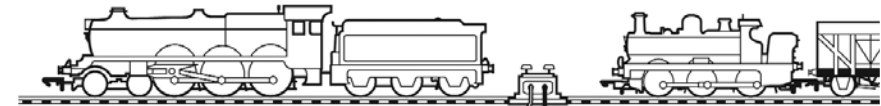8. Once you have located the locomotive press **Menu** to return to the main screen.

Please Note:
Should you have named the locomotive then use the procedure above to locate the locomotive only typing in the name rather than the locomotive's address.

Fig 1

Alternative Programming Modes

As well as supporting the more common **Direct Programming Mode**, the Elite also supports **Register Programming Mode**, **Paged Programming Mode** and **Operate Programming Mode**. The following describes how each mode can be accessed with the Elite Digital unit.

Register Programming Mode

1. Press **Menu**. Screen shows "**Loco**". Press **Control 1** to confirm. Screen shows "**Direct**".

2. Rotate **Control 1** until screen shows "**Reg**" and press **Control 1** to confirm.

3. Screen shows "**Address**". Press **Control 1** to confirm.

4. Screen shows "**Address Write**".

5. Press **Control 1** to confirm. Screen shows "**Address Adr:0003**" or

the last locomotive selected. Enter the locomotive number you wish to programme. Press **Control 1** to confirm. Red LED flashes up to seven times. Screen shows "**Address**".

6. Return the loco to the main track. To operate the locomotive press **Menu**. Screen shows "**00:00 1 0003**" or the locomotive that was programmed.

Please Note:
Use on Programming Track only.

Paged Programming Mode

1. Press **Menu**. Screen shows "**Loco**". Press **Control 1** to confirm. Screen shows "**Direct**".

2. Rotate **Control 1** until screen shows "**Paged**" and press **Control 1** to confirm.

3. Screen shows "**Address**". Press **Control 1** to confirm.

4. Screen shows "**Address Write**".

5. Press **Control 1** to confirm. Screen shows "**Address Adr:0003**" or

the last locomotive selected. Enter the locomotive number you wish to programme. Press **Control 1** to confirm. Red LED flashes up to seven times. Screen shows "**Address**".

6. Return the loco to the main track. To operate the locomotive press **Menu**. Screen shows "**00:00 1 0003**" or the locomotive that was programmed.

Please Note:
Use on Programming Track only.

Operate Programming Mode

The **Operate Mode** can be used to change a locomotive's CVs, i.e. Acceleration/Deceleration, etc. while the locomotive is on the main line, i.e. not on Programming Track. However the **Operate Mode** will not allow you to change the locomotive's address (CV 1) either on the main line or on a Programming Track. See pages 37/39.

For more information visit: **www.hornby.com**

Using the Locomotive Favourites Setting

The Favourites setting on the **Hornby Elite** is an extremely useful function for those who have a large stable of locomotives or who use an array of 4 digit ID numbers. Most modellers have special locomotives that they always use (Favourites) and these can be 'marked' accordingly when first programmed to the Hornby Elite with up to 254 locomotives being able to be listed as Favourites.

For the Elite to show just those locomotives that are on the Favourites list the "**Fav**" setting should be set to "**On**". To do this the following procedure should be followed.

Please Note: Before any additional locomotives can be programmed the Favourites setting should be switched to "**Off**".

Locomotive Favourite Listing and Enable/Disable Setting

1. Press **Menu**. Screen shows "**Loco**".

2. Rotate **Control 1** until screen shows "**Unit**".

3. Press **Control 1** to confirm. Screen shows "**Train 0**". This may vary depending on the last action taken in this mode. However, rotate **Control 1** until "**Fav**" is displayed.

4. Press **Control 1**. Screen shows "**Fav Off**" or "**Fav On**".

5. Rotate **Control 1** to either "**Fav On**" or "**Fav Off**".

6. Press **Control 1** to confirm. Screen shows "**Fav**".

7. Press **Menu** to return to the main screen.

Please Note:
"**Fav On**" means that only those locomotives that are on your favourites list will be able to be called up and operated.

"**Fav Off**" means that all locomotives are available for operation.

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Using the Locomotive Favourites Setting (continued)

Locomotive Favourite Programming

Now that the Favourite (**Fav**) function has been enabled locomotives required to be placed on the Favourite List can be programmed as follows using Locomotive 1 as an example:

1. Press **Menu**. Screen shows "**Loco**".

2. Press **Control 1**. Screen shows "**Direct**".

3. Rotate **Control 1** until screen shows "**Features**".

4. Press **Control 1**. Screen shows "**Features Adr: 0003**" or the last used locomotive address.

5. Enter the locomotive address you wish to add as a favourite using **Control 1** or the numeric keypad.

6. Press **Control 1**. Screen shows "**Name**".

7. Rotate **Control 1** until screen shows "**Fav**".

8. Press **Control 1**. Screen shows "**Fav No**". See Fig 1.

9. If you wish the locomotive to be added to your Favourite list rotate **Control 1** until "**Fav Yes**" is shown. Press **Control 1** to confirm. Screen shows "**Fav**".

10. Press **Menu** to return to the main screen.

Please Note:

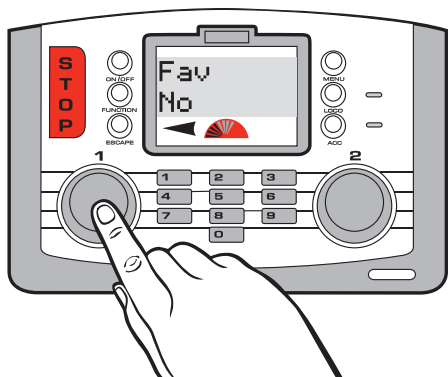To call up locomotives that are not on the Favourite list the Favourite setting must be switched off. See page 29.

Fig 1

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Advanced Locomotive Programming Settings

The following describes and provides direction for the overall programming of a locomotive as well as providing instruction on programming **Direct CV** settings to both locomotives and accessories.

It is important to note the **Elite** is capable of changing the CVs on decoders, however not all decoders have the facility for their CVs to be changed. Therefore it is important to check the specifications of the decoder first before trying to change any of the CVs.

Step 1: Direction

It is a commonly accepted practice in the United Kingdom that when a locomotive is in operation, other than when shunting, the front of the locomotive normally faces left. This is easy to determine when operating steam locomotives but not quite so obvious when a diesel or electric locomotive has double cabs. As a rough guide the front of a diesel has the roof fan closest to the front, while an electric locomotive's front is determined by having the pantograph furthest away. These are general guides but are not necessarily absolute.

After assigning an address to a locomotive, it may not move in the direction indicated by the arrow shown on the main screen. This can be corrected by the following procedure. Although the following instructions show the programming in Direct mode changing direction can be done on the main line using the Operate mode.

1. Press **Menu**. Screen shows "**Loco**".

2. Press **Control 1**. Screen shows "**Direct**".

3. Press **Control 1**. Screen shows "**Address**".

4. Rotate **Control 1** until screen shows "**Config**".

5. Press **Control 1**. Screen shows "**Dir Normal**". By rotating **Control 1** the screen shows either "**Dir Normal**" or "**Dir Reversed**". For this example rotate the **Control 1** until screen shows "**Dir Normal**" and press **Control 1** to confirm.

Step 2: Power

6. Screen shows "**Power DCC Only**" or "**Power DCC & DC**". Please note that "**DCC Only**" means that the Elite will support only digital equipped locomotives. (This is a default setting).

"**DCC & DC**" means that the Elite supports digital or analogue locos.

7. For this example rotate **Control 1** so that screen shows "**Power DCC Only**". Press **Control 1** to confirm.

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Step 3: RailCom® See pages 24 and 38 for further explanation of RailCom®

8. Screen will now show as a default "**RailCom Disable**".

9. Rotate **Control 1** until screen shows "**RailCom Enable**".

Please Note:
If the decoder used is RailCom® equipped then press **Control 1** to confirm. If not rotate **Control 1** until "**RailCom Disable**" is displayed and press **Control 1** to confirm.

Step 4: Speed Curve Settings See page 36 for further details on adjusting the speed curve

10. Having pressed **Control 1** to confirm the screen will now show "**SP. Table CV#2#5#6**". Rotate **Control 1** until screen shows "**SP. Table CV#67–94**".

Please Note:
CV#2 #5 #6: Some decoders use CV2, CV5 and CV6 as speed curve.
CV#67 – 94: Some decoders use CV67 – CV94 as speed curve. Check the information provided with your decoder for the appropriate CV numbers. Choose the correct setting and press **Control 1** to confirm.

Step 5: Short/Extended Addresses

11. Having pressed **Control 1** to confirm the screen shows "**Address Short**". Rotate **Control 1** until screen shows "**Address Extended**".

Please Note:
A Short Addressed locomotive uses CV1 as addresses from 1 – 127. An Extended Addressed locomotive uses CV17 & CV18 as addresses from 128 – 9999. Check the information supplied with the decoder for the correct setting. Choose the correct setting and press **Control 1** to confirm.

Step 6: Decoder Type

12. Having pressed **Control 1** to confirm the screen shows "**Decoder Multi**".

13. Rotate **Control 1** until "**Decoder Acc**" is shown.
Please Note:
"**Decoder Multi**" – specific to locomotives.
"**Decoder Acc**" – specific to accessory decoders.

14. For this example choose "**Decoder Multi**" and press **Control 1**. The red LED will flash five times and the screen will show "**Config**".

15. Press **Menu** to return to the main screen.

Please Note:
Should you use **Operate** mode the LED will not flash.

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Start Up Voltage Programming (CV)

Not all electric motors have the same start up voltage requirements. This means that some Digital locomotives may require their decoders to be adjusted to compensate for the type of motor used. The Hornby Elite has therefore been designed to provide the facility for the adjustment of the Start Up voltage which can be programmed into the decoder in up to 255 steps. The lower the number, the lower the start up voltage, however several attempts to find the optimum Start Up voltage maybe required. Locomotive 1 will be used in this example. Place the locomotive on the Programming Track.

1. Press **Menu**. Screen shows "**Loco**".

2. Press **Control 1**. Screen shows "**Direct**".

3. Press **Control 1**. Screen shows "**Address**".

4. Rotate **Control 1** until "**Start V**" is shown.

5. Press **Control 1**. Screen shows "**Start V 000**".

6. Either rotate **Control 1** until the required number is displayed or using the keypad type in the required level, e.g. 10. Screen shows "**Start V 010**".

7. Press **Control 1**. Red LED will flash five times. Screen shows "**Start V**".

Alternatively the Start Up Voltage may be adjusted using the **Operate Mode** while the locomotive is on the main line. It must be noted that once the Start Up figure has been input and **Control 1** is pressed to confirm the red LED will not flash.

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Adjusting the Speed Curve

The speed curve on both the CV#2#5#6 and CV#67-94 are factory set and therefore the acceleration and deceleration will be consistent, however it is possible to adjust each CV to allow for a different acceleration / deceleration progression providing the decoder being used is suitable for adjustment. Please note that CV#2#5#6 provides a more basic acceleration / deceleration progression while the CV#67 – 94 allows for a much finer speed curve adjustment. Before adjusting any of the Speed Curve CVs it is advisable to produce a graph particular to the locomotive you wish to programme showing how you see the speed curve progressing.

This can be achieved by using graph paper and breaking each CV value into 255 segments. Once this has been drawn plot the speed curve making a note of each of the revised CV settings. Once you have drawn on the graph the speed curve you require you can then start to install the CVs onto the locomotive decoder via the "CV Write" facility on the Elite. It is worth noting that there are several third party 'software' packages which can help plot a Speed Curve which may be more preferable than using graph paper.

To Alter CV Settings

Decide on which CV grouping is best suited to the decoder being programmed. For this example CV#67 – 94 will be used.

1. Press **Menu**. Screen shows "**Loco**".

2. Press **Control 1**. Screen shows "**Direct**".

3. Press **Control 1**. Screen shows "**Address**".

4. Rotate **Control 1** until screen shows "**CV**".

5. Press **Control 1**. Screen shows "**CV Write**".

6. Press **Control 1**. Screen shows "**CV 0001 W**".

7. Rotate **Control 1** until screen shows "**CV 0067 W**". Press **Control 1** to confirm.

8. Screen shows "**CV 0067 W 000**". Rotate **Control 1** to choose the value of the CV setting (0 – 255) and press to confirm.

9. The red LED will flash confirming that the change has been accepted. Should the LED flash eight times this will denote that the programming has not been accepted. Try again.

10. Follow the above procedure working gradually through the CV settings.

Please Note:
It is advisable that before changing the factory settings that you plot the speed curve you require on graph paper or a suitable computer programme to avoid uncharacteristic acceleration / deceleration levels.

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Changing and Reading CVs

There may occasions when a decoder CVs may need to be altered. This can be achieved by following the directions below.

Please Note: Not all decoders have the ability to have their CVs changed. Please refer to the specification sheet supplied with the decoder which will show which CVs can be adjusted.

For simplicity the following example shows the adjustment of CV4 (Deceleration).

1. Press **Menu**. Screen shows "**Loco**".

2. Press **Control 1**. Screen shows "**Direct**".

3. Press **Control 1**. Screen shows "**Address**".

4. Rotate **Control 1** until screen shows "**CV**".

5. Press **Control 1**. Screen shows "**CV Write**".

6. Press **Control 1**. Screen shows "**CV 0001 W**".

7. Rotate **Control 1** until screen shows "**CV 0004 W**".

8. Press **Control 1** to confirm. Screen shows "**CV 0004 W 000**".

9. Rotate **Control 1** to adjust the setting of your choice **1 – 255**. Press **Control 1** to confirm. Red LED flashes five times. Screen returns to show "**CV**".

10. Press **Menu** to return to the main screen.

Please Note:
To read a decoder's CVs it is important that RailCom® is enabled on both the Elite and the decoder.

Note that not all decoders are capable of having their CVs read. Please refer to the specification sheet supplied with the decoder.

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Changing and Reading CVs (continued)

Changing CVs on the Main Line

Some CVs can be altered or read in **Operate Mode** which means that the locomotive can be left on the main line. The procedure to do this is as follows. As an example the Acceleration CV (CV3) will be adjusted.

1. Press **Menu**. Screen shows "**Loco**".

2. Press **Control 1**. Screen shows "**Direct**".

3. Rotate **Control 1** until screen shows "**Operate**".

4. Press **Control 1** to confirm. Screen shows "**Operate Adr:0003**" or the last locomotive number operated.

5. Rotate **Control 1** until screen shows the number of the locomotive whose CV you wish to adjust. In this example number 10 has been chosen. Press **Control 1** to confirm.

6. Screen shows "**Config**". Rotate **Control 1** until "**CV**" is shown and press **Control 1** to confirm.

7. Screen shows "**CV Write**". Press **Control 1** to confirm. Screen shows "**CV 0001 W**".

8. Rotate **Control 1** until "**CV 0003**" is shown.

9. Press **Control 1** to confirm. Screen shows "**CV 0003 W 000**".

10. Rotate **Control 1** to adjust the setting of your choice **1 – 255.**

11. Press **Control 1** to confirm. Screen shows "**CV**".

12. Press **Menu** to return to the main screen.

Please Note:
The red LED will not flash.

Reading CVs on Programming Track

The following example is for the reading of CV3 (Acceleration) and must be executed with the locomotive on a Programming Track.

1. Press **Menu**. Screen shows "**Loco**".

2. Press **Control 1**. Screen shows "**Direct**".

3. Press **Control 1**. Screen shows "**Address**".

4. Rotate **Control 1** until screen shows "**CV**".

5. Press **Control 1**. Screen shows "**CV Write**".

6. Rotate **Control 1** until screen shows "**CV Read**".

7. Press **Control 1**. Screen shows "**CV 0001 R**".

8. Rotate **Control 1** until the screen shows "**CV 0003 R**". Should the screen show "**XXX**" this will denote that the CV could not be read. If this occurs refer to the decoder's specification sheet.

9. Press **Control 1**. The red LED will light while the decoder is being read. Screen shows "**CV 0003 R**" and the number that CV3 was programmed as.

Please Note:
To read CVs it is important that RailCom® is enabled on both the Elite and the decoder you wish to read.

Note that not all decoders are capable of having their CVs read. Please refer to the specification sheet supplied with the decoder.

Changing and Reading CVs (continued)

Reading CVs on the Main Line

The following example is for the reading of CV4 (Deceleration) using **Operate Mode**, i.e. on the main line.

1. Press **Menu**. Screen shows "**Loco**".

2. Press **Control 1**. Screen shows "**Direct**".

3. Rotate **Control 1** until screen shows "**Operate**".

4. Press **Control 1** to confirm. Screen shows "**Operate Adr:0003**" or the last locomotive number operated.

5. Rotate **Control 1** until screen shows the number of the locomotive whose CV you wish to adjust. In this example number 20 has been chosen. Press **Control 1** to confirm.

6. Screen shows "**Config**". Rotate **Control 1** until "**CV**" is shown and press **Control 1** to confirm.

7. Screen shows "**CV Write**".

8. Rotate **Control 1** until "**CV Read**" is shown and press **Control 1** to confirm.

9. Screen shows "**CV 0001 R**".

10. Rotate **Control 1** until screen shows "**CV 0004 R**" and press **Control 1** to confirm.

11. The red LED will light while the decoder is being read. Screen shows "**CV 0004 R**" and the number that CV4 was programmed as.

12. Press **Menu** to return to the main screen.

Please Note:
To read CVs it is important that RailCom® is enabled on both the Elite and the decoder you wish to read.

Note that not all decoders are capable of having their CVs read. Please refer to the specification sheet supplied with the decoder.

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Accessory Programming (Acc)

To programme a **Hornby R8216 Accessory/Point Decoder** the **Register Mode** must be selected. For third party Accessory/Point Decoders an alternative programming mode may be required. In this instance please refer to the programming information supplied with the third party Accessory/Point Decoder.

Step 1: Allocation of Programming Numbers

1. Press **Menu** and rotate **Control 1** until "**Acc**" is displayed.

2. Press **Control 1** to confirm. Screen shows "**Direct**".

3. Rotate **Control 1** until "**Reg**" is shown and press **Control 1** to confirm. Screen shows "**Address**".

4. Press **Control 1** to confirm. Screen shows "**Address Write**".

5. Press **Control 1** to confirm. Screen shows "**Address Adr:0000**".

6. Rotate **Control 1** until the address you wish to use is displayed. If you are setting up your layout it is best to start with "1".

7. Press **Control 1** to confirm. The red LED will flash several times to denote acceptance. (If the LED flashes eight times or more the number has not been accepted.) Screen shows "**Address**".

8. Should you wish not to name the point / accessory press **Menu** to return the main screen, however if you do, follow instructions as shown in Step 2 on page 23.

Please Note:
If using a Hornby Points / Accessory Decoder it is advisable for consistency that the first point motor / accessory is addressed as number **1**. Once addressed the other three outlets will be automatically programmed 2, 3, 4. Thereafter all further Hornby accessory / point decoders should be programmed in consecutive blocks of 4 (i.e. 5, 6, 7, 8).

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Step 2: Naming of the Accessory

Using the Elite it is possible to name all accessories / points that are digitally operated.

1. Press **Menu** and rotate **Control 1** until screen shows "**Acc**".

2. Press **Control 1** to confirm. Screen shows "**Direct**".

3. Rotate **Control 1** until screen shows "**Features**" and press **Control 1** to confirm.

4. Screen shows "**Features Adr:0000**" and the number of the last accessory used. Rotate **Control 1** to the accessory number you wish to name and press **Control 1** to confirm.

5. Screen shows "**Name _**". For this example the name "**POINT 5**" will be used.

6. Press **7** twice. Screen shows "**P**".

7. Press **6** four times. Screen shows "**PO**".

8. Press **4** four times. Screen shows "**POI**".

9. Press **6** three times. Screen shows "**POIN**".

10. Press **8** twice. Screen shows "**POINT**".

11. Press **0** twice. Screen shows "**POINT**".

12. Press **5** once. Screen shows "**POINT 5**".

13. Press **Control 1** to confirm. Screen shows "**Direct**".

14. Press **Menu** to return to the main screen.

Please Note:
Should a mistake be made rotate **Control 1** anti-clockwise so that the cursor moves back one position below the incorrect letter. Press **0** twice and the letter will disappear then continue as above.

Controlling Accessories

The Elite Control unit is capable of controlling 252 accessory/turnout addresses.

1. Press **Acc**. Screen shows the last accessory operated.

2. Press **Acc** again if an alternative accessory is required. Screen shows "**Contr. :1**" or "**2**" "**Adr:0003**" or the last accessory operated.

3. Rotate either **Control 1** or **2** until the number of the accessory/point you wish to operate is shown. Press the appropriate **Control** to confirm.

4. Press and release the selected control knob. Accessory / point will change direction together with the arrow symbol on the screen.

For more information visit: **www.hornby.com**

Accessory Decoder Direct CV Programming

1. Press **Menu**. Screen shows "**Loco**".

2. Rotate **Control 1** until screen shows "**Acc**".

3. Press **Control 1**. Screen shows "**Direct**".

4. Press **Control 1** to confirm. Screen shows "**Address**".

5. Rotate **Control 1** until screen shows "**CV**". Press **Control 1**. Screen shows "**CV Write**".

6. Press **Control 1** to confirm. Screen shows "**CV 0001 W**". 0001 is the default setting.

7. Press **Control 1**. Screen shows "**CV 0001 W 000**". See Fig 1.

8. Rotate **Control 1** until the CV you wish to change is shown.

9. Press **Control 1**. Rotate **Control 1** to enter the new value for your chosen CV. Press **Control 1** to confirm.

10. Press **Control 1**. Red LED flashes five times and screen shows "**Address**".
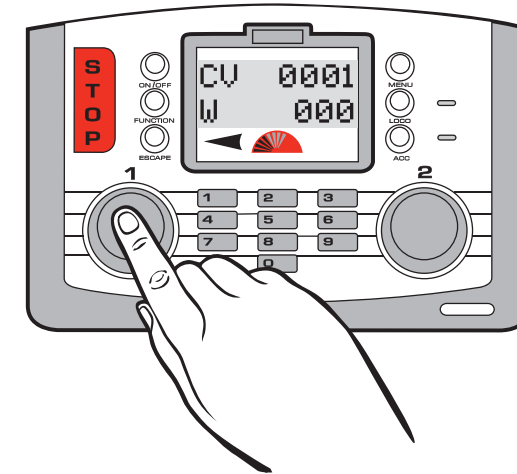
11. Press **Menu** to return to the main screen.

Fig 1

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DIGITAL

Overload Safety Cut Off

Should there be a short circuit or an overload the Elite unit will immediately cut the power off to the track. The red LED will light and the screen will show "**Error**" and the locomotive or accessory last used.

Should this occur locate the short circuit or the item that is causing the overload and remove. To reset / restart the Elite press the **Escape** button.

XpressNet Connection

Eight Hornby Walkabout Select units may be connected to the Elite using the ExpressNet sockets which will allow for individual control of up to 10 locomotives. These units are connected together as a "daisy chain" using several R8236 Hornby RJ12 Connecting Leads.

The XpressNet Connection is also used in conjunction with the R8239 Hornby Power and Signal Booster.

PC as Controller

The Elite unit can support a PC as a controller utilising the XpressNet protocol plus suitable software via the USB interface. This will allow for the control of locomotives and accessories by the PC. There are several software programmes available and to install follow the instructions supplied with the software. A USB lead will be required (not included with the Elite) to connect the Elite to a computer. Please check before purchasing that the software is compatible with the Hornby Elite.

Unit Firmware Update

The firmware of the Elite unit can be updated from the internet via a PC and the USB interface. Any updates will be available direct from the Hornby website: **www.hornby.com**

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Language

The Elite has the ability to have the screen instructions shown in four alternative languages other than English. The languages concerned are French, Italian, Spanish and German.

To change from the factory set English screen instructions, the following procedure will be required.

1. Press **Menu**. Screen shows "**Loco**".

2. Rotate **Control 1**. Screen shows "**Unit**".

3. Press **Control 1** to confirm. Screen shows "**Train 0**". This may vary depending on the last action taken in this mode. However, rotate **Control 1** until "**Language**" is shown. Press **Control 1**.

4. Screen shows "**Language English**". Rotate **Control 1** until the language you require is shown. Press **Control 1** to confirm. All instructions will then be shown in the chosen language.

5. Press **Menu** to return to the main screen.

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Reset

The **Elite** unit can be returned to its original factory settings by utilising the Reset function.

1. Press **Menu**. Screen shows "**Loco**".

2. Rotate **Control 1**. Screen shows "**Unit**".

3. Press **Control 1** to confirm. Screen shows "**Train 0**". This may vary depending on the last action taken in this mode. However, rotate **Control 1** until "**Reset**" is displayed.

4. Press **Control 1** to confirm. Screen shows "**Reset Confirm**".

5. If you do not wish to reset press **Menu** to return to the main screen. However, if you wish to Reset press **Control 1**. The red LED will light and then start to flash for several seconds. The screen will then go blank while the unit resets. The screen will return showing "**00:00 1 0003**". The unit is now reset. All information previously stored has now been deleted.

DIGITAL

Programming Definitions

As with most innovations the control of model railways using digital signals has developed over the years. The technical process of programming a locomotive or accessory has also developed and changed. At present there are in general terms 4 programming systems: **Register**, **Paged**, **Operate** and **Direct**.

Both Register and Paged were amongst the first systems used and are therefore more suitable for use with the much older type of decoders. The **Operate** programme is a newer form of programming and does offer certain benefits over **Direct**, the chosen system for the Elite. These benefits are that certain programming actions can be accomplished on the Main, i.e. acceleration / deceleration adjustments while the locomotive(s) is / are operating on the circuit.

Direct is the newest and fastest programming mode available at present and it is therefore the recommended mode of programming when using any of the new generation decoders available including those produced by Hornby.

RailCom®

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With digital control the controller in simple terms talks or sends commands to each locomotive individually. The locomotive responds by basically doing what it is told! RailCom® which is a registered design and development by Lenz GmBh allows the locomotives to talk to the controller. For example the locomotive can return information to the controller such as speed and details on the load that is being pulled.

This and much more will be available in time. At the time of writing these instructions the operating protocol for RailCom® is still being developed, although like the Elite, products are being introduced onto the market to support RailCom® once the full protocol has been finalised.

It should be noted that the Hornby R8215 Decoder does not support RailCom® therefore if programming this decoder or any other that does not support RailCom®, the RailCom® setting while programming a locomotive should be set to "**Off**" – i.e. "**Loco**" – "**Unit**" – "**RailCom**" – "**RailCom Off**".

RailCom® is a registered trade mark of Lenz Systems.

Glossary

Acceleration Delay

The delay between the locomotive being stationary and reaching the desired speed.

Accessory Decoder

An electronic decoder designed for use in track side accessories such as points or signals. An accessory decoder is not for use in a locomotive.

Address

A number used to identify a locomotive or accessory that is either equipped or linked to a Decoder.

Bus

Technical term for wires that carry electrical signals around a model layout.

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Command Station

The Command Station is the 'brains' of a DCC system. A Command Station is in essence a micro-computer/controller that communicates with the decoders that are located either in a locomotive or connected to accessories. The computer transmits signals to the decoders instructing them what to do, such as accelerate, decelerate, brake or switch lights on or off.

Configuration Variable (CV)

A technical term referring to the operating information of the particular locomotive or accessory that is stored on the specific decoder. This information will remain "set" until changed using the Command Station.

Consist/Consisting

Consist is an American term, but in the UK it is known by Double or Triple Heading. This is where two or more locomotives are brought together and function as one.

There are three types of Consisting (1) Basic consisting where the locomotive decoders in the Consist have the same address. (2) Universal Consisting where the Consist information is stored in the Command Station. (3) Advanced Consisting is where the Consist information is stored inside the decoder.

DCC

Digital **C**ommand **C**ontrol. The application of computer technology to control the movements of locomotives. Each locomotive is fitted with a decoder (or 'chip') which is uniquely programmed and recognises its own identity and responds only to those control signals which are addressed to it.

DCC also allows a wide range of extras including controllable lighting and on-board sound. The accepted standards have been laid down by the NMRA (National Model Railroad Association) an American Association.

DIGITAL

Glossary (continued)

Deceleration Delay

The delay of a locomotive slowing down to a standstill.

Feedback (Load Compensating)

This allows a locomotive to remain at a constant speed regardless of loads being pulled or incline being negotiated.

Locomotive Decoder

A small PC board which contains a 'chip' that stores control information; normally fitted in locomotives. The Command Station sends coded information to the decoder which can then control the locomotives speed, direction and any operating functions that the locomotive may have eg lights.

Locomotive Decoders can be fitted to accessories that have a motor as a drive for example the R8131 Hornby Operating Conveyor or the R8132 Hornby Tipper set.

Occupancy Decoder

A unit that can detect the presence of a locomotive on a specific section of track and can provide the appropriate information as 'return' data.

Power Bus

Copper strip or wires that can relay power from a Power Booster to the track.

Power Booster/Power Station

A Power Booster or Power Station is as the name implies there to provide a boost of power to the track. This can occur if a larger than normal quantity of locomotives are required to be running on the track at the same time. If the transformer already fitted cannot handle this number then it will be necessary to section the layout and fit a Power Booster.

This Booster will not only provide more ampage to the drive locomotives but also boost the signals to the Decoders. All Boosters fitted must still be connected to the Power Station.

Programming

The process of assigning an Address to a locomotive or accessory (points or signals). The process of programming sends a signal containing a numerical identifier to the locomotive being programmed.

Programming Track

A section of track isolated from the main layout purposely for programming locomotives. Programming on a Programming Track negates the requirement of removing other locomotives from the main layout.

Speed Steps

A variable voltage increase used to control motor speeds. Decoders can set the output power for each speed step.

Stall Current

Stall Current is the maximum current draw in amperes that a locomotive is capable of when stalled. If the armature of a motor is prevented from turning and the maximum voltage is applied the current draw of the motor is known as the 'Stall Current'.

Throttle Notches

Determines whether a locomotive is controlled with 14, 27, 28 or 128 speed steps.

XpressNet

A high-speed communication protocol used for connecting Digital input devices together.

XpressNet (XBUS) Input Devices

Devices using the XpressNet protocol to Control 1 digital layout.

For more information visit: **www.hornby.com**

DIGITAL

Trouble Shooting

Locomotive will not run

Check that all the wiring is correctly connected to the track and Controller and that the transformer is plugged into the wall socket and is switched on.

Ensure that the correct loco address is displayed on the LCD.

Check that the "STOP" button has not been pressed accidentally.

The trains do not run smoothly

The locomotives require a clean track so that they can receive their information from the Elite, therefore ensure that the track is clean. Use an R8087 Track Rubber to remove dirt from the track and wheels of the locomotive. Do not use any other abrasive material as this will permanently damage the track and/or wheels.

All locomotives move off together

Make sure that a locomotive has not been given a new address while other locomotives have been on the same track. To avoid this it is advisable to use a Programming Track to add new addresses to locomotives and Hornby Point/Accessory Decoders. See page 22

All locomotives appear to have the same Acceleration/Deceleration levels

Make sure that a locomotive has not been programmed using Direct, Paged or Register modes with acceleration and deceleration levels while other locomotives have been on the same track. To avoid this happening it is advisable to use a Programming Track to add new addresses to locomotives and Hornby Point / Accessory Decoders. See page 22. To programme acceleration and deceleration on the main track use the Operate mode.

System keeps cutting out

Check that there is no metal across the track that may be causing a short circuit. Also check that the system is not being overloaded by too many locomotives trying to run at the same time.

The 4 amp transformer included with the **Elite** should within reason be capable of providing enough power to run nine locomotives. If in doubt consult your local dealer or the Hornby DCC Helpline.

Do not connect any other controller to the Hornby Elite other than a Hornby Walkabout Select. When using a Select with the Elite ensure that the Select is not connected directly to a mains transformer.

Do not run coreless motored locomotives on a DCC layout without them having a decoder fitted.

If in doubt please contact Hornby or your local dealer for advice.
Tel. +44 (0)1843 233525   Email. help.dcc@hornby.com   Web. http://www.hornby.com
Hornby PLC, Westwood Industrial Estate, Margate, Kent CT9 4JX.

For more information visit: **www.hornby.com**

Safety Notes

● This product is not suitable for children under 3 years because of small parts which can present a choking hazard. Some components have functional sharp points and edges. Handle with care.

● This product is intended for indoor use only.

● This Elite Digital Control system is only to be operated with the Hornby recommended transformers.

● The transformer included is not a toy; it is a "Transformer for Toys".

● Before use the transformer should be examined for damage to the casing, plug pins and cables. In the event of such damage, the Elite unit should not be used until the transformer is replaced with a new Hornby recommended unit. Never attempt to open the unit yourself.

● Before cleaning any part, disconnect the transformer from the mains electricity supply.

● Do not use liquid for cleaning.

● Wires without a connecting means are not to be inserted into outlets.

● The output terminals of the transformers must not be connected directly, or indirectly, to the output of any other mains power supply.

● Please retain these details and the address for future reference.

Guarantee

All Hornby products are guaranteed against defects in materials and workmanship for a period of 6 months and Hornby Digital electronics for 1 year from the date of purchase.

To qualify for the guarantee, the product must have been used and maintained according to the manufacturers instructions, and will only be covered when used in conjunction with officially approved Hornby accessories and components. While every possible care and attention has been taken by Hornby to ensure that the product arrives to you in pristine condition, we cannot accept liability for any subsequent misuse of the product. It is the responsibility of the consumer to ensure that the product is maintained as per the servicing details provided.

For reliable programming it is important that the track and wheels of all locomotives and wagons used with the Elite Digital system are kept clean. If any defect occurs during the guarantee period, then the item in the first instance should be returned to the place of original purchase. Alternatively, if any such defect occurs during the period of guarantee, then please contact your Hornby Service dealer for advice. Or, the product (or component), may be forwarded to Hornby Hobbies Ltd, carefully packed, with a covering letter enclosed giving full details to:

Repairs Department, Hornby Hobbies Ltd, Westwood, Margate, Kent CT9 4JX. UK.

Please include a copy of the original sales document showing the product reference number, date of purchase and from where purchased and any other requested information relating to the product. Please obtain a Certificate of Posting at the time of despatch.

Exclusions

Subject to the exclusions below, the product will be repaired or replaced free of charge, if the problem is found to be due to either workmanship or materials. The repair/replacement will be provided as promptly as possible without significant inconvenience to the consumer:

● The fault has been caused or is attributable to mis-use, negligent use or used contrary to the manufacturers recommendations.

● Accidental physical damage.

This guarantee is valid for products purchased in the United Kingdom and is in addition to, and does not diminish, your statutory rights. For further advice about your statutory rights contact your local authority Trading Standards Department or Citizens Advice Bureau.

This warranty only covers Hornby manufactured items. Please retain these details and address for future reference.

Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice.

Notes

Locomotive
Address

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